

CONTEMPORARY CHALLENGES IN BUSINESS & LIFE SCIENCES



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Contemporary Challenges in Business and Life Sciences

(Edited by: Cüneyt Akar, Hakan Kapucu)



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Nilüfer Serinikli

INTRODUCTION

In business world, commercial or social organizations have to face with some challenges such as competition, economic burden, innovation, change, ethics, customer loyalty, satisfaction and social responsibility. These modern challenges bring new opportunities for any organization, besides of competition. The most important way to become a developed country is to have a competitive industry in today's global world. Especially the competition that exists today is pushing firms to use their resources in the most effective way. On the other hand, when difficult economic times, effective management is a premium tool for businesses, as known. This is why, the difference between a bad management and a good management reflects the difference between profit or loss which means survival and failure.

The other issue is also innovation which is especially considered by commercial organizations. So that they are finding innovative ways of making their existence in the world. On the other hand, change is inevitable fact for any business in today's fast-moving competitive environment. In recent, the organisations have to adapt themselves to the changing business environment. In changing business world, behaving ethically in business is widely regarded as good business practice.

For many years, customer loyalty became as a remarkable research topic. It has become the focus of interest both marketing practitioners and researchers due to the benefits it provides to businesses. Besides the popularity of this concept, radical changes (such as strong competition, technological developments, customers' increasing knowledge levels etc.) have revealed the necessity of businesses to give more importance to customer loyalty than ever before. In this way, the concept of customer loyalty has become a strategic tool for businesses to achieve long-term competitive advantage against their competitors.

Nevertheless, satisfaction is the one of the newest challenges that means measuring how happy workers are with their job and working environment in any organization. Companies are trying new management techniques to keep their employees satisfied in order to derive maximum productivity from them. Keeping employees motivated, help improving their skills, providing assistance in case of crisis, are some of the practices followed by the organisations. Employee satisfaction is a very important attribute and is frequently measured by organizations.

In addition to this, nowadays, businesses started to use digital human resources systems for performing human resource functions. Digital human resources while decreasing in business costs and increase in competition level, assist personnel for planning career, increasing collaboration and communication with all departments, making work easier by decreasing bureaucracy, managing time effectively, increasing morals and motivation, increasing productivity, increasing job satisfaction and organizational dependence.

By the way, in recent years, consumption has begun to be examined as a social process that satisfies the psychological needs such as creating and presenting the self, identifying the status or social class, building relationships with others, influencing people in the environment or admiring oneself and proving themselves. In this context greed, materialism, and arrogance are considered as a dark personality trait of consumers' which in turn effect their life satisfaction. However, although there is more evidence on the relationship between materialism and life satisfaction, knowledge on the effects of greed and consumer arrogance on consumers' life satisfaction is nonexistent. Finally, social responsibility is a duty for any organizations which has to accept so as to maintain a balance

between the economy and the ecosystem. Hereby, organizations can secure their businesses by making decisions that allow for government agencies to minimize their involvement with the corporation.

In this context, the first chapter of this book includes topics related to decision making and forecasting that include some of the multi-criteria issues such as Data Envelopment Analysis, data mining, Analytic Hierarchy Process, Trend Analysis and CRITIC and Entropy-Efficiency Analysis. In this chapter, Demirhan aims to evaluate relative financial efficiencies of 180 companies that are quoted to Istanbul Stock Exchange (Borsa Istanbul) in 2018 by using data envelopment analysis. It is focused to minimize the inputs in order to determine the output level and DEA and CCR model according to input has been used in the research.

Bulğurcu in her research, applied an integrated method which is named Entropy-Efficiency Analysis Technique with Input-Output Satisficing (EATWIOS) to measure the sales operation performance of the insurance companies which are indexed in Borsa İstanbul for the five-year period between 2014 and 2018. This novel method helps to show which insurance companies are in a better position in carrying out sales activities. Entropy, an objective weighting technique, contributes to the results of research reliability by assigning different importance to inputs and outputs. An integrated model is preferred because it is not yet commonly applied. Following the analysis, the ranking result was obtained as follows: Avivas > Ray > Güneş > Anadolu Hayat > Aksigorta > Anadolu Anonim.

On the other hand, Kiraci empirically investigated the impact of the membership of global alliances on the financial performance of airline companies. In the study, Trend Analysis and CRITIC based TOPSIS methods were used. In this context, the financial performance of airline companies before and after joining global alliances was analyzed. The empirical results of the study indicate that airline' liquidity, debt and profitability performances differed before and after membership to global alliances.

Demirhan and Pınarbaşı also aimed to determine the factors affecting the recruitment of marketing and to evaluate their relative importance. In line with the purpose of the study, Analytic Hierarchy Process (AHP) were used for multi-criteria decision-making methods and factors related to recruitment process will be evaluated as main factor groups. As the findings of the study include interdisciplinary results, it is planned to contribute to the studies in the literature and to the work practices with the weighting of the recruitment factors.

Erdil in her study, applied for the recycling glass bottles plant-firm (XYZ Company) and some forecasting models were compared according to the measures of accuracy. As a result, the forecasting model should be excluded from the exceptional facilities such as period of discount, festival or campaign. Because these actions cause the increasing or decreasing the demands and sales with large quantity.

Güzel and Adem used different data mining methods to classify the personal care problems of children with defectiveness of motor and physical acts in order to demonstrate the applicability of SCADI data set in expert systems. The classification studies were carried out on WEKA and MATLAB software platforms.

Chapter two deals with marketing and logistics topics such as loyalty, satisfaction, corporate reputation and personalized Ads. Köksal and Tıǧlı in their study, discuss the theoretical framework of customer loyalty by referring to conceptualizations in accordance with different paradigms.

Balıkçıǧlı and Arslan aims to examine the direct effects of greed on materialism, consumer arrogance, and life satisfaction as well as the mediating role of consumer arrogance on the relationship between materialism and life

satisfaction. According to the results, greed influence directly and positively to materialism and consumer arrogance. In addition, the mediating analysis shows that consumer arrogance has an inconsistent mediated effect on the relationship between materialism and life satisfaction. it was also found that age has a positive effect on materialism, whereas a negative effect on greed in the study.

On the other hand, Çakırkaya determined whether relationship marketing practices have an impact on customers' online corporate reputation perception and investigated by using purposeful sampling method on a sample group consisting of consumers purchasing services from banks operating in Konya city center. As a result of the analysis, while the economic and social bonds dimensions did not significantly affect the perception of online reputation, it was observed that the dimension of the structural bonds significantly affected the perception of online reputation.

Akdağ and Akan tried to carry out the opinions of the young people about the personalized advertisements they see on Facebook.

In the last paper of this chapter, Ayhan and Doğan examined the importance of human relief logistics (HRL) in the forced migration process and the role of states and national/international organizations in the policies and practices for the functioning of HRL.

Chapter three includes writing related to the issues in entrepreneurship and human resource. Fidan and Yeşil, focused on training activities for the development of women entrepreneurship between 2014-2019. According to the paper, when we look at the studies, entrepreneurship education is becoming more widespread, and entrepreneurship awareness is growing, because women are more active in the economy by grasping their work plan and purpose better.

Serinkli aims to to put emphasize the Y, Z and Alpha generations in digital human resources management. In this context, in the study, a literature search was completed about the needs and consideration of generational features in terms of the Y generation keeping pace with this change, and the importance of growth and improvement of Z and Alpha generations as required.

July, 2019

Cüneyt Akar & Hakan Kapucu

PART **I**

MULTI-CRITERIA DECISION MAKING AND FORECASTING

1

DETERMINING THE RELATIVE EFFICIENCIES OF MANUFACTURING COMPANIES IN ISTANBUL STOCK EXCHANGE BY USING DATA ENVELOPMENT ANALYSIS

Ayşe Demirhan¹

Abstract

Data Envelopment Analysis (DEA) has become a powerful quantitative, analytical technique for performance measurement and evaluation. DEA has been successfully implemented in many situations around the world to a host of distinct kinds of organizations involved in a broad range of operations. DEA is a decision-making tool for assessing the relative efficiency of a set of similar units based on linear programming. DEA defines the sources and extent of inefficiency for each of the inputs and outputs in addition to identifying relatively effective and inefficient units. In this research, relative financial efficiencies of 180 companies that are quoted to Istanbul Stock Exchange (Borsa Istanbul) in 2018 have been evaluated by using data envelopment analysis. Totally 6 inputs and 4 outputs variables are used by considering 2018 data for DEA. The financial situations (basic efficiency) and the ranking of all companies (super efficiency) are determined in this research. It is aimed to minimize the inputs in order to determine the output level and DEA and CCR model according to input has been used in the research.

Keywords: Data Envelopment Analysis, Manufacturing Industry, Efficiency.

1. Introduction

In today's world where resources are limited in economic terms, the concept of efficiency is always important. Especially the competition that exists today is pushing firms to use their resources in the most effective way. In order to determine their deviations from targeted plans and see their market position against their rivals, business executives need measurements and valuations on a regular basis. For this purpose, companies should evaluate their situation in the sector in which they operate. At this point, the efficiency measurement has an important place in determining the position of the company in the current competitive environment and showing how good output can be produced from the current inputs.

In today's global world, the most important way to become a developed country is to have a competitive manufacturing industry. Manufacturing industry has an important impact on the economic growth of Turkey. The developments in the manufacturing industry directly affect economy. The fact that manufacturing sector has a big share in our country's economy with its impact on employment, added value and exports requires monitoring of the changes in this sector. Besides, manufacturing industry comprises various sub-sectors which demand different inputs from other sectors. Because of these reasons, the trends in manufacturing industry can be leading indicators

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for the future of economy. Monitoring developments in this sector allows countries to make their plans more easily. The manufacturing sector in our country consists of 9 sub-sectors.

As a result of this study, the evaluations that will be obtained from the companies which are quoted to the Borsa İstanbul are shown to be effective and they will enable the firms which are not active by the reference sets to be compared to these companies. Thus, it will be a guideline on how to improve ineffective companies. For this purpose, the basic analysis ratios of manufacturing firms are used and their efficiency scores are calculated by using Data Envelopment Analysis(DEA). DEA is a method that searches the most appropriate input composition for producing output composition in an efficient way. Besides being a linear programming-based method, DEA is based on the assumptions that all existing firms have similar objectives and use similar inputs to produce similar types of outputs.

As a result of the DEA, the determination of the efficient firms as well as not efficient firms will be a guide to the extent to which such firms will improve themselves. For this purpose, input based Data Envelopment Analysis (CCR) was used to calculate efficiency scores by using basic analysis ratios of manufacturing companies. This method is a method that investigates how the most appropriate input composition should be to produce a specific output composition in the most efficient way.

This research consists of four main sections. In the introduction section of the study, the place and importance of manufacturing sector in economy is emphasized, in the second section literature review about the subject is done, Data Envelopment Analysis which is used as the analysis method is given with the theoretical infrastructure in the next section, and in the fourth section the results of analysis in the manufacturing industry sector are evaluated.

2. Literature Review

Data Envelopment Analysis, which is one of the non-parametric technique, is one of the techniques commonly used in measuring business efficiency. One of the most important features of DEA is that in cases where a large number of outputs are obtained by using a large number of inputs, it is possible to perform measurements without the need for a predetermined analytical production function as in parametric methods. However, each of the inputs and outputs is not dependent on the units of measurement. For this reason, different dimensions of the companies can be measured at the same time (Karsak & İşcan, 2000, pp. 2-3).

In our country, there are many researches in different fields related to DEA. In the study of Kayalidere & Kargın (2004, pp. 196-219), efficiency analyzes were performed using the DEA method using the data of 2002 for the textile and cement companies listed on the IMKB. Ertuğrul & Işık (2008, pp.201-217) used the output based DEA model to examine the efficiency measurements of the firms in the main metal industry, which are listed on the IMKB, for the period of 2003-2007. In the study conducted by Ata & Yakut (2009, pp.80-100), the efficiency measurements of firms operating in the manufacturing sector during the period 1996-2006 were carried out by DEA method and the results were evaluated financially. Yayar & Çoban (2012, pp.165-180) tried to determine the efficiency of 25 firms operating in the weaving and apparel industry listed on İSO 500 by using data from the period of 2008-2010.

In the study of Küçükaksoy & Önal (2013, pp.56-80), the efficiency of 15 banks operating in the Turkish banking sector between 2004-2011 were measured by input based Data Envelopment Analysis (CCR) using 3 inputs

and 2 outputs variables. In his study, Bal (2013, pp.1-20) calculated the scores of 23 Universities in Turkey using the 2010 data. In his study, Yiğit (2016, pp. 9-16) analyzed the technical efficiencies of 81 Hospitals in 2014 by DEA method.

Decision-making units may include production units, departments of large organisations such as universities (Mikusova, 2015, pp.569-578 ; Gökşen, Doğan & Özkarakabacak, 2015, pp.226-237), schools, bank branches (Kamil & Ong, 2010, pp.11-35), hospitals (Al-Shayea, 2011, pp. 6-15; Jehu-Appiah, Sekidde, Adjuik, Akazili, D.Almeida, Nyongator, Krigia, 2014, pp.1-13), transport (Özbek, Garza & Triantis, 2009, pp.822-831), healthcare industry (Akazili, Adjuik, Jehu-Appiah & Zere, 2008, pp.11-22), military (Khaddaj, 2010, pp.5-6), police stations (Aristovnik, Seljak & Mencinger, 2014, pp.1647-1653), airline (Rai, 2013, pp. 38-45), hotels (Huang, Lee & Lee, 2012, pp. 63-72), defense industry (Bakırcı, Bayrak & Önal, 2016, pp. 751-768), service sector (Ömürbek, Demirgübuş & Tunca, 2013, pp.21-43). DEA has been successfully implemented to measure the performance efficiency of all these kinds of DMUs. Research on the work of electricity companies has identified more than thirty DEA analyzes that show that this method is widely applied to this network industry (Jamash & Pollitt, 2001, pp.107-131).

Briefly, DEA is usually used in healthcare, education, banking, wholesales and regional development areas for determining the relative efficiency of using resources. In these applications, every hospital, bank or organizations are compared with the similar units in their system and their efficiencies are determined by that way. The selection of decision-making units and their homogeneity are very important for the results to be meaningful.

DEA has some disadvantages. These are; There is no need for a specific numeric model for the production function; Effective in revealing confidential relationships for other methods; Ability to control multiple inputs and outputs; inefficiency sources can be analyzed for each unit studied (Berg, 2010, pp.27-45).

3. Analysis Method

Charnes, Cooper and Rhodes (CCR) (1978) introduced DEA in 1978 in order to evaluate relative efficiency of organizational units with multiple inputs to produce multiple outputs (Charnes, Cooper & Rhodes, 1978, p.429). This method is a linear programming technique that allows performance comparisons of given units by determining the relative importance of variables for multiple inputs and outputs where regression analysis cannot be directly applied (Martić, Novaković & Baggia, 2009, p.37).

DEA is widely used in determining the relative efficiencies of companies which have same targets and goals. The efficiency of DEA is defined in three varied ways: Scale, Overall Technical and Pure Technical Efficiency.

Data Envelopment Analysis is a method for evaluating the performance efficiency of units called DMUs (Lerme, Ali & Seiford, 1995, p. 462). Many models are used in DEA. These are CCR Model, BCC Model, Const. Ret. Scale (CRS) Model, Var. Ret. Scale (VRS) Model, Super Slacks Bas. (SupSB) Model, Slacks Bas. Meas. (SB) Model, Additive Model, Increas. Ret. Scale (IRS) Model, Decreas. Scale (DS) Model (Oruç, 2008: pp.18-20).

The model developed by Charnes et al. (1978, pp.429-444) is the most commonly used DEA model formulation. The model is formulated as follows: In order to calculate the efficiency of a particular DMU, mathematical programming models, which maximize efficiency score of specific DMU's, are used to determine weights for the relative value of the various outputs and inputs that. As can be seen from formula 1 and 2, the ratio of total outputs to total inputs is the basic efficiency (Eff.) score measure used in DEA.

Eff = Weight. sum of outputs / Weight. sum of inputs (1)

$$\text{Eff} = \frac{\sum_{j=1}^K s_j y_j}{\sum_{i=1}^L c_i x_i} \quad (1)$$

x : Inputs and y : Outputs. x_i : The i th input, and y_j : The j th output, where $L, K > 0$.

The mathematical DEA program is, (Ramanathan, 2003, p. 40)

$$\max \text{Eff}_m = \frac{\sum_{j=1}^K s_{jm} y_{jm}}{\sum_{i=1}^L c_{im} x_{im}} \quad (2)$$

subject to

$$0 \leq \frac{\sum_{j=1}^K s_{jm} y_{jn}}{\sum_{i=1}^L c_{im} x_{in}} \leq 1 \quad ; \quad n=1,2,3,4,T,N \quad (3)$$

$$s_{jm}, c_{im} \geq 0 \quad ; \quad i = 1,2,3,4,T,L \quad ; \quad j = 1,2,3,4,T,K$$

Eff_m : The efficiency of DMU, y_{jm} : j th output, v_{jm} : The weight of that output,

x_{im} : i th input of DMU, u_{im} : The weight of that input, DMU $n = 1,2,\dots,N$.

The formulas of (3) and (4) are in accordance with the DEA analysis. A unit will be identified as efficient when it achieves an efficiency score of 1 (or 100 %) (Talluri, 2000, p.8).

DEA Super-Efficiency Model

DEA Super-efficiency model first proposed by Andersen and Petersen (Andersen & Petersen, 1993, pp.1261-1264). According to Andersen and Petersen (1993), the Super-efficient DEA model resolves the classical DEA problem. The distinctive power of this method is that it provides insight that cannot be achieved with the standard DEA model. In the super-efficiency model, each active unit is removed from the effective production limit respectively and the distance of the removed unit from the defined effective limit is measured. The unit with the highest value among the super efficiency scores obtained as a result of the calculations will be the most effective unit. The aim of "Super Efficiency Analysis" is to determine the real efficiency values of decision-making units and to list the efficient units from highest to lowest. The super-efficiency score allows one to differentiate between efficient observations.

4.Application

4.1. Purpose and Importance of Research

In today's world where resources are limited in economic terms, the concept of efficiency always protects its importance. Especially the competition that exists today is pushing firms to use their resources in the most effective way. Company executives periodically need measurements and valuations to determine their deviations from targeted plans and to see their market positions against their rivals. For this purpose, firms should evaluate their situation relatively in the sector they operate in. By showing the efficient manufacturing companies listed on Borsa Istanbul, the evaluations to be obtained as a result of this study will enable inefficient firms to make comparisons with efficient firms through inefficient reference sets. Thus, it will be a guideline for inefficient companies on how to make improvements. In addition, the rankings of the firms will be revealed with the super-efficiency analysis conducted for the companies that are efficient. This shows the importance of research.

4.2. Scope and Limitations of the Research

The purpose of this research is to reveal the relative efficiency of the manufact. Ind. firms listed on Borsa İstanbul using Data Envelopment Analysis and to determine the order of the efficient firms by applying super-efficiency analysis. For this purpose, manufacturing industry firms listed on Borsa İstanbul in 2018 were taken within the scope of the research. The variables to be used in the analysis are the financial ratios obtained from the 2018 balance sheets of manufacturing industry firms. In this context, Data Envelopment Analysis was performed using 6 input and 4 output variables. EMS 1.3 (Efficiency Measurement System 1.3) package program is used for data analysis.

4.3. Research Findings

In the DEA to be used in the research, the selection of decision-making units whose efficiency is to be measured is very important for the results to be reliable and comparable. For this purpose, the analysis will be conducted by taking into consideration the financial ratios of 180 manufacturing industry sector firms (considering the sub-manufacturing industry sectors) which are listed in Borsa Istanbul in 2018.

However, as a result of the preliminary investigations, there were 180 manufacturing industry firms listed in the Borsa Istanbul in 2018, but there were 20 companies that were included as extreme values within the input and output variable clusters and could make the results of the analysis deviated and they were excluded from the analysis. For this reason, 160 manufacturing industry firms operating in manufacturing industry sector in 2018 were used. Table 1 shows the number of firms in the manufacturing industry sub-sectors used in the analysis and the number of firms excluded from the analysis.

DETERMINING THE RELATIVE EFFICIENCIES OF MANUFACTURING COMPANIES IN ISTANBUL STOCK EXCHANGE BY USING DATA ENVELOPMENT ANALYSIS

Ayşe Demirhan

Table 1: *Number of Firms Operating in Manufacturing Industry Sub-Sectors in 2018 which were used in Analysis*

Sub-sectors	Number of Firms in 2018	Number of Firms Excluded from Analysis	Number of Firms Included in Analysis
Food, Bever. and Tobacco.	28	2	26
Text., Cloth. and Leath.	22	3	19
Wood Prod. and Furnit.	5	1	4
Paper and Paper Prod., Print. and Pub.	14	3	11
Chemical, Petroleum, Rubber and Plastic Pro.	32	5	27
Stone and Land-Based Ind.	27	1	26
Metal Main Ind.	17	2	15
Construction Metal Products, Machinery&Eq.	32	3	29
Other Manufacturing Ind.	3	-	3
Total	180	20	160

For DEA the 12-month data of the firms operating in the manufact. Indus. was considered. A total of 6 input and 4 output variables were used in this analysis. The variables that are used in this analysis are given below Table 2.

Table 2: *The Variables Used in Analysis*

Inputs	Outputs
<ul style="list-style-type: none"> • Current Ratio • Liquidity Ratio • Cash Ratio • Financial Leverage Ratio • Financial Ratio • Asset Turnover 	<ul style="list-style-type: none"> • Return o Assets Ratio • Return on Equity Ratio • Return on Sales • Financial Expenses Coverage Ratio

There should be a certain relationship between the number of DMUs (Decision Making Unit) and input/output variables when applying DEA method. According to the generally accepted opinion in the literature, where the determined number of entries is k , the output number is s and the research unit requires at least $k + s + 1$ units. ($6 + 4 + 1 = 11 < 160$). The DMU number determined in another criterion should be at least 2 times the number of variables ($20 < 160$). In this research, these two criteria are provided (Boussofiane, Dyson & Rhodes, 1991, pp. 1-15).

Input-based Analysis (CCR) was used to calculate efficiency scores by using basic analysis ratios of manufacturing companies. This method is a method of investigating how the most appropriate input composition should be to produce a specific output composition in the most efficient way. If there is less or no control on inputs; it is appropriate to use on output based model (CCR) or if there is less or no control on outputs; it is appropriate to use an input based model comply DEA methods. The financial situations (basic efficiency) and the ranking of all companies (super efficiency) are determined in this research. In DEA, fixed yield assumption according to the scale has been considered. According to the results of DEA; The efficiency scores of 160 manufacturing industry organizations which are included in the research are given in the table below according to sub-sectors.

Table 3: *Efficiency Results of Companies in Food, Bever. & Tobacc. Sub-Sector*

FOOD, BEVER. & TOBACC.(%)			
ALYAG 100	KENT 100	PENG 84.55	TBORG 84.74
AEFES 80.45	KERV 88.18	TATGD 100	TUKAS 68.58
BANVT 77.54	KNFRT 100	PINSU 100	ULKER 87.78
CCOLA 90.23	KRSTL 90.76	PNSUT 79.99	TKURU 75.88
DARDL 100	AVOD 79.55	SELGD 89.27	ULUUN 73.62
ERSU 96.45	MERKO 95.15	KARSAN 71.46	
FRIGO 55.98	EKİZ 69.88	OYLUM 74.27	

According to the CCR, we can see 6 organizations(ALYAG, DARDL, KENT, KNFRT, TATGD, PINSU) which have efficiency score that is equal to %100 among these 26 organizations (Table 3), and the average efficiency score of the units in this sub-sector is 85.16%. Among the 20 relatively inactive companies, ERSU has been found to be effective at 96.45%, BANVT at 77.54%, CCOLA at 90.23% and KARSAN at 71.46%.

Table 4: *Efficiency Results of Companies in Text., Cloth. & Leath. Sub-Sector*

TEXT. CLOTH. & LEATH.(%)			
ARSAN 82.24	DESA 100	LUKSK 69.22	YUNSA 87.41
ATEKS 95.16	DERM 91.76	MNDRS 88.93	
BLCYT 65.60	HETEK 100	SKTAS 70.91	
BRKO 74.97	DAGI 89.64	RODRG 100	
BRMEN 100	KRTEK 66.73	DIRIT 67.02	
BOSSA 77.48	KORDS 100	YATAS 69.37	

Table 4, we can see that 5(BRMEN, DESA, HETEK, KORDS, RODRG) organizations are relatively efficient among 19 organizations. The average efficiency score for the sector is %73.49. Among the 14 relatively inefficient companies, the efficiency rates of a few firms can be listed as ARSAN 82.24%, ATEKS 95.16%, BLCYT 65.60% and DERM 91.76%.

Table 5: *Efficiency Results of Companies in Paper & Paper Prod., Print. & Publish. Sub-Sector*

PAPER & PAPER PROD.(%)		
OLMIP 83.97	IHGZT 89.11	VKING 100
BAKAB 79.65	KAPLM 87.90	
DGZTE 94.58	KARTN 100	
DURDO 84.23	PRZMA 81.26	
HURGZ 100	TIRE 96.87	

DETERMINING THE RELATIVE EFFICIENCIES OF MANUFACTURING COMPANIES IN ISTANBUL STOCK EXCHANGE BY USING DATA ENVELOPMENT ANALYSIS

Ayşe Demirhan

According to Table 5, we can see that 3 organizations(HURGZ, KARTN, VKING) have an efficiency score that is equal to %100 according to DEA. The efficiency score for the sector is %90.68.

Table 6: *Efficiency Results of Companies in Wood Prod. &Furn. Sub-Sector*

WOOD PROD. & FURN. (%)
DGKLB 100
GENTS 89.57
ORMA 81.22
YONGA 75.40

As it is seen in Table 6, it is determined that only one firm (DGKLB) is relatively efficient among 4 companies in this sub-sector. Moreover, the average efficiency score of this sub-sector is calculated as 86.55%.

Table 7: *Efficiency Results of Companies in Chem., Petrol., Rubb. & Plast. Prod. Sub-Sector*

CHEM., PETROL, RUBB. & PLAST. PROD.(%)			
ATPET 63.71	BRKSN 72.35	EPLAS 75.71	PETKM 100
AKSA 70.47	GEOZA 73.09	IZFAS 100	MEGAP 67.96
ALKIM 92.07	DEVA 78.43	GOODY 69.01	OZRDN 70.54
AYGAZ 100	DYOBY 89.42	GUBRF 80.17	SODA 81.52
BAGFS 73.12	EGGUB 100	HEKTS 71.65	RTALB 100
BRISA 80.11	EGPRO 72.79	MRSHL 77.68	TUPRS 91.11
SEKIR 74.59	TMPOL 78.53	SASA 72.80	SANFM 80.59

As can be seen from Table 7, only 5 (AYGAZ, EGGUB, IZFAS, PETKM, RTALB) of the 27 companies in this sub-sector were found to be relatively efficient. Among the 23 companies that are relatively efficient, the efficiency rates of a few firms can be listed as ALKIM, 92.07%, BRISA 80.11%, DYOBY 89.42%, SASA 72.80%. The efficiency score of the companies in this sub-sector is 79.55%.

Table 8: *Efficiency Results of Companies in Stone and Land-Based Ind. Sub-Sector*

STONE AND LAND-BASED IND.(%)			
ADANA 100	BSOKE 77.49	DOGUB 100	NIBAS 100
AFYON 84.05	BOLUC 100	YBTAS 71.74	NUHCM 100
AKCNS 91.56	BUCIM 81.95	EGSER 66.81	TRKCM 73.56
ANACM 71.34	CMBTN 86.22	GOLTS 100	USAK 80.17
ASLAN 100	CMENT 93.15	IZOCM 100	UNYEC 83.11
BASCM 82.52	CIMSA 100	KONYA 76.43	
BITCIM 68.85	DENCM 69.78	MRDIN 95.63	

According to the results of Table 8, it was determined that 9 (ADANA, ASLAN, BOLUC, CIMS, DOGUB, IZOCM, NIBAS, NUHCM) out of the 26 companies in this sub-sector were relatively efficient company. The average efficiency score of the companies in the sector is identified as 86.70%.

Table 9: *Efficiency Results of Companies in Metal Main Industry Sub-Sector*

METAL MAIN IND.(%)		
BRSAN 100	CEMTS 100	OZBAL 67.99
BURCE 78.34	DMSAS 74.44	IZMDC 100
BURVA 85.19	ERBOS 69.77	KRDMA 80.23
CEMAS 81.45	CUSAN 68.55	SARKY 67.47
CELHA 76.53	DOKTA 76.91	TUCLK 69.75

According to the results in Table 9, only 3 (BRSAN, CEMTS, IZMDC) of the 15 companies operating in this sub-sector were found to be relatively efficient companies and the efficiency score of the companies in the sector was found to be 79.77%.

Table 10: *Efficiency Results of Companies in Construction Metal Products, Machinery and Equipment Sub-Sector*

CONST. METAL PROD, MACH. AND EQUIP.(%)			
ALCAR 71.28	EMNIS 100	JANTS 83.99	PRKAB 72.24
ASUZU 85.57	EMKEL 72.29	OTKAR 71.22	TTRAK 69.55
ARCLK 100	FROTO 67.13	PARSN 100	TMSN 62.85
AYES 84.13	GEREL 65.11	SILVR 60.48	VESBE 73.41
DITAS 68.59	KARSN 100	KATMR 64.54	VESTL 100
BALAT 65.31	KLMSN 76.49	TOASO 77.57	
BNTAS 70.35	FORMT 81.75	MAKTK 67.11	
BFREN 65.77	IHEVA 76.53	SAFKR 73.88	

According to the results in Table 10, only 5 (ARCLK, EMNIS, KARSN, PARSN, VESTL) of the 29 companies in this sub-sector are relatively efficient firms and the efficiency score of the companies in this sub-sector is 76.8%.

Table 11: *Efficiency Results of Companies in Other Manufacturing Industries Sub-Sector*

OTHER MANUFACT. IND.(%)
ADEL 100
SAYAS 80.12
SERVE 70.68

As can be seen from Table 11, it is determined that only 1 firm (ADEL) among 3 companies in this sub-sector is relatively efficient. Moreover, the average efficiency score of this sub-sector was calculated as 83.55%.

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Table 12: *Number of Efficient Companies and Average efficiency Scores by Sub-sectors in Manufacturing Industry*

Sub Sector	Efficient Company Number/ Company Number	Average Efficiency Score(%)
Food, Beverages and Tobacco	6 / 26	85.16
Textile, Clothing and Leather	5 / 19	73.49
Paper and Paper Prod.	3 / 11	90.68
Wood Products and Fur.	1 / 4	86.55
Chemical, Petroleum, Rubber and Plastic Prod.	5 / 27	79.55
Stone and Land-Based Ind.	9 / 26	86.70
Metal Main Ind.	3 / 15	79.77
Construction Metal Products, Machinery and Eq	5 / 29	76.80
Other Manufacturing Ind.	1 / 3	83.55
MANUFACTURING INDUSTRY	38 / 160	82.44

As we see from Table 12; “Stone and Land-Based Industries” is the sub-sector that has the most efficient companies in manufacturing industry. Also, we see from the table that “Paper and Paper Products” sub-sector has the highest average efficiency score. According to the analysis results; totally 38 companies are relatively efficient and the average efficiency score of manufactory industry is %82.44.

The aim of “Super Efficiency Analysis” is to determine the real efficiency values of companies and to list the efficient units from highest to lowest. This analysis is used for the relatively efficient companies and the results can be seen in Table 13. When we examine the efficiency scores of 38 companies, we see that KARSN company has the highest relative efficiency score %296.71. The first eight companies with the highest relative efficiency value following this company are; ALYAG, DOGUB, DARDL, GOLTS, PETKM, ADANA, BOLUC and ARCLK.

Table 13: *Super Efficiency Analysis Results*

COMPANY	SCORE(%)	COMPANY	SCORE(%)
ALYAG	235.67	RTALB	124.38
DARDL	195.75	ADANA	170.11
KENT	105.32	ASLAN	102.48
KNFRT	109.42	BOLUC	166.85
TATGD	130.33	CIMSA	117.99
PINSU	119.12	DOGUB	203.25
BRMEN	102.91	GOLTS	184.57
DESA	120.68	IZOCM	105.13
HETEK	100.15	NIBAS	102.69
KORDS	107.44	NUHCM	136.77
RODRG	109.02	BRSAN	117.90
HURGZ	102.39	CEMTS	118.03
KARTN	110.70	IZMDC	120.01
VKING	131.10	ARCLK	164.27
DGKLB	103.22	EMNIS	124.63
AYGAZ	145.74	KARSN	296.71
EGGUB	118.80	PARSN	116.02
IZFAS	103.28	VESTL	135.29
PETKM	180.54	ADEL	118.78

5. Conclusions

Today, intense competition in all sectors leads companies to make the most efficient use of their resources. Companies periodically perform measurements to identify their own and their competitors' status within the sector in which they operate. In this way, firms can determine their relative efficiency within the sector and can guide their future planning. For this purpose, in this research Data Envelopment Analysis was used to reveal the relative efficiency of the firms.

In this paper, relative financial efficiencies of 160 manufacturing industries companies that are quoted to Borsa Istanbul in 2018 have been evaluated by using DEA. Totally 6 inputs and 4 outputs variables are used by considering 2018 data for DEA. It is aimed to minimize the inputs in order to determine the output level and DEA and CCR model according to input has been used in the research. The financial situations (Basic Efficiency) and the ranking of all companies (Super Efficiency) are determined in this research. There are 9 sub-sectors that constitute the manufacturing industry sector. Each sub-sector was evaluated separately in the analyzes. The results can be summarized as follows:

“Stone and Land-Based Industries” is the sub-sector that has the most efficient companies in manufacturing industry. Also, “Paper and Paper Products” sub-sector has the highest average efficiency score. According to the

analysis results; totally 38 companies are relatively efficient and the average efficiency score of manufactory industry is %82.44.

According to Super Efficiency Analysis, when the values of 38 active companies are examined, it is determined that the highest relative activity value belongs to KARSN with 296.71%. The first eight companies with the highest relative efficiency value following this company were ALYAG, DOGUB, DARDL, GOLTS, PETKM, ADANA, BOLUC and ARCLK.

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2

SALES OPERATION EVALUATION OF INSURANCE COMPANIES: A NOVEL INTEGRATED MODEL BASED ON ENTROPY- EATWIOS

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Abstract

This study aims to measure the sales operation performance of the insurance companies which are indexed in Borsa İstanbul for the five-year period between 2014 and 2018 by applying an integrated method. In many developing countries, the insurance industry is considered an important part of the financial sector. Good sales operations support the effective usage of all resources about insurance companies. Therefore, five inputs and three outputs are used: current assets, fixed assets, capital stock, agency numbers and number of bank branches, number of staff as well as the number of policies, premium amount and technical profit. Ak Insurance, Anadolu Anonim Türk, Anadolu Hayat, Avivasa, Güneş, and Ray Insurance companies are evaluated by using Entropy-Efficiency Analysis Technique with Input-Output Satisficing (EATWIOS) method. This novel method helps to show which insurance companies are in a better position in carrying out sales activities. Entropy, an objective weighting technique, contributes to the results of research reliability by assigning different importance to inputs and outputs. An integrated model is preferred because it is not yet commonly applied. Following the analysis, the ranking result was obtained as follows: Avivasa > Ray > Güneş >Anadolu Hayat >Aksigorta> Anadolu Anonim.

Keywords: Entropy-EATWIOS, Insurance Company, Sales Performance.

1. Introduction

The insurance industry has taken its place in the economy as an important financial market player in today's world. The level of development of this industry is regarded as an indicator of the economic and social situation of a country (Çipil, 2003). As an economic indicator, it emerged from the idea of preserving economic goods and then continued its development as an instrument of economic solidarity (Özbolat, 2017). Additionally, the economy of insurance operations corresponds to the importance of the tax, and the savings provide a great contribution as sources. Being a social indicator, insurance is a protective element and future service of social life, and it has to be purchased to meet a need in the future.

Despite being one of the most dynamic sectors in developing countries, the insurance sector is not very effective. However, it has an important place in economic development, since it creates long-term financial resources in developed countries, reduces risk by sharing it, divides the risk and generates funds (Çiftçi, 2004).

In Outreville's opinion (2013), there is a close relationship between the size of the insurance sector and economic development, and relatedly, the strength of the insurance sector is one of the significant components of economic

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development in a country. Turkey, which is a developing country, continues its growth in the insurance sector. The potential of the sector enables foreign investors to increase their share in this field and strengthen the competition (Dalkılıç, 2012). When compared between Turkey and the countries with a similar GDP in terms of private insurance premiums per capita or criteria such as prevalence, it is seen that Turkey has high development potential.

To sustain their existence in an increasingly competitive environment, insurance companies should evaluate their performance and efficiency by considering the balance of premium-expenditure, and the comparison of activities with other companies in the sector is extremely important (Kar ve Şahin, 2018).

Financial adequacy is also one of the most important issues in the development of the insurance sector. Maintaining trust and stability in the insurance sector, which constitutes a crucial part of the financial sector, depends, to a considerable extent, on the timely and accurate determination of the financial competencies or insufficiencies of these companies and the timely intervention of the audit institutions. Qualification measurement can be achieved in various ways. In the European Union countries, measurement is made by looking at relatively simple financial ratios.

Today, intense competition compels companies to make improvements in their production from production to sales. The most important problem that businesses face concerns determining if resources are wasted. In identifying how far the enterprises use their resources effectively, they compare similar inputs with the enterprises that have similar outputs.

Making comparisons between companies constitutes a guide in the performance measurement to determine the activities of the companies. This study investigates the sales performance measurement of insurance companies with a novel integration method. Efficiency Analysis Technique with Input-Output Satisficing (EATWIOS) was developed by Peters and Zelewski (2006) based on Simon's (1949) term of *satisficing*. EATWIOS is one of the multi-criteria decision making (MCDM) methods, which have largely been used for efficiency analysis in recent years. This method helps decision-makers to focus on drawing satisfying results rather than optimal ones.

EATWIOS entails assigning relative weights of inputs and outputs to calculate the most accurate efficiency score. Therefore, relative weights have to be calculated utilizing an objective technique. In literature, there are many objective weighting techniques, such as Entropy, Critic and multi-goal programming. Due to the oldest technique, the Entropy weighting technique was chosen and combined with the new technique of EATWIOS. Thus, Entropy-EATWIOS is created as a novel technique.

This paper is organized as follows: The second section presents an overview of the relevant literature on EATWIOS. This is followed by the Methodology, which gives information about Entropy Weighting Technique and EATWIOS. The fourth part presents data and the description of the selected criteria and analyses the results. The final section concludes the paper by highlighting important points and providing recommendations.

2. Literature Review

There are many studies in the literature focusing on different topics on insurance companies. An examination of the studies deploying the techniques used in the measurements for the activity shows that these analyses are mostly made with non-parametric techniques and multi-criteria decision-making techniques. However, there are not

many works on the use of EATWIOS for efficiency analysis. Following the seminal study of Peter and Zelewski in 2006, EATWIOS began to be studied.

In the study of Bansal et al. (2014), in Delhi's national capital region of India, a company operating in the production and distribution of packaged drinking water wanted to evaluate 12 different provider companies for different forms and sizes of pet forms in order to reduce the cost of their bottle production. For this purpose, in order to measure the relative efficiency among firms, they used EATWIOS by disregarding the satisficing level but in consideration of the satisficing level for the outputs. While the price and late delivery numbers were used as input factors, the percentage of forms and the number of allowances for the suppliers were used as output factors. No marked differences between the results of two EATWIOS models were determined.

Özbek has six research papers about EATWIOS techniques. Özbek's first research (2015a), presents a performance analysis of five Turkish non-governmental organizations that serve all over the world. DEA, EATWIOS with Output Satisficing Level, EATWIOS without satisficing level and OCRA method are different techniques used for efficiency analysis. Özbek compared the results of methods and found that the most efficient non-governmental organization was the Turkish Diyanet Foundation.

In another research dated 2015, Özbek (2015b) used a combination of efficiency techniques, such as DEA, OCRA, and EATWIOS, for the performance measurement of Turkish Red Crescent (TRC) Society for each year separately. Total revenues, total expenses were stated as input factors when total expense for goals & services and surplus income were stated as output factors from 2012 through 2014 separately. At the end of the research, 2012 was indicated as the least efficient year for TRC, whereas 2013 and 2014 were found out to show a higher performance level.

The performance analysis of 19 private pension companies in Turkey was studied (Özbek, 2015c). The number of staff employed, total assets, total shareholders' equity represented the inputs while premium production and pension contracts represented the outputs. The study aimed to evaluate the efficiency of companies in the period between 2010 and 2014 with three models of EATWIOS. These are EATWIOS without consideration of the satisficing level, EATWIOS with the satisficing level for only one output, which is called premium production, and EATWIOS with the satisficing level for two outputs, which are called premium production and pension contracts. According to the results based on the application of three models of EATWIOS, the same companies were found to have a continuous and efficient performance.

Kumar et. al. (2016) analyzed the performances of 21 players in the India Premier League in season 2013. In making the analysis, the authors used EATWIOS with and without consideration of the satisficing level. While the player's signed contract fee was represented as an input factor, running and kicking indexes were represented as output factors.

In 2016, Özbek obtained a dataset from financial statements to evaluate the financial efficiency of six gold producers, which are traded in BIST (Borsa İstanbul). By using EATWIOS with and without consideration of the satisficing level, the financial ratios defined as inputs and outputs between 2008 and 2015 were analyzed. of the results of this comparison showed that Kozal company was the most successful firm in these gold producer.

Özdağoğlu (2018) applied an integrated financial performance analysis of industrial 152 companies in BIST Industry Index. EATWIOS was used as a general procedure, and different inputs and outputs factors were evaluated

in different matrices. Additionally, the use of a gray entropy weighting technique helped to assign different weights to inputs and outputs. Inventories, cost of sales, capital stock, and fixed assets were chosen as input factors to reflect the situation of industry correctly. Furthermore, sales income and gross operating income were used as output factors for financial evaluation. The analysis noted that two companies had the highest efficiency score among 152 companies.

3. Methodology

This section presents and explains the process steps of two important techniques. The hierarchy of this novel integration model can be seen below in Figure 1.

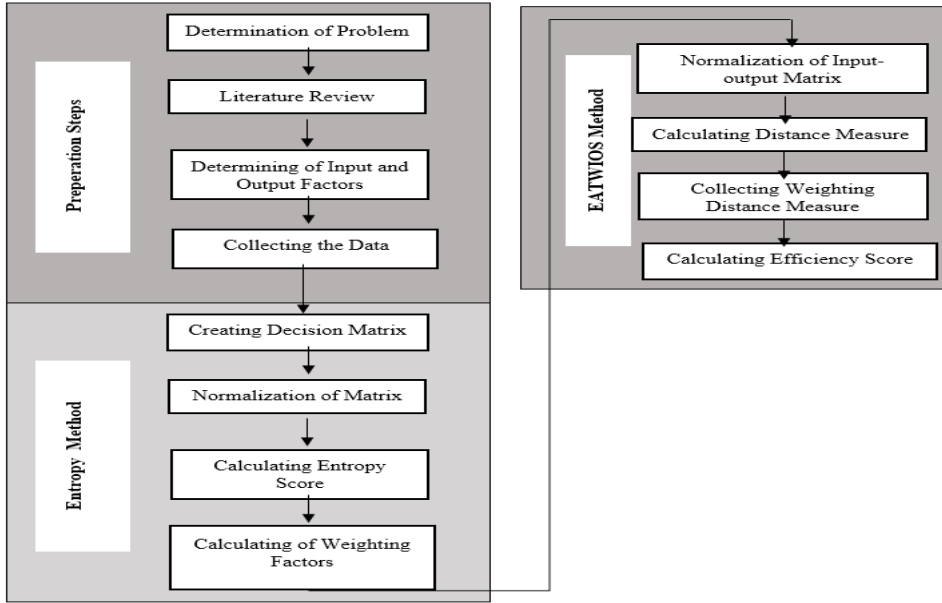


Figure 1. Hierarchy of the novel integration model in the study

3.1. Entropy Weighting Technique

Entropy means the average amount of information (Ding and Shi, 2005). In this research, the entropy technique is applied to determine input and output weights separately. Therefore, this creates an entropy-weighted EATWIOS method. The entropy method is highly reliable and can easily be adjusted to information measurement (Zou et al., 2005). The calculation steps (Shannon, 1948) are as follows: Suppose a decision matrix D with m alternatives and n criteria:

Step 1. It is essential to standardize indices using the equations of relative optimum membership degree. For the benefit indices, the attribute value of the jth index in the ith can be transformed by this formula:

$$r_{ij} = x_{ij} / \max_j x_{ij} \quad (i = 1, \dots, m; j = 1, \dots, n) \quad (1)$$

To the cost indices, the attribute value of the j th index in the i th can be transformed by this formula:

$$r_{ij} = \min_j x_{ij} / x_{ij} \min_j x_{ij} \square 0 \quad (i = 1, \dots, m; j = 1, \dots, n) \quad (2)$$

Step 2. After the standardization of indices, the standardized index matrix D is created as

$$D' = [r_{ij}] \quad m \times n. \quad (3)$$

Step 3. In the matrix D , feature weight p_{ij} is of the i_{th} alternatives to the j_{th} factor:

$$p_{ij} = r_{ij} / \sum_{i=1}^m r_{ij} \quad (1 \leq i \leq m, 1 \leq j \leq n) \quad (4)$$

Step 4. The output entropy e_j of the j_{th} factor becomes

$$e_j = -k \sum_{i=1}^m p_{ij} \ln p_{ij} \quad (k = 1 / \ln m; 1 \leq j \leq n) \quad (5)$$

Step 5. Variation coefficient of the j th factor: g_j can be defined by the following equation:

$$d_j = 1 - e_j \quad (1 \leq j \leq n) \quad (6)$$

Note that the larger g_j is the higher the weight should be.

Step 6. Calculate the weight of entropy α_j :

$$w_j = g_j / \sum_{j=1}^n g_j \quad (1 \leq j \leq n) \quad (7)$$

3.2. Efficiency Analysis Technique with Input-Output Satisficing (EATWIOS)

EATWIOS has created differences in efficiency analysis with the aim of achieving satisfactory solutions instead of optimal ones. It was developed by Peters and Zelewski in 2006 by concentrating on the Herbert A. Simon's *satisficing* term, which initially emerged as an idea and has been used as a satisficing level. EATWIOS has general steps. However, its steps can be changeable depending on whether satisficing levels are considered. EATWOS without consideration of the satisficing level and EATWOS with consideration of the satisficing level are created as two different models of EATWIOS.

After Peters and Zelewski's early work (2006), Peters et al. (2012) carried out an application about supply chain management by using EATWOS. In the present paper, EATWIOS is proposed as a new approach to efficiency analysis. It combines classical concepts of efficiency analysis, such as distance measures and efficiency scores, with Simon's (1949) idea of satisficing into a new type of efficiency analysis technique.

The fact that the processing steps can be calculated using excel without the need for any add-ons suggests that EATWIOS does more effective measurements than Data Envelopment Analysis and also provides additional convenience in reaching the solution.

EATWIOS requires the decision maker to establish the output quantities y_{ij} as well as the input quantities x_{ik} . For these reasons, the quantities y_{ij} of all outputs j ($j=1,2,\dots,J$) of all DMUs i ($i=1,2,\dots,I$) have to be entered into the output matrix Y (Peters and Zelewski, 2006).

Step 1. Creating Input and Output Data Matrices

$$\underline{X} = \begin{bmatrix} x_{11} & x_{12} & \dots & x_{1K} \\ x_{21} & x_{22} & \dots & x_{2K} \\ \vdots & \vdots & \ddots & \vdots \\ \vdots & \vdots & \ddots & \vdots \\ x_{I1} & x_{I2} & \dots & x_{IK} \end{bmatrix}, \quad x_{ik} \in R_{\geq 0}, \forall i = 1, \dots, I, \forall k = 1, \dots, K \quad (8)$$

$$\underline{Y} = \begin{bmatrix} y_{11} & y_{12} & \dots & y_{1J} \\ y_{21} & y_{22} & \dots & y_{2J} \\ \vdots & \vdots & \ddots & \vdots \\ \vdots & \vdots & \ddots & \vdots \\ y_{I1} & y_{I2} & \dots & y_{IJ} \end{bmatrix}, \quad y_{ij} \in R_{\geq 0} \quad \forall i = 1, \dots, I, \quad \forall j = 1, \dots, J \quad (9)$$

As each column of the input matrix corresponds to an input k , each row represents an alternative unit. Similarly, as each column of the output matrix corresponds to an output j , each row constitutes a DMU i .

EATWIOS necessitates the quantitative value of inputs and outputs.

Step 2. Normalization of Input and Output Matrix

In this step, the normalization of input and output matrix is realized by using equation 10 and 12.

$$\exists i \quad \exists k \quad x_{ik} \neq 0; \quad s_{ik} = \frac{x_{ik}}{\sqrt{\sum_{i=1}^I x_{ik}^2}} \quad \forall i = 1, \dots, I \quad \forall k = 1, \dots, K \quad x = 0: \quad s = 0 \quad (10)$$

As a result of the normalization process, the normalization input matrix \underline{S} is given below.

$$\underline{S} = \begin{bmatrix} s_{11} & s_{12} & \dots & s_{1K} \\ s_{21} & s_{22} & \dots & s_{2K} \\ \vdots & \vdots & \ddots & \vdots \\ \vdots & \vdots & \ddots & \vdots \\ s_{I1} & s_{I2} & \dots & s_{IK} \end{bmatrix} \quad (11)$$

The calculation way of the normalized output matrix has a similar way with the normalization of the input matrix.

$$\exists i \quad \exists j \quad y_{ij} \neq 0; \quad r_{ij} = \frac{y_{ij}}{\sqrt{\sum_{i=1}^I y_{ij}^2}} \quad \forall i = 1, \dots, I \quad \forall j = 1, \dots, J \quad y_{ij} = 0; \quad r_{ij} = 0 \quad (12)$$

By using equation 12, each output j , the maximum normalized output r_j^* quantity is determined based on the column vectors of \bar{r}_j of the normalized output matrix \underline{R} .

$$\underline{R} = \begin{bmatrix} r_{11} & r_{12} & \dots & r_{1j} \\ r_{21} & r_{22} & \dots & r_{2j} \\ \vdots & \vdots & \ddots & \vdots \\ r_{i1} & r_{i2} & \dots & r_{ij} \end{bmatrix} \quad (13)$$

Step 3. Calculation of Input and Output Distance Measure

EATWIOS uses similar distance measures with well-known efficiency analysis techniques like Data Envelopment Analysis, OCRA, and TOPSIS. The distance measures ip_{ik} for the inputs can be calculated on the basis of the matrix S and the minimum normalized input quantities s_k^* as shown in equations 14 and 15.

$$s_k^* = \min_i \{\bar{s}_k\} \quad \forall k = 1, \dots, K \quad (14)$$

$$ip_{ik} = 1 + s_{ik} - s_k^* \quad \forall i = 1, \dots, I \quad \forall k = 1, \dots, K \quad (15)$$

The calculation of the distance measure op_{ij} for outputs can be done by using formula 16 and 17. The maximum normalized output r_j^* and the matrix \underline{R} are important terms for distance measure.

$$r_j^* = \max_i \{\bar{r}_j\}$$

$$\forall i = 1, \dots, I, \forall j = 1, \dots, J$$

$$op_{ij} = 1 - (r_j^* - r_{ij}) \quad (16)$$

The output distance measure proposes that the smaller the distance of r_{ij} to r_j^* , the closer op_{ij} is to one.

Step 4. Calculation of Efficiency Score and Ranking

The score of input distance measure and the score of output distance measurements are combined to reach the efficiency score for each decision-making unit.

$$E_i = \frac{\sum_{j=1}^J v_j^* op_{ij}}{\sum_{k=1}^K w_k^* ip_{ik}} \quad \forall i = 1, \dots, I \quad (17)$$

Efficiency scores allow the ranking order of decision-making units. While the high E_i score of a decision unit means high efficiency, low-efficiency score means that the efficiency is lower than the other units. Rank sorting is generated by the efficiency scores from high to low.

4. Application of Evaluating Sales Operation Performance of Insurance Companies

In this study, sales performances of insurance companies that are traded in BIST are evaluated by using the Entropy-EATWIOS integration model during the period between 2014 and 2018. Inputs and outputs factors are

chosen from the literature and are found as the most appropriate factors for the insurance sector. Data are collected by financial operating reports and the dataset is calculated by financial ratio formulas. The relative importance of input-output factors is obtained by using the steps of Entropy weighting technique. After creating input and output value matrices, EATWIOS general procedure analysis is realized.

Table 1. Inputs and Outputs Factors

Inputs	Outputs
Current Assets (C1) (thousand TL) Fixed Assets (C2) (thousand TL) Capital Stock (C3) (thousand TL) Agency Numbers (C4) Number of Bank Branches (C5) Number of Staff (C6)	Number of Policies (C7) Premium Amount (C8) (thousand TL) Technical Profit (C9) (thousand TL)

Current assets typically include categories such as current cash and cash which are converted into cash within one year. Fixed assets are assets that are purchased for long-term use and are not converted quickly into cash, such as land, buildings, and equipment. The capital stock is defined as the shareholder's equity and obtained from balance sheets. The agency is a branch operating in various regions, carrying out insurance activities of the company that it belongs to. The number of bank branches is the total number of banks selling the insurance policies of companies. The number of staff is the number of employees of all insurance companies. The number of policies is the number of issued policies except for life insurance policy. The premium amount is the number of premiums produced. Technical profit is the gains of insurance companies only from insurance activities.

The weighting of factors is calculated step by step by using the value of inputs-outputs and formulas of entropy techniques as seen in section 3.1.

$$W_{inputs} = \{0.15, 0.35, 0.08, 0.16, 0.18, 0.08\} \quad W_{outputs} = \{0.22, 0.41, 0.38\}$$

Table 2. Average input values of insurance companies

	C1	C2	C3	C4	C5	C6
Aksigorta	2270	91	521	2450	863	662
Anadolu Anonim	5231	345	1008	2466	1366	1170
Anadolu Hayat	14735	177	829	290	1384	1003
Avivasa	1084	12375	230	319	863	1503
Gunes	1246	641	521	1597	1001	615
Ray	562	58	145	1190	166	248

In Table 2, the arithmetic mean value of 2014-2018 for input factors are calculated and shown. Table 3 reflects the similar calculation for output factors.

Table 3. Average Output Values of Insurance Companies

	C7	C8	C9
Aksigorta	4055894	2257	120
Anadolu Anonim	4894880	4294	240
Anadolu Hayat	171947	1871	149
Avivasa	1957976	1824	54
Güneş	2158432	1488	59
Ray	1163998	601	35

According to experts' opinions, agencies, banks, and staff are important to realize high policy sales and increase the premium amount and contribute to the rise in the technical profit. Indicators of sales operations give information about the performance of insurance companies. The reason for choosing these input and output factors is reflected in the structure of the sector accurately.

Table 4. Normalization of Input Value

	C1	C2	C3	C4	C5	C6
Aksigorta	0.1428	0.0073	0.3422	0.6081	0.3440	0.2821
Anadolu Anonim	0.3291	0.0278	0.6615	0.6120	0.5441	0.4983
Anadolu Hayat	0.9270	0.0143	0.5444	0.0720	0.5514	0.4273
Avivasa	0.0682	0.9981	0.1512	0.0791	0.3440	0.6402
Güneş	0.0784	0.0517	0.3421	0.3963	0.3986	0.2618
Ray	0.0354	0.0047	0.0954	0.2953	0.0663	0.1057

To analyze input and output factors with different characteristics, normalization data is a necessary step. In the EATWIOS method, this normalization is done by using a vector normalization formula, as shown in equation 10 and equation 12. This process converts data to non-standard numbers. Thus, these standard numbers can be evaluated together. Table 4 shows that the normalization of input values found as a result of vector normalization applied to input factors.

Table 5. Normalization of Output Value

	C7	C8	C9
Aksigorta	0.5720	0.3932	0.3750
Anadolu Anonim	0.6903	0.7482	0.7531
Anadolu Hayat	0.0242	0.3260	0.4671
Avivasa	0.2761	0.3178	0.1687
Güneş	0.3044	0.2593	0.1837
Ray	0.1641	0.1048	0.1091

Table 5 shows that the normalization of output values found as a result of vector normalization applied to output factors. After the normalization step, by using equation 15, each insurance company is compared with the company in the best condition in terms of normalized values of inputs. This measure is called as distance measure and shown in Table 6 for input values.

Table 6. Distance Measure of Inputs

	C1	C2	C3	C4	C5	C6
Aksigorta	1.1074	1.0027	1.2468	1.5361	1.2777	1.1764
Anadolu Anonim	1.2937	1.0232	1.5660	1.5400	1.4778	1.3926
Anadolu Hayat	1.8916	1.0096	1.4489	1.0000	1.4851	1.3216
Avivasa	1.0328	1.9935	1.0558	1.0071	1.2777	1.5345
Güneş	1.0430	1.0470	1.2467	1.3244	1.3323	1.1560
Ray	0.0354	0.0047	0.0954	0.2953	0.0663	0.1057

Another comparison is shown in Table 7. Distance from the company in the best condition in terms of output value is measured by using formula 17 for normalized output factor values.

Table 7. Distance Measure of Outputs

	C7	C8	C9
Aksigorta	0.8817	0.6450	0.6219
Anadolu Anonim	1.0000	1.0000	1.0000
Anadolu Hayat	0.3340	0.5777	0.7141
Avivasa	0.5858	0.5696	0.4156
Güneş	0.6141	0.5111	0.4307
Ray	0.4739	0.3565	0.3560

Due to the different impacts of the input and output factors on the sales performance of insurance companies, calculated weight values of input and output factors have to be multiplied with distance measure values. These weights are calculated as an objective Entropy weighting method.

Table 8. Weighted Distance Measure of Inputs

	C1	C2	C3	C4	C5	C6
Aksigorta	0.1691	0.3552	0.1037	0.2444	0.2238	0.0890
Anadolu Anonim	0.1975	0.3624	0.1303	0.2450	0.2589	0.1054
Anadolu Hayat	0.2888	0.3576	0.1206	0.1591	0.2602	0.1000
Avivasa	0.1577	0.7061	0.0878	0.1602	0.2238	0.1161
Güneş	0.1592	0.3709	0.1037	0.2107	0.2334	0.0875
Ray	0.1527	0.3542	0.0832	0.1946	0.1752	0.0757

Table 9. Weighted Distance Measure of Outputs

	C7	C8	C9
Aksigorta	0.1897	0.2641	0.2334
Anadolu Anonim	0.2152	0.4095	0.3753
Anadolu Hayat	0.0719	0.2366	0.2680
Avivasa	0.1261	0.2332	0.1560
Güneş	0.1321	0.2093	0.1616
Ray	0.1020	0.1460	0.1336

Weighted distance measures of inputs and outputs are given in Table 9 and Table 10, respectively. These tables help complementation of weighted distance measure of inputs and outputs.

Table 10. Efficiency Score and Ranking Results

	Inputs	Outputs	Efficiency Score	Ranking Result
Aksigorta	1.1852	0.6873	1.7245	5
Anadolu Anonim	1.2994	1.0000	1.2994	6
Anadolu Hayat	1.2862	0.5765	2.2312	4
Avivasa	1.4518	0.5153	2.8173	1
Gunes	1.1654	0.5031	2.3165	3
Ray	1.0355	0.3816	2.7137	2

When all weighted distance measure of the input and output factors are analyzed together, as seen in Table 10, the efficiency score is reached. According to these results, the insurance company with the highest performance value among six companies in the BIST is Avivasa with a value of 2.8173. Anadolu Anonim is a company that has the lowest efficiency score.

5. Conclusion and Recommendations

The insurance sector is an important sector that provides long-term funds for the financial system with premium amounts, and compensates the losses and distributes the risk by sharing the risks. Sales operations of insurance companies affect the life span of the company. Therefore, management and realization of high sales are of particular importance for companies to survive in a competitive environment. The measurement of the value of the activity in the sector where an insurance company is located is a necessary issue. In this study, Entropy-EATWIOS is used to analyze sales operation performance. From the financial operation reports, all necessary datasets are collected.

Six insurance companies traded in Borsa İstanbul are comparatively analyzed through the use of inputs-outputs dataset collected between 2014 and 2018. During the preparation of the data matrix, the mean value of years is used to obtain the one ranking result and make clear inferences from the results. Within the scope of the study, EATWIOS is implemented in the general procedure. Current assets, fixed assets, capital stock, agency numbers, the number of bank branches, the number of bank branches represented input factors while the number of policies,

premium amount and technical profits represented the output factors. According to Entropy weighting results, fixed asset and premium amount have the highest relative importance among input and output factors, respectively.

Using the average input-output dataset of five years, Avivasa is determined as the most efficient company. Following Avivasa, Ray is found as the second company which has better sales operation performances. Under these circumstances, Anadolu Anonim is a company that needs to take precautions about improving sales operations. Final ranking result is Avivasa > Ray > Güneş > Anadolu Hayat > Aksigorta > Anadolu Anonim.

Technical profit is a different output factor that is used in this study. Following the premium amount factor, it comes as the second with the highest level of importance among output factors. It is not commonly used in literature, but it is necessary for evaluating the sales operations because it reflects the technical department balance. Intense competition affects technical profit. If insurance companies focus only on market share, technical profit value will be in the background. However, a sustainable technical profit can help to increase the market share (Aksigorta Report, 2018).

The objective of the study is realized. An integrated novel model Entropy-EATWIOS is explained and used for a measurement application of insurance companies for sales operations. The proposed hybrid model can be applied to many different areas where efficiency analysis will be carried out. In addition to its easy applicability, the results can be found as both clear and understandable for decision makers in different areas.

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3

DOES JOINING GLOBAL ALLIANCES AFFECT AIRLINES' FINANCIAL PERFORMANCE?

Kasım Kiracı¹

Abstract

In this study, the impact of the membership of global alliances on the financial performance of airline companies has been investigated empirically. In this context, the financial performance of airline companies before and after joining global alliances was analyzed. Trend Analysis and CRITIC based TOPSIS methods were used in the study. The empirical findings of the study show that membership in global alliances is affecting the financial performance of airline companies. In addition, the results show that airlines are not equally affected by membership in global alliances.

Keywords: Global Alliances, Financial Performance, Airline, CRITIC Method, TOPSIS Method.

Introduction

Civil air transportation experienced a rapid development and transformation process after World War II. Many airlines operating in the public sector have been established as a result of the transfer of IT developments, especially used in the military field, to civil air transportation.

The market structure in the air transportation industry has changed considerably due to the effect of deregulation that started in 1978. Among these changes, it is observed that the legal regulations in the air transport market have increased the competition among the airlines. In order to achieve competitive advantages, airlines have developed many business models and competitive strategies. Therefore, it is seen that many airlines try to gain a competitive advantage as being a member of global alliances. On the other hand, the impact of membership in global alliances on airline financial performance has not been fully investigated. This is the main motivation behind the study for us.

In this study, our aim is to investigate the impact of membership on the financial performance of airlines is examined empirically. In this context, the performance of airlines is investigated based on the year when airlines joined global alliances (before 3 years and after 3 years). The empirical results of the study using the trend percentile analysis and CRITIC-based TOPSIS method show that membership in global alliances has an impact on the financial performance of airlines.

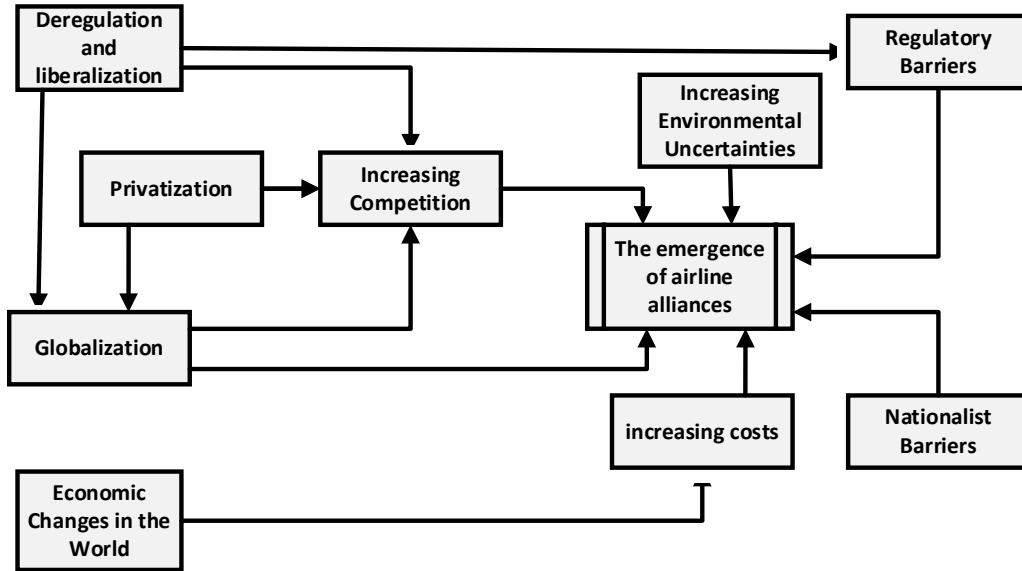
1. Strategic Alliances

The regulations that started in 1978 have deeply affected the market structure of the air transportation industry. Deregulations, which started in the US, spread to the EU in the 1990s and Turkey in 2003, have increased

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competition among airlines. Airlines have developed many strategies to achieve competitive advantages in this process. Airline companies' membership in global alliances can also be considered in this context. Being a member of global alliances allows airline companies to reduce costs, expand network structures, and take advantage against other airlines.

Figure 1. The emergence of global airline alliances



Source: Bissessur, 1996, s.97.

Table 1 shows the factors that led airlines to cooperate. In addition to the deregulations, the arrangements made by the national authorities played a pivotal role in the emergence of cooperations. Similarly, the environmental uncertainty experienced by airlines and the economic developments in the world (September 11 terrorist attack, SARS epidemic, global financial crisis, etc.) led the airlines to cooperate. Finally, it is seen that the competition between the airlines after globalization and the cost pressure caused by the developments affecting the world economy caused the airline companies to cooperate.

When the historical development of global airline alliances is examined, it is seen that the first global cooperation group is Global Excellence. Delta Air Lines, Swissair and Singapore Airlines signed this agreement in 1989. In the historical process, airline global alliances such as European Quality Alliance, Atlantic Excellence and Qualiflyer have been established (Latrou and Oretti, 2007, p.25). Today, three major global alliance that still operate are listed as Star Alliance, Oneworld and SkyTeam. In the next section of the study, information will be given about these global alliances.

1.1. Star Alliance

Air Canada, Lufthansa, SAS, Thai Airways International and United Airlines founded Star Alliance in 1997. The main aim of Star Alliance is to create a global network of airlines and meet the expectations and needs of the

customers as well as to ensure that the member airlines have seamless network structure. Star Alliance is currently comprised of 8 airlines. Star Alliance member airlines carry out more than 18,800 daily flights with a total of 5046 aircraft. Star Alliance also offers airline transport services to 193 different countries and the annual number of passengers carried is over 756 million (www.staralliance.com).

1.2. SkyTeam

Air France and Delta Air Lines established SkyTeam in 1999. In 2000, Aeromexico and Korean Air joined SkyTeam and the cooperation name was determined as SkyTeam™. SkyTeam global alliance already has 19 members, and they fly to more than 1150 destinations worldwide. Skyteam member airlines also carried out more than 14500 flights per day to more than 175 countries. It is seen that the annual number of passengers is over 630 million (www.skyteam.com).

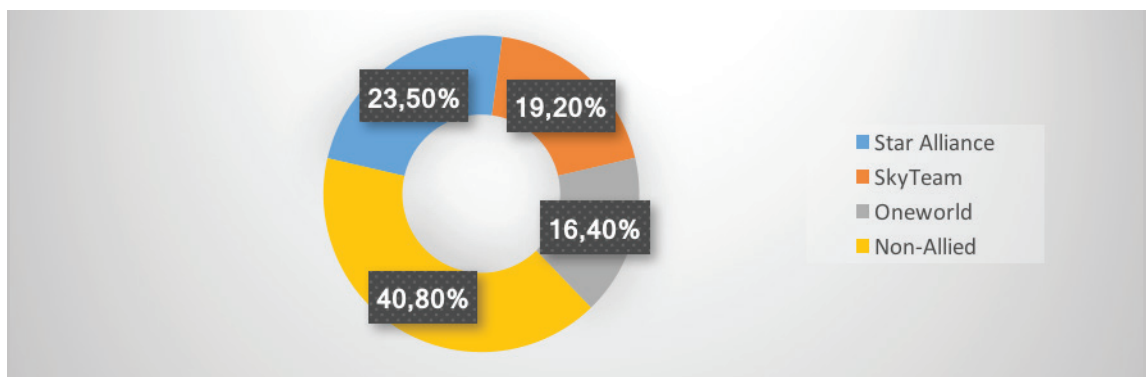
1.3. Oneworld

Oneworld is a global alliance founded by British Airways, American Airlines, Iberia, Finnair, Canadian Airlines, Cathay Pacific and Qantas in February 1999. LAN Chile and Aer Lingus joined the alliance in 2000 and Swiss International Air Lines joined in 2003 (Latrou and Oretti, 2007, p.45). Oneworld global alliance is currently composed of 13 airlines and 30 affiliated airlines. Alliance member airlines are currently flying to 1,100 destinations in 180 countries/regions, with more than 353 million passengers carried annually (www.oneworld.com).

1.4. Current Status Of Global Alliances

Airlines become members of global alliances in order to increase their market share, make network structure seamless, reduce costs and share risk with other airlines. Membership in global alliances contributes not only to member airlines but also to all airlines involved in the alliance. Through global alliances, airlines can fly their passengers through flights of other members in destinations they do not fly. Through global alliances, airlines can carry passengers through flights of other members to destinations they do not fly. In this way, the member airlines can have a seamless and expanded network structure.

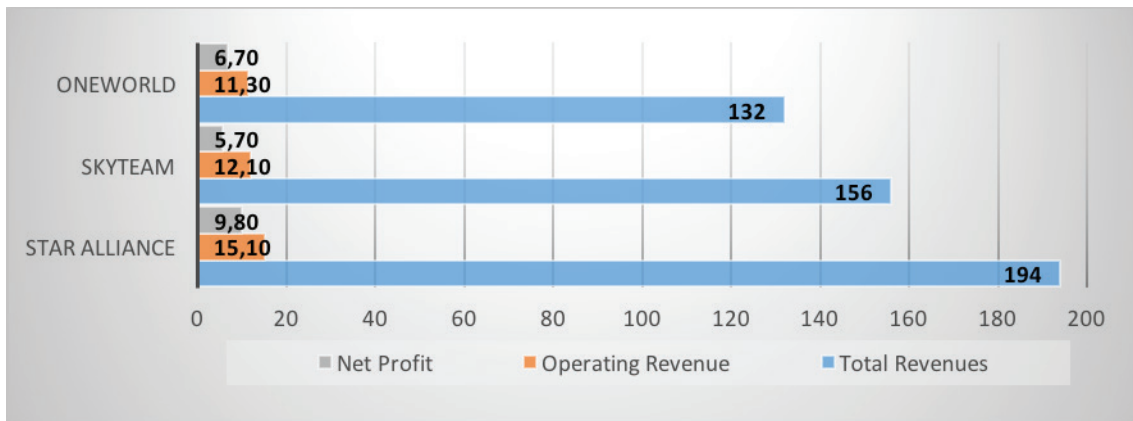
Figure 2. *The market shares of global alliances (2017)*



Source: *Airline Business*, 2018, s.30.

Figure 2 shows the market shares of any global alliance members and non-allied airlines in 2017. Accordingly, the market share of the allied airlines is 60%. Therefore, it is seen that the member airlines carry out approximately 60% of global airline transportation.

Figure 3. *Income and profit status of global alliances (2017)*



Source: *Airline Business*, 2018, s.30-31.

Figure 3 shows total revenue, operating income and net profit data of the allied airlines in 2017. Accordingly, it is seen that the global alliance with the highest total revenue in 2017 is the Star Alliance. In 2017, Star Alliance member airlines obtained a total of \$ 194 billion in revenue. The net profit of Star Alliance members is \$ 9.8 billion. Star Alliance is followed by SkyTeam and Oneworld respectively in terms of total revenue, operating income and net profit.

2. Literature Review

The air transportation industry has dynamic characteristics due to its structure and allows airlines to compete in the global arena. When the studies in literature are examined, it is seen that the studies on the effects of global alliances on airlines are examined ambidextrously. For example, there are some studies investigated the impact of membership on strategic alliances (Kuzminykh and Zufan; 2014; Min and Joo, 2016; Park and Cho, 1997), the impact of membership on airline profitability (Douglas ve Tan, 2017; Oum vd., 2004; Scotti ve Volta, 2017) and the impact of membership on airline operations (Iatrou ve Alamdari, 2005).

Airline global alliances have undergone a number of evolutions since their first appearance. Thus, the evolution of global alliances in time and the changes experienced are evaluated in different perspectives (Oum et al., 1997; Koza and Lewin, 1998; Rhoades and Lush, 1997; Fan et al., 2001). In addition, in literature, there are studies related to global alliance selection strategies of airlines and model practices (Garg, 2016; Liou et al., 2011; Liou, 2012). Similarly, there are studies in literature that evaluated the membership of global alliances with different perspectives. For example, Albers et al. (2005) discussed strategic alliances between airlines and airports. Gudmundsson and Lechner (2006) focused on the opportunities and constraints of global alliances. Hamiltan (2002) discussed

the airlines that could benefit from global alliances. Ramón-Rodríguez et al. (2011) examined the growth and globalization strategies implemented by airline companies.

Apart from the mentioned studies, the financial performance of airlines will be evaluated before and after the membership of global alliances in this study. Therefore, the contribution of this study to literature is expected to be threefold. First, there is no study in the literature that focuses on the evaluation of the pre- and post-membership period. Second, in this study, we propose a classification based on the membership date in order to evaluate the airlines have similar systematic risks. Finally, the financial performance of global alliances in the literature is rarely discussed. Therefore, this study is expected to fill the gap in the literature.

3. Data Set and Variables

In this study, the financial performance of member airlines of global alliances is examined. The focus of the study is to analyze the financial performance of airlines before and after becoming a member of global alliances. On the other hand, it is very difficult to make an overall evaluation for all the airlines in the alliances, since the dates of their membership in the alliances differ. In order to overcome the handicap, a list of the airlines, which became the member of the alliance the same year and which financial data was fully reached, was issued. The sample of this study is 20 airlines, which became members of global alliances in 1999, 2000, 2007 and 2012. The airlines included in the analysis within the scope of the study and their membership dates to global alliances are presented in the table below.

Table 1. *Members of global alliances and membership dates*

AIRLINE	CODE	Membership Date	AIRLINE	CODE	Membership Date
AIR NEW ZEALAND	NZ	1999	AUSTRIAN AIRLINES	OS	2000
AMERICAN AIRLINES	AA	1999	DELTA AIR LINES	DL	2000
ANA HOLDINGS	NH	1999	KOREAN AIR LINES	KE	2000
CATHAY PACIFIC	CX	1999	LATAM AIRLINES	LA	2000
LUFTHANSA	LH	1999	SINGAPORE AIRLINES	SQ	2000
FINNAIR	AY	1999	AIR CHINA	CA	2007
QANTAS AIRWAYS	QF	1999	ALIA - THE ROYAL	RJ	2007
COPA	CM	2012	CHINA SOUTHERN	CZ	2007
AVIANCA	AV	2012	JAPAN AIRLINES	JL	2007
SAUDI ARABIAN	SV	2012	KENYA AIRWAYS	KQ	2007

Table 1 shows the dates of the airline's membership to global alliances. At this point, the data of the relevant airlines 3 years before alliance and 3 years after alliance was analyzed in order to examine the effect of membership on global alliances. Before starting the analysis phase, the number of financial indicators based on literature were determined in accordance with the research problem. Accordingly, the financial performance of airlines will be examined by taking into consideration three basic criteria. These are liquidity position, financial structure or debt situation

and profitability status. The financial ratios used in the study and their calculation methods are given in Table 2. Accordingly, 3 basic financial indicators were determined and 6 sub-indicators (ratios) were used for measurement.

Table 2. *Financial ratios*

Ratios	Code	Financial Performance Indicator
Liquidity Position	F1	Current Assets / Short-term Liabilities
	F2	Working Capital / Total Assets
Debt Position	F3	Total Debt / Total Assets
	F4	Total Debt / Equities
Profitability Position	F5	Gross Profit / Total Assets
	F6	Gross Profit / Equities

4. Method

Two different methods were used in this study to elucidate the research problem. The first one is the trend percentage method. In this method, the year of the airline companies' membership to global alliances was selected as the base year and their performance (3 years ago and 3 years later) were analyzed by using percentage values. In the next step, the TOPSIS method was used. Similarly, pre - and post - period success scores were compared. The TOPSIS method requires that the weight coefficients of the criteria be included in the analysis. In this study, CRITIC method was used to obtain the weight coefficients of the criteria. Therefore, the study will include information on all three methods mentioned above.

4.1. Trend Analysis

The trend analysis is applied to monitor the financial position of a company at a specific time. This method is used in order to determine the trends and changes in the financial statements over time. This method aims to monitor the changes in the financial conditions of companies based on the reference year.

In order to monitor the changes in the practice, firstly the financial statements are examined based on a year which will be considered as normal in all respects for the company (base year). In this respect, the value of the financial statements in the year selected as the base year is accepted as 100. Therefore, the value of the financial ratio is calculated by dividing the value of the base year for each item by the value in the basic year. If the value of the same item (financial indicator) is lower than the base year in the following years, the trend percentage is lower than 100 percent. On the other hand, the trend percentage is higher than 100% if it is bigger (Akgüç, 2013, p.106).

The trend percentage of each account item in the financial statements is calculated as follows:

$$\text{Percent Change} = \frac{\text{Current year (x) amount}}{\text{The earlier year (x-1) amount}}$$

In this study, in order to examine the impact of global alliances on airlines, the dates of airline companies' membership in global alliances were taken as a basis. Therefore, the change in the financial items belonging to the airlines within ± 3 years range is examined.

4.2. CRITIC Method

One of the basic assumptions of the Multi-Criteria Decision Making (MCDM) is that the evaluation criteria have weights that reflect the coefficients of importance. The calculation of these weights is essential for application. In literature, there are many methods in which weighting is made by using some equations as well as methods such as taking opinions of experts to determine the importance of criteria and giving equal weight to each criterion. In this study, the CRITIC method, which has been widely used in literature in recent years, has been used to determine the importance of the criteria.

In the CRITIC method, weighting is made by taking into account the standard deviation of the criteria and the correlation coefficient between the criteria. The steps of the CRITIC method is are shown below (Diakoulaki et al. 1995, p.765; Senol and Ulutas, 2018, p.94).

1. Step: Construct the Decision Matrix

In the first step of the CRITIC method, the initial decision matrix is constructed. The matrix is seen in Equation (1) consists of n criteria and m alternatives.

$$A = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m1} & a_{m2} & \cdots & a_{mn} \end{bmatrix} \quad (1)$$

2. Step: Normalize the Decision Matrix

In order to bring the decision matrix to a common unit of measurement, the criteria are normalized by using Equation (2-3) respectively according to the benefit and cost characteristics.

$$r_{ij} = \frac{x_{ij} - x_j^{\min}}{x_j^{\max} - x_j^{\min}} \text{ for benefit criteria} \quad (2)$$

$$r_{ij} = \frac{x_j^{\max} - x_{ij}}{x_j^{\max} - x_j^{\min}} \text{ for cost criteria} \quad (3)$$

3. Step: Calculate the Amount of Information

In this step, the amount of information contained in the criteria (c_j) is calculated by using Equation (4).

$$c_j = \sigma_j \sum_{k=1}^n (1 - t_{jk}) \quad j = 1, 2, \dots, n \quad (4)$$

Where, (σ_j) denotes the standard deviation and (t_{jk}) means the level of correlation between criteria.

4. Step: Calculate the Criteria Weights

In the last step, the weight coefficients for all criteria are calculated by using Equation (5). It should be noted that, as the w_j value increases, the importance of the relevant criterion increases.

$$w_j = \frac{c_j}{\sum_{k=1}^m c_k} \quad j = 1, 2, \dots, n \quad (5)$$

4.3. TOPSIS Method

One of the most popular MCDM methods in literature is the TOPSIS method. This method, developed by Hwang and Yoon (1981), assumes that the optimal alternative is the shortest distance to the positive ideal solution and is the farthest distance to the nadir solution. The application of the TOPSIS method includes the following procedures (Uygurtürk and Korkmaz, 2012, p.103-105):

1. Step: Construct the Decision Matrix

As in the other multi-criteria decision-making methods, in the TOPSIS method, a decision matrix consisting of n criteria and m alternate is constructed (Equation 6).

$$A_{ij} = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m1} & a_{m2} & \cdots & a_{mn} \end{bmatrix} \quad (6)$$

2. Step: Construct the Normalized Decision Matrix (R)

Using the initial decision matrix, normalization procedure is applied by using Equation (7) so that the matrix elements have a standard value between 0 and 1.

$$r_{ij} = \frac{a_{ij}}{\sqrt{\sum_{i=1}^m a_{ij}^2}} \quad (i = 1, 2, \dots, m \text{ ve } j = 1, 2, \dots, p) \quad (7)$$

3. Step: Create the Weighted Decision Matrix (V)

In this step, the weighted coefficients are included in the normalized decision matrix by using Equation (8).

$$v_{ij} = r_{ij} \cdot w_{ij} \quad (8)$$

4. Step: Determinate the Ideal (A^+) and Nadir (A^-) Solutions

In this step, where the weighted decision matrix is used, the ideal and nadir solution points are determined according to the benefit and cost characteristics of the criteria (Equation 9-10).

$$A^+ = \{(max_i v_{ij} | j \in J), (min_i v_{ij} | j \in J')\} \quad (9)$$

$$A^- = \{(min_i v_{ij} | j \in J), (max_i v_{ij} | j \in J')\} \quad (10)$$

5. Step: Calculate the Separation Measures

In this step, the distances of each decision alternative to the ideal solution and the nadir point are calculated (Equation 11-12).

$$S_i^+ = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^+)^2} \quad (11)$$

$$S_i^- = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^-)^2} \quad (12)$$

6. Step: Calculate the Relative Closeness to the Ideal Solution (C_i^+)

In this step, the proximity of the alternatives to the ideal solution is calculated by using separation measures (Equation 13). Therefore, proximity to the ideal solution calculated for each criterion should be (C_i^+), $0 \leq C_i^+ \leq 1$.

$$C_i^+ = \frac{S_i^-}{S_i^- - S_i^+} \quad (13)$$

5. Empirical Findings

Empirical findings are categorized under 3 main headings in this section. Firstly, using the findings of trend percentages, the performances of the airlines for a period of ± 3 years from the date of inclusion in global alliances determined as a base year were analyzed. In the second heading, CRITIC method findings are given. The findings of the CRITIC method reflects the weight of the criteria used in the TOPSIS method. Therefore, it is more accurate to evaluate these findings as a preliminary analysis of the application of TOPSIS method. Thirdly, findings of TOPSIS were given.

5.4. Trend Analysis Findings

Table 3. *The liquidity status of the airlines (Base year-1999)*

		Before Global Alliance			After Global Alliance			
AIRLINE		1996	1997	1998	1999	2000	2001	2002
AIR NEW ZEALAND	F1	98.78	69.95	86.23	100	54.54	61.11	91.70
	F2	131.88	-56.58	32.80	100	-227.87	-188.47	87.24
AMERICAN AIRLINES	F1	106.45	119.67	114.59	100	98.21	115.40	90.39
	F2	90.51	44.19	57.98	100	116.94	50.10	128.79
ANA HOLDINGS	F1	86.81	85.11	92.99	100	86.24	95.55	88.95
	F2	-334.18	-367.28	-127.17	100	-432.59	-52.79	-290.59
CATHAY PACIFIC AIR	F1	148.42	144.59	113.32	100	100.38	117.08	97.95
	F2	361.29	229.88	131.94	100	128.59	154.22	125.67
LUFTHANSA	F1	323.52	307.81	291.76	100	100.57	97.10	125.02
	F2	-257.79	-310.26	-216.74	100	99.20	118.28	19.17
FINNAIR	F1	162.73	135.99	134.63	100	136.25	113.20	127.02
	F2	-422.02	-242.64	-249.88	100	-215.84	-31.34	-152.50
QANTAS AIRWAYS	F1	119.48	113.50	112.47	100	84.19	80.50	115.13
	F2	51.27	70.34	70.27	100	138.45	140.32	81.58

Table 3 shows the liquidity of the airlines that became members of global alliances in 1999, before and after the alliance. According to this, the liquidity performance of airlines differed after the global alliances. Accordingly, it is observed that AIR NEW ZEALAND has a liquidity shortage after becoming a member of global alliances. A similar situation is observed for the current ratio of the LUFTHANSA airline (F1). In contrast, LUFTHANSA

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and FINNAIR's working capital performance (F2) has shown a positive performance after becoming a member of global alliances.

Table 4. *The debt status of the airlines (Base year-1999)*

		Before Global Alliance				After Global Alliance		
AIRLINE		1996	1997	1998	1999	2000	2001	2002
AIR NEW ZEALAND	F3	94.50	86.28	99.24	100	128.42	154.92	105.33
	F4	102.33	83.51	99.04	100	351.60	1177.86	225.10
AMERICAN AIRLINES	F3	97.32	82.74	77.26	100	93.63	126.41	170.42
	F4	99.02	78.33	72.38	100	96.23	217.40	1516.55
ANA HOLDINGS	F3	95.62	94.39	98.77	100	101.86	89.34	93.75
	F4	71.76	64.45	85.87	100	126.85	57.54	67.94
CATHAY PACIFIC AIR	F3	78.03	94.78	104.47	100	61.14	69.24	64.62
	F4	66.53	91.63	113.06	100	42.99	49.42	45.74
LUFTHANSA	F3	73.60	63.58	108.64	100	91.80	151.89	139.84
	F4	73.80	65.81	115.78	100	94.56	223.18	184.08
FINNAIR	F3	178.13	136.78	103.07	100	102.98	141.79	110.24
	F4	219.56	153.31	105.69	100	114.26	160.93	116.87
QANTAS AIRWAYS	F3	113.82	108.11	98.19	100	94.44	97.07	108.59
	F4	117.56	109.07	93.62	100	108.20	100.25	103.37

Table 4 shows the leverage of the airlines that became members of global alliances in 1999, before and after the alliance. The findings indicate that the airlines' performance of the leverage differed after the global alliances. The results show that AIR NEW ZEALAND, AMERICAN AIRLINES and LUFTHANSA' debt ratios increase significantly after becoming members of global alliances. On the other hand, the leverage of CATHAY PACIFIC AIR decreased after becoming a member of the alliances.

Table 5. *The profitability status of the airlines (Base year-1999)*

		Before Global Alliance				After Global Alliance		
AIRLINE		1996	1997	1998	1999	2000	2001	2002
AIR NEW ZEALAND	F5	213.45	142.58	94.06	100	60.41	497.89	272.74
	F6	231.15	138.00	93.86	100	165.41	3785.43	582.87
AMERICAN AIRLINES	F5	123.70	128.13	138.97	100	268.10	182.80	176.57
	F6	125.87	121.30	130.20	100	275.55	314.38	1571.27
ANA HOLDINGS	F5	107.74	115.25	114.05	100	108.76	138.91	107.89
	F6	80.86	78.70	99.16	100	135.45	89.46	78.18
CATHAY PACIFIC AIR	F5	198.82	115.60	17.42	100	292.98	86.40	248.99
	F6	169.52	111.76	18.85	100	206.04	61.66	176.25
LUFTHANSA	F5	106.05	119.18	100.71	100	104.51	72.46	91.43
	F6	106.35	123.35	107.33	100	107.65	106.47	120.35
FINNAIR	F5	60.45	55.50	63.15	100	90.21	75.66	84.06
	F6	74.51	62.21	64.75	100	100.09	85.88	89.12
QANTAS AIRWAYS	F5	161.16	146.29	156.88	100	-13.64	110.75	116.99
	F6	166.44	147.59	149.58	100	-15.63	114.38	111.37

Table 5 shows the profitability status of the airlines, which were members of global alliances in 1999, before and after the alliance. According to this, the profitability levels of airlines vary. The results of the analysis show that the profitability of a significant portion of the airlines increased after they became members of global alliances. Accordingly, the profitability of AIR NEW ZEALAND and AMERICAN AIRLINES, CATHAY PACIFIC AIR

and FINNAIR increased after becoming a member of global alliances. On the other hand, the profitability of LUFTHANSA, ANA HOLDINGS and QANTAS AIRWAYS did not change or increase significantly.

Table 6. *The liquidity status of the airlines (Base year-2000)*

		Before Global Alliance				After Global Alliance		
AIRLINE		1997	1998	1999	2000	2001	2002	2003
AUSTRIAN AIRLINES	F1	99.95	146.63	180.88	100	65.91	58.08	50.65
	F2	122.55	1999.7	2606.5	100	-1697.7	-2042.2	-2657.2
DELTA AIR LINES	F1	114.91	120.21	82.09	100	91.17	98.93	122.71
	F2	103.44	89.45	172.53	100	129.16	111.03	69.89
KOREAN AIR LINES	F1	80.09	104.91	117.38	100	110.23	118.65	126.79
	F2	194.60	93.61	55.97	100	86.35	71.75	63.25
LATAM AIRLINES	F1	104.72	83.63	105.24	100	78.08	88.94	94.39
	F2	509.49	-955.25	345.91	100	-1152.5	-522.65	-231.18
SINGAPORE AIRLINES	F1	84.84	105.13	131.32	100	94.63	97.91	71.89
	F2	327.40	13.16	-365.29	100	184.12	99.62	461.75

Table 6 shows the liquidity status of the airlines which have been members of global alliances since 2000 before and after the membership of the alliance. Accordingly, the liquidity performance of airlines varied considerably. On the other hand, the most remarkable change is observed in AUSTRIAN AIRLINES. It is observed that the working capital performance of the airline in (F2) shows a negative change after becoming a member of the global alliances. In other airlines, it is thought that the liquidity performance changes over the years but there is no significant effect of global alliances.

Table 7. *The debt status of the airlines (Base year-2000)*

		Before Global Alliance				After Global Alliance		
AIRLINE		1997	1998	1999	2000	2001	2002	2003
AUSTRIAN AIRLINES	F3	64.64	88.47	84.89	100	109.31	100.82	93.53
	F4	42.62	62.55	53.54	100	143.25	114.27	89.73
DELTA AIR LINES	F3	60.61	47.87	58.59	100	145.65	160.74	180.17
	F4	61.59	42.35	53.09	100	217.27	873.31	-3041.01
KOREAN AIR LINES	F3	106.59	64.67	81.05	100	117.11	132.23	132.95
	F4	-186.38	160.78	68.98	100	152.35	162.84	172.91
LATAM AIRLINES	F3	54.58	105.04	105.18	100	111.15	97.29	87.79
	F4	37.15	101.85	98.38	100	138.35	125.00	101.50
SINGAPORE AIRLINES	F3	102.51	92.14	90.14	100	119.81	315.51	291.77
	F4	94.04	84.71	84.72	100	123.13	396.55	348.14

Table 7 shows the debt status (leverage) of airlines which became members of global alliances in 2000, before and after the membership of the alliance. The findings indicate that the airlines' performance of the leverage status changed after the memberships. The findings also show that AUSTRIA AIRLINES, DELTA AIR LINES and SINGAPORE AIRLINES' debt ratios significantly increased after the membership of the global alliances (for F3). In other airlines, there is no significant impact of membership in global alliances.

Table 8. *The profitability status of the airlines (Base year-2000)*

		Before Global Alliance				After Global Alliance		
AIRLINE		1997	1998	1999	2000	2001	2002	2003
AUSTRIAN AIRLINES	F5	1509.34	1717.71	858.17	100	187.63	833.97	846.75
	F6	995.21	1214.39	541.25	100	245.89	945.23	812.33
DELTA AIR LINES	F5	109.89	102.48	95.49	100	67.47	62.59	58.70
	F6	111.65	90.65	86.53	100	100.65	340.08	-990.75
KOREAN AIR LINES	F5	519.19	130.58	81.51	100	258.31	356.82	324.79
	F6	-907.87	324.64	69.38	100	336.04	439.41	422.39
LATAM AIRLINES	F5	103.69	71.23	69.36	100	130.25	49.83	71.76
	F6	70.58	69.07	64.87	100	162.12	64.02	82.97
SINGAPORE AIRLINES	F5	89.28	77.53	55.22	100	106.24	75.10	223.84
	F6	81.91	71.27	51.89	100	109.18	94.39	267.09

Table 8 presents the profitability status of the airlines, which became members of global alliances in 2000, before and after the memberships of the alliance. The findings of the analysis show that the airlines' profitability partially increased after the global alliances. Accordingly, it is seen that KOREAN AIR LINES and SINGAPORE AIRLINES have increased their profitability after becoming a member of global alliances. However, there are also airlines whose profitability level has not changed or increased significantly. In this context, the profitability of AUSTRIAN AIRLINES has decreased after the membership of global alliances.

Table 9. *The liquidity status of the airlines (Base year-2007)*

		Before Global Alliance				After Global Alliance		
AIRLINE		2004	2005	2006	2007	2008	2009	2010
AIR CHINA	F1	191.84	87.59	112.79	100	66.69	62.87	119.97
	F2	55.17	125.32	96.96	100	173.50	143.00	99.63
ALIA - THE ROYAL	F1	123.44	120.15	121.16	100	68.89	82.93	87.31
	F2	56.09	56.42	61.62	100	180.78	135.55	128.58
CHINA SOUTHERN AIR	F1	134.82	105.64	83.33	100	107.90	122.86	237.80
	F2	73.41	88.00	103.29	100	94.40	73.10	36.19
JAPAN AIRLINES	F1	86.38	111.97	99.43	100	114.31	69.91	273.82
	F2	-88.14	236.08	88.30	100	308.77	-409.34	1154.94
KENYA AIRWAYS	F1	na	64.29	80.95	100	108.93	65.61	61.74
	F2	na	-40.19	39.52	100	128.37	-32.60	-53.12

Table 9 shows the liquidity status of the airlines, which became members of global alliances in 2007, before and after the alliance. Accordingly, the liquidity performance of airlines differed after the global alliances. On the other hand, it is seen that the profitability of airlines for the year after the year they were a member of global alliances (2008) is higher than in other years.

Table 10. *The debt status of the airlines (Base year-2007)*

		Before Global Alliance				After Global Alliance		
AIRLINE		2004	2005	2006	2007	2008	2009	2010
AIR CHINA	F3	109.22	102.97	94.13	100	113.01	124.94	116.05
	F4	150.87	120.32	91.57	100	193.97	192.40	151.97
ALIA - THE ROYAL	F3	171.70	137.39	106.91	100	120.34	124.03	110.90
	F4	231.98	138.91	107.70	100	172.40	146.33	122.89
CHINA SOUTHERN AIR	F3	93.48	103.40	107.39	100	108.36	102.42	83.09
	F4	73.39	110.25	118.95	100	191.20	139.44	51.25
JAPAN AIRLINES	F3	130.42	126.39	119.02	100	88.19	94.12	12.92
	F4	252.32	205.25	253.15	100	61.42	140.38	-1.29
KENYA AIRWAYS	F3	na	91.48	106.04	100	82.45	94.34	82.03
	F4	na	93.11	119.22	100	68.51	116.80	84.43

Table 10 shows the debt status (leverage) of the airlines that became members of global alliances in 2007, before and after the alliance. The findings show that the level of debt for AIR CHINA and ALIA - THE ROYAL and CHINA SOUTHERN AIR increased after membership of global alliances. As of 2007, there has been no significant change in other airlines involved in global alliances.

Table 11. *The profitability status of the airlines (Base year-2007)*

		Before Global Alliance				After Global Alliance		
AIRLINE		2004	2005	2006	2007	2008	2009	2010
AIR CHINA	F5	111.79	105.51	89.50	100	80.44	92.90	117.78
	F6	154.42	123.29	87.07	100	138.07	143.06	154.25
ALIA - THE ROYAL	F5	140.05	171.79	45.41	100	77.71	141.03	215.85
	F6	189.22	173.69	45.74	100	111.33	166.39	239.19
CHINA SOUTHERN AIR	F5	55.47	66.85	97.77	100	15.72	132.19	202.84
	F6	43.55	71.28	108.29	100	27.73	179.97	125.12
JAPAN AIRLINES	F5	78.21	105.35	85.77	100	106.49	72.86	0.57
	F6	151.32	171.08	182.42	100	74.16	108.67	-0.06
KENYA AIRWAYS	F5	na	138.51	121.34	100	82.48	69.46	59.97
	F6	na	140.99	136.43	100	68.53	86.00	61.72

Table 11 shows the profitability of the airlines, which became members of global alliances in 2007, before and after the alliance. According to this, the profitability levels of airlines differed after the global alliances. The analysis results show that the profitability of AIR CHINA and ALIA - THE ROYAL airlines increased after they became members of global alliances. In contrast, the profit of CHINA SOUTHERN AIR has fallen considerably after membership of global alliances.

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Table 12. *The liquidity status of the airlines (Base year-2012)*

		Before Global Alliance				After Global Alliance		
AIRLINE		2009	2010	2011	2012	2013	2014	2015
COPA	F1	96.66	102.62	98.44	100	115.60	88.58	79.15
	F2	71.66	101.87	84.14	100	245.70	19.84	-56.91
AVIANCA	F1	na	80.74	100.92	100	106.01	96.00	89.77
	F2	na	154.94	92.59	100	79.81	100.58	94.05
SAUDI ARABIAN	F1	66.87	101.16	100.12	100	92.24	84.79	92.28
	F2	79.51	100.64	98.00	100	88.40	80.51	74.37

Table 12 shows the pre- and post-membership liquidity status of airlines that became members of global alliances in 2012. Accordingly, the current rate of COPA airlines increased significantly in the first year following the year of membership in the global alliances (in 2013). The liquidity performance of other airlines changed over the years but there is no significant effect of global alliances.

Table 13. *The debt status of the airlines (Base year-2012)*

		Before Global Alliance				After Global Alliance		
AIRLINE		2009	2010	2011	2012	2013	2014	2015
COPA	F3	116.43	111.57	100.37	100	78.15	78.99	101.23
	F4	124.44	113.58	97.89	100	71.66	68.55	104.39
AVIANCA	F3	na	120.98	103.90	100	108.72	127.08	134.46
	F4	na	186.26	113.18	100	120.44	168.52	164.78
SAUDI ARABIAN	F3	na	na	na	na	na	na	na
	F4	na	na	na	na	na	na	na

Table 13 shows the debt status (leverage) of the airlines that became members of global alliances in 2012, before and after the alliance. The findings show that the debt rates of COPA airlines decreased significantly after it became members of global alliances. On the other hand, the debt rate for AVIANCA airlines increased significantly after it became members of global alliances. For SAUDI ARABIAN airlines, the debt ratio could not be calculated.

Table 14. *The profitability status of the airlines (Base year-2007)*

		Before Global Alliance				After Global Alliance		
AIRLINE		2009	2010	2011	2012	2013	2014	2015
COPA	F5	116.33	82.12	83.41	100	104.92	105.54	93.84
	F6	124.33	83.59	81.36	100	96.21	91.59	96.76
AVIANCA	F5	na	101.83	99.54	100	168.02	113.26	106.05
	F6	na	156.77	108.43	100	186.14	150.19	129.97
SAUDI ARABIAN	F5	115.64	94.34	82.02	100	101.00	107.79	113.95
	F6	146.14	94.38	81.23	100	100.41	108.51	108.96

Table 14 shows the profitability of the airlines which became members of global alliances in 2012, before and after the alliance. Analysis findings show that as of 2012, the profitability of all 3 airlines' profitability increased after becoming a member of global alliances.

5.5. CRITIC Method Findings

The findings of the CRITIC in this section reflect the importance levels of the criteria compared to the relevant years. At the same time, these findings should be considered as a preliminary analysis of the TOPSIS method. In determining the importance weights of the criteria used in the study, airlines are grouped according to the year they became a member of global alliances. In addition, the significance weights of the criteria for each analysis period were recalculated. These significance weights are given in the tables below.

Table 15. *Criteria weights (Base year-1999)*

	F1	F2	F3	F4	F5	F6
1996	0.13551	0.20817	0.13551	0.20915	0.14120	0.17046
1997	0.12083	0.27485	0.12442	0.18533	0.13465	0.15992
1998	0.11667	0.22978	0.12436	0.20189	0.14739	0.17991
1999	0.11375	0.21032	0.12550	0.21598	0.15539	0.17905
2000	0.11770	0.16664	0.12888	0.22870	0.16825	0.18984
2001	0.12955	0.22512	0.12953	0.18596	0.15268	0.17715
2002	0.09224	0.34754	0.09724	0.16369	0.10982	0.18948

In Table 15, criteria weights are given for airlines that became members of global alliances in 1999. This analysis covers the period before and after the membership of global alliances. Therefore, the weight of the criteria covers the period of 1996-2002 and is calculated separately for each year.

Table 16. *Criteria weights (Base year-2000)*

	F1	F2	F3	F4	F5	F6
1997	0.00317	0.05242	0.01470	0.84236	0.03005	0.05729
1998	0.02469	0.28723	0.11656	0.14163	0.22168	0.20821
1999	0.00816	0.84867	0.01810	0.02291	0.04814	0.05403
2000	0.01217	0.28147	0.07102	0.11532	0.24373	0.27629
2001	0.00811	0.05609	0.08980	0.14698	0.32742	0.37160
2002	0.01062	0.10656	0.05192	0.19782	0.17752	0.45557
2003	0.00450	0.03785	0.02304	0.45486	0.06512	0.41463

In Table 16, criteria weights are given for airlines that became members of global alliances in 2000. This analysis covers the period before and after the membership of global alliances. Therefore, the weight of the criteria covers the period of 1997-2003 and is calculated separately for each year.

Table 17. *Criteria weights (Base year-2007)*

	F1	F2	F3	F4	F5	F6
2004	0.12560	0.22154	0.10946	0.20382	0.14707	0.19251
2005	0.12493	0.38417	0.04130	0.21993	0.06045	0.16922
2006	0.09219	0.39287	0.04051	0.20854	0.06466	0.20123
2007	0.15387	0.48643	0.05259	0.15720	0.05167	0.09825
2008	0.17392	0.32704	0.04090	0.20565	0.13376	0.11873
2009	0.18775	0.30007	0.07967	0.25541	0.04571	0.13138
2010	0.18105	0.22548	0.10049	0.17259	0.15729	0.16309

(Since KENYA AIRWAYS has no financial data for 2004, the airline is not considered in calculation.)

In Table 17, criteria weights are given for airlines that became members of global alliances in 2000. This analysis covers the period before and after the membership of global alliances. Therefore, the weight of the criteria covers the period of 2004-2010 and is calculated separately for each year.

Table 18. *Criteria weights (Base year-2012)*

	F1	F2	F3	F4	F5	F6
2010	0.14140	0.29295	0.16748	0.19299	0.10144	0.10375
2011	0.14170	0.29232	0.17427	0.18838	0.10254	0.10079
2012	0.14262	0.29162	0.17542	0.18539	0.10703	0.09792
2013	0.13599	0.25384	0.18474	0.20898	0.10214	0.11431
2014	0.12726	0.30508	0.16988	0.20321	0.09805	0.09652
2015	0.13434	0.32826	0.16290	0.18297	0.10012	0.09142

(Since there is not enough financial data, no calculation has been made for 2009)

In Table 18, criteria weights are given for airlines that became members of global alliances in 2000. This analysis covers the period before and after the membership of global alliances. Therefore, the weight of the criteria covers the period of 2012-2015 and is calculated separately for each year.

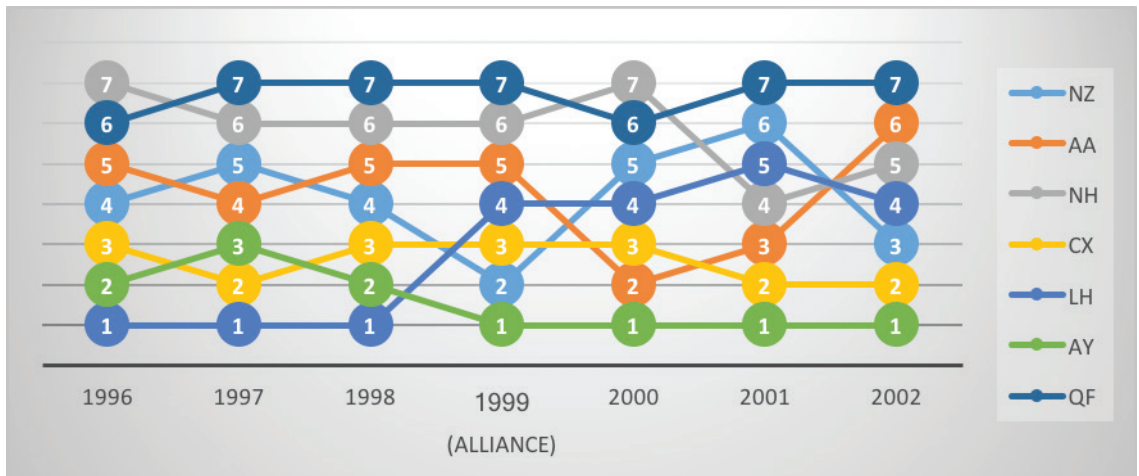
5.6. TOPSIS Findings

Although different methods can be used in the measurement of financial and operational performance, it is also common to use MCDM methods for this purpose. In this section, the TOPSIS method was used for analyzing the airline companies' pre- and post-membership financial performance. As a result of this study, the financial data of airlines which are members of global alliances were examined. In the study, the performance of ± 3 years is analyzed with the base year of the relevant airlines. Therefore, 7 years performance calculation was made.

Table 19. Airline performance scores (1996)

Airline	Si*	Si ⁻	Ci*	Ranking
AIR NEW ZEALAND	0.166098	0.213027	0.561891	4
AMERICAN AIRLINES	0.190269	0.199472	0.511807	5
ANA HOLDINGS	0.256026	0.137146	0.348819	7
CATHAY PACIFIC AIR	0.146347	0.254812	0.63519	3
DEUTSCHE LUFTHANSA	0.082016	0.280381	0.773684	1
FINNAIR	0.110401	0.239801	0.684751	2
QANTAS AIRWAYS	0.231496	0.178288	0.435078	6

In order to save space in the study, the TOPSIS application was made on the data of 1996 for the airlines that joined into an alliance in 1999 (Table 19). In addition, the optimality scores for the 7-year period covering the research process are shown in Figure 4.

Figure 4. Airlines' ranking (1996-2002)

As shown in Figure 4, FINNAIR (AY), CATHAY PACIFIC AIR (CX) and ANA HOLDINGS (NH) airlines have good financial performance after membership of global alliances. On the other hand, LUFTHANSA (LH) and AIR NEW ZEALAND (NZ) airlines' financial performances have decreased after membership in global alliances. In particular, LUFTHANSA (LH) seems to be the best-performing airline before becoming a member of global alliances, but has become the fourth in terms of financial performance after becoming a member of global alliances.

Figure 5. Airlines' ranking results (1997-2003)

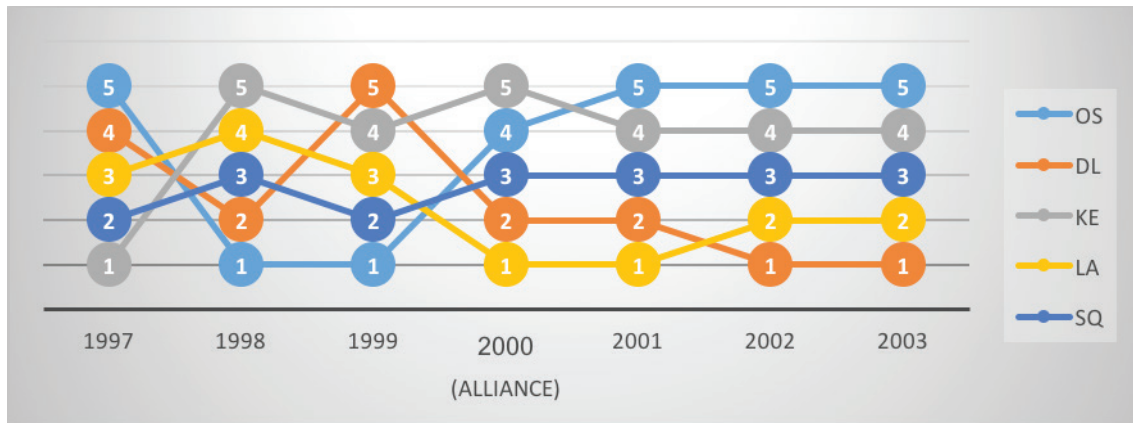


Figure 5 shows the financial performance ranking of 5 airlines, which joined global alliances in 2000, in the period of 1997-2003. The analysis results show that LATAM AIRLINES (LA) and DELTA AIR LINES (DL) have increased their financial performance after becoming a member of global alliances. On the other hand, the financial performance of AUSTRIAN AIRLINES (OS) and SINGAPORE AIRLINES (SQ) airlines have decreased after membership of global alliances.

Figure 6. Airlines' ranking results (2004-2010)

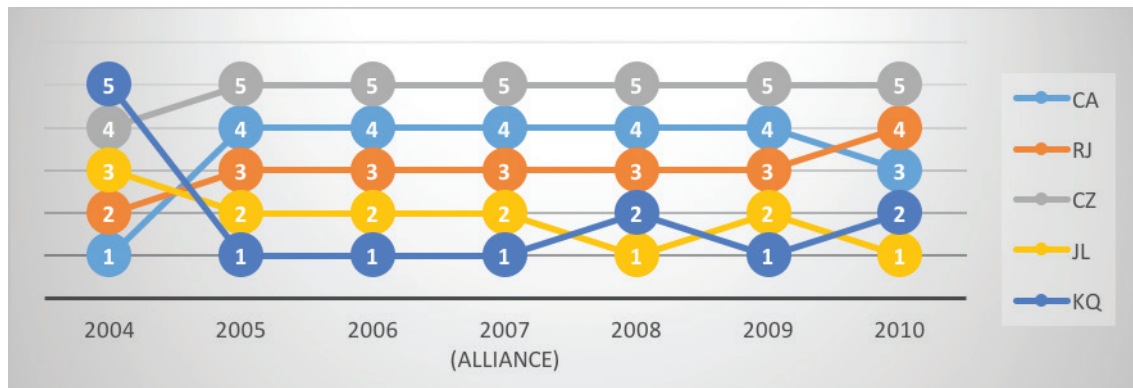


Figure 6 shows the financial performance ranking of 5 airlines, which joined global alliances in 2007, for the period of 2004-2010. Analysis findings indicate that the financial performance of JAPAN AIRLINES (JL) has increased. Although the financial performance of other airlines has changed over the years, no significant change has occurred.

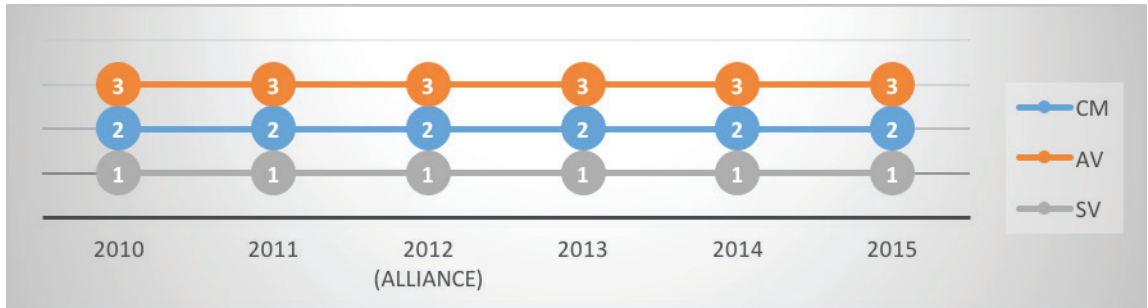
Figure 7. *Airlines' ranking results (2010-2015)*

Figure 7 shows the financial performance ranking for the 2010-2015 period of the 3 airlines that joined global alliances in 2012. The analysis results show that airlines' financial performance rankings have not changed.

6. Conclusion

In this study, the effect of membership to global alliances on airline financial performance was examined. In this context, financial data of 20 airlines that have been included in global airline alliances in different years in the period of 1999-2012 have been reached. Since the main purpose of this study is to empirically analyze the impact of global alliances on airline performance, airlines are grouped on the basis of the years they are members of global alliances. Within the scope of the study, some variables were used to reveal the liquidity, debt and profitability of airlines. In the study, 6 variables were used in total, variables were determined from literature. In order to determine the effect of membership to global alliances on airline financial performance, Trend Percentages and CRITIC based TOPSIS methods were used.

The empirical results of the study indicate that airline' liquidity, debt and profitability performances differed before and after membership to global alliances. The findings of the study were evaluated in the previous sections of the study. Therefore, the details of the findings presented in the tables will not be mentioned in this section. However, it is seen that airlines differ in terms of liquidity, debt and profitability performance even if they joined the global alliance in the same year.

The CRITIC-based TOPSIS findings were calculated by taking into account the membership duration of airlines. Therefore, it is a performance evaluation among the member airlines of the alliances which joined in the same year. The findings show that LUFTHANSA has a good performance before joining global alliances. However, Lufthansa became fourth in financial performance after becoming a member of the global alliance. In 1999, the financial performance of AIR NEW ZEALAND which joined a global alliance in 1999 changed significantly. It is observed that the airline which ranked second in the first year of membership, did not perform well in the subsequent periods. DELTA AIR LINES, a member of global alliance since 2000, showed a good performance after the membership. In contrast, the financial performance of AUSTRIAN AIRLINES declined after the membership of global alliance. The financial performance of airlines which became members of a global alliance in 2007 and 2012 did not change significantly. However, it is observed that the financial performance of JAPAN AIRLINES after the membership has increased and the financial performance of ALIA - THE ROYAL airlines decreased.

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4

EMPLOYMENT IN MARKETING: EVALUATION OF RECRUITMENT CRITERIA WITH ANALYTIC HIERARCHY PROCESS

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Abstract

Emerging technology and changing business conditions have affected the recruitment factors, depending on the expectations in the business world. The evaluation of the factors that are effective in the employment of personnel has been addressed by many researchers in the field of organizational behavior. On the other hand, factors related to recruitment can vary depending on contexts and sectors. The aim of this study is to determine the factors affecting the recruitment of marketing and to evaluate their relative importance. In line with the purpose of the study, AHP method will be used for multi-criteria decision-making methods and factors related to recruitment process will be evaluated as main factor groups. As a result of preliminary interviews with human resources experts who have experience in hiring marketing from the business world, the factors compiled from the literature will be examined. Following the preliminary interviews and adjustments, the criteria will be ranked among themselves according to their degree of importance. As a result of the research, it is aimed to reach a novel result that combines organizational behavior and marketing disciplines. As the findings of the study include interdisciplinary results, it is planned to contribute to the studies in the literature and to the work practices with the weighting of the recruitment factors.

Keywords: Recruitment, Marketing, Analytic Hierarchy Process.

1.Introduction

Human resource management (HRM) has been affected by technology and internet (Ensher, Nielson, & Grant-Valone, 2002, pp. 224-244) and there are several areas and processes need to be examined for better HR decision making. One of the most important fields of work for human resources is the employment of the right personnel. The search, evaluation and recruitment processes of the appropriate personnel related to the business have an important place in human resources applications. Employment as an overall concept has consequences for both micro and macro scale. Macro scale refers to large size of consequences for economies as it includes unemployment and efficiency for economies. On the other hand micro scale of employment refers to efficiency of companies and departments. This study focuses on micro and macro scale of recruitment process while examining recruitment factors for marketing area.

There is lack of marketing-based recruitment studies in literature, therefore this study aims for this research gap, while focusing on private sector in Istanbul. Aim of study includes determining main factor groups for recruitment

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process and ranking main factors and subfactors. The scope of study refers to recruitment process of marketing area for private sector in Istanbul.

Research questions of study;

- What are the main factors for recruitment?
- What are sub-factors for recruitment factors?
- How main factors and sub-factors are ranked for recruitment process?
- In real life scenario, how candidates are chosen regarding criteria?

This research mainly consists of five parts. The first part, contains theoretical background related to recruitment process, the second part contains literature review. In the third part, the theoretical structure of the analysis method is explained. In the fourth part, the application and finally fourth part includes conclusion.

2. Literature Review

Theoretical background of this study includes employability concept which refers to being capable of getting and keeping fulfilling work (Hillage & Pollard, 1998). Employability concept is studied in several contexts including; education (Cranmer, 2006, pp. 169-184), hospitality (Yang, Cheung & Fang, (2015), pp. 161-170) and psychology (Vanhercke, De Cuyper, Peeters & De Witte, 2014, pp. 592-605). McQuaid & Lindsay (2005, pp.197-219) present a broad model for employability in their study. Their model includes three sets of factors affecting one person's employability, these are individual factors, external factors and personal circumstances.

The main phenomenon of study refers to factors of recruitment process and they are studied in literature with different contexts. Finch, Hamilton, Baldwin & Zehner(2013, pp.681-704) focus on factors affecting employability of undergraduate students. They conclude five factor groups for recruiting process which includes; soft skills, problem-solving skills, pre-graduate experience, functional skills and academic reputation. In another study, Potgieter (2012, pp.1-15) examines post graduate business management studies with employability attributes and self-esteem, while concluding prediction of employability attributes by biographical details. These studies conclude overall attributes and skills, but focusing on marketing area would contribute to specific details.

The context this study focus refers to marketing context and a few studies examine this context in literature. Walker, Tsarenko, Wagstaff, Powell, Steel & Brace-Govan(2009, pp.253-263) researches marketing career progress with transition from university to professional stage. They conclude lack of skills about fitting to organization for transition stage from student to employee. In another study, Pefanis Schlee & Harich (2010, pp. 341-352) employ content analysis to 500 marketing jobs from Monster.com and conclude differences for different levels of marketing jobs. Similar to this study, Wellman (2010, pp. 908-930) examines 250 online person specifications and identifies 52 attributes from 16 clusters. Communications, personal traits, work relationships and ICT-computers are main clusters.

Variety of factors and criteria for recruitment factors in business and marketing area requires complex thinking for decision making. Hence, this study employs multi-criteria decision-making methodology for examining recruitment factors for Turkish private sector. Next section of study focuses on selected methodology.

3. Analysis Method

Analytic Hierarchy Process methodology is selected for this study which examines the best candidate to be hired for marketing field. Conceptual background and details of methodology are included in the next section.

3.1. Analytic Hierarchy Process(AHP) Method

“Multi-criteria decision-making methods (MCDM)” are frequently used in today’s business research. These methodologies are employed for situations which have several criteria and sub-criteria consists of different attribute. The methodology employed in this study refers to Analytic Hierarchy Process (AHP). AHP one of MCDM methodologies, is developed by Thomas L. Saaty in 1971 (Wind & Saaty, 1980, pp.641-658). The methodology is developed for solving complex problems consists of several criteria.

AHP enables modeling complex problems of decision makers in a hierarchic structure which indicates relationships between main aim of problem, criteria and sub-criteria and alternatives (Özdemir & Saaty, 2006, pp. 349-359). The method mainly based upon selecting the best fit among alternatives. AHP is one of leading MCDM methodologies, since it includes subjective criteria unlike other MCDM methodologies (Erdal & Korucuk, 2018, p.103).

The areas where AHP methodology is employed includes production, agriculture, environmental management, construction, transportation, energy, and health industries. Besides these, AHP is also preferred for education, logistics, e-commerce, R & D, finance and banking, marketing and tourism (Sipahi & Timor, 2010, pp.775-808).

The solution steps with AHP methodology for decision making are (Saaty, 1994, pp.25-26);

- definition of decision problem,
- structuring hierarchical model,
- resolving of problem,
- pairwise comparison among criteria and identification of relative importance,
- performing consistency analysis of comparison matrices with hierarchical synthesizing,
- evaluation and conclusion steps.

In this study, AHP methodology is used for evaluating and selecting the best candidate from three different candidates regarding two main criteria groups; “Job Related” and “Personal”. First, three HR decision makers are approached for creating pairwise comparison matrices which compare criteria. Intensity of importance values and definitions/explanations are included in Table 1.

Table 1: *Pairwise Comparison Values Used in AHP Analysis*

Intensity of Importance	Definition	Explanation
1	Equal importance	Two elements contribute equally to the objective
3	Moderate importance	Experience and judgment slightly favor one element over another
5	Strong importance	Experience and judgment strongly favor one element over another
7	Very strong importance	One element is favored very strongly over another, its dominance is demonstrated in practice
9	Extreme importance	The evidence favoring one element over another is of the highest possible order of affirmation
2-4-6-8	Intermediate -Average values	Used to express intermediate values

Source: (Saaty, T.L. (1994), pp.19-44; Saaty, T.L. (2008), p.128)

AHP methodology includes measuring a consistency ratio proposed by Saaty for evaluating consistency of comparisons of decision maker. This index is calculated by dividing consistency index to consistency indicator and random index numbers (depending on n criteria) are used in this calculation. If the value found in the calculations is less than 0.10, it is concluded that the comparison matrix generated is consistent. Otherwise, the decision matrix should be rearranged (Dağdeviren & Eren, 2001, p.44).

4. Research

4.1. Purpose and Importance of Research

The purpose of this research is to create a decision model that can help the decision-makers in the decision-making process in choosing the best fit candidate for the marketing field. The recruitment process of choosing the best fit candidate for the position is crucial for today's businesses. For this purpose, one of the preferred methodologies for evaluating several research areas, Analytic Hierarchy Process methodology is chosen.

With the use of AHP method, it provides the administrators with the greatest convenience in terms of providing the most economical selection of the most suitable candidate for the job and allowing the most efficient use of the limited resources available. In addition, this study is an interdisciplinary study that brings together the fields of marketing, human resources and numerical methods.

4.2. Scope and Limitations of the Research

The selection process of the people who will work in an enterprise is very important for the managers. Managers in decision-making positions need to consider a number of alternatives in considering the many factors (criteria) when selecting staff for the positions required for the business. Nowadays, it is very important that companies decide on the selection of their employees in the marketing field because the competition conditions are very difficult. Because the performances, activities and qualifications of the employees to be employed in this department (marketing) will enable the enterprises to market their products quickly and provide the economic accumulation that will create input for all other departments. In this process, it is a very difficult decision stage for executives to perform in case of many alternatives. Using the Analytical Hierarchy Process, which is one of the multi-criteria decision-making methods, managers can select the best candidates in a recruitment process where it is necessary to consider a number of criteria, based on criteria that are compatible with the characteristics of the work in question.

First of all, 3 face-to-face interviews were held with 3 senior executives in the field of marketing in Istanbul. By analyzing the information obtained as a result of these interviews, it is tried to determine the main and sub-criteria that the enterprises take into consideration in the selection of the elements they will employ in the field of marketing. The interviews were conducted with the managers who are in the position of decision-makers in the selection of the employees who will work in the marketing field. The evaluation data used in the analysis were obtained by face-to-face interviews with the managers of 4 large firms.

4.3. Research Dimensions

Research criteria which refer to dimensions of study are job-related criteria and personal criteria. Job-related criteria consist of inclined to technology, education, language and experience, while personal criteria consist of operativeness and extrovertism. These two criteria groups are evaluated with AHP methodology.

4.4. Research Findings

In the study, the main and sub-criteria to be sought in the candidates are selected by the decision-maker in Hierarchical Structure in Table 2. Using these criteria, it was tried to determine which of the 3 candidates determined in the selection of the element is the most appropriate candidate with AHP. In this context, an appropriate candidate selection process was carried out using 2 main and 6 sub-criteria determined according to the opinions of senior managers. In addition, Expert Choice (EC) was used to analyze the data.

Table 2: Hierarchical Structure of Selection of Best Candidate for Marketing

	Factors	Sub Factors	
Selection of Best Personnel for Marketing	Job-Related Criteria	Inclined to Technology	- Degree of social media dominance - Degree of the following of industrial advances - Basic computer skills
		Education	- Business related programmes (Social science) / Business unrelated programmes / Engineering -Associate Degree/Undergraduate /Master
		Language	- Basic Language Level - Speaking Level
		Experience	- Experience in Industry for Marketing Area(Years) - Experience out of Marketing Area (Years) - Having References - Having Certificates Oriented to Job
	Personal Criteria	Operativeness	- Analytical Thinking - Ability of Evaluation Results and Reporting Skill
		Extrovertism	- Adaptation (to workplace and company) - Communication Skill - Interest (to industry and job) - Self- Confidence - Openness to Change – Innovativeness
Candidate 1		Candidate 2	Candidate 3

The characteristics of the 3 staff candidates to be used for analysis in the research are shown in Table 3. As a result of the analysis to be carried out, the decision makers will evaluate the qualifications of 3 staff candidates within the framework of the determined main and sub-criteria and they will select the most appropriate person in the field of marketing.

Table 3: Attributes of Candidates

Main Criteria	Second Criteria-Sub Criteria		Candi date 1	Candi date 2	Candi date 3
Job – Related Criteria	Inclined to Technology	Degree of Social Media Dominance	Low	Midlevel	High
		Degree of Following of Industrial Advances	Low	High	High
		Basic Computer Skills	Midlevel	Midlevel	Midlevel
	Education	Business-related programs (Social science) / Business unrelated programs / Engineering	Business Related Program	Engineering	Business Unrelated Programme
		Associate Degree / Undergraduate / Master	Associate Degree	Undergraduate	Master
	Language	Basic Language Level	Midlevel	Midlevel	High
		Speaking Level	Low	Midlevel	High
	Experience	Experience in Industry for Marketing Area (Years)	5 years	1 year	2 years
		Experience out of Marketing Area (Years)	Less than 1 year	5 years	3 years
		Having References	None	Yes	Yes
		Having Certificates Oriented to Job	Yes	None	Yes
Personal Criteria	Operativeness	Analytical Thinking	Midlevel	High	Midlevel
		Ability of Evaluation Results and Reporting Skill	High	Midlevel	Midlevel
	Extrovertism	Adaptation (to workplace and company)	Midlevel	Low	Midlevel
		Communication Skill	Low	Midlevel	High
		Interest (to industry and job)	Midlevel	Midlevel	High
		Self- Confidence	Midlevel	Midlevel	High
		Openness to Change - Innovativeness	Midlevel	Low	High

In analysis step, pairwise comparison of job-related and personal criteria is evaluated first. According to results, job-related criteria have 20.45% importance weight, while personal criteria have 79.95% importance. Thus, it is

identified that personal criteria have more priority than job-related criteria for selection of best personnel. Table 4 includes the evaluation of six sub-criteria and their priority vectors.

Table 4: *Priority Vectors of Sub-Criteria*

	Criterion Priority Value
Inclined to Technology	0.186
Education	0.177
Language	0.068
Experience	0.210
Operativeness	0.089
Extrovertism	0.268

Table 4 indicates that Extrovertism has first ranked with 26.8 % priority and Experience follows it with 21% priority. On the other hand, Inclined to technology (18.6%) and Education (17.7%) follow two criteria.

Table 5 includes priority vectors for job-related criteria and Inclined to technology takes the lead with 43.5%, while Experience follows it with 25.4%. It is also concluded that Training has 23% priority vector.

Table 5: *Criterion Priority Values of Job-Related Criteria*

	Criterion Priority Value
Inclined to Technology	0.435
Education	0.230
Language	0.079
Experience	0.254

In addition to Job-Related criteria in Table 5, Table 6 includes priority vectors for personal criteria. Extrovertism has first rank with 55.6%, Operativeness has second rank with 44.4% priority. Thus, it is concluded that extrovertism has more priority than operativeness.

Table 6: *Criterion Priority Values of Personal Criteria*

	Criterion Priority Value
Operativeness	0.444
Extrovertism	0.556

Besides main and sub-criteria, secondary sub-criteria(18 pieces) is evaluated below. Criterion Priority Value of three candidates for marketing job are included in Table 7.

Table 7: Criterion Priority Values and Consistency Ratios of Candidates Regarding to Sub-Criteria and Secondary Sub Criteria

SUB-CRITERIA / Secondary Sub- Criteria	Candi date 1	Candi date 2	Candi date 3	Criterion Priority Value	Consistency Ratio (CR)
INCLINED TO TECHNOLOGY					
Degree of Social Media Dominance	0.077	0.214	0.709	0.071	0.082
Degree of Following of Industrial Advances	0.055	0.354	0.590	0.100	0.078
Basic Computer Skills	0.175	0.290	0.534	0.010	0.052
EDUCATION					
Business related programmes (Social science) / Business unrelated programmes / Engineering	0.450	0.339	0.210	0.089	0.071
Associate Degree / Undergraduate / Master	0.515	0.138	0.347	0.057	0.049
LANGUAGE					
Basic Language Level	0.125	0.399	0.475	0.012	0.093
Speaking Level	0.076	0.200	0.723	0.022	0.057
EXPERIENCE					
Experience in Industry for Marketing Area (Years)	0.683	0.197	0.119	0.119	0.066
Experience out of Marketing Area (Years)	0.092	0.389	0.518	0.037	0.085
Having References	0.136	0.354	0.510	0.030	0.072
Having Certificates Oriented to Job	0.441	0.325	0.233	0.022	0.064
OPERATIVENESS					0.087
Analytical Thinking	0.272	0.501	0.226	0.052	0.070
Ability of Evaluation Results and Reporting Skill	0.580	0.173	0.247	0.049	0.083
EXTROVERTISM					
Adaptation (to workplace and company)	0.381	0.270	0.348	0.080	0.086
Communication Skill	0.085	0.183	0.730	0.111	0.091
Interest (to industry and job)	0.188	0.098	0.713	0.079	0.079
Self- Confidence	0.174	0.096	0.729	0.042	0.082
Openness to Change - Innovativeness	0.193	0.082	0.724	0.053	0.076

All three candidates are compared to each other in Table 7, regarding all sub-criteria. The values in table indicate vectors related to candidates regarding criteria. As values are close to each other, it is also concluded that Experience in Industry for Marketing Area (11.9%), Communication Skill (11.1%) and Degree of Following Industrial Advances (10%) have top rankings. Graduate Programme (8.9%), Adaptation (8%), Interest (7.9%) and Degree of Social Media Dominance (7.1%) criteria also have a high priority for personnel selection.

Another conclusion from Table 7 indicates that, Candidate 3 has significant advantage over other candidates in terms of; Degree of Social Media Dominance, Degree of Following Industrial Advances, Basic Computer Skills,

Basic Language Level, Speaking Level, Experience Out of Marketing Area, Having References, Adaptation, Communication Skill, Interest, Self-Confidence and Openness to Change / Innovativeness.

All consistency ratios are below 10%, the limit which Saaty(1994, pp.19-44) proposed, so it is concluded that results are within limits of consistency(CR). Thus, this indicates that personal ratings of decision makers are consistent.

Table 8 shows the sum of priority vectors regarding all criteria. Therefore decision making for personnel selection will be implemented with information from Table 7.

Table 8: *Candidates' Criterion Priority Values (Total)*

Candidates	Criterion Priority Value
Candidate -1	0.2826
Candidate -2	0.2368
Candidate -3	0.4805 ←

Table 8 indicates that Candidate 3 has the best priority values among all candidates with 48% value. Candidate 1 follows with 28%. According to this result, if a rational business manager wants to choose an element to employ in the marketing department using the AHP method in the decision-making process, he/she should opt for Candidate-3.

5. Conclusions

Nowadays, it is very difficult for enterprises to continue their activities in a highly competitive environment. There are a large number of factors that may affect the decisions of people in decision-making positions. Therefore, there are various methods for solving the decision-making problems which have complex structures and which contain many criteria. Analytical Hierarchy Process is one of the most widely accepted and widely used methods among Multi-Criteria Decision Making Methods.

In this study, it is aimed to create a decision model that can help managers to choose the appropriate candidate for the job, especially for the marketing department. There are many criteria for managers to consider when choosing the appropriate candidate for the job. This necessitates the use of Analytical Hierarchy Process, which is one of the Multi-Criteria Decision Making Methods. In the research, the criteria to be sought in the recruitment process in marketing were revealed as a result of face-to-face interviews with managers. Job-related factors are; inclined to technology, education, language and experience. Personal factors are operativeness and extrovertism.

For the analysis, in the light of the data obtained from the managers in the enterprises, pairwise comparison matrices were formed by using the main and sub-criteria and the consistency of the responses were examined.

Conclusion of the study consists of three main segments; importance ranking among main criteria, importance ranking of sub-criteria and comparisons of candidates. The first conclusion signals overall important ranking regarding marketing recruitment, while the second conclusion examines criteria in detail. The last conclusion is related to real life example for recruitment process of a marketing employee.

First part of conclusion implies that the most important main factor related to job is “Inclined to Technology”. “Experience”, “Education” and “Language” are ranking of importance for job-related factors. For personal factors, “Extrovertism” is found as the most important factor, while “Operativeness” is the second factor.

The second part of conclusion examines the sub-criteria of job-related factors and personal factors. Most important ranking criteria of job-related factors, “Inclined to Technology”, has “Degree of Following of Industrial Advances” as most important sub-criteria, while second main job-related factor, “Experience” has “Experience in Industry for Marketing Area”. On the other hand, the most important personal factor “Extrovertism” has “Communication Skill” as most important, while another personal factor “Operativeness” has “Analytical Thinking” as most important sub-criteria.

Last part of conclusion refers to real life example which participants choose candidates for each criterion, instead of ranking process. Candidate-3 who has attributes like “Degree of Social Media Dominance”, “Degree of Following of Industrial Advances”, “Basic Computer Skills”, “Basic Language Level”, “Speaking Level”, “Experience out of Marketing Area”, “Having References”, “Adaptation”, “Communication Skill”, “Interest”, “Self- Confidence”, “Openness to Change – Innovativeness” is preferred by participants. Candidate-1 is second candidate who has attributes like “Graduate Programme”, “Associate Degree / Undergraduate / Master”, “Experience in Industry for Marketing Area”, “Having Certificates Oriented to Job” and “Ability of Evaluation Results and Reporting Skill”. Marketing decision makers must examine factors in detail for marketing recruitment process.

Candidate 3 has the best priority values among all candidates with 48% value. Candidate 1 follows with 28%. According to this result, if a rational business manager wants to choose an element to employ in the marketing department using the AHP method in the decision-making process, he/she should opt for Candidate-3.

Future research directions of this study are two-fold. First section includes examining different industries for marketing recruitment since a variety of industries indicates specific characteristics. Therefore, evaluating differences regarding several industries (media, advertising, etc.) would contribute to understanding of recruitment process for marketing. Second research direction refers to contextual differences for marketing area. Including context-specific elements (IT related marketing jobs, sales related marketing jobs, etc.) leads to new research questions, since marketing has relationships with other departments of companies. In addition to main future research directions, evaluating recruitment factors with different methodologies can also contribute.

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5

FORECASTING AND FORECASTING METHODS: AN IMPLEMENTATION FOR A FIRM IN THE PRODUCTION SECTOR (RECYCLING GLASS BOTTLE PLANT-XYZ COMPANY)

Ayşenur Erdil¹

Abstract

Directors of corporations (senior management) make strategic decisions about the mission of enterprise without knowing the future of the enterprise. When making these strategic decisions, orders are given for inventory without knowing the sales quantity and demands of the company. When the quantity of products to be produced is not certain, new equipment and devices are purchased. Investments are made without knowing the company's earnings. Senior management makes predictions and decisions for the company's vision, mission and future against uncertainties and risk factors. Making good determinations-forecasting about the future of the company is the basic goal of demand estimation. Within the scope of the study, various estimation (qualitative-numerical) methods and models are suggested and studies from the literature are presented. This study includes these issues: sales forecasts-volume of recycling glass bottle, sales forecast control process and a perspective on how the predictions are made and determined. For the application of the study, the forecasting models were applied for the recycling glass bottles plant-firm (XYZ Company) and these models were compared according to the measures of Accuracy. The most convenient-appropriate forecasting method-model was developed for XYZ company-plant which producing-recycling glass products-bottle. It was investigated how the sales forecastings (volume of recycling glass bottle) made for the company affect the inventory level and costs. In this way, forecastings are made in terms of directing the business plan and mission for the future of the company.

Keywords: Enterprise, Forecasting, Forecasting Methods, Recycling, Strategic Decision.

1. Introduction

In this scope of the study, the recycling product is a glass bottle. The material of the glass bottle is an amorphous solid material. This material is typically brittle and optically transparent and also is a hard material unremarkably fragile and extensive in our daily life. It is consisted mainly of sand and alkali. The materials of glass bottles are solid and hard. They are disordered and amorphous structure, fragile and easily breakable into sharp pieces. This material of the glass bottle is one of the safest packaging materials due to its composition and properties. The kinds of recycling glass bottles are soda glass or soda-lime glass, coloured glass, plate glass, optical glass, pyrex glass, photo chromatic glass, safety glass, laminated glass and lead crystal glass, etc. Recycling glass bottle is an operation of taking glass bottles-products and turning them into original, reusable glass bottles-products (Figure 1; Solomon, 2012; Ürl 3).

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Figure 1. *Recycling Used Glass Bottles (Url 1; Url 2)*

Some types of glass are non-recycled. These non-recycled glass bottles and products are bulb and fluorescent lamps, mirror, wire glasses, window glasses and heat resistant glasses. However, some types of the glass have materials to be thrown into glass recycling bank. For instance, these are capless glass bottles, water glasses, pitchers, vases, and glass jars so on (Figure 2).

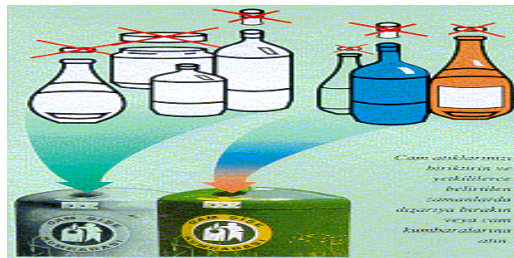


Figure 2. *Types of nonrecycled glass bottles for the recycling bank (Url 1; Url 2)*

Recycling Glass Bottles is an operation of taking away old glass bottles-products and recycling them into new, re-usable glass”bottles-products. Recycling old glass-glass bottles consumes 40% less energy than manufacturing it from new. This process is 100% recyclable operation-process.

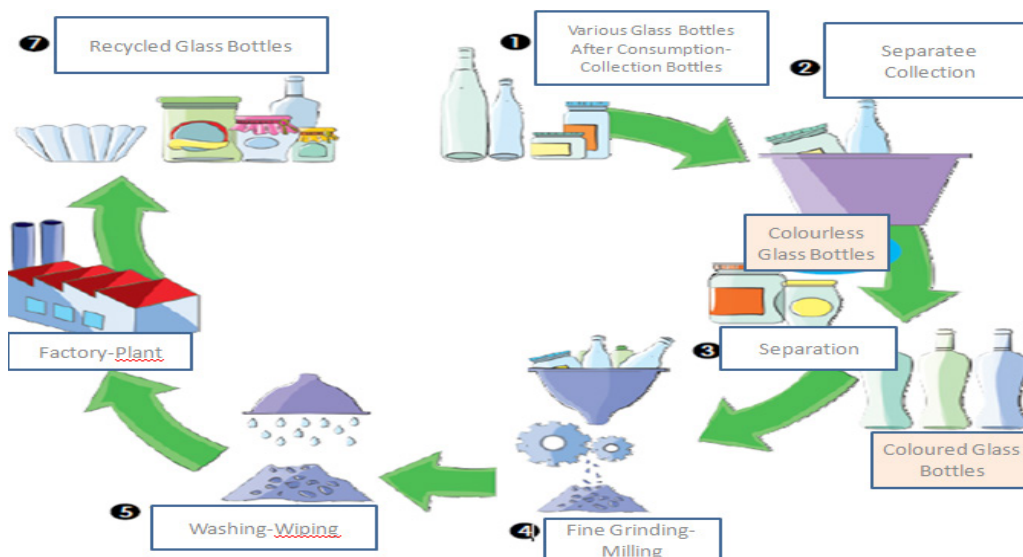


Figure 3. *Recycling Steps of the Waste-Glass Bottles (Url 1; Url 2; adapted by author)*

The Steps of Recycling glass bottles are presented with the Figure 3. The customer collects and brings the glass bottles into recycling bin. Glass is collected from the glass bin, glass recycling bank and brought to a glass treatment-recycling plant. The glass is classified via colour and washed to erase any dirtiness. All loads are carefully investigated for pollution, hazardous materials and contamination. General contaminants contain aluminum cans, light bulbs, ceramics, window frames or mirrors etc. The remaining centers are devoted to sorting out. The glass is grinded and melted, then given shape into new goods-products such as glass bottles and pots. Glass does not have a corrosion-resistant effect through the recycling process, so it can be recycled time after time (Solomon, 2012; Url 1; Url 2; Url 3, see figure 4).

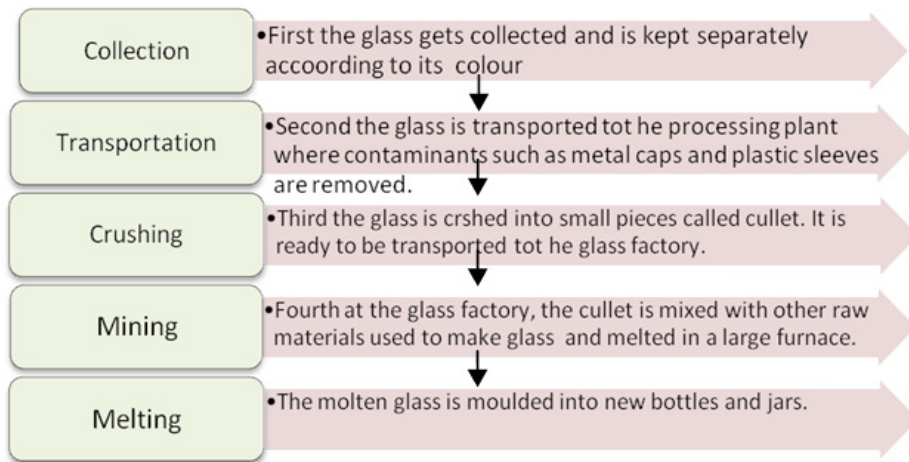


Figure 4. Recycling Processes of the Waste-Glass Bottles (Url 1; Url 2, adapted by author)

Some Results of Recycling the Glass Bottles are listed under below (Url1; Url 3).

- 25% reduction in energy consumption,
- 20% deduction in atmospheric pollution, 80% deduction in mine disposal-waste,
- 50% reduction in water resources and consumption,
- Preservation of natural resources such as sand, soda, lime saving about 100 liters of oil per 1
- Decreases CO₂ emissions, helps the environment and reduces waste disposal costs.

2. Evaluation of the Objective of the Study

Within the scope of the study, various forecasting (qualitative-numerical) methods and models are suggested and research-studies from the literature are presented. This study includes these issues: volume of recycling products-sales forecasts, sales forecast control process and perception of how the predictions are made and determined.

For the application of the study, the forecasting models were applied for the recycling glass bottles plant-firm (XYZ Company) and these models were compared according to the measures of Accuracy. After this step, the most convenient forecasting method-model was chosen and developed for XYZ Company which producing (from recycling glass bottles) a glass product-bottle in the production sector. The most convenient model was ARIMA (Auto-Regressive Integrated Moving Average) model. It was investigated how the sales (volume of production) forecastings

made for the company (recycling glass bottle plant) affect the inventory level and costs. In this way, forecastings according to the recycling glass bottles are made in terms of directing the business plan and mission about the sustainability of the environment for the future of the company-recycling plant.

This study is implemented in Recycling Glass Bottles Plant-XYZ Company in Marmara Region, Turkey. Forecasting the Volume of Recycling Glass Bottle (VoGB) and sales are a basic-fundamental requirement for the environmental sustainability and the strategical vision of the XYZ recycling plant-company. In this objective, demands of consumers according to the recycling VoGB could be supplied on time and recycling can be sustained and production can be developed with the minimum stock. These developments could decrease the manufacturing and holding cost particularly.

Forecasting technique is a tool that XYZ recycling plant can have competitive opportunity-advantage in the environment of the market. Volumes of Production-sales from Recycling are implemented to observe whether distributions of the volume of the recycling glass bottle can fit via a forecasting model or not. The data studied is the total of the actual production-sales from recycling. The recycling glass bottles are recycled for the glass bottle among 2-10 mm reflecta and colored bottle glass. The concept of forecasting and literature of this issue are presented firstly, before the application of the forecasting technique for the volume of the recycling glass bottles according to the data of the plant.

3. Forecasting and Time Series

A time series is an order of datum, particularly adjusted at uniform-consistent time interruption. Samples take place in a classification of scopes grouping in every subjects from financial to engineering and approach of considering time series comprise a significant issue of Statistics. In other words, A time series is a classification of considerations occurred sequentially and regularly divided in time. Forecasting techniques for evaluating time series provide a significant scope of statistics. However this subject has much more destinations which could be supported by considering a time series, these items could be classified like estimation, prediction, control or definition, description (Bowerman and O'Connell, 1987; Makridakis et al., 1998)

Time series evaluation supports modeling access which requires only data on the shaped variables, so protecting the researcher from the difficulty of analyzing the effectual variables and offering a structure for the interconnection between these variables. Univariate Box-Jenkins analysis (Box and Jenkins, 1976) –methodology has been generally applied for modeling and predicting with much more implementations (Makridakis et al., 1998; Box et al., 1994; Albayrak, 2010; Green, 2011).

Forecasting provides the intuitive assumptions of managers and decision makers. One of the most important tests of how well a model performs is how well it forecasts. To produce dynamic forecasts, the model requires to include lags of either the variables or error terms (Sanders and Reid, 2012).

Steps in the Forecasting Process (Sanders and Reid, 2012; Url, 4):

There are five basic steps in the forecasting following process:

1-Determine the aim of the forecast and when this technique will be required. This can supply evidence of the degree of particular required in the forecast, the volume of resources that can provoke and the degree of accuracy requirement.

2-Demonstrate a time horizon-trend which the forecast must overlap, considering this situation that the value of accuracy reduces as the time horizon raises.

3-Choose a forecast method.

4-Accumulate and examine the convenient data and then arrange the forecast. Describe any assumptions which are provided a connection by arranging and using the forecast.

5-Follow the forecast to determine if it is performing in an acceptable method. If it is not, review the technique, assumptions, cogency of data and so on, adjust as required and modify a revised forecast.

Different methods can be implemented with forecasting models for the volume of recycling glass bottle (VoGB) data of Recycling Bottle Glass Plant – XYZ Company in applications of models of time series. Generally, multiple regression model, decomposition model, winters' three-parameter exponential smoothing and also Arima model are applied, existed for the forecasting analysis. Additionally, the level and trend parameters of Winters' Method and Decomposition Model were optimized by means of Minitab Software.

4. Forecasting Model for the Application

4.1. Regression Analysis

Regression analysis is a statistical analysis which is represented with a mathematical model and constructed to examine and predict the relationship between two or more economic variables with a Multiple Regression Analysis (Bıçkıcı, 2007; Aşıkçıl, 2006).

Regression is most generally described as the process for examining the relationships and connections between variables. Regression analysis considers to what extent one or more variables affect the other one or more variables. If there is a relationship between the variables, the next step is to determine the degree of relationship and its functional form. In other words, regression analysis, in a model generated by predicting unknown parameters, estimates the potential values of the dependent variable based on the values of the independent variables (Bakın, 2007). This technique joins a trend line to a series of historical data points and then directs the line into the next time-future for the long-range predictions-forecasts.

Curve Fitting: Multiple Regression

Two or more independent variables are used to predict the dependent variable:

$$Y = b_0 + b_1X_1 + b_2X_2 + \dots + b_pX_p$$

Time	Yt	Residuals	Abs. Residuals	Res. Squared	Ratio
1	24675	-176,318	176,3180136	31088,04191	0,007146
2	27122	252,8003	252,8002584	63907,97063	0,009321
3	28590	-334,571	334,571158	111937,8597	0,011702
4	25371	-261,732	261,7322626	68503,77729	0,010316
5	24687	-663,148	663,1483496	439765,7335	0,026862
6	27285	-233,706	233,7059918	54618,49059	0,008565
7	29290	-425,978	425,977836	181457,1167	0,014543
8	26684	126,7361	126,7361178	16062,04356	0,00475
9	26641	241,9706	241,9705756	58549,75944	0,009083
36	37856	455,4452	455,4451643	207430,2977	12,65125
.....
.....
39	41238	-950,635	950,6346479	903706,2338	24,37525
40	37800	-1132,36	1132,362535	1282244,911	28,30906

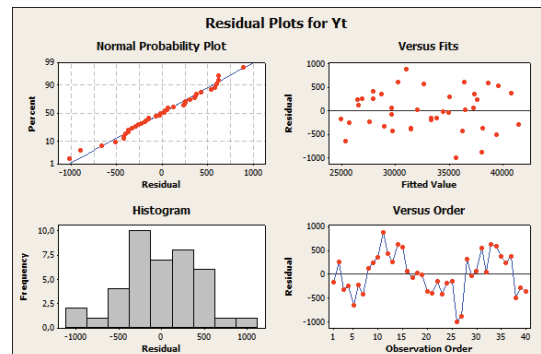


Figure 5. Graphs of Residuals as Four in One for Recycling glass bottles data of XYZ Plant

The data distribution ratio in figure 5, one can accept the normality assumptions of the data included in the regression model and the predictor values it generates since they are concentrated around the ratios provided below.

Regression Function (*) of this relationship is as follows:

$$(t^2, t^3, s_1, s_2, s_3) Y_t = 24829 + 22.7 t^2 - 0.366 t^3 + 1952 s_1 + 3901 s_2 + 464 s_3$$

Regression Analysis: Yt versus t^2, t^3, s1, s2, s3

The regression equation is

$$Y_t = 24829 + 22.7 t^2 - 0.366 t^3 + 1952 s_1 + 3901 s_2 + 464 s_3$$

Predictor	Coef	SE Coef	T	P
Constant	24829.0	193.6	128.23	0.000
t^2	22.6738	0.9062	25.02	0.000
t^3	-0.36565	0.02348	-15.57	0.000
s1	1952.4	207.0	9.43	0.000
s2	3901.4	207.3	18.82	0.000
s3	464.3	207.9	2.23	0.032

S = 462.703 R-Sq = 99.2% R-Sq(adj) = 99.1%

The dependent variable (Volume of recycling glass bottle (VoGB)) is distributed numerically and normally. This graph in figure 5 has no significant correlation among the residuals and the suggested model is convenient.

4.2. Decomposition Model

An additive model is appropriate if the enormousness of the seasonal fluctuation does not diversify with the Level of the series. Multiplicative model is more efficient associated with economic series since most seasonal economic series comprises seasonal modification-variation which raises with the level of the series (Makridakis et al., 1998; Hanke, 2005).

Decomposition Model for Volume of recycling glass bottle (VoGB) data of the application is examined. The seasonal variation presented to be about the identical magnitude across time, thus an additive decomposition could be beneficial. The time series plot is presented in Figure 6.

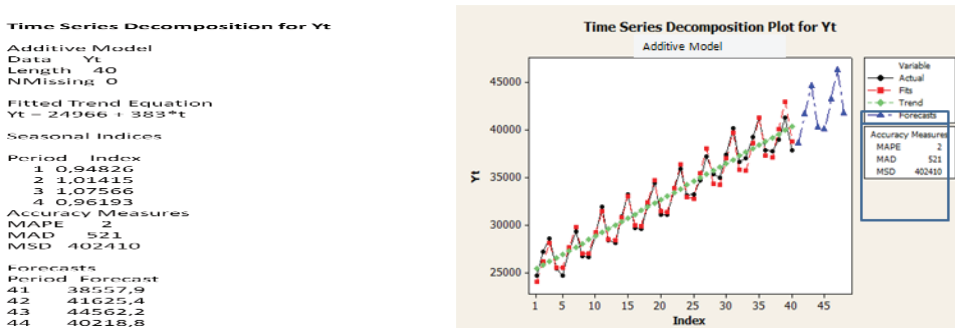


Figure 6. Time Series Decomposition Plot for volume of recycling glass bottle (VoGB) data

The next four period of the VoGB is forecasted by the Decomposition model. The Fitted Trend Equation for this technique is $Y_t = 24966 + 383 * t$

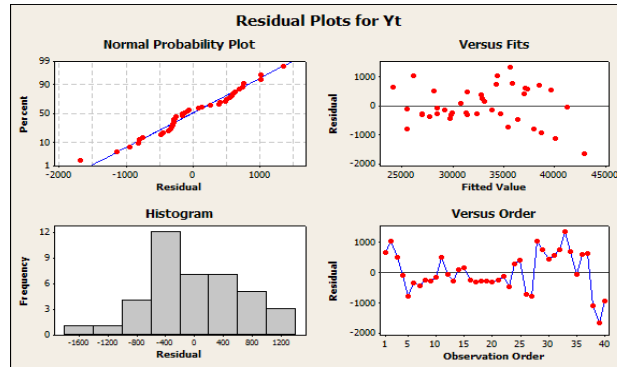


Figure 7. Graphs of Residuals as Four in One for VoGB data of Recycling Plant-XYZ Company

This graph of Figure 7 for Decomposition Model has no significant correlation among the residuals and recommended model is convenient.

4.3. Winters' Three-Parameter Exponential Smoothing

Winters' Smoothing Model expands the two parameter models to the seasonal situation by adding a third parameter to modify for seasonality (Makridakis et al., 1998; Hanke, 2005). The formula is:

$$Y_{t+1} = (S_t + b_t) * I_{t-L+1} + e_t$$

Where;

S_t = Non-seasonal Index for period $t+1$

b_t = Trend in period t

I_{t-L+1} = Seasonal Index for period $t+1$

e_t = Error in period t

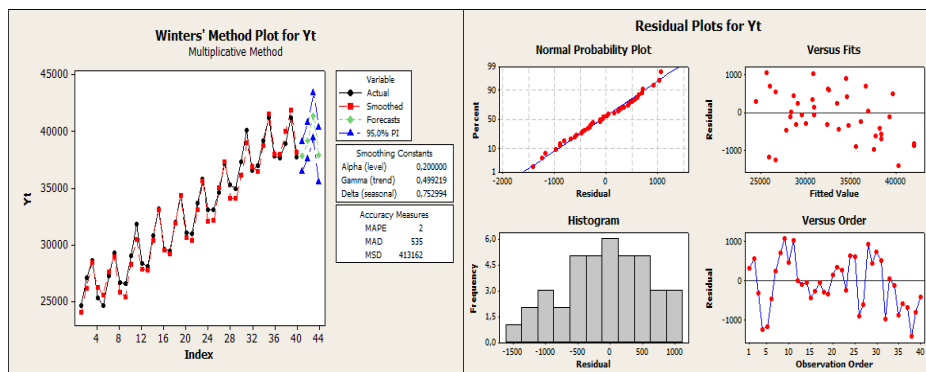


Figure 8. Winters' Method for Volume of recycling glass bottle (VoGB) data

Recycling glass bottles-sales data of XYZ Plant (company) has the regular variations. It shows a seasonal pattern. Thus, this forecasting technique is applied to this data. It shows a seasonal pattern (see Figure 8).

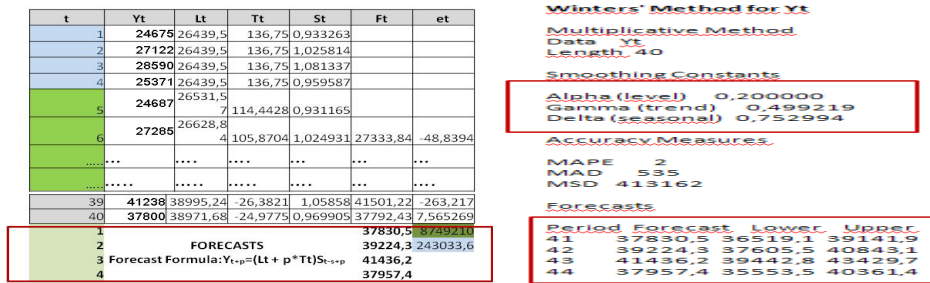


Figure 9. Screenshots of Winters' Method via Minitab Output for Volume of recycling glass bottle (VoGB) data

The optimum value of parameters (α -level, γ -trend, Delta – see Figure 9) of this method can be discovered via applying the maximum likelihood prediction and minimization of the sum of the squared errors.

4.4. Autoregressive Integrated Moving Average (ARIMA) Models

This is a method for estimating Autoregressive Integrated Moving Average (ARIMA) models, focused on the ACF (autocorrelation function) and PACF (partial autocorrelation function) as a means of deciding the stationarity of the variable in question and the lag lengths of the ARIMA model. One of the most important tests of how well a model performs is how well it forecasts. One of the most useful models for predicting is the ARIMA model. To produce dynamic forecasts, the model needs to include lags of either the variables or error terms. Although the ACF and PACF methods for determining the lag length in an ARIMA model are commonly used, there are other methods termed information criteria which can also be used (covered later) (Pankratz, 1983; Makridakis et al., 1998; Hanke, 2005)

When the time series data of the volume of recycling glass bottle (VoGB) data of Recycling Bottle Glass Plant – XYZ OCompany has been plotted, it shows rising trend as certainly seen in Figure 10(a). This forms the data non-stationary situation. This type of series should be modified into stationary configuration so as to provide time series examination consistent with procedure of Box-Jenkins.

After the implementation of natural logarithm conversion to the data (see Figure 10(b)), there is no difference for the variation of value and also trend, seasonality can be seen.

The "autocorrelation function (ACF) plot shows the correlation of the series with itself" at different lags. Autocorrelation is a correlation factor. In addition to this, in place of correlation between two particular variables, the correlation is between two values of the same "variable at times X_i and X_{i+k} " (Green, 2011).

The partial "autocorrelation function (PACF) plot presents the amount of autocorrelation at lag k which is not defined by lower-order autocorrelations.

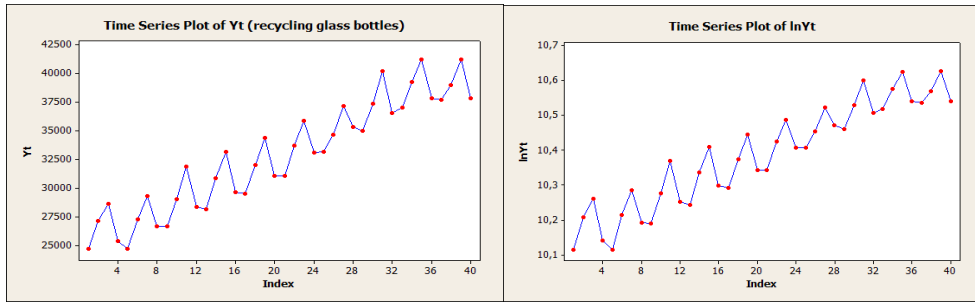


Figure 10. Time Series Plot (a) Natural Logarithm Transformation (b) of the Volume of recycling glass bottle (VoGB) data of Recycling Bottle Glass Plant

Partial correlation measures the degree of association between two random variables, with the effect of a set of controlling random variables removed (Green, 2011).

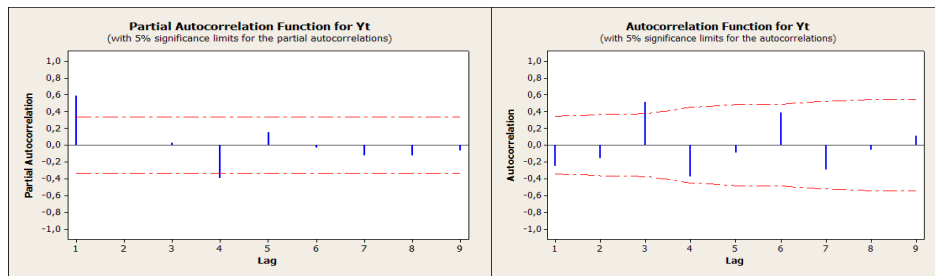


Figure 11. ACF (a) and PACF (b) function graph of quarterly periods of the volume of recycling glass bottle (VoGB) data of Recycling Bottle Glass Plant (yield/year)

For both Figures 11(a) and 11(b), the autocorrelations values in the direction of low lags are very high, and descent moderately while the lags grow-enlarge. Notwithstanding, a well-outlined pattern does survive on account of the ACFs carry on to decline; this is conduct which is anticipated of a trended series, not entirely one which has previously been fluctuated. This causes that however trend is presented, this situation is not essential.

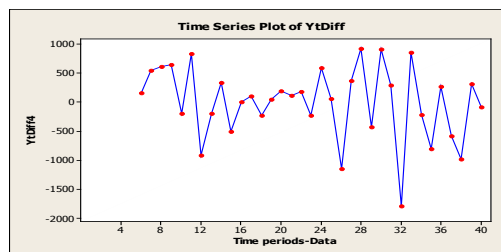


Figure 12. Time series Graph after first difference of quarterly periods of the volume of recycling glass bottle (VoGB) data of Recycling Bottle Glass Plant

The difference of the data is conspired in Figure 12. The trend is removed and the stationarity is obtained. Its ACF and PACF graphs are also shown in Figure 13(a) and Figure 13(b) severally.

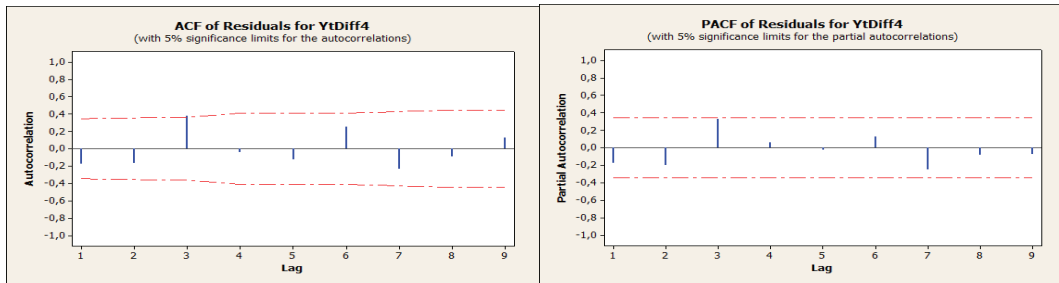


Figure 13. ACF (a) and PACF (b) function graphs of the volume of recycling glass bottle (VoGB) data of Recycling Bottle Glass Plant (yield/year)

Regulation of autoregressive procedure of the ARIMA model is concluded depending on the unit of PACF coefficients. Correspondingly, regulation of moving average (MA) of the ARIMA structure is determined via the unit of ACF coefficients. The extremum points of these algorithms and functions-formulations declare the models regulation (Makridakis et al., 1998; Hanke, 2005). This approximation is applied to investigate the arrangement of ARIMA model. There is no peak point at the lags of Autocorrelation transformation graph of the difference4 in Figure 13(a). Autocorrelation transformation graph of the difference in Figure 13(a). Dealing with the condition of the ACF and PACF graphs (Figure 13 (a) and 13(b)), together die off, so SMA(4) could be allowed-permitted the recommended model. Minitab generates the consecutive output (Figure 14):

```

• ARIMA Model: Yt
•
• Estimates at each iteration
• Iteration   SSE Parameters
• 0 12191656 0.100
• 1 11071840 0.250
• 2 10164303 0.400
• 3 9413964 0.550
• 4 8795340 0.700
• 5 8322573 0.850
• 6 8298258 0.874
• 7 8298206 0.875
• 8 8298206 0.875
• Relative change in each estimate less than 0.0010
• Final Estimates of Parameters
• Type   Coef SE Coef   T   P
• SMA 4 0.8749 0.1395 6.27 0.000

• Differencing: 1 regular, 1 seasonal of order 4
• Number of observations: Original series 40, after differencing 35
• Residuals: SS = 7331666 (backforecasts excluded)
• MS = 215637 DF = 34
• ModifiedBox-Pierce (Ljung-Box) Chi-Square statistic
•
• Lag      12   24   36   48
• Chi-Square 16.8 29.6 * *
• DF        11   23   *   *
• P-Value   0.115 0.160 * *
•
• Forecasts from period 40
•
• 95% Limits
• Period Forecast Lower Upper Actual
• 41 37746.5 36836.2 38656.9
• 42 39956.0 38668.6 41243.5
• 43 42220.3 40643.6 43797.1
• 44 39076.3 37255.7 40897.0
•

```

Figure 14. The Generated Result ScreenShot –Model of Minitab Forecasting Structure

Finally to determine either the suggested model is convenient according to this data and the fundamental expectation of uncorrelated error terms-residuals is disobeyed or plotted the plots of ACF and PACF of the residuals could be plotted (see Figure 13(a) & (b)). As certainly noticed from Figure 15, this graph has no significant correlation among the residuals and recommended model is appropriate in consideration of the Volume of recycling glass bottle (VoGB) data of Recycling Bottle Glass Plant

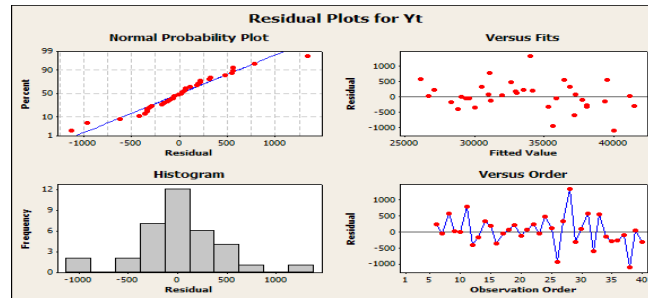


Figure 15. *Graphs of Residuals as Four in One for the Volume of recycling glass bottle (VoGB) data of Recycling Bottle Glass Plant (yield/year)*

In order to maintain the variance, the data was changed completely by applying a logarithm with base e. There were no dissimilarities-changes for the variance of data. After returning the logarithm, the difference was initially acquired to preserve the mean of the data and to build-construct an appropriate-convenient ARIMA model.

ARIMA (0,1,0)(0,1,1)₄ $Y_t = Y_{t-4} + Y_{t-1} - Y_{t-5} + c - \Theta_1 e_{t-4} + e_t$ was adapted to the data.

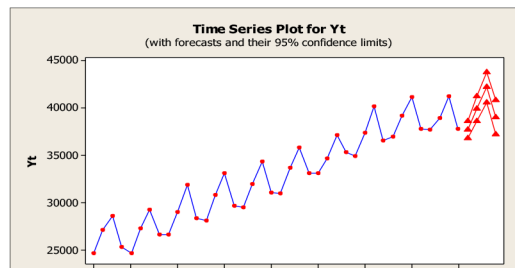


Figure 16. *A Perception of quarterly the Volume of recycling glass bottle (VoGB) data of Recycling Bottle Glass Plant with estimation Upper -Lower Limits*

The ARIMA forecasting demonstrates outcomes with three different alternatives which are UCL (Upper Control Limits), LCL (Lower Control Limits) and estimated the values. UCL and LCL support a confidence interval of 95%, in other words, any comprehension within the confidence restrictions would be satisfactory. When considering the predictions for VoGB data of Recycling Bottle Glass Plant, for the observations-data sampled three-month-quarterly, we define that the fits scarcely change. For the eight quarterly periods, the fits existed a bound of **38656–40897** (see Figure 14 and Figure 16).

5. Measuring Forecast Error-Types of Measures of Accuracy

A residual is the difference between an actual observed value and its forecast value (Makridakis et al., 1998; Green, 2011; Hanke, 2005).

$$e_t = Y_t - \hat{Y}_t$$

e_t = the. forecast error in time period t .

Y_t = the actual value in time period t .

\hat{Y}_t = the forecast value for time period t .

Methods used to evaluate forecasting methods are the mean absolute error (*MAE*), the mean squared error (*MSE*) and the mean absolute percentage error (*MAPE*). The formulas of types of Measures of Accuracy and definition of them are presented below (Makridakis et al.,1998; Hanke, 2005; Green, 2011).

(i) **MAPE** OR Mean Absolute Percentage Error, evaluates the correctness of fitted time series. This explains accuracy such as a percentage (Equation: Eq.)

$$MAPE = \frac{\sum_{t=1}^n |(Y_t - Y'_t)| / Y_t}{n} \times 100 \quad (Y_t \neq 0) \quad (1)$$

where Y_t equals the actual value, Y'_t equals the fitted value, and n equals the number of observations.

(ii) **MAE**, which presents for Mean Absolute Deviation-Error, measures the exactness of fitted time series values. This phrases accuracy in identical terms as the data, which supports conceive the number of error.

$$MAE = \frac{\sum_{t=1}^n |(Y_t - Y'_t)|}{n} \quad (2)$$

where Y_t equals the actual value, Y'_t equals the fitted value, and n equals the number of time series data -observations

(iii) **MSE** considers for Mean Squared Deviation-Error, MSE is always calculated the same divisor, n , according to the model, especially as explained that comparing MSE values across time series models. MSE is much more sensitive portion-scope of a general-common large predict error-residual than MAE.

$$MSE = \frac{\sum_{t=1}^n |(Y_t - Y'_t)|^2}{n} \quad (3)$$

where Y_t equals, exist the actual value, Y'_t equals, exists the forecast value, and n equals the term of estimation-forecasts.

One major difference between MSE and MAE is that the MSE evaluation is affected much more via extensive fitting errors than by small errors" (since for the MSD measure the errors are squared) (Makridakis et al., 1998; Hanke, 2005; Green, 2011).

Table1. Error values of different models-Comparisons between ARIMA model, double exponential smoothing and Models of Trend Analysis

MODEL	MSE	MAE	MAPE
Regression Model	181979,8054	349,190617	1,06900376
Decomposition	402420,00	521,00	2,00
Winter's Method	243033,6	359,293143	1,240807
ARIMA(0,1,0)(0,1,1)₄	209476,18	330,9969	1,069003

The forecast values demonstrated that ARIMA(0,1,0)(0,1,1)₄ model holds minimum values of MAE, MAPE and MSE and admissible lower and upper restrictions values than the Winters, Regression and Decomposition methods. We suggest ARIMA(0,1,0)(0,1,1)₄ model to make long term forecasts.

The mean absolute percentage error (MAPE), the mean absolute deviation (MAE) and the mean square deviation (MSE) values of ARIMA have lower value than the other forecasting models in Table 1. Therefore, ARIMA (0,1,0)(0,1,1)₄ is the most appropriate-best model for forecasting.

6. Discussions and Evaluations

When using AR models, whether the series is stationary or not determine how stable it is. Box-Jenkins methodology is part art and part science. Forecasting of time series is an important measure of how well a model works. There are many measures of how accurate a forecast is, usually, a number are calculated to determine if the forecast is acceptable, although all have errors.

Choosing the most convenient-appropriate forecasting model and making correct forecasts-predictions reduce the costs rationally via diminishing holding and inventory costs. Low costs and expenditures provide low prices and high satisfaction in terms of the customers. Moreover, customer satisfaction augments if the demand will be delivered on time. Thus, confidential forecastings support the companies-business competitive benefits, advantage and strength in the global market.

Inventory cost caused the loss profit. Other variables-factors such as satisfaction of customer and switching cost were not added in the Inventory cost. The recycling glass bottle plant (XYZ company) usually provides the customer demand on time. Thus, there is no inventory cost estimated in progress.

The forecasting model should be excluded from the exceptional facilities such as period of discount, festival or campaign. Because these actions cause the increasing or decreasing the demands and sales with large quantity. More reliable results would be obtained. Because of the fact that the forecasting model was built by considering the current situation. The model must be controlled regularly and revised when the situation changes.

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6

CLASSIFICATION OF PERSONAL CARE PROBLEMS IN CHILDREN WITH MOTOR AND PHYSICAL DISABILITIES USING DATA MINING METHODS

Mustafa Güzel¹, Kemal Adem²

Abstract

Diagnosis and classification of personal care problems is an important problem in the health care system of unusual children. Since the classification of personal care issues is time-consuming and requires specialized occupational therapists, process costs and time can be used more efficiently with expert systems using data mining methods. Expert systems; express the systems based on artificial intelligence methods that are capable of learning, inference and estimation. In this study, a dataset named SCADI from UCI was used. SCADI; this is the first standard set of data received by the ICF-CY which takes into account personal care activities. In this study, different data mining methods were used to classify the personal care problems of children with defectiveness of motor and physical acts in order to demonstrate the applicability of SCADI data set in expert systems. The classification studies were carried out on WEKA and MATLAB software platforms. For objective evaluation of the results, the methods were tested with a number of repetition numbers among themselves. As a result of experimental studies, the most successful method, Bagged tree, has achieved 84.3% accuracy.

Keywords: Personel Care Problem, Expert System, Data Mining.

1. Introduction

Defectiveness outcoming with disorders that can preclude or derogate to perform innate roles bound up with gender, age and other social and cultural factors (Lucas-Carrasco et al., 2011: 1213). Defectiveness of physical and motor properties are the irregularity of limited personal activities (Brown and Turner, 2010: 978). The definition and assorting the defectiveness are complicated transaction that demands expert therapists. The treatments are becoming more difficult and expensive as a result of the insufficient number of expert therapists aggravating the retardation and operation pressure (Yeh et al, 2012: 5234). Numerous frameworks have been developed for the classification of disabilities. The International Classification of Functioning, Disability and Health for Children and Youth (ICF-CY) is a commonly used framework for the classification of individuals with disabilities (Lollar and Simeonsson, 2005; Lee, 2011 and Stahl et al., 2011). ICF-CY is a multi-purpose classification conceptual framework and is a subset of the International Classification of Functioning, Disability and Health (ICF) (W. H. Organization, 2007). ICF and ICF-CY are frequently utilized as notional frameworks for defectiveness measurement, evaluation and assortment. The ICF-based assessment poll helps to identify personal care, mobility and home life. An investigation has been conducted to determine the mobility and participation level skills by evaluating the disability instruments and advanced age life functions according to ICF (Jette et al., 2003: 145).

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Another study has been conducted to measure mobility and disability based on ICF to assess disability and priorities in children (Simeonsson et al., 2012).

In ICF-CY, personal care links to acts such as feeding, drinking, keeping of body parts, and bathing. The ICF-CY includes personal care acts usually cover 7 years after birth (W. H. Organization, 2007). The Cerebral Palsy (CP) is a problem with personal care skills restriction of him/her for instance (Case-Smith and Christiansen, 2000: 85). The assortment of children with personal care issues is a significant factor in the selection of therapy modalities. In the classification phase, there is a link between physical activities and the classifications to be made. Ross et al. gave example descriptions of the physical activities, which can be performed, despite the motor and physical disabilities (Ross, 2016: 187). Because of the variety and complicated of personal care issues and the insufficient number of experts, the use of a proficient system for personal care issues can help to experts for choosing the best types of therapy. It has been recognized by researchers since 1985 that proficient systems can assist in the specification and sorting in special training (Moore et al. 1985). For instance, a proficient system can be used to assess the level of deafness and to suggest treatment that is appropriate for hearing loss subjects (Rajkumar et al., 2017: 154).

The use of a fixed dataset is an important ingredient for contriving and generating a proficient system. However, there are no fixed datasets for personal care acts (Muagnak et al., 2010: 190). For this reason, we used a new fixed dataset named as SCADI (Self-Care Activities Dataset based on ICF-CY) in this study. Based on the ICF-CY framework, SCADI is a dataset for the personal care acts of childhood with defectiveness of motor and physical acts. This new dataset can be utilized in dissimilar proficient systems with dissimilar process. In proficient systems, various data mining process like as Artificial Neural Network (ANN), Support Vector Machine (SVM), Decision Tree and Naive Bayes can be used for assortment (Razi and Athappilly, 2005: 67; Durairaj and Ranjani, 2013: 31). In this study, expert system applications were proposed in two different platforms for the classification of personal care issues of children with defectiveness of motor and physical acts in order to prove the convenient of the SCADI dataset in proficient systems.

ANN is one of the systems that provide the most effective and most popular approach among the expert systems used. The fundamental logic of ANN is inspired by biological nervous systems (Mitchell et al., 1997). As widely accepted in the biomedical field (David and Balakrishnan, 2011: 979), the prediction and classification of solutions of the major problems can be performed with high performance (Lisboa and Ifeachor, 2000; Seto et al., 2012: 558) using this approach. Therefore, in order to interpret the convenient of the SCADI dataset, ANN classifiers were used to assorting the personal care issues of children with defectiveness of motor neuron and physical acts.

The experts often use their own experience in recognizing personal care issues because there are no certain rules for these issues. Assortment rules can help experts to diagnose issues and carry out this operation in a more properly manner. In addition, expert systems can help to diagnose personal care skills and to develop clinical management by providing guidelines (Jiawei and Kamber, 2001). While rule-based data mining process propagates certain rules, some proficient system process, such as ANNs and SVMs, do not ensure any illation rules for outcoming of assortment. Among the rule-based data mining algorithms, the most common method used for extracting rules is the decision tree method (Yeh et al., 2012: 5236; Mortada et al., 2014: 1431). The decision tree is a data mining method that performs predictions based on tree structure (Przyłucki et al., 2003: 328). Therefore, decision tree algorithms were also used with SCADI in this study.

2. Material and Method

In this study, SCADI, a data set based on ICF-CY, was used to train data mining methods for the classification of personal care issues of children with defectiveness of motor and physical acts. Different data mining methods have been applied to evaluate the SCADI data set. In this section, the structure of the SCADI dataset and the properties of ANN and decision trees are explained.

2.1. SCADI

There is a need for a standard and reliable dataset to set, set-up and interpret the proficient systems for assortment. Although there are many datasets in the health field, there is no fixed dataset for personal care acts. Therefore, the SCADI dataset, which has been collected in cooperation with occupational therapists, was used in the personal care of children with defectiveness of motor neuron and physical acts in this study.

ICF-CY provides an exacting and universal assorting framework for definition of several activity issues of young people in mental, physical, motor and biological areas. ICF-CY ensures a national framework for problem assorting and life components by coding each component. Initial level (level-1) assortment general acts. This level contains four classes, including part of body structures, body activities and exposed people and environmental details. Level-1 codes are defined as a combination of numbers and letters. In ICF-CY, Personal care is a subset of acts and exposed people constituents and begins as code d5. The following levels (2, 3 and 4) are only named with numerals. Each grade details the previous level (W.H. Organization, 2007). Table 1 shows the SCADI personal care acts.

Table 1. The SCADI personal care acts

Class No	Personal Care	Activity No	Description	Code
I	Cleaning ownself	1	Washing Body	D5100
		2	Washing the whole body	D5101
		3	Self-drying	D5102
II	Partial Body Care	4	Skin care	D5200
		5	Dental care	D5201
		6	Hair care	D5202
		7	Nail care	D5203
		8	Toenail care	D5204
		9	Nose care	D5205
		10	Indication of the need for urination	D53000
III	Toilet Requirement	11	Unloading the urine properly	D53001
		12	Indication of the need for defecation	D53010
		13	Proper defecation	D53011
		14	Menstrual care	D5302
IV	Dressing	15	Dressing	D5400

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Class No	Personal Care	Activity No	Description	Code
V	Eating	16	Dress up	D5401
		17	Shoes-Socks	D5402
		18	Shoes-Socks extraction	D5403
		19	Choosing the right dress	D5404
		20	Indicating the need for eating	D5500
VI	Drinking	21	Good food care	D5501
		22	Indicating the need for drinking	D5600
		23	Good drinking care	D5601
		24	Confident in the physical comfort	D5700
VII	Taking care of the health of the person	25	Diet and sports management	D5701
		26	Management of drug intake and subsequent health advice	D57020
		27	Seeking advice or assistance from carers or professionals	D57021
		28	Avoiding the risk of alcohol and drugs	D57022
VIII	Taking care of the safety of the person	29	Taking care of the safety of the person	D571

In SCADI, 29 activities are evaluated for personal care in accordance with the ICF-CY. Similar to the ICF-CY, it is believed that the 7 codes define the degree of deterioration in the acts and participator information. Table 2 (Zarchi et al., 2018: 85) shows the SCADI codes for this deterioration.

Table 2. SCADI Extent Impairment Codes

Code	Value	Description
xxx.0	%0-4	No distortion
xxx.1	%5-24	Slight distortion
xxx.2	%25-49	Moderate distortion
xxx.3	%50-95	Serious distortion
xxx.4	%96-100	Full distortion
xxx.8		Undefined
xxx.9		Not applicable

Personal care issues are divided into seven groups by experts as shown in Table 2. Target assortment in SCADI link to personal care issues identified by therapists. Each youth is asserted into one of seven classes, as shown in Table 3, according to the examination of occupational therapists and personal care characteristics.

Table 3. Target groups

No	Definition
1	Body part maintenance issue
2	Toilet issue
3	Clothes wearing issue
4	Self-cleaning and partial body care and clothes wearing issue
5	Self-cleaning, partial body care, toilet and clothes wearing issue
6	Feeding, drinking, self-cleaning, partial body care, toilet, wearing, personal health and safety problem
7	No problem

2.2. Participants

SCADI has been collected by two experts who have approximately 15 years of work experience in education and medical centers. The SCADI records have been collected from 70 children admitted to three education and medical centers in Yazd province of Iran between 2016 and 2017. Ages of children participating in the SCADI dataset ranged from 6 to 18 years. Table 4 (Zarchi et al., 2018: 86) shows the children's gender, age and characteristics of their disabilities.

Table 4. Properties of the exposed people in SCADI.

Quality	Number	Range	Percentages
Child age	70	6-18	
Quality		Number	
Gender of the child			
Boy		41	58.6
Girl		29	41.4
Child diagnosis category			
Cerebral palsy			
Diplegia		26	37.1
Quadriplegia		12	17.1
Hemiplegia		4	5.7
Myelomeningocele		8	11.4
Muscle disease		7	10
Foot tuber		3	4.2
Nanism		2	2.9
Pompe disease		1	1.4
Head Trauma		1	1.4

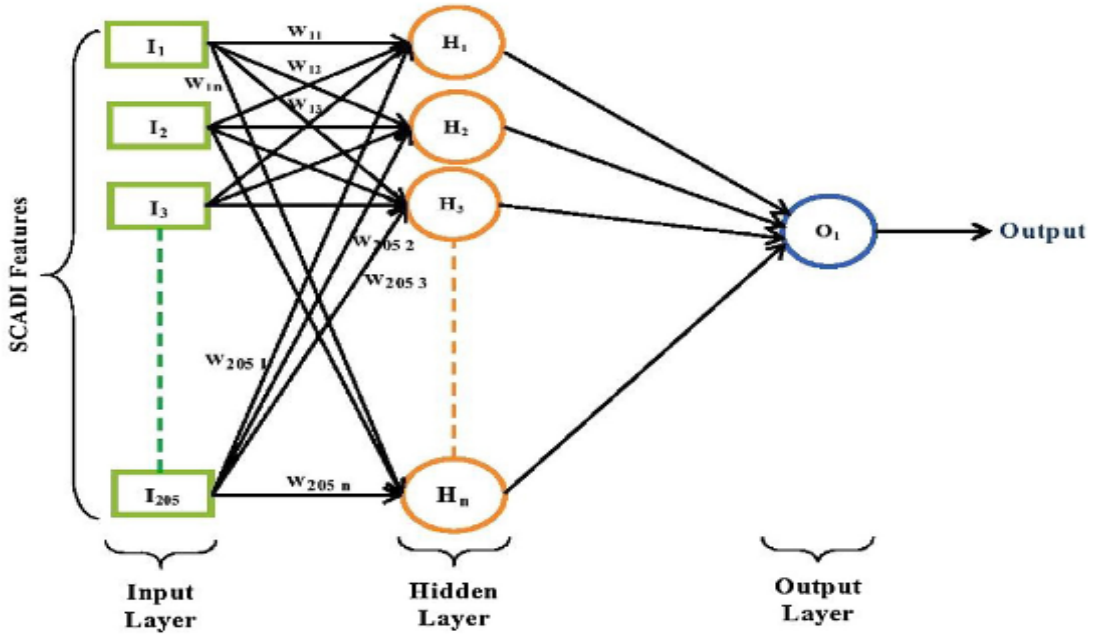
Quality	Number	Range	Percentages
Mucopolysaccharides		1	1.4
Urine disease		1	1.4
Osteogenesis imperfecta		1	1.4
Congenital hand anomaly		1	1.4
Medulla oblongata tumor		1	1.4
Hydrocephalus		1	1.4

Each personal care acts can be grouped under one of the seven states in accordance with the degree of disability as Table 4. In the SCADI dataset, 29 activities are considered for ICF-CY based personal care, and data binarization method is used for setting personal care acts attributes to develop assortment performance (Hussein et al., 2015: 754). If the current state satisfies an attribute, the value of the attribute is considered 1. Otherwise, a value of 0 is given. Therefore, the total SCADI personal care activity attributes (activity status) can be maximum of 203 (29 x 7). In addition, age, gender and target classification were also added as attributes. In the determination of gender, 0 indicates male and 1 indicates female gender. In summary, the SCADI dataset contains 70 lines (1 line for each child) and 205 attributes. Each line contains a special child sample. Occupational therapists have collected 203 different personal care activity report from 70 care of children with defectiveness of motor neuron and physical acts according to ICF-CY standards.

2.3. Artificial Neural Networks Classification

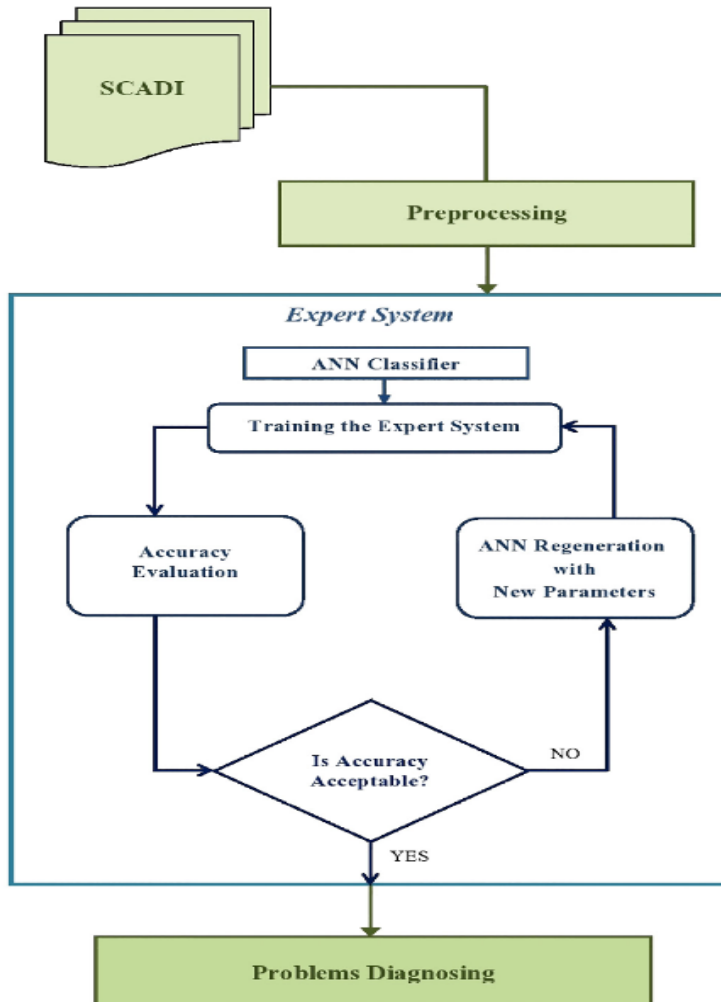
The artificial neural network (ANN) model is a system that emerges with the idea of imitating on computers and concentrates on mathematical modeling of biological neurons, simulating the way the human brain works in a simple way (Durairaj and Ranjani, 2013: 32; Lisboa and Ifeachor, 2000). The ANN model fulfills many features of the human brain. The most striking feature of this feature is that it takes advantage of its experience. ANNs were developed to perform functions such as learning from data, generating new information through learning, and working with an unlimited number of variables (Xing et al., 2007: 870; Bishop, 1995; Patel and Rana; 2014). ANN is a system of artificial neural cells connected to each other. Artificial nerve cells are composed of simple elements that are expressed as neurons. The linkage between neurons from the ANN model is a weight value, a network output of each neuron and each network input through an activation function to obtain results (Bishop, 1995; Razi and Athappilly, 2005: 70). In this study, the most commonly used ANN structure, Multi-Layer Perceptron (MLP) model was preferred (Bishop, 1995). MLP model consists of three basic layers: input, hidden and output. The attributes are mapped to the input layer while the target classes are mapped to the output layer. Figure 1 shows the proposed MLP model in the study. In the hidden layer, Hi indicates a hidden neuron and Wij indicates the weight of the hidden unit connection. The Wij value is determined randomly at the beginning of the training process.

Figure 1. Proposed multilayer perceptron model



During training, the w_{ij} value improves MLP accuracy. In addition, a preprocessing is performed on the SCADI dataset to optimize the MLP learning process and to train the proposed model. The proposed MLP classifier input layer contains 205 neurons (number of attributes) for each class in the output layer and 1 neuron for each neuron. The number of neurons in the latent layer is determined according to the experimental results. Classification accuracy is assessed after the training phase. If the accuracy is unacceptable, the new parameters are adjusted to improve accuracy and the exercise phase is repeated. If the accuracy value is acceptable, we can use the MLP model as a classifier. Figure 2 shows structure of ANN model proposed in the study.

Figure 2. Structure of ANN model proposed in the study



2.4. Decision tree

Since MLP model produces results by simulating the data set to mathematical functions and cannot derive any rules, the use of decision tree structure is proposed to evaluate the SCADI data set with rule-based systems. Decision trees are generally used for basic data mining operations such as classification and estimation (Polat and Güneş, 2009: 1589). Among the decision tree methods, the C4.5 algorithm, which is quite suitable for medical data, was used (Zhou and Jiang, 2003: 38; Wu et al., 2006: 165; Amato et al., 2013). With this algorithm, a tree structure is formed in which the most effective attribute is determined as root and the attributes are distributed from root to leaves in order of importance. In this model, the leaves indicate target classes (Zhou and Jiang, 2003: 39). In this study, a decision tree based on C4.5 is developed to generate rules from the data set.

3. Results and Discussion

Different experiments were carried out for the classification of the children with defectiveness of motor and physical acts in order to demonstrate the performance of the data mining models in personal care problems. The eligibility criteria are considered in evaluating the results of the experiments.

3.1. Evaluation Criteria

The criteria used to assess the accuracy of the proposed models are as follows:

- True positive (TP): Number of individuals with disabilities correctly classified.
- True negative (TN): Number of individuals with no disability correctly classified.
- False positive (FP): Number of individuals inaccurately classified as healthy, despite having physical and motor disability.
- False negative (FN): Number of individuals inaccurately classified as an individual with physical and motor disability, despite being healthy.

Based on these criteria, sensitivity, specificity, and total correct classification (TCC) ratios are calculated using the following equations.

$$Sensitivity = \frac{TP}{TP+FN} \quad (1)$$

$$Specificity = \frac{TN}{TN+FP} \quad (2)$$

$$TCC = \frac{TP+TN}{TP+FP+TN+FN} \quad (3)$$

The sensitivity (1) is the probability of distinguishing real patients from the patient groups given. The specificity (2) is the probability of distinguishing actual healthy individuals from others. The total correct classification (TCC) rate (3) is used when a single criterion is asked by combining sensitivity and specificity, and it's obtained by dividing total correct classification rate by the sum of the proportion of patients and healthy individuals in the test. The results obtained by applying different data mining methods to the SCADI dataset are shown in Table 5.

CLASSIFICATION OF PERSONAL CARE PROBLEMS IN CHILDREN WITH MOTOR AND PHYSICAL DISABILITIES USING DATA MINING METHODS

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Table 5. The experiment results according to different data mining methods

Method	Fold Value	Sensitivity	Specificity	TCC (%)
Bagged Trees	3	0.93	0.83	84.3
MLP	3	0.86	0.79	84.3
Medium Gaussian SVM	3	0.86	0.75	82.9
BayesNet	3	0.81	0.88	82.85
RandomForest	3	0.81	0.88	82.85
HoeffdingTree	3	0.83	0.88	84.28
Bagged Trees	4	0.74	0.74	82.9
MLP	4	0.88	0.71	82.9
Medium Gaussian SVM	4	0.90	0.68	82.9
BayesNet	4	0.81	0.81	81.42
RandomForest	4	0.85	0.83	84.28
HoeffdingTree	4	0.83	0.81	82.85
Bagged Trees	5	0.75	0.75	84.3
MLP	5	0.87	0.71	82.9
Medium Gaussian SVM	5	0.87	0.71	82.9
BayesNet	5	0.81	0.88	82.85
RandomForest	5	0.83	0.83	82.85
HoeffdingTree	5	0.82	0.87	82.85
Bagged Trees	10	0.83	0.83	84.3
MLP	10	0.86	0.75	82.9
Medium Gaussian SVM	10	0.86	0.75	82.9
BayesNet	10	0.83	0.82	82.85
RandomForest	10	0.85	0.83	84.28
HoeffdingTree	10	0.83	0.87	82.85

As shown in Table 5, different data mining methods were tried in different cross-validation counts and the experimental results were compared by using the evaluation criteria of each method. As a result of these comparisons, sensitivity, specificity, and total correct classification rates were taken into consideration and the most successful method was found to be the Bagged Tree decision tree method, with the 84.3% accuracy rate. Since it achieved the same accuracy rates in different cross-validation ratios, it was proposed as a suitable data mining method for the SCADI dataset in the study. In the first study with the SCADI dataset, this rate was 83.1% (Zarchi et al., 2018: 86). As a result of experimental studies using different data mining methods, the success rate in the literature was improved.

4. Conclusion

ICF and ICF-CY conceptual criteria are generally used to evaluate and classify disability. An ICF-based questionnaire was developed and proposed to evaluate the situations encountered in daily life. Disablement assessment and classification is difficult with traditional approaches such as surveys. The insufficiency of the number of experts to make these evaluations significantly increases the cost of operations and time performance values. Therefore, this study proposes decision support system models using data mining methods that allow specialists to diagnose. These methods were applied to the SCADI dataset based on ICF-CY from UCI Machine Learning Repository. Decision trees, multilayer sensor neural network, random forest and Bayes data mining methods were used in the study. The MLP model was trained with SCADI to classify ICF-CY based personal care problems in disabled children. This model simulates the data set at hand with mathematical functions and produces results according to this function. It cannot derive any rules. For this reason, decision tree models have been applied in order to create rules from the characteristics of personal care problems. In this way, it automatically sets rules for the classification of personal care problems of disabled children and allows to find among the attributes that affect the classification. The best experimental results in the classification of personal care problems using the decision tree model were obtained with an accuracy of 84.30%. In this study, decision support system has been established for the classification of personal care problems. These systems can classify as well as suggest which problems affect the problems more. With the proposed decision support system, the possibility of pre-diagnosis for the specialists and dealing with more patients are provided.

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PART **II**

MARKETING AND LOGISTICS

A CONCEPTUAL STUDY ON LOYALTY¹ / SADAKAT ÜZERİNE KAVRAMSAL BİR ÇALIŞMA

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Abstract

The concept of loyalty, defined by the Turkish Language Association (TLA) as “friendship, devotion, trueness, faithful” has been used for military purposes in ancient times, especially by the great empires and leaders to maximize power and control. The war leaders of the modern world of the 21st century are seen as marketers who want to increase and maintain their market share through a loyal customer base. For many years as a remarkable research topic customer loyalty, has become the focus of interest both marketing practitioners and researchers due to the benefits it provides to businesses. Besides the popularity of this concept, radical changes (such as strong competition, technological developments, customers’ increasing knowledge levels etc.) have revealed the necessity of businesses to give more importance to customer loyalty than ever before. In this way, the concept of customer loyalty has become a strategic tool for businesses to achieve long-term competitive advantage against their competitors and to compete with each other in globalized markets. On the other hand, the conceptualization and operationalization of the concept of customer loyalty, which is intrinsically complex, has led to differences of opinion among researchers, rather than consensus. For this reason, this article discusses the theoretical framework of customer loyalty by referring to conceptualizations in accordance with different paradigms. Accordingly, the article presents both, the behavioral approach to the concept of loyalty as well as the characteristics of the attitudinal approach by emphasizing the differences and explains studies on operationalizations. In this context, the study aims to provide an elaborative theoretical framework for the concept of customer loyalty. In the end, managerial implications and future research opportunities are presented.

Keywords: Loyalty, Customer Loyalty, Models of Customer Loyalty.

Giriş

Müşteri sadakati konsepti, küreselleşen pazarlarda işletmelerin rakiplerine karşı uzun vadeli rekabet avantajı etmeleri ve birbirleriyle olan rekabetlerinde yararlandıkları, stratejik açıdan önemli bir temel haline gelmiştir (Lam, Shankar, Erramilli ve Murthy, 2004, s. 293; Aksoy, 2013). Özellikle teknolojinin işletmelerin faaliyetlerinde, tüketicilerin ise yaşamlarında meydana getirdiği köklü değişikliklerin etkisi ile günümüz yöneticilerinin müşterilerin güvenlerini ve sadakatlerini yenilikçi stratejiler ile elde etmeleri ve bunu sürdürülebilir kılmaları her zamankinden daha fazla önem kazanmıştır. İşte bu nedenle de bir işletmenin sadık bir müşteri kitlesi oluşturabilmesi ve bu kitlenin sürekli hale dönüştürebilmesi için ilk etapta, müşterilerin sadakatini neyin oluşturduğunu anlaması gereklidir. Böylelikle o işletme için sadık bir müşterinin ne anlama geldiğinin belirlenmesi söz konusu olacak ve dolayısıyla da bu karmaşık yapının ölçülebilir ve dahası yönetilebilir hale getirilmesi mümkün olabilecektir.

1 Bu makale, Marmara Üniversitesi Sosyal Bilimler Enstitüsü İşletme Anabilim Dalı Üretim Yönetimi ve Pazarlama Bilim Dalı’nda Prof. Dr. Mehmet TİĞLİ danışmanlığında yürütülen ve Cansu GÖKMEN KÖKSAL tarafından hazırlanan doktora tez çalışmasından türetilmiştir

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Türk dil kurumu (TDK) tarafından genel itibariyle “Dostluk, içten bağlılık, doğruluk ve vefalılık” olarak tanımlanan (2019) ve yüzyıllardan beri var olan sadakat kavramı, eski zamanlarda özellikle büyük imparatorluklar ve liderleri tarafından güç ve kontrolü en üst seviyeye çıkarmak için askeri amaçlı kullanılmaktaydı. 21. yy’ın modern dünyasının savaş liderleri ise sadık bir müşteri kitlesi ile pazar payını artırmak ve bunu korumak isteyen pazarlamacılar olarak görülmektedir (Kumar ve Shah, 2004, s. 318). Geçmişten bugüne dikkat çeken sadakat konseptinin, işletmelere ve tüketicilere sağladığı faydaların anlaşılmasıyla birlikte hem pazarlama uygulayıcılarının hem de akademisyenlerin bu konseptte olan ilgileri daha da artmıştır. Öte yandan popüler bir kavram olmasına rağmen müşteri sadakatinin doğası gereği karmaşık olması, araştırmacılar arasında kavramsallaştırılması ve işlemeleştirilmesi konularında fikir birliğinden çok fikir ayrılıklarına yol açmıştır. Oluşan bu farklı düşüncelerin ise bu konseptin daha çok beslenmesine ve zenginleşmesine katkıda bulunduğu çeşitli disiplinler bağlamında yapılan çalışmalardan anlaşılmaktadır (örn. örgütsel davranış bağlamında, Peloso, 2005; hizmet bağlamında, Caruana, 2002 vb. gibi). Bu bağlamda çalışma kapsamında literatürde sadakat kavramı ile ilgili geçmişten bugüne yapılan tanımlamalar ve işlemeleştirilmesine yönelik çalışmalar bunları ele alan perspektifler bağlamında değerlendirilerek, tartışılacaktır. Çalışma sonunda ulusal yazına müşteri sadakati ile ilgili detaylı bir literatür taramasının kazandırılması amaçlanmaktadır.

1. Terminolojik Perspektiften Sadakat ve Müşteri Sadakati

Sadakat ile ilgili ilk çalışmalarda odağın işletmeden ziyade bireyler arasında ve bireylerin çeşitli sistem veya yapılarla olan bağlılık düzeyleri olduğu söylenebilir. Örneğin, Josiah Royce “Sadakatin Felsefesi”⁴ (1995: 9) adlı kitabında sadakati, bir bireyin bir durumu (vakayı, davayı vb. gibi) uygulamadaki istekliliği ve eksiksiz bir şekilde bağlılığı olarak tanımlamış ve bireyin sadık olma durumunu üç özellik kapsamında ele almıştır (Koç, 2002:49). Yazara göre ilk olarak bir bireyin sadık olmasının bir nedeni (bireyin kişisel olarak değer verdiği herhangi bir olgu olabilir) vardır ve bu nedene bağlı olarak hareket eder. İkinci olarak ise birey gönüllü olarak hedeflediği amaca kendini adar, üçüncü olarak ise bu amaç doğrultusunda istikrarlı bir şekilde davranışlarına devam ederek, bağlılığını sürekli olarak ifade eder (Royce, 1995: 9-11). Prakseolojik⁵ bakış açısından ise müşteri sadakati bir nesneye (örn. Bir marka ve/veya işletme) karşı sürekli ve olumlu tutumlar olarak tanımlanmıştır (Szczepeńska ve Gawron, 2011: 60). Genel olarak tüketiciler tarafından markalara, hizmetlere, mağazalara, ürün kategorilerine ve faaliyetlerine yönelik sergilenen olumlu davranışlar olarak ifade edilen (Uncles, Dowling ve Hammond, 2003: 295) sadakat pazarlama bağlamında “marka sadakati”, “müşteri sadakati”, “hizmet sadakati” ve “mağaza/AVM sadakati” olarak ele alınmıştır. Bu konseptler arasında marka sadakati ile ilgili yapılan çalışmaların, diğer tüm konseptlerin gelişimlerinde temel alınması sebebi ile pazarlama literatüründe dönüm noktası niteliğinde olduğu söylenebilir (örn. Jacoby ve Kyner, 1973; Oliver, 1999). Diğer yandan marka sadakati ile ilgili çalışmaların yanında, pazarlama paradigmasında meydana gelen değişim, küreselleşme, gelişen teknoloji, nüfus vb. gibi faktörler de sadakatin nüfuz ettiği alanların kapsamının genişlemesine neden olmuştur. Böylelikle sadakatin çeşitli alanlarda, farklı yaklaşımlar ve görüşler bağlamında ele alınmasına katkıda bulunmuştur. Literatür özetlerine bakıldığında sadakat konseptine yönelik yapılan araştırmalardan derlenen sadakat (marka sadakati, müşteri sadakati, hizmet sadakati, tedarikçi sadakati) ile ilgili kavramsal tanımlamalar Tablo 1’deki gibi özetlenebilir.

4 Orijinal adı “The Philosophy of Loyalty” olan kitap; 1855-1916 yılları arasında yaşayan Amerikan filozof Josiah Royce tarafından 1909 yılında yazılmıştır.

5 Genel olarak insan tarafından gerçekleştirilen eylemlerin analizi “Prakseoloji” olarak ifade edilmektedir. Ancak bazı düşünürler prakseolojinin sadece yapılan eylemlerin ne olduğunu ve nasıl yapıldığını değil aynı zamanda ne düşünerek yapıldığını da kapsamı gerektiğini savunmuşlardır. Bu bağlamda bilimsel bir bilginin prakseolojisi; bu bilgiye ilişkin uygulamalar ile bu bilginin nedenlerini açıklayan açıklamaları ifade etmektedir (Bkz. Yavuz, 2009,95).

Tablo 1. *Literatürde sadakat ile ilgili yapılan tanımlamalar*

Yazar	Tanım
Marka Sadakati	
Jacoby ve Kyner, 1973 ve Maignan vd., 1999	-Birçok alternatif marka arasından bazı karar verme birimleri tarafından zamanla ifade edilen rastlantısal olmayan, davranışsal yanıt (satın alma gibi) ve psikolojik süreçlerin (karar verme, değerlendirme gibi) bir fonksiyonu, -Zamanla bireylerin aynı işletmeden ürün almaya devam etmesi ve olumlu unsurları işletmenin ürünleriyle özdeşleştirme eğilimleri,
Engell ve Blackwell,1982	Tüketicilerin bir zaman zarfında belli bir ürün kategorisindeki marka ya da markalara olan tercihli, tutumsal ve davranışsal tepkileri,
Pritchard vd., 1999	Sadakat (L), marka tutumu (A) ile davranışının (P [B]) bileşik bir karışımıdır; sürekli olarak markanın tercih edilme ve satın alınma derecesini ölçen endeksleri olarak tanımlanmış ve bu bağlamda da işlemlenmiştir. Buna göre: $L = P [B] / A$
Müşteri Sadakati	
Czepiel ve Gilmore, 1987	Bir hizmet sağlayıcı ile ilişkiye devam etmek için duyulan özel istek,
Selnes, 1993	Gelecekteki satın almaların veya hizmet sözleşmelerinin yenilenmesi de dâhil olmak üzere hizmet ürünüyle ilgili amaçlanan davranış /davranışlar,
Duffy, 1998:439	İşletmenin müşterileri ile derin ve kuvvetli ilişkiler oluşturmaları,
Mittal ve Lassar, 1998	Bir tüketicinin davranışını değiştirmeme konusundaki eğilimleri,
Ellinger vd. 1999 ve Daugherty vd. 1998	Tüketicilerin tekrarlanan satın alma niyetleri ile olumlu bir tutum (ilişkiye bağlılık) içeren yeniden satın alımları doğrultusunda verilen uzun vadeli bir taahhütler
Neal, 1999	Bir alıcının belli bir kategoride yer alan diğer ürün veya hizmetleri uygun şekilde kullanılabilir olması (ulaşılabilir) koşuluyla; alıcı tarafından o kategorideki toplam satın alma sayısı ile karşılaştırıldığında, belirli bir kategorideki aynı ürünü veya hizmeti seçme süresi,
Oliver, 1999	Durumsal faktörlere ve tüketicilerin davranışlarının değiştirilmesi amacıyla yapılan pazarlama çabalarına rağmen tercih edilen bir ürün veya hizmetin gelecekte tekrar satın alınması ve müşteriliğin devam etmesi için istikrarlı olarak yapılan davranışlar bütünü ve tüketicilerin duydukları derin bağlılık,
Proto ve Supino, 1999	Bir şirketin insanlarına, ürünlerine veya hizmetlerine karşı duyulan bağlılık veya şefkat hissi,
Stank vd., 2003	Bir işletmeye yönelik tekrarlanan davranışlar ile bilişsel tutumları kapsayan tekrar satın alma amacıyla verilen uzun vadeli taahhütler,
Uncles ve diğerleri, 2003:295	Tüketiciler tarafından markalara, hizmetlere, mağazalara, ürün kategorilerine ve faaliyetlere yönelik olarak sergilenen olumlu davranışlar,
Kim ve Thapa, 2018: 6	Tüketicinin belirli bir ürüne veya hizmete yönelik satın alma biçimlerini/örüntülerini tekrar etmesi ile ilgili açık davranışları,
Hizmet Sadakati	
Caruana, 2002	Müşterinin bir hizmet sağlayıcısından tekrarlayan satın alma davranışını sergileme derecesi ile bu hizmet sağlayıcısına karşı olumlu bir tutum sergilemesi ve bu hizmete ihtiyaç duyduğunda yalnızca bu hizmet sağlayıcısını kullanmayı düşünmesi,

SADAKAT ÜZERİNE KAVRAMSAL BİR ÇALIŞMA

Cansu Gökmen Köksal, Mehmet Tıǧlı

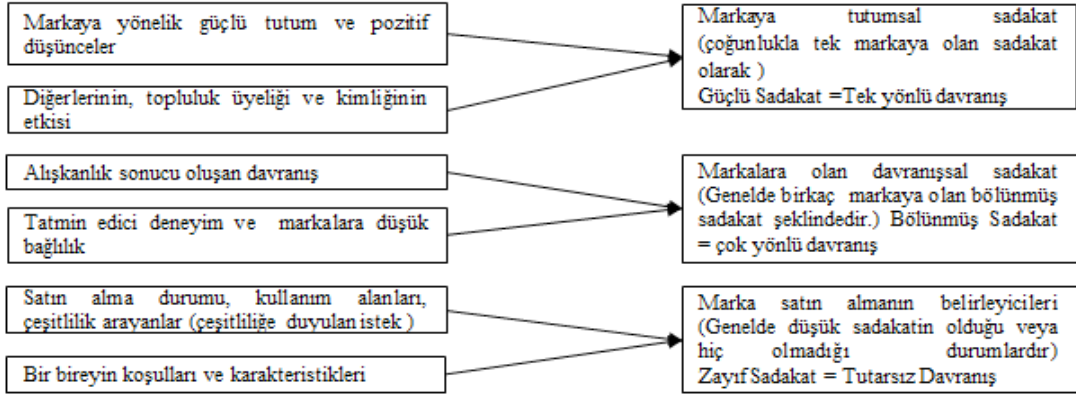
Yazar	Tanım
Sirdeshmukh vd., 2002	-İşletme ile ilişkiyi sürdürmek için sahip olunan motivasyonları içeren çeşitli davranış yapma niyetleri, -Hizmet sağlayıcısına harcanacak paydan daha çok ayırma, bu hizmet sağlayıcısına yönelik olumlu ağızdan ağıza iletişim faaliyetlerinde bulunmak ve tekrar satın almayı da içerisinde barındırmaktadır.
Kandampully ve Suhartanto, 2003	Tüketicilerin mümkün olduğunca aynı hizmet sağlayıcısından yeniden satın alımlar yapmasını ve hizmet sağlayıcısına karşı olumlu bir tutum içerisinde olma veya bunu sürdürme durumudur.
<i>Perakendecilik bağlamında sadakat</i>	
Biong, 1993	<u>-Tedarikçilere olan sadakat</u> Perakendecilerin gelecekte işletme ile tedarikçi ilişkilerinin sürmesine yönelik isteklilik düzeyleri açısından ele almışlardır.
Bloemer De Ruyter, 1998	<u>-Mağaza Sadakati</u> Karar verme ve değerlendirme gibi psikolojik süreçlerin bir fonksiyonu olarak tüketicinin birden çok mağaza seçeneği arasından bir tanesini rastlantısal olmayan bir şekilde seçmesi, sürekli ziyaret etmesi
Reynolds ve Arnold, 2000	Belirli bir mağaza ile ilgilenmeye devam etme taahhüdü ve niyeti
Wind, 1970	<u>-Endüstriyel kaynak sadakati</u> Kalite, miktar, teslimat, fiyat veya hizmet vb. gibi teklifler ile ilgili alıcının tedarikçilerle olan geçmiş tecrübeleri (örn. maliyet tasarruf baskısı, şikâyet sayısı gibi örgüt tabanlı değişkenler dolayısı ile)

Kaynak: Davis-Sramek, Mentzer ve Stank'in 2008:785'ten yararlanılarak uyarlanmıştır.

Uncles ve diğerleri (2003:295), çalışmasında sadakati kavramsallaştırırken; yapılan tanımlamaları şekil 1'de de gördüğü gibi 3 model altında sınıflandırarak tartışmış ve tanımlamıştır. Buna göre sadakat:

- 1) Sadakat bazen bir marka ile iletişime neden olan bir tutumdur.
- 2) Sadakat ortaya konulan davranışlar açısından ifade edilir.
- 3) Sadakat bireyin özellikleri, koşulları ve / veya satın alma durumu tarafından düzenlenen satın alma faaliyetleridir.

Şekil 1: Tüketici sadakatinin Kavramsallaştırılması



Kaynak: Uncles ve diğerleri, 2003:295.

Odin, Odin ve Pierre (2001) çalışmasında tüketicilerin sadakatlerini açıklarken ve sınıflandırırken *stokastik* ve *deterministik* olmak üzere iki akımdan faydalanmıştır. Buna göre stokastik yaklaşımın savunucuları, sadakatin davranış olduğunu ileri sürmüştür. Yani bir kişinin sadakati, sürekli olarak aynı markayı satın alması ile ifade edilebilir. Stokastik yaklaşımdaki problem, sadakat davranışının, doğası gereği açıklanamaz veya anlaşılamayacak kadar karmaşık olarak görülmesinden kaynaklanmaktadır. Öte yandan bu yaklaşım, bir işletmenin tekrar satın alma davranışını etkileyecek unsurları da tam olarak ortaya koyamayarak, dezavantajlı durumların oluşmasına yol açmaktadır (Lam ve diğerleri, 2004). Deterministik yaklaşımda ise sadakati etkileyen sınırlı sayıda açıklayıcı unsur bulunur ve bu unsurların da araştırmacılar tarafından kullanılabileceği belirtilmektedir. Bu yaklaşımın savunucusu olan araştırmacılar sadakati daha çok bir tutum olarak ele alırken; etkili bir satın alma davranışını göz önünde bulundurmadan tüketicinin satın almadaki psikolojik bağlılığını araştırmaktadır. Bu iki yaklaşımı birbirleri ile bağdaştırarak, tutum ve davranış kavramlarının tek bir kavramsal tanım altında bir araya getirilmesini öneren ilk araştırmacı ise Jacoby (1971) olmuştur (Odin ve diğerleri, 2001:76). Literatürde araştırmacılar tarafından en çok benimsenen ve başvuru alan tanımın Jacoby ve Kyner (1973:2) tarafından yapılan tanımlama olduğu görülmektedir. Yaptıkları tanıma göre müşteriler sadık olarak değerlendirilebilmeleri için bazı koşulların gerçekleşmesi gerekmektedir. Buna göre müşterilerin yapmış olduğu 1) satın almalar tesadüfi değildir, bilinçli olarak aynı ürün veya markadan yapılır, 2) satın alma davranışı gerçekleşir, 3) zaman içerisinde tekrar satın alma görülür, 4) satın almanın aynı karar verici tarafından yapılması gerekir, 5) seçilen ürünün/markanın ya da ziyaret edilen mağaza, birden fazla alternatif arasından seçilir ve son olarak da 6) satın almanın/ziyaretin belli bir değerlendirme süreci sonucunda yapılması gerekmektedir.

Tablo 1’de özetlenen tanımlamalar ile Uncles ve diğerlerinin (2003, s.295) yapmış olduğu sadakat ile ilgili kavramsallaştırma (bkz. Şekil 1) ve Jacoby ve Kyner’in (1973:2) tanımlarından da anlaşıldığı üzere kimi araştırmacılar müşteri sadakatini; tekrar satın alımlar ve satın alma davranışları olarak ele alırken kimi ise pozitif tutum, uzun vadeli taahhüt, satın alma niyeti (taraflar arasında ilişkinin sürdürülme niyeti), pozitif ağızdan ağıza iletişimde bulunma, değiştirmeme davranışı olarak tanımlamaktadır. Bu çerçevede yapılan tanımlamaları özetlemek gerekirse; araştırmacıların bir kısmı sadakati sadece davranış veya tutum olarak ele alırken, bazı araştırmacıların ise davranışa tutum bileşenlerini de ekleyerek sadakati davranış ve tutumsal açıdan kavramsallaştırdığı görülmektedir. Literatürde

sadakat ile ilgili kavramsallaştırmaların genel bir incelenmesi sonucunda çalışma kapsamında müşteri sadakatini şu şekilde açıklayabiliriz: Psikolojik bir değerlendirmenin sonucunda bir müşterinin kendisine sunulan birçok alternatif (ürün, marka, hizmet, mağaza, AVM) arasından sadece birini; sürekli olarak, bilinçli bir şekilde satın alması/tercih etmesi ve bu alternatife yönelik, diğer dışsal hiçbir unsurun etki etmediği olumlu duygu ve düşüncelere sahip olmasıdır. Bu davranış ve duyguların bir çıktısı olarak da kendi çevresindeki kişilere (ailesine, arkadaşlarına) alternatifle ilgili gönüllü olarak yorumlarda (olumlu) bulunması ve olumlu niyetler içerisinde olması beklenmektedir.

2.Sadakatın İşlemselleştirilmesine yönelik çabalar

Literatür incelenmesinde sadakatın kavramsallaştırılmasında ele alınan yaklaşımlardan da anlaşıldığı üzere sadakatın karmaşık bir yapısının olduğu konusunda araştırmacılar arasında fikir birliği bulunduğu söylenebilir (Yu ve Dean, 2001:239). Bu karmaşık yapının bir sonucu olarak ortaya çıkan diğer bir sorunun sadakat kavramının işlemselleştirilmesi olduğu, kavramın ölçümü için kullanılan sayısız ölçüm aracının varlığından anlaşılmaktadır (Rundle-Thiele ve Bennett, 2001, s. 28). Sadakatın ölçülebilir hale getirilmesi ile ilgili literatürde birçok çalışma ile karşılaşılabilir. Ölçümü konusunda benimsenen ortak bir perspektifinin olmadığı görülse de pazarlama açısından sadakatın kavramsallaştırılmasındaki gelişmelere (araştırmalara) paralel olarak tutumsal, davranışsal veya bunların birleşimi olan karma perspektif olmak üzere üç yaklaşım mevcuttur (Szczepańska ve Gawron, 2010; Dick ve Basu,1994, s. 106).

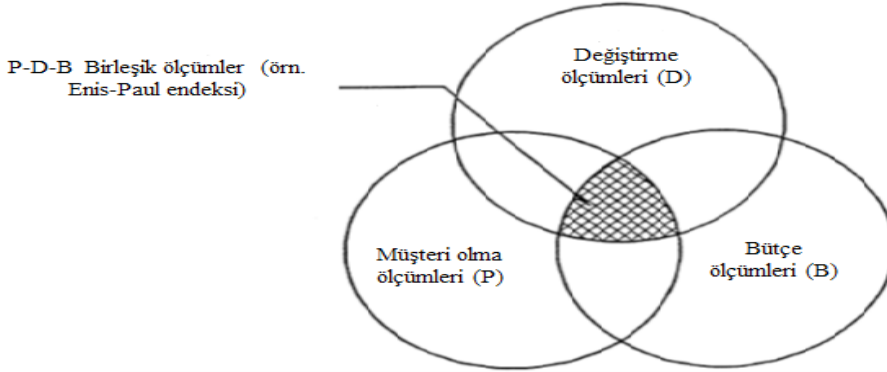
Sadakatın ölçülmesi adına yapılan çalışmaların odağının uzun yıllar sadece tüketicilerin tekrar eden satın almaları, bu satın alımların miktarı ve değerine olduğu görülmektedir (Rundle-Thiele ve Mackay, 2001, 532; Cunningham, 1961, s.127-137). Örneğin, markalar açısından sadakati ele alan Brown (1952, s. 252-253), tüketicilerin markaları tekrar satın alma davranışlarına göre sadakat düzeylerini sınıflandırmıştır. Tek bir markadan satın alım yapanların sadakatlerini bölünmemiş olarak; farklı markalardan da satın alımlar yapanları bölünmüş sadakat olarak; spesifik bir marka seçimi olmayanları kararsız ve son olarak da belirgin bir markadan satın alması fark yaratmayan ve hiçbir markaya karşı sadakat davranışı içerisinde olmayanları ise sadakatsiz olarak sınıflandırmıştır.

Perakendecilik bağlamında ise tüketicilerin farklı perakende ortamlarındaki davranışlarının ölçülmesi amacıyla çeşitli endeksler oluşturulmuştur. Örneğin; Cunningham'ın (1961, s. 127-137) oluşturduğu endekse göre tüketicilerin sadakatini; uygulanan anket dönemi boyunca belirli bir mağazaya ayırdıkları bütçe yüzdesine göre, müşterisi oldukları mağaza sayısına ve sadakat gösterilen mağazanın değiştirilme sayısına göre olmak üzere üç yolla ölçülmüştür. Enis Paul (1970, s.43) ise tüketicinin belli bir mağazaya olan sadakatini 0 (dönem içerisinde hiç müşterisi olmama durumu) ile 100 (dönem içerisinde belli bir mağazadaki ilgili ürüne yönelik müşteri olma durumu) arasında değişen bir yüzde endeksi ile ölçümlemiştir. Knox ve Denison (2000, s.34) ise çalışmasında tüketicilerin mağazaya olan sadakatlerinin ölçülmesinde Enis ve Paul'un (1970) endeksini kullanmışlar ve şekil 2 ' de görüldüğü gibi sadakat ölçümleri tipolojisini oluşturmuşlardır. Müşteri olma ölçümleri (P) diğerlerine kıyasla bir mağazaya yapılan alışveriş ziyaretlerine odaklanırken; değiştirme ölçümü, (D) bir mağazaya yapılan ardışık ziyaretlerin derecesini ve daha sonraki değiştirme davranış modelini ifade eder. Bütçe (B) ölçümü ise, seçim yapılan mağazaya yapılan toplam harcama oranıdır. Bu üç ölçümün kesişimi olan ölçüm de (P-D-B) mağaza sadakatinin dördüncü kategorisini oluşturmaktadır ve diğer tüm (P ve D'yi B ile birleştirmektedir) kategorilerin bir kombinasyonudur.

Literatür özetlerinden de anlaşıldığı üzere sadakat konseptini, tüketicilerin tekrar satın alma davranışlarına odaklanarak, davranışsal açıdan işlemselleştirilen ve ölçümleyen çalışmaların sayısını artırmak mümkündür. Ancak sadakatın sadece davranışsal açıdan ele alınması; açıklayıcı gücünün eksik olması sebebiyle yetersiz, sadakatın psikolojik

tarafını göz ardı etmesi ile de gerçekten uzak bulunarak eleştirilmiştir (Bandyopadhyay ve Martell, 2007, s. 37; Chang ve Chen, 2007, s. 105).

Şekil 2. Mağaza Sadakat Ölçümleri Tipolojisi



Kaynak: Knox ve Denison, 2000: 34.

Öte yandan sadakatin ortaya çıkarılması amacıyla tüketicilerin tutum ve davranışlarının eşitleme yaklaşımı ile birlikte ilk kez Newman (1966) tarafından sorgulanması (Bandyopadhyay ve Martell, 2007, s. 37) ve 1969 yılında Day 'ın çalışmasında sadakatin hem davranışsal hem de tutumsal unsurlardan oluşan iki boyutlu bir yapı olarak tanımlanmasının sadakatin ölçümünde daha kapsamlı bir yaklaşımın ihtiyacını kuvvetlendirmiştir. Öyle ki sadakatin sadece davranış boyutu ile ele alınmasının bu yapıyı tam anlamıyla yansıtmadığı anlaşılmış ve çok boyutlu bir yapı bağlamında irdelenmesinin gerekliliği vurgulanmıştır (Jacoby ve Chestnut, 1978; Dick ve Basu, 1994; Mellens, Dekimpe ve Steenkamp, 1996, s. 526; Chang ve Chen, 2007, s. 105; Bridson, Evans, ve Hickman, 2008, s. 366).

Tutumsal sadakat ile tekrar satın alma davranışı arasında önemli bir ayrım bulunmaktadır. Tutumsal sadakat, marka/ürüne/mağazaya psikolojik bir bağı içerisine alırken; tekrar satın alma davranışı (davranışsal sadakat) mutlak psikolojik bir taahhüdü içermemektedir (Carpenter, 2008, s. 359). Çünkü tekrar satın alma davranışı, müşterilerin algılanan zaman /çaba maliyetleri, algılanan risk, algılanan seçim yokluğu, olasılık, geçici satış teşvikleri veya yasal veya kurumsal politika kısıtlamaları nedeni ile ortaya çıkabilir. Davranışa dayalı olarak sadakatin açıklanmasının en büyük dezavantajı ise sadakatin ardından yatan duygusal ve bilişsel unsurlar hakkında öngöründe bulunmamasıdır. Bu dezavantaj, niyetin her zaman davranışa dönüşmemesi ve tekrarlanan satın alma davranışlarının niyetleri yansıtmamasından oluşan ikilemden kaynaklanmaktadır (Yang ve Peterson, 2004, s. 802; Carpenter, 2008, s. 359). Örneğin, bazı tüketiciler satın alma aşamalarında markaların seçimi, araştırılması ile ilgili efor ve zaman harcamak istemeyebilir. Bu nedenle de tüketici sürekli en ucuz olanı seçebilir ya da belirli nedenlere dayanmaksızın aynı markayı satın alıyor olabilir. İşte bu noktada tüketicilerin atalet (inertia) kaynaklı tekrar satın alma davranışları ile ayırt edici unsurların varlığını gerektiren sadakate bağlı davranışların birbirinden ayrılması önem taşımaktadır (Mellens ve diğerleri, 1996, s. 511).

Sadakatin ölçülmesindeki problemlerin ortadan kaldırılması amacıyla sonraki yıllarda yapılan çalışmalarda sadakat holistik bir anlayışla ele alınmıştır (örn. Dick ve Basu, 1994; Oliver, 1999). Bu çalışmalar arasında en çok başvurulan modellerden bir tanesi Dick ve Basu (1994) tarafından geliştirilen, tutum ve davranışın birleşik etkilerinden

oluşan sadakat tipolojisidir (Garland ve Gendall, 2004, s. 81). Buna göre sadakat tarafından bir müşterinin sadakati, göreceli tutum ile müşteri olma niyeti arasındaki ilişkiye göre tablo 2 'de belirtildiği gibi sınıflandırmıştır.

Tablo 2. *Dick ve Basu 'nun Müşteri Sadakat Modeli*

Tekrar Müşteri Olma Niyeti Göreceli Tutum Yüksek Düşük			
	Yüksek	Sadakat	Gizli Sadakat
	Düşük	Sahte Sadakat	Sadakatsizlik

Kaynak: *Dick ve Basu, 1994.*

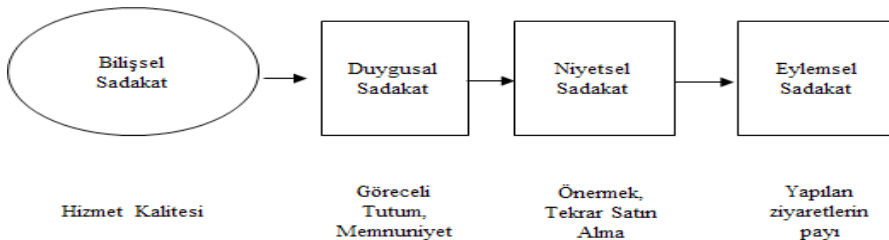
Bu sınıflandırmaya göre;

- 1) Sadakat, göreceli tutum ile tekrarlayan himaye arasında olumlu bir uyumayı gösterir.
- 2) Gizli bağlılık, yüksek göreceli tutum ile ilişkilidir, fakat burada tekrar müşteri olma niyeti düşük seviyededir.
- 3) Sahte sadakat, yüksek tekrar müşteri olma niyeti ile düşük bir göreceli tutumu temsil eder.
- 4) Sadakatsizlik, düşük seviyedeki tekrar müşteri olma niyeti ile düşük düzeydeki göreceli tutum durumunu ifade etmektedir.

Oliver (1999) tarafından test edilen ve psikolojik perspektiften ele alınan sadakat ise bilişsel, duygusal, niyetsel ve eylemsel olmak üzere 4 aşama ile ele alınmaktadır. Buna göre bir tüketicinin geçirdiği bilişsel, duygusal ve niyetsel aşamadan sonra geline eylemsel aşama ile birlikte sadakatin tutum ve davranış olmak üzere bütüncül bir model çerçevesinde ele alınması mümkün olmakta ve böylece tüketicinin davranışı tekrarlanan bir davranış haline dönmüş olmaktadır.

Sivadas, Baker-Prewitt (2000) bu dört aşamalı sadakat modelini, mağaza sadakati bağlamında uyarlayarak ele almış ve her bir aşamada tüketicilerin geçirdiği adımları şekil 3'teki gibi şematize etmiştir. Buna göre belirtildiği gibi birinci aşamada örneğin hizmet kalitesi gibi daha çok bilişsel unsurlar sebebi ile oluşan bir sadakat bulunmaktadır.

Şekil 3: *Oliver 'in 4 aşamalı Sadakat Modeli*



Kaynak: *Sivadas ve Baker-Prewitt, 2000, s.78.*

Bu aşamada derin bir bağlılık söz konusu değildir bu nedenle de farklı unsurlardan ötürü bu durum kolaylıkla değişebilir. Bir sonraki sadakat aşaması ise duygusal sadakattir. Bu aşamada bilişsel unsurlara ek olarak mağazaya (ürüne/markaya) yönelik tutumlar ve memnuniyet ile daha güçlü bir sadakat oluşmaktadır. Üçüncü aşama olan

niyetssel basamakta yer alan sadakat geleneksel sadakat olup, tüketicinin verdiği satın alma taahhüdünü ifade etmektedir. Burada sadakat markayı veya mağazayı tavsiye etme ve tekrar satın alma veya tekrar ziyaret etme davranışlarıyla örneklendirilebilir. Üç aşamanın birleşiminin gerekli sonucu olan eylemsel sadakat aşamasında ise yapılan ziyaretlerinin payının ne kadar olduğu değerlendirilmektedir (Oliver, 2010, s.434; Sivadas, 2000, s. 78).

Diğer araştırmacılar Bandyopadhyay ve Martell (2007, s. 38) tüketicilerin davranışsal ve tutumsal özelliklerine göre marka sadakatlerini sınıflandırmıştır. Bu sınıflandırmayı Dick ve Basu (1994) ile Uncles, Dowling ve Hammond 'ın (2003) çalışmalarına dayanarak adapte etmişlerdir. Buna göre tüketicilerin tutumsal ve davranışsal sadakat düzeylerine göre tablo 3'teki sunulduğu gibi tüketici profilleri oluşmaktadır.

Tablo 3. *Tüketicilerin davranışsal ve tutumsal karakteristiklerine göre marka sadakati sınıflandırması*

<i>Tutumsal Sadakat</i>	<i>Davranışsal Sadakat</i>		
	Tek kullanıcılar	Çoklu kullanıcılar	Kullanıcı olmayanlar
Güçlü	Markaya sadık	Çeşit/çeşitlilik arayan	Potansiyel alıcı
Zayıf	Zoraki alıcı	Anlaşma eğilimli	Nötr (Kayıtsız)

Kaynak: Bandyopadhyay ve Martell, 2007, s. 38.

Dick ve Basu 'nın (1994) sınıflandırmasından farklı olarak bu tipolojiye tek marka kullanıcısı ve çoklu marka kullanıcıları ile herhangi bir ürün /marka kullanıcısı olmayan tüketiciler de dâhil edilmiştir (Bandyopadhyay ve Martell, 2007, s. 38). Özellikle kullanıcı olmayan tüketicilerin nedenlerinin bilinmesinin /ortaya çıkarılmasının, stratejik pazarlama planlarında bu tüketici grubunun kazanılması açısından bir fırsat oluşturacağı savunulmaktadır. Çoklu kullanıcılar ise tüketiciler arasında en yaygın olarak addedilir ve bu grup sadakatin tek bir markaya yönlendirilmesini gereksiz olarak değerlendirmektedir. Bu durum özellikle markaların fonksiyonel açıdan birbirinden ayırt edilemeyecek olması ve duygusal açıdan da tüketiciler için bir fark yaratmamalarının bir sonucu olabilir. Son grup ise zoraki alıcıları ayrı tutmak şartı ile tekli kullanıcılar olup, bu kullanıcılar güçlü bir tutum ile gerçek bir sadakat sergilemekte, diğer pazarlama karması unsurlarından etkilenmemektedir (Bandyopadhyay ve Martell, 2007, s. 39)

Literatürdeki çalışmalar doğrultusunda sadakatin işlemleştirme çabalarının sonucu olarak, sadakatin tek bir boyuttan ziyade, çok boyutlu bir yapıyı temsil ettiği anlaşılmaktadır. Aksoy (2013) da çalışmasında sadakatin bu çok boyutlu yapısını ortaya koyarak; sadakat ve sadakat ile ilgili çeşitli araştırmalarda yapılan ölçümler, yapılan tanımlamalar ile benimsenen ve geliştirilen ölçümleri Tablo 4 'te sunulduğu gibi sınıflandırarak özetlemiştir. Buna göre sadakat ile ilgili ölçümleri müşteri algıları ve tutumları (örn. müşteri memnuniyeti, bağlılık); sadakat davranış göstergeleri (örn. elde tutma, cüzdan payı, sıklık), müşteri finansı (örn. satın alımların parasal değeri, müşteri değeri); sadakat niyetleri (örn. yeniden satın alma niyeti, tavsiye etme niyeti, net destekleyici puanı) ve diğer ölçümler başlığında ağızdan ağıza iletişim, satın alma ve şikâyetler olmak üzere beş başlık altında kategorize etmiştir.

Tablo 4. Müşteri Sadakatı İle Ölçümlerle ilgili Özet sınıflandırma (Aksoy,2013)

Ölçümler	Tanım /Tanımlama	Örnek referans
<i>Algılama ve Tutumlar</i>		
Müşteri Memnuniyeti (customer satisfaction)	Bir ürün ya da hizmetin müşterinin beklentilerini karşılama derecesi.	Oliver (1980)
Bağlılık (commitment)	Değerli bir ilişkinin sürdürülme isteğinin kalıcı/sürekli olması.	Moorman vd. (1992)
<i>Sadakat Niyetleri</i>		
Satın alma ihtimali (Likelihood to repurchase)	Müşterilerin gelecekte ürün ve hizmetleri satın alma olasılıklarını ifade etmektedir.	Bemmaor (1995)
Önerme ihtimali (Likelihood to recommend)	Müşterilerin, gelecekte işletmeyi/ürünleri başka kişilere önerme ihtimalidir.	Brown vd. (2005)
Net Destekleyici skoru (Net promoter score -NPS)	Destekçi sayısı (öneride bulunma ölçeğinin 9 ile 10 arasında puanlanması) ve aleyhte destekçi (öneride bulunma ölçeğinin 0 ile 6 arasında puanlanması) sonucunda oluşan net skor.	Reichheld (1993)
<i>Sadakat Davranışı</i>		
Elde Tutma (Retention)	Müşteri ile işletme arasındaki iş ilişkisinin devamı anlamına gelmektedir.	Reichheld ve Sasser (1990)
Cüzdan payı (share of wallet)	Belli bir kategoride yapılan alışverişlerin payıdır.	Jones ve Sasser, (1995)
Sıklık (Frequency -RFM)	Müşterilerin işletmeden satın alım sıklıklarıdır.	Miglautsch (2002)
<i>Diğer</i>		
Yakın Zaman (Recency)	Müşterilerin yakın zamanda işletmeden yaptıkları satın alımlar/ alışverişi ifade eder.	Miglautsch (2002)
Ağızdan Ağıza İletişim (Word of Mouth Communication)	Gayri resmi olarak, diğer tüketicilere belirli ürün ve hizmetlerin özellikleri, kullanımı ve mülkiyeti gibi hususlarda bilgi verilmesi/ iletişimde olunmasıdır.	Westbrook (1987)
Şikâyetler (Complaints)	Satın alma ile ilgili memnuniyetsizliklerden oluşan birden fazla reaksiyonlar/karşılık kümesi	Singh (1988)
<i>Müşteri Finansalları</i>		
Mali (Monetary (RFM)	Müşterilerin işletmeden yapmış olduğu satın alımlarının sıklığı ve parasal değeridir.	Miglautsch (2002)
Müşteri geliri (Customer revenue)	Bir müşteriden elde edilen toplam satışlardır.	Keiningham vd. (2005)
Müşteri kârlılığı (Customer Profitability)	Bir müşteriden kazanılan toplam kârdır.	Keiningham vd. (2005)
Müşteri Yaşam boyu değeri (Customer lifetime value (CLV)	Bir müşteriden, işletme ile yaşam döngüsü boyunca elde edilecek kârların net bugünkü değeridir.	Reinartz ve Kumar (2000)
Müşteri değeri (Customer equity)	İndirimli ömür boyu değerlerin toplamı, değer, marka ve ilişki eşitliği ile işletilen tüm mevcut ve potansiyel müşterileri üzerinden toplanır.	Rust vd. (2004)

4. Müşteri Sadakatinin Stratejik Olarak İşletmeler Açısından Önemi

İşletmelerin satışları ile direkt ilişkisinin yanı sıra başta rekabet avantajı olmak üzere sağladığı avantajlar sebebiyle pazarlama uygulayıcıları açısından oldukça önem teşkil eden sadakat konsepti; uzun süredir işletmeler tarafından nihai bir amaç olarak kabul edilmektedir (Mellens ve diğerleri, 1996, s. 507; Bridson ve diğerleri, 2008, s. 366; Majumdar, 2005, s. 48; Nyadzayo ve Khajehzadeh, 2016, s. 263). Özellikle, yöneticiler tarafından sadakatin geliştirilmesi, tüketicilerin gelecekteki satın alma niyetlerini olumlu yönde etkilemesi, artırması ve satışlarla olan direkt ilişkisi (işletme performansına olan güçlü etkileri), diğer satıcıların sunduğu alternatiflerden fazla değer sağladığı kanısına yol açması vb. gibi sebeplerin varlığı bu duruma daha da katkıda bulunmuştur (Bridson ve diğerleri, 2008, s. 366; Ahmad, 2012, s. 104). Tüm kâr odaklı işletmeler maksimum kâr seviyesine ulaşmak için satış yapmakla ilgilenmektedirler. Özellikle de sadık olan müşterilerin, işletmelerin pazarlama maliyetlerini azalttığına dair yaygın bir inanış bulunmaktadır. Sadık müşterilerin işletmelere kazandırılması, özellikle hizmet pazarlarında göze çarpan ve sıklıkla karşılaşılan yeni müşteri edinme ile ilgili maliyetlerin yapılması konusundaki ihtiyacı azaltır. Öte yandan sadakat konsepti doğrultusunda yapılan incelemelerin odak noktası tüketim ürünleri olsa da, sadakat alanında endüstriyel ürünler, hizmetler ve perakendeciler açısından da benzer öneme sahiptir. Çünkü sadık müşteriler sadece ürünler ve markalar için değil, tüm işletmeler için değerli varlıklardır. Daha da önemlisi bu değerli varlıklar işletmenin elde ettiği kârın %80'inin kaynağını oluşturmaktadır. Bu nedenle de bu müşteri grubunun korunmasının yöneticiler nezdinde ayrı bir öneme sahip olduğu anlaşılmıştır (Hoffman, 2013, s.21). İşletmelerin pazarlama maliyetlerinden tasarrufunu sağlayan bir mekanizma olarak sadakat, pozitif ağızdan ağıza iletişimin gerçekleşmesini sağlamaktadır. Öte yandan sadık müşterilerin genel anlamda fiyata olan duyarlılıkları daha azdır. Tüm bunların sonucunda sadakatin işletmenin gider yapmasına neden olacak bazı unsurlardan korunarak tasarruf etmesine böylelikle de daha fazla kâr elde etmesine neden olmaktadır (Mellens ve diğerleri, 1996, s. 507; Rundle Thiele ve Mackay, 2001, s. 529; Lam ve diğerleri, 2004, s. 293; Dimitriades, 2006, s. 783; Nyadzayo ve Khajehzadeh, 2016, s. 263). Modern işletme dünyasında yoğun rekabet, işletmelerin müşterilerinin sadakatlerini kazanmalarında zorlayıcı bir etken olurken, tam olarak belirgin olmayan ve karmaşık yapısı da diğer yandan uygulanabilirliğini zorlaştırmaktadır (Davis-Sramek ve diğerleri, 2008; Nyadzayo ve Khajehzadeh, 2016, s. 262). Bu nedenle de hem akademisyenler hem de pazarlama uygulayıcıları tarafından müşteri sadakatinin öncüllerinin belirlenmesi hususu ayrı bir öneme sahip olmuştur (Yang ve Peterson, 2004, s. 799). Bu bağlamda yapılan çalışmalar değerlendirildiğinde, müşteri sadakati oluşturma etkinliği yollarından birinin müşterilerin memnun edilmesi ve mükemmel hizmetlerden, kaliteli ürünlerden elde edilen değerini müşterilere iletilmesi olduğu anlaşılmaktadır (Ör. Fornell, 1992; Oliver, 1999; Yang ve Peterson, 2004, s. 800). Bununla birlikte müşterilerle olan uzun vadeli ilişkilerin kurulmasında güvenin önemli bir temel olduğu gözlemlenmektedir. Özellikle kişisel pazarlamanın artan önemi müşterilerle güçlü ilişkilerin kurulmasında güvenin rolüne olan ilginin de artmasına neden olmuştur. Dahası işletmeler müşterilerinin sadık olmalarını istiyorlarsa, onları belirsizlik algısını azaltarak, onların güvenlerini kazanmaları gereklidir (Sirdeshmukh vd., 2002). İşletmeler ancak bu güveni sağlayarak geleceğe dönük bir şekilde ticari ilişkilerini devam ettirirken; müşterilerini de sadık hale getirebileceğini göz ardı etmemelidir (Harris ve Goode, 2004).

Müşteri memnuniyeti sadakati ve kârlılık arasındaki ilişkiye ilişkin literatür ise iki gruba ayrılabilir. Bunlardan ilki ürün ve hizmetten elde edilen değere bağlı olan memnuniyetin sadakatin temeli olduğunu savunan hizmet yönetimi literatürüdür (Zeithaml, 2000). Buna göre müşteri memnuniyeti, sadakati ve dolayısıyla da kârlılığı etkilemektedir. Hizmet yönetimi literatürüne göre müşterilerin memnuniyeti onların bir ilişki veya işlemde elde ettiği değer sonucunda oluşur ki bu da değer, algılanan hizmet kalitesi ve göreceli maliyete eşit olduğu durumlarda, rakiplerden elde edilecek değerden daha çok değer elde edildiği durumlar için geçerlidir (Hallowell, 1996, s. 28).

İkincisi ise ilişki baǧlılığın müşteri sadakatinin temeli olduğunu ileri süren ilişki pazarlamasıdır (Sheth ve Parvatiyar, 2002). Müşteri sadakatini birbirinden farklı olarak gelişen bu teorik perspektiften biri ile açıklamak yetersiz olacağından, iki perspektifi de birleştirerek ele alınan müşteri sadakatinin daha iyi açıklanmasına katkıda bulunacağı düşünülmektedir (Wu, Zhou ve Wu, 2012, s.3). Literatür özetleri (örn. Heskett, Jones, Loveman, Sasser, 1994; Oliver, 1999; Chang ve Chen, 2007), müşteri memnuniyeti ile müşteri sadakati arasındaki ilişkiye çoǧu kez işaret etse de memnuniyet ile sadakat arasındaki ilişkinin açıkça ortaya koyulması çok kolay olmamaktadır. Örneğin; sadık müşteriler genelde memnunken, memnun müşterilerin her zaman sadık olmadığı veya sadık bir müşteriye dönüşmediği görülmektedir. Ayrıca bir şirket müşterileri ile olan ilişkilerden daha çok memnuniyetin sağlanmasına odaklandığında, memnuniyetin sağlayacağı faydaları da büyük ölçüde azaltmış olmaktadır. Bu nedenle müşteriler ile işletmeler arasında ilişkisel baǧlılığın geliştirilmesinin ve sürdürülmesinin teşkil ettiği önem ve sağladığı ve gelecekte sağlayacağı uzun vadeli sonuçlar unutulmamalıdır (Dimitriades, 2006, s. 783).

Sonuçlar ve Öneriler

Sadakat ile ilgili kavramsal çerçeve ve işlemlleştirilmesi adına yapılan çalışmalara dair literatür özetlerinden de anlaşıldığı üzere müşteri sadakati dinamik bir olguyu yansıtmaktadır. Bu bağlamda da değişen anlayış ve yapısı ile paralel olan pazarlama kararlarında uygulanması önemlidir (Szczepańska ve Gawron, 2011, s. 61; Pitta, Franzak ve Fowler, 2006). Çalışma kapsamında sadakatin farklı perspektifler bağlamında nasıl tanımlandığı tartışılmıştır. Bu bağlamda, müşteri sadakatinin sadece davranışsal ya da sadece tutumsal olarak tek bir yaklaşım ile ele alınmasının, sadakatin açıklayıcılığında oluşturabileceği eksiklere ve yetersizliklere dikkat çekilerek yapılan eleştiriler ve akabinde meydana gelen gelişmeler tartışılmıştır. Bunun yanı sıra işletmenin bulunduğu faaliyet gösterdiği pazar itibarıyla sadakatin ne anlama geldiğinin tanımlanmasının önemi vurgulanmıştır. Sadakatin ilk zamanlardan itibaren sadece davranış odağında ele alınmasının müşterilerin değerlendirilmesi ve uygun planların ortaya konmasında eksikliklere yol açarken, sadece tutumsal düzeyde kalan ve satın almaya dönmeyen sadakat de çok anlamlı olmayacaktır. Bu durum işletmeleri sınırlandırarak somut olarak elde edebileceklerinden mahrum bırakabilir (Kumar ve Shah, 2004, s. 319-320). Bu bağlamda holistik bir açıdan bunların ele alınmasının, tanımlanmasının önemli olduğu literatürdeki farklı işlemselleştirme tartışmalarından da anlaşılmaktadır.

Son yıllarda işletmelerin stratejik pazarlama planlarında kendine önemli bir yer edinen ve nihai amaç olarak benimsenen sadakatin işletmelere ve tabii ki tüketicilere çeşitli faydalar sağladığı da aşikârdır. Sadakatin; pazarlama maliyetlerinde oluşturduğu azalmalar dolayısıyla kârlılık oranında meydana getirdiği artış ile artan pazar payı ve uzun vadeli değerin oluşturulmasında sahip olduğu payın da ötesinde, tahmin edilenden daha yaygın etkileri olduğu görülmektedir (Ball, Simões Coelho ve Machás, 2004). Çalışma kapsamında bu etkiler ise sadece güven, memnuniyet ve algılanan değer ile sadakat arasındaki ilişkilerin vurgusu bağlamında ele alınmıştır. Örneğin; işletmelerin müşterilerinin memnuniyetlerini artırmak ve gelecekte sürdürmeyi plânladıkları ilişkilerin devamlılığının sağlanmasında gerçekleştirilebilir vaatlerde bulunmalarının kritik olduğunu unutmamalıdır (Heskett ve diğerleri, 1994; Chang ve Chen, 2007, s. 104). Bunların yanı sıra sadakat ile ilgili literatür özetleri incelendiğinde tüketicilerin sadakatlerinde belirleyici olan birtakım unsurlar sıralanabilir. Örneğin; çeşitli hizmet alanları çerçevesinde farklı öncüller olmak üzere (Literatür özeti için bkz: Kandampully, Zhang ve Bilgihan, 2015); dışsal (Ekonomik, demografik, sosyal, kültürel) ve içsel (psikolojik) olarak iki başlık altında sınıflandırabilecek muhtelif faktörlerin müşterilerin sadakat düzeylerindeki etkileri ele alınmaktadır (Szczepańska ve Gawron, 2011, s. 61).

Gelişen teknoloji tüm sektörlerde yapıcı ve yıkıcı olmak üzere köklü değişiklikleri beraberinde getirmiştir. Bu değişim rüzgârının en önemli çıktıları değişen iş modelleri ve süreçleri ile buna bağlı olarak değişim gösteren pazarlar, tüketiciler ve tüketicilerin davranışları olarak ifade edilebilir (Rai ve Medha, 2013). Bu bağlamda işletmelerin söz konusu bu yeni dinamiklerin de farkında olarak faaliyetleri bağlamında modellemelerinin yanı sıra; öngörülen ilişkilerin ve kârlılığı artıran pazarlama faaliyetlerinin tam olarak belirlenmesine olanak sağlayan doğru şekilde tasarlanmış değerlendirme aracıyla test etmelerini de gerekli kılmaktadır. Bunun da etkin bir şekilde hayata geçirilmesi; işletmeler tarafından sadakatin doğru olarak tanımlanmasına, buna göre işlemlendirilmesine ve sunduğu hizmetler bağlamında belirleyici olan unsurların belirlenmesine bağlıdır.

Bu nedenle de kavramsal olarak tanımlanan ve buna bağlı olarak işlemlendirilen sadakatin yeni iş modelleri ve değişen tüketici açısından hala aynı olup olmadığının sorgulanmasının önemli olduğu düşünülmektedir. Bu anlamda geçerliğinin sınanması adına gelecekte yeni çalışmaların yapılması ve yeni öncüllerin önerilmesinin, aynı zamanda çeşitli yönleri itibarı ile kıyaslamaların yapılmasının faydalı olacağı düşünülmektedir.

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8

THE EFFECT OF GREED AND MATERIALISM ON LIFE SATISFACTION: THE MEDIATING ROLE OF CONSUMER ARROGANCE

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Abstract

In recent years consumption has begun to be examined as a social process that satisfies the psychological needs such as creating and presenting the self, identifying the status or social class, building relationships with others, influencing people in the environment or admiring oneself and proving themselves. In this context greed, materialism, and arrogance are considered as a dark personality trait of consumers' which in turn effect their life satisfaction. While materialism and greed decrease life satisfaction, consumer arrogance has mixed effects on life satisfaction with a positive or a negative direction. This study aims to examine the direct effects of greed on materialism, consumer arrogance, and life satisfaction as well as the mediating role of consumer arrogance on the relationship between materialism and life satisfaction. The data were collected from 500 households who live in Antakya/Turkey by using area sampling method and face to face interview technique. The hypotheses of the study were tested with path analysis using structural equation modeling. The results indicate that greed influence directly and positively to materialism and consumer arrogance. In addition, the mediating analysis shows that consumer arrogance has an inconsistent mediated effect on the relationship between materialism and life satisfaction. Within this inconsistent mediation model, while the direct effect of materialism on life satisfaction is negative, the mediated effect of consumer arrogance turns these directions into positive. Therefore, consumer arrogance not only increased life satisfaction but also caused materialism effect to be positive. Also, it was found that age has a positive effect on materialism, whereas a negative effect on greed. These findings have been discussed and suggestions are provided for future research.

Keywords: Greed, Consumer Arrogance, Materialism, Life Satisfaction.

1. Introduction

On consumer research, the consumption orientations that have adverse effects on consumer and self are called dark side of consumer behavior. Although there are a few studies on the dark side of consumer behavior (Belk, 1985; Moschis, 1987; Hirschmann, 1991), it is noteworthy that the researchers have started to attract a great deal of attention to different aspects of dark side of consumer behaviors for last decade (Dootson, Lings, Beatson, & Johnston, 2017; Zolfagharian & Yazdanparast, 2017; Moschis, 2017).

This study is structured on the impetus that personality traits that have negative effects on consumers and their well-being are components of dark side behaviors. The main component of well-being that scholars generally

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focused on is the cognitive component referred as life satisfaction (Diener, Emmons, Larsen & Griffin, 1985). Individuals who scored high on materialism regard the material possessions as the only way to satisfaction and happiness (Richins & Dawson, 1992). The majority of the studies investigating materialism has shown the negative effects of materialism on consumers such as neurotism depression, anxiety (Burroughs & Rindfleisch, 2002), loneliness (Pieters, 2013), and diminished well-being, etc. (Shrum & Rustagi, 2017). Despite that some scholars who have pointed out some positive effects of materialism at individual and societal aspects (Richins & Rudmin, 1994; Shrum et al., 2014), the common perception of materialism among scholars and people is that it is extensively “bad”. Thus, materialism has been considered as a component of dark side of consumer behavior (Hirschman, 1991; Mick, 1996; Moschis, 2017).

Similar to materialism, dispositional greed is an interesting personality trait for consumer research. Dispositional greed is defined as “an insatiable desire for more resources, monetary or other” by Krekels & Paleandlere (2015). From definitional perspective “greed is a tendency to manipulate and betray others for personal gain” that points out the harmfulness at the expense of others (Veselka, Giamarco & Vernon, 2014). So that greed is regarded as something evil. Although greed is ubiquitous, it is surprising that empirical study on this topic lacks in literature. Greed is seen as negative because it’s unethical and improper (Wang & Murnighan, 2011), it is included in seven big sins (Tickle, 2004; Veselka et al., 2014). Greedy people tend to engage in unethical behaviors such as taking bribe (Seuntjens, Zeelenberg, Van de Ven, & Breugelmans, 2019) and employee theft (Caudil, 1988).

Arrogance is a basic personality trait that is defined as “a chronic belief of superiority and exaggerated self-importance that is demonstrated through excessive and presumptuous claims” (Brown, 2012). By utilizing symbolic means of the products, a new notion “consumer arrogance” has been introduced in consumer literature and defined as “people’s proclivity for demonstrating their social superiority through the acquisition, utilization, or display of consumer goods” (Ruvio & Shoham, 2016). Early studies elaborated arrogance as a dimension of narcissism (Emmons, 1987) which is included in dark traits that reflects the socially undesirable and aversive aspect of personality trait (Paulhus & Williams, 2002). However, arrogance differs from narcissism on the point that while narcissism occurs in both personal context, arrogance occurs in an interpersonal context. Arrogance manifests itself by excessive behaviors over others (Johnson et al., 2010). Ruvio & Shoham, (2016) developed consumer arrogance scale to explain how arrogant inclinations directs the consumption behaviors of consumers. Arrogant consumers tend to reflect their social status and superiority through consumption.

Although the notions which linked personality traits to consumption tendencies are interesting for consumer researchers, how arrogant and greedy inclinations effect on the consumers’ life satisfaction is needed to be enlightened. Hence, in this study greed, materialism, and consumer arrogance is approached from a dark perspective on the belief that they have a harmful effect on consumers’ satisfaction with life.

2. Conceptual framework and hypotheses development

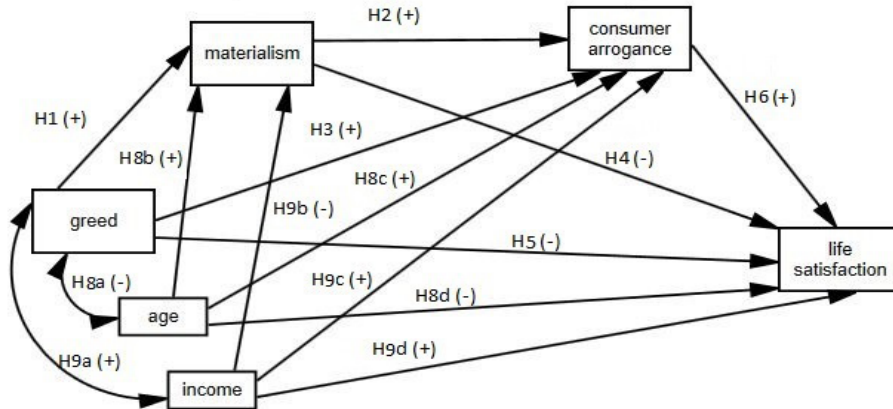


Figure 1. Research model

The proposed research model and the hypotheses of the current study (Figure 1) explore the relationships among greed, materialism, consumer arrogance, and life satisfaction. Firstly, we examined the direct effects of greed, materialism, and consumer arrogance on life satisfaction. Next, we asked how greed and materialism can be linked through consumer arrogance to life satisfaction. Finally, we used age and income to see the effects of demographics on the relevant variables.

3. Greed, materialism, and consumer arrogance

Due to the insatiable nature of greed, greedy individuals are motivated to acquire more than they do inherently. Greed and materialism are close related constructs (Krekels & Pandaleare, 2015, Seuntjens et al., 2015). Although these constructs were used interchangeably (Kasser & Sheldon, 2000), the scope of greed is broader than materialism at the point of that materialism focuses on possessing material things whereas greed focuses on all resources that are material and non-material (Krekels & Pandaleare, 2015). Materialism is a value that influences the choices and behaviours of individuals as a consumer as well as perspective to world. Materialism definition involves status dimension that reflects the possessing material goods signifies the accomplishment and social standing (Richins & Dawson, 1992). Materialist consumers tend to seek and use products that are visible and signal their social status (Richins, 1994). These consumers also tend to make product choice by considering status, success or prestige (Wang & Wallendorf, 2006). According to Belk (1985), greed is the essential component of materialistic lifestyle. Whereas materialism encompasses the desire for material goods, greed encompasses the desire to all kind of resources (Krekels & Pandaleare, 2015) including non-material acquisition such as status success food, sex, friends, privilege, or control (Seuntjens, et al., 2015; Lambie & Haugen, 2019). Greedy individuals care what others have

and envy them. But they want to get more than just their own, not more than the others have. So, we proposed that: *H1: Greed is positively related to materialism.*

Consumer arrogance focuses on how consumption-related activities convey the superiority of individuals. Consumers with high levels of arrogance have a belief that they are superior to others in terms of the acquisition and use of possessions and they are linking the superior qualities of the products they purchase with their superior quality of their-selves which is related to materialism (Ruvivo & Shoham, 2016). Based on Ruvivo & Shoham's (2016) and Balıkcıoğlu & Arslan's (2018) findings materialism is motivated by consumer arrogance. So that we proposed that: *H2: Materialism is positively related to consumer arrogance.*

Greed and arrogance (excessive pride) are considered as big vices. Studies indicated that these traits demonstrated strong correlations with dark personality traits such as Narcissism (Emmons 1984), Machiavellianism (Veselka et al, 2014). There is no study that assessed the relationship between dispositional greed and consumer arrogance. However, due to both greed and pride, conceptual origin of consumer arrogance was included in seven big sins and also both reflect dark traits (Veselka et al., 2014). Hence, the hypothesis is that: *H3: Greed is positively related to consumer arrogance.*

4. Life satisfaction, materialism, greed, and consumer arrogance

Life satisfaction is one of the basic goals individuals need to experience to reach happiness and meaning in their life (Diener et al., 1985). There is an extant research in the literature focusing on the relationship between materialism and life satisfaction (Ahuvia & Wong, 1995; Burroughs & Rindfleisch, 2002; Hudders & Pandelaere 2012; Karabati & Cemalcilar 2010; Kasser et al. 2014; Roberts & Clement 2007). Vast majority of these researches indicated that individuals scored high on materialism experienced reduced level of life satisfaction. Negative relationship between materialism and life satisfaction is a predominant result in the studies conducted with different measures of materialism such as trait (Ahuvia & Wong, 2002; Belk, 1984, 1985; Dawson, 1988), as a personal value (Burroughs & Rindfleisch, 2002; Richins & Dawson, 1992; Shrum et al., 2014; Sirgy, 2012), and as pursuing of extrinsic goal (Sheldon & Kasser, 1995, 1998, Kasser, 2002). The combined evidence from 175 studies with a meta-analysis indicated the consistency of the general notion that high levels of materialism are linked to reduced subjective well-being. According to the study need for satisfaction of basic needs might be mediator variable that can account for the opposite relationship between materialism and life satisfaction (Diener & Biswas-Diener, 2002; Dittmar, Bond, Hurst, & Kasser, 2014; Kasser & Ahuvia, 2002; Unanue, Dittmar, Vignoles & Vansteenkiste 2014). Therefore, we proposed that: *H4: Materialism is negatively related to life satisfaction.*

The fact that greedy individuals want more and they are dissatisfied with their current situation causes their life satisfaction to decrease (Krekels and Pandelaere, 2015). Scheerhoorn (2017), investigated the relationship between all components of subjective well-being and greed. As a result, he founded that greed is negatively related to all components of subjective well-being. In addition, greedy individuals tended to adopt "life of pleasures orientation" that is related to negative wellbeing outcome to enhance their well-being. Thus, greedy individuals might experience lower satisfaction with life. Krekels & Pandelaere (2015), elaborated the individual differences in greedy behavior and developed dispositional greed scale from a personality perspective. In their study they showed that materialism and greed are similar but distinct notions. Data was collected from 317 people including 151 male and 166 female. Results indicated that greed is negatively related to life satisfaction. Greedy people are dissatisfied with what they have but they satisfied with what they retain before. Similarly, Seuntjens et al., (2015), examined

the relationship between greed and life satisfaction. Data was collected from two different countries with the sample consisted of 6092 people. The results were consistent with Krekels & Pandalere (2015). So, our hypothesis is that: *H5: Greed is negatively related to life satisfaction.*

Consumer arrogance is a new notion in the consumer behavior and there is no study exist examined the relationship between satisfaction with life and consumer arrogance. Previous studies that investigated arrogance as a component of narcissism indicated the positive relationship between arrogance and life satisfaction (Rose, 2002; Egan, Chan, & Shorter, 2014; Aghababaei & Błachni, 2015). According to Holtzman & Strube (2010), narcissistics are attractive individuals inherently. Due to attractiveness is desirable to others in long and short term relationships, narcissistic receive positive feedback from others which enhances their self-esteem that leads to positive effects on life satisfaction. Therefore, we hypothesized that: *H6: Consumer arrogance is positively related to life satisfaction and H7: Consumer arrogance mediates the relationship between materialism and life satisfaction.*

5. Demographic effects

The role of age

There are some studies assessing the relationship between age and greed. The results consistently indicated that greed decreases with age (Seuntjens et al., 2015; Liu et al., 2019). Hence, we hypothesized that: *H8a: There is a negative association between greed and age.*

Studies examining materialism and age relations showed that materialism level differs in age groups that youngest and middle-aged individuals are more materialistic than children or old-aged (Belk, 1985; Csikszentmihalyi & Halton, 1981). It is founded that materialism levels increases as the age group increases from youngest which are aged at the range of 13-26 to a middle generation which is aged between 31 and 58. Hence, we hypothesized that: *H8b: Age is positively related to materialism.*

Although there is no study exist in the literature that examined the relationship between age and consumer arrogance, research on narcissism and age associations indicated that age is positively related to narcissism. According to Foster, Campbell, & Twenge, (2003) young people report narcissism more than the elderly. Generational differences are predictor of more narcissism in young people grew up in highly individualistic eras and emergent narcissism (Lasch, 2018; Twenge & Campbell, 2001). Thus, it is hypothesized that *H8c: Age is positively related to consumer arrogance.*

The studies investigating the relationship between subjective well-being (SWB) and age indicated that SWB increases with age (Campbell, Converse & Rodgers, 1976; Herzog & Rodgers, 1981; Tomes, 1986; La Barbera & Gürhan, 1997). According to La Barbera & Gürhan (1997), having met the material needs of earlier stages in life older individuals realize that life is not only about acquiring possessions. They seek opportunities for personal growth and fulfillment. Thus, it is hypothesized that *H8d: Age is positively related to life satisfaction.*

The role of income

Mussel, Reiter, Osinsky, & Hewig (2015), indicated that people who scored high on greed have desire to get more income. Seuntjens, Van de Ven, Zeelenberg, van der Schors (2016), examined the financial behaviors in adolescents

and found that greedy adolescents had more income than less greedy ones that meant dispositional greed is associated with more income. Thus it is hypothesized that *H9a: Income has positive effect on greed.*

Inglehart (1990) have found that individuals who are economically deprived attach great importance to material acquisition than those who are wealthy. Similarly, Leelakulthanit et al. (1991), found that people with low-income level attached more importance to Materialism. In the study conducted by Doğan (2010), it is showed that respondents had low-income levels are more materialistic. Roberts & Clement (2007), examined the relationship between income and materialism and that it is concluded that as income reduces, materialism tendency of respondents' increases. In this vein, we proposed that: *H9b: Income his negatively related to materialism.*

Despite the fact that consumer arrogance is a new concept and there is no study exists that assessed its relationship with income, there is some evidence supporting the positive relationship between affluence and narcissism (Lebeau, 1988; Campbell, Brunell, & Finkel, 2006; Foster, Campbell, & Twenge, 2003). Cai, Kwan, & Sedikides (2012) assessed the effect of sociodemographic factors on the Chinese self-concept, particularly on the level of narcissism and concluded that people from high socioeconomic class are more narcissistic than those from low socioeconomic class. So, we proposed that: *H9c: Income is positively related to consumer arrogance.*

There is an extant literature examining the effects of income on SWB. Majority of the studies indicated that income positively effects to SWB (Diener, 1984; George, Okun, & Landerman 1985; Diener et al., 1985; Diener, Sandvik, Seidlitz, & Diener 1993; La Barbera & Gürhan 1997). According to Riddick (1985) individuals with higher incomes levels can afford better health care and they diminished the possible incidence of health problems that results with greater subjective well-being. Then, it is proposed that *H9d: Income is positively related to life satisfaction.*

6. Method

Sample

The data were collected from 500 (%53.2 women) households who live in Antakya/Hatay a province of Turkey by using area sampling method and face to face survey method. The sample unit was defined as a consumer who is above 18 years old based on the household level. The age of the respondents was accumulated in three groups as 18-25, 26-35, and 36+, respectively with 40%, 30%, and 30%. In terms of income level, the participants from the group with a monthly income of less than 3000 Turkish Liras is the largest group with 63.2%. In terms of education, 48% of the participants have bachelor or master degree.

Measures

The questionnaire consisted totally 41 items for scales and 3 questions for demographic information that include age, income, and education level. Participants completed 21-item of the CA scale (Ruvio & Shoham, 2016) which is consisted four dimensions as image (I), exhibitionism (E), bragging (B), and consumer superiority (CS). Ruvio & Shoham (2016), provided evidence of the discriminant validity and internal consistency of this scale. Balıkcıoğlu & Arslan (2018), found that CA is reliable and valid among young adults in Turkey and Romania. Also, CA scale was internally consistent in this study ($\alpha = .84$). Materialism (M) was measured through 9-item version of the Material Values Scale (Richins, 2004), which is consisted of three dimensions as centrality (C), happiness (H), and success (S). This scale was also internally reliable ($\alpha = .75$). Greed (G) was measured with Krekels & Pande-laere's (2015), 6-item measure as dispositional greed. In this study, coefficient alpha for the scale was .76. Finally,

life satisfaction (LS) is measured by Diener et al.'s (1985) 5-item scale, which is produced .73 coefficient alpha in this study. The Likert-type scale with a five-point format that ranging from 1 = strongly disagree to 5 = strongly agree was used in evaluating all the items.

Results

A maximum likelihood confirmatory factor analysis (CFA) was performed as include all constructs in one CFA model. The fit statistics of the measurement model were acceptable according to Hair et al. (2006: 753): $\chi^2(\text{C-MIN})=904.040$, $\text{df}=283$, $\chi^2(\text{C-MIN})/\text{df}=3.194$ ($p=.000$), $\text{GFI}=.882$, $\text{CFI}=.901$, $\text{RMSEA}=.066$. In this research, all factor loadings are greater than 0.50 and Cronbach Alpha values indicated that variables are reliable.

A Pearson correlation analysis was performed to control for high intercorrelations between factors (Table 1). All the correlation coefficients are statistically significant at 0.01 level and between 0.150 and 0.770, except the coefficients that over than 0.100 which are indicated by bold font.

Table 1. Descriptive statistics and correlation

	Mean	SD	α	G	CA	I	E	B	CS	M	C	H	S
G	2.20	0.90	.76	1									
CA	2.67	0.68	.84	.30	1								
I	2.20	0.95	.89	.31	.67	1							
E	3.22	0.93	.77	.28	.73	.34	1						
B	2.37	0.97	.82	.08	.75	.30	.38	1					
CS	2.89	0.93	.70	.20	.73	.27	.39	.45	1				
M	2.67	0.65	.75	.28	.54	.30	.36	.46	.44	1			
C	1.78	0.77	.70	.42	.34	.33	.21	.22	.21	.54	1		
H	3.10	0.95	.80	.23	.37	.15	.25	.33	.33	.77	.25	1	
S	3.15	1.08	.83	.00	.41	.17	.28	.38	.36	.74	.04	.34	1
LS	3.08	0.87	.70	-.03	.08	.18	.06	-.06	.06	-.22	-.13	-.33	-.01

After reliability and validity tests, the hypotheses were tested by path analysis using the AMOS structural equation modeling program. The fit of the estimated model showed good ranges, $\chi^2(\text{CMIN}) = .593$, $\text{df} = 1$, ($p=.441$), $\text{GFI}=1.000$, $\text{CFI}=1.000$, $\text{RMSEA}=.000$.

As shown in Table 2, as expected, greed has a positive effect on materialism (H1) and consumer arrogance (H3) ($\beta = 0.38$, $p < 0.001$, and $\beta = 0.21$, $p < 0.001$, respectively). However, the effect of greed on life satisfaction (H5), although it has a negative sign, it is not statistically significant ($\beta = -0.01$, $p = .842$). Thus, our data provide support for H1 and H3 but not for H5.

The results produced a significant positive effect of materialism on consumer arrogance (H2) ($\beta = 0.46$, $p < 0.001$) and a negative effect on life satisfaction (H4) ($\beta = -0.36$, $p < 0.001$). Thus, our data provide support for H2 and H4. Also, as expected, regarding H6, consumer arrogance has a positive effect on life satisfaction ($\beta = 0.28$, $p < 0.001$). Thus, our data provide support for H6.

We hypothesized that the relationship between materialism and life satisfaction (H7) was mediated by consumer arrogance. We used the bootstrapping (Preacher & Hayes, 2004) approach to see if the mediation effect is statistically

significant or not. We found that the relationship between materialism and life satisfaction is partially inconsistently mediated by consumer arrogance. Because of the direct effect of materialism on the mediator is significant. However, the direct ($\beta = -0.361$, $p < .001$) and indirect effects of materialism on life satisfaction ($\beta = 0.129$, $p < .001$) are statistically significant but in different directions, though adding the mediator of consumer arrogance. According to Cliff & Earleywine (1994), when the direct and mediated effects of an independent variable on a dependent variable have opposite signs the suppression effects occur. These mediation models are named as inconsistent mediation models (Davis, 1985), as contrasted with consistent mediation models in which the direct and mediated effects have the same sign.

Table 2. The Model Estimates

Variables Endogenous Exogenous		Direct effect	Indirect effect	Total effect	Hypotheses
Greed	Materialism	.379***			H1 supported
Materialism	Consumer arrogance	.460***			H2 supported
Greed	Consumer arrogance	.210***			H3 supported
Materialism	Life satisfaction	-.361***		-.232***	H4 supported
Greed	Life satisfaction	-.009			H5 not supported
Consumer arrogance	Life satisfaction	.281***			H6 supported
CA \rightarrow M \rightarrow LS			.129***		H7 partially supported
Age	Materialism	.253***			H8b supported
Age	Consumer arrogance	.065			H8c not supported
Age	Life satisfaction	-.038			H8d not supported
Income	Materialism	-.045			H9b not supported
Income	Consumer arrogance	.100**			H9c supported
Income	Life satisfaction	.069			H9d not supported
Covariances					
Income \approx Greed		.063			H9a not supported
Age \approx Greed		-.123***			H8a supported

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Also, after adding the mediator effects of materialism on life satisfaction is significant, the total effect is checked. The bootstrapping test shows that the total effect of this path is still significant ($\beta = 0.129$, $p < 0.001$) (Table 2). A larger direct effect than the total effect supports the inconsistent mediation effect (MacKinnon, Krull, & Lockwood, 2000). Thus, this result indicates that consumer arrogance partially and inconsistently mediates the effect of materialism on life satisfaction.

The covariates showed that the association between age and greed is negative ($-.16$, $p < 0.001$). Therefore, the hypothesis that posits the negative associations between age and greed (H8a) is supported. However, the associations

between income and greed are not statistically significant ($.06, p = .169$). Thus, our data do not provide support for H9a.

H8b, H8c, and H8d posit the direct effects of age on materialism, consumer arrogance, and life satisfaction. As expected, age has a positive effect on materialism ($\beta = 0.25, p < 0.001$). In contrast, our results do not support a significant effects of age on consumer arrogance ($\beta = 0.065, p = 0.086$), and life satisfaction ($\beta = -.038, p = .387$). Thus, our data provide support for H8b but not for H8c and H8d.

H9b, H9c, and H9d posit the direct effects of income on materialism, consumer arrogance, and life satisfaction. As expected, income has a positive effect on consumer arrogance ($\beta = 0.10, p < 0.01$). In contrast, our results do not support a significant effects of income on materialism ($\beta = -0.045, p = .235$), and life satisfaction ($\beta = .069, p = .104$). Thus, our data provide support for H9c but not for H9b and H9d.

Conclusion

Although, there is more evidence on the relationship between materialism and life satisfaction, knowledge on the effects of greed and consumer arrogance on consumers' life satisfaction is nonexistent. How do greed and consumer arrogance relate to consumers' life satisfaction? In this study, the direct and indirect relationships among these personality traits and life satisfaction have been explored. Whereas previous research provide robust evidence on the negative relationship between materialism and life satisfaction (Shrum, Lee Burroughs, & Rindfleisch, 2011; Ahuvia & Wong, 2002), this study extended this relationship by adding greed (Krekels & Pande-laere, 2015) and consumer arrogance (Ruvio & Shoham, 2016). As the results of this study indicated greed has a positive influence both on materialism and consumer arrogance, but no relationship has been found between greed and life satisfaction. While materialism has a positive effect on consumer arrogance, it negatively affects life satisfaction. The positive relation between materialism and consumer arrogance shows that arrogance evoked in connection with the acquisition of possessions. This result provides support to Kasser's (2003), notion of "Thus it was not surprising to find that students with strong materialistic tendencies scored high on a standard measure of narcissism, agreeing with statements such as 'I am more capable than other people.'" Therefore, the results of this study show that greed and materialism make consumers more arrogant. However, consumer arrogance has a positive influence on life satisfaction. Although it is accepted that negative self-oriented personality traits such as arrogance, selfishness, and individualism in collectivist cultures will decrease the satisfaction with life, the results showed that narcissism is positively related with well-being (Ha, Hoang, & Yen, 2018).

Moreover, this study aimed to explore the mediating role of consumer arrogance on the relationship between materialism and life satisfaction. The mediating analysis showed that consumer arrogance had an inconsistent mediated effect on the relationship between materialism and life satisfaction. Within this inconsistent mediation model, while the direct effect of materialism on life satisfaction is negative, the mediated effect of consumer arrogance turns these directions into positive. Therefore, consumer arrogance not only increased life satisfaction but also caused materialism effects to be positive. According to Ruvio & Shoham (2016), consumer arrogance manifests itself by the beliefs of genuine that rooted from the superiority of individuals based on their acquisition and use of possessions. This manifestation occurs based on the symbolic power of possessions that use by consumers as a signal of superiority over others.

Also, it was found that age has a positive effect on materialism. In contrast to Belk (1985)'s indication that consumers in older age present lower materialistic tendencies, in their age-period-cohort analysis Jaspers & Pieters (2016) found that materialism increased in older age. In addition, the current research findings show that a negative relationship between age and greed which provides support to Scheerhoorn's (2017) findings. Level of greed is decreasing with getting older. They learn to accept their desires as they grow older and better understand what they really want. They might be able to abandon wanting more than needed over time. However, another reason for the negative relationship between greed and age may be the generation differences that while greed is considered as a very bad concept in the past years, it has become more acceptable today (Oka & Kuijt, 2014). Finally, it was found that income increases consumer arrogance level.

This study is one of the first in the area of dark side of consumer behavior that links greed, materialism, and consumer arrogance to life satisfaction. Because of that, this study can be considered an exploratory in nature by using cross-sectional data. Future research may use experimental design and longitudinal data to test the hypothesized relationships. Furthermore, this study finds greed and consumer arrogance scales, which are newly developed scales in consumer behavior literature, reliable in the general population sample. In addition, future research may extend the current research model by adding other psychological factors such as self-monitoring and consumption related factors such as status consumption and conspicuous consumption. Finally, future research may consider the cultural differences by using cross-cultural data.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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9

ROLE OF RELATIONSHIP MARKETING PRACTICES ON ONLINE CORPORATE REPUTATION: A RESEARCH ON BANK CUSTOMERS¹

Murat akırkaya²

Abstract

It is important that the relationship between customers and companies is based on social, economic and structural bonds. Because a relationship to be established by taking into consideration these three factors between the institution and the customers make the business indispensable and motivates them. The aim of the research is to determine whether relationship marketing practices have an impact on customers' online corporate reputation perception. The relationship between variables was investigated by using purposeful sampling method on a sample group consisting of consumers purchasing services from banks operating in Konya city center. As a result of the analysis, while the economic and social bonds dimensions did not significantly affect the perception of online reputation, it was observed that the dimension of the structural bonds significantly affected the perception of online reputation.

Keywords: Relationship Marketing, Online Corporate Reputation, Banking.

1. Introduction

It is not a long time for companies to adopt the concept of marketing. The history of marketing literature does not exceed 60-70 years. In this process, there have been important changes in the ideas accepted about marketing. Today, marketing is focused on giving customers what they want. For this purpose, considering the basic characteristics of the business, it is emphasized that the internal transformation should be ensured in order to enter the targeted markets and create customer value (Christopher et al., 2002, p. 1).

Traditional marketing approaches are being discussed more and more every day and new approaches are brought to the agenda. Some of the new approaches emerge with the development of technology. Some new approaches come to the agenda again with the reshaping of fundamentally existing marketing practice. Mobile marketing can be given as an example of the new marketing approach emerging with the development of technology. On the other hand, while relationship marketing seems to be a new type of marketing that has been emphasized in recent years, it is also possible to say that its roots are very old. The emergence of digital platforms and the change of the forms and platforms of relationships with customers are among the important developments that are effective in bringing relationship marketing to the agenda again.

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Relationship marketing focuses on long-term strategic relationships rather than short-term relationships. The main purpose of this is to gain the loyalty of the customers and develop long-term relationships. In other words, to keep them in the long term. Because relationship marketing focuses on maintaining long-term and mutually beneficial relationships between purchasers and sellers (Yoganathan, 2015, p. 14).

Corporate reputation is a concept of how the company's internal and external stakeholders (customers, competitors, investors, employees, community, etc.) perceive the company. This perception of stakeholders can bring significant gains or risks for the companies. For example, it is expected that a company with high corporate reputation will make more sales or increase its profitability. On the other hand, the company with a bad reputation will have to struggle to survive. Corporate reputation management is the practice of controlling the factors affecting the reputation of the company. If this is achieved, the perception of the company on the stakeholders can be actively shaped. A plan that has been prepared and implemented in order to realize the online reputation management successfully will help to monitor the company's progress and eliminate the problems that arise.

Content sharing on online platforms can significantly affect the reputation of brands and companies. Companies are losing more and more customers due to negative comments and negative news in social media. This is an important development that demonstrates the need for reputation management in online platforms. Because of online reputation management, negative comments can be eliminated. The reputation of the brand and the credibility of the company can be increased in online platforms. Trust can be established on customers. The increasing reputation of companies has a positive effect on customers' purchasing decisions. On the other hand, negative comments negatively affect the company and the brand. Considering that the number of online users is increasing day by day, it can be said that these effects will increase in the coming period. As a result, the importance of online corporate reputation management is increasing day by day as it significantly affects the perception of target audience.

In this direction, the aim of the study is to determine whether there is a relationship between relationship marketing practices and online corporate reputation perception and if there is such a relationship, the effect level of relationship marketing practices on the perception of online corporate reputation. In this study, firstly, the concepts of relationship marketing and online corporate reputation are emphasized and then the interaction between the two concepts is mentioned. In the last part of the study, the field study was interpreted and the study was completed by revealing the constraints and suggestions.

2. Literature Review

2.1. Relationship Marketing

The growth of service-based economies has led to more emphasis on relationship marketing, which has an important position in marketing literature. In essence, relationship marketing reflects the reality of a business world that involves the transformation of interaction between service providers and their customers into privileged and long-term relationships (Brun et al., 2016, p. 219). As mentioned in the previous section, the roots of relationship marketing are thought to be based on old times, but there is a widespread opinion that the concept of relationship marketing entered marketing literature in the early 1980s. The basics of modern relationship marketing are based on service marketing research. The concept of relationship marketing was first used by Berry (1983).

According to Berry, relationship marketing is the process of designing, building and maintaining a long-term and profitable customer relationship. Gronroos (1994), describes the relationship marketing as follows (p. 9): Relationship marketing is the process of establishing, sustaining and developing relationships with customers and other partners in a profitable manner.

When the origin of relationship marketing is examined, it is seen that there are different understandings. There is also a group in 1966 who argues that the symbiotic marketing concept developed by Adler is the basis of relationship marketing (Kim et al., 2001, p. 274). According to another view, the origins of relationship marketing are based on the concepts of industrial marketing and service marketing. According to those who adopt this view, relationship marketing emerged as an idea against the view that marketing was managed by 4P (product, price, distribution, promotion) at the end of the 1970s. In this period, the studies conducted in order to establish, strengthen and improve customer relations have led to the emergence of the relationship marketing concept (Ertas et al., 2008, pp. 29-30).

There is also a different approach that accepts relationship marketing as marketing to existing customers. Those who adopt this approach agree on the fact that marketing spending on existing customers will be much lower than spending on new customers. They emphasized the need to give more value to existing customers due to this advantage (Wolter, 2009, p. 10).

One of the most accepted behavior goals since the beginning of the marketing literature is to provide customer loyalty. This will only be possible through strong communication between the company and the customers. As a matter of fact, in the brand loyalty research carried out since Jacoby and Kyner (1973) 'brand loyalty is basically a relational phenomenon' (p. 2). In most of the studies conducted for relationship marketing, (for example Lin et al., 2003; Chou, 2009, p. 993) the bonds that can be developed between companies and customers are discussed at three basic levels:

- *Economic Bonds*: It is price-oriented and is a bond building approach that aims to increase customer loyalty through economic incentives. Economic bonds constitute the first stage of the relationship between the company and the customer (Yılmaz, 2016, p. 144).
- *Social Bonds*: A bond building approach that focuses on personal relationships between the purchaser and the seller. It is emphasized that social bonds need to be maintained in continuous contact with the customer. At this point, one of the main objectives is to provide information about the needs of customers. It is important that this relationship is consistently positive (Venetis & Ghauri, 2004, p. 1582). Social bonds constitute the middle level of the relationship between the company and the customer.
- *Structural Bonds*: This is a bond building approach that is attempted to be created to the customer through valuable service delivery. Usually, the service offered is designed as part of the communication system (Chou, 2009, p. 997). Internet banking used by banks, integrated databases, bidirectional information exchange technologies, etc. are some of the tools that are used for structural bonding (Yılmaz, 2016, p. 145).

Relationship marketing provides significant benefits to both customers and companies. The most important contribution to the customer is the satisfaction of customers as a result of the products and services they purchase. Satisfied customers have a higher value perception than unsatisfied. Therefore, the relationships that start with

satisfied customers are more robust. If the relationship is developed over time, the loyalty of existing customers will increase. Customers are satisfied with the products or services they purchase, and if the perceptions of value are affected positively, they will decide to maintain the relationship (Şahin, 2013, p. 148).

Relationships marketing approach also provides significant gains for businesses. First of all, companies keep their existing customers and ensure that their customers become more loyal customers and increase their profitability. These companies maximize the value they will provide from their customers for life. Other important gains of relationship marketing can be listed as follows: It enables the creation and development of the sales process, eliminates inefficiency in the sales process, provides cross-selling opportunity, minimizes customer loss, saves on marketing budget, provides information about the customer and so on (Çoroğlu, 2002, p. 104). The information obtained during relationships marketing activities also provides significant benefits to businesses. With this information, a healthy relationship can be established between customer and company. This will contribute to the standardization of business processes. This information will play a role in the automation of business processes will increase business efficiency. This information enables promotions and campaigns to be made to specific target audiences, and it also allows to organize point-shoot activities (Çoroğlu, 2002, p. 104).

In order to achieve the targeted success as a result of the relationships marketing activities, it is necessary to know the basic aims, basic characteristics and basic values of relationships marketing. The main values of relationships marketing are as follows (Gummesson, 2008, pp. 14-15): Switching to marketing-oriented company management, relationships marketing activities based on mutual cooperation, long-term cooperation and adoption of the win-win policy, active participation of all participants and taking responsibility. Lastly, instead of bureaucratic and legal values, it is aimed to emphasize relationships and product values.

2.2. Online Reputation Management

Those directly affected by the company are the stakeholder groups of the company's employees, customers and shareholders. These stakeholders interact with the company. Media, competitors and society are among the stakeholders indirectly affected by the Company. Stakeholders have different expectations. For successful reputation management, it is necessary to continuously monitor and understand the views of stakeholders on economic, social, ecological policies and performance (Er, 2008, p. 22).

There are many tools that influence the formation of the perception of online corporate reputation:

- *Netiket*: There are ethical rules based on written text and conventions in the environments where users are involved. These rules allow for regular operation on digital platforms with significant risk building potential. All these rules are called netiket (Er, 2008, p. 81). Some netiket rule violations: In the e-mails, the 'subject' sections are left blank, the texts are written in capital letters and the abbreviations are frequently used in corporate correspondence, etc. In addition to this, sending unnecessary large attachments, sending an e-mail from someone to another customer, not deleting the private contact information of the person, and not returning to the e-mails in the shortest time are also important netiket rule violations.
- *Search Engine Optimization*: It is the general name given to web site and non-web site optimization studies in order to get higher rankings in search engine results. Thanks to digital tools, it is possible for stakeholders to

be informed more quickly about the institution. Search engine optimization also offers a kind of early warning system service to the company (Tokatlı et al., 2017, p. 43). The negative content produced on the internet, especially the social media environment, can climb the top page results in search engines and become visible in the first page results. In this case, when a consumer in the target audience enters the name of the company in the search engine, it will face negative content. This will damage the corporate reputation in the eyes of the target audience. As can be seen from this example, search engine optimization is a must for online corporate reputation protection.

- *Digital Media Tools:* Digital media tools; the web site of the institution, web sites of other institutions, e-mail and digital press releases, intranet and extranet and finally social media tools.

In-house comments on the institution's website can play a very important role in online purchasing decisions and affect the reputation of the organization (Park et al., 2011, p. 74). In order to increase the company's online reputation, different applications can be implemented on the company's website. Graphic links or text can be placed on websites. In this way, the target audience visiting the company's website will be able to access other sites via this website. This can increase the awareness of the product (Bajpai & Pandey, 2012, p. 197). Web sites that have a large number of visitors and a fast cycle are faster to spread the message (Stanton, 2015, pp. 61-62). If a tool is used to trigger communication to the word of mouth, the spreading speed will increase.

Information and comments on brands or products should be followed in which channels. Web sites that do business with the brand and use the brand's name should be part of this follow-up. Finally, periodical checks should be performed to determine whether the company is properly represented if the company is referenced due to projects jointly carried out on the websites of the associations or chambers where the organization is a member (Er, 2008, pp. 101-102).

The e-mails are still one of the keywords of mouth communication strategies, thanks to their efficient and cost-effective structure. Bulletins in e-mailing are also used effectively in word of mouth communication. The point to be considered here is that the content of the product or service offered has an interesting quality. Because interesting content increases the website traffic. The purpose of digital press releases is to publish necessary information about the product or service with informative articles. Bulletin news may also be the product or service recommended by the publisher (Stanton, 2015, pp. 35-36).

Another digital media tool is intranet/extranet. An intranet is a password-protected website for internal use. The Extranet is a website protected by a password for the use of people outside the organization and allows them to communicate with all stakeholders of the organization (Er, 2008, p. 104). It is important to have healthy communication with the stakeholders and to have information about the people who follow the channels. Because the institution should develop strategies according to this information (Bilbil & Guler, 2017, p.383).

The last digital media tool is social media. Social media, one of the effective platforms of online corporate communication, should be seen as an important platform for marketing professionals to manage the perception of stakeholders. Because these platforms can be transformed into a risky area due to the fact that customers share the negativity they experience with their relatives. Because these shares in social media can create a growing effect like snowballs. A strategic approach should be adopted to protect the online reputation to ensure that such a risky

area can be managed in the best way and these discourses do not harm the reputation of the organization. Social media are social networking sites based on activities such as content sharing and personal comments that allow internet users to communicate with each other online (Kirtis & Karahan, 2011, p.262). Since there is no time and place problem in social media, every participant can produce content about a topic. This situation, which offers great freedom to the participants, has significant risks for the companies (Tokatli et al., 2017, p. 44). The following actions in social media platforms play an important role in shaping the perception of online corporate reputation: Active participation in online communities, blogs, social networking sites, wikis and participating dictionaries, online messaging with stakeholders, regularly checking customer complaint sites, following the digital world, using podcasting applications, using bookmarking sites, sharing photos and videos etc.

Reputation management in the virtual environment consists of 10 stages and the first half of these stages are for the preparatory phase activities. The first stage is to understand and absorb the concepts of reputation of the institution management. Later there is a phase of identifying stakeholders and understanding their expectations. Identifying those responsible for reputation management and training of employees also constitute the next stages. All these studies should be prepared for possible crises and improvements should be made in different areas throughout the organization (Er, 2008, p. 161).

The second half of the reputation management in the virtual environment is mostly about the discovery of the virtual environment and the applications in this environment. The last five stages of reputation management in the virtual environment are as follows: Learning the virtual environment, making discoveries about the situation in the virtual environment, protecting and strengthening the reputation in the virtual environment, combating activities that damage the reputation of the virtual environment and finally routing the work done in the virtual environment (Er, 2008, p. 161).

2.3. Relationship Marketing and Online Reputation Management in Banking Sector

The abstract nature of banking services leads to uncertainties and risk perceptions in the evaluation stages of potential customers before buying services from banks. One of the most important elements in the removal of these question marks is trust. Because it is more difficult to make an accurate assessment of abstract services. This leads potential customers to question the reputation of the relevant banks when making their evaluations. Because it is known that high corporate reputation banks create a positive perception of customers. On the other hand, it is known that if a potential customer is a customer of a bank with a high reputation in today's intense competition environment, fewer resources will be required to maintain and control mutual relations (Babić-Hodović et al., 2011, p. 354).

In today's competitive environment, it is very difficult to raise awareness of consumers. If this is achieved, it will be necessary to create a channel that will positively affect their quality perceptions. If this is achieved, it will be possible to make these consumers a loyal customer of the company. All these developments will be possible through correct communication with them. For this reason, business managers are struggling for creative solutions for the establishment and development of this relationship with consumers. Especially if bank managers do not want their customers to turn to their competitors, it is almost a necessity that they understand their wishes and establish long-term relationships with them. It is important to establish a relationship with customers through

social, economic and structural bonds. Because the relationship that the company will establish over these three bonds will make the business necessary for the customers and motivate them.

Whether it is a bank, a retailer or a telecommunications company, having a good reputation requires a strong corporate identity. Each company must act in accordance with its corporate identity and must be honest. Because good or bad reputation is a product of management behaviors and the company's public relations activities. Therefore, institutions should emphasize communication and persuasion practices instead of emphasizing their corporate behavior and responsibilities (De Carvalho, 2004, p. 7).

Some researchers have highlighted the potential of Web sites and blog sites to encourage relationships with customers (Kent et al., 2003, p.74; Yang & Lim, 2009, p.341). As a result of their work, Lee and Park (2013, p. 203) concluded that open-two-way communication in an online context positively affected the online reputation of the institutions. The authors emphasized that such communication has become much more important in the digital age. The authors also emphasized that all professionals who will mediate this communication should consider online communication strategically and should be seen as a necessity.

The impact of relationship marketing activities on consumers is related to how these people perceive these activities. Therefore, it is useful to look at the impact of relationship marketing activities on corporate reputation management through this window. In essence, tactics of perception management are the methods that institutions use to influence or change the impression of all stakeholders (Srivoravilai et al., 2011, p. 248).

Corporate reputation is the result of both verbal and non-verbal activities. Verbal perception management refers to the tactics related to direct verbal communication, such as statements made to the company's stakeholders, apologies to beg for errors, etc. Non-verbal perception management consists of non-verbal activities such as free refreshments, free newspapers, etc. Perception management techniques can affect corporate reputation in at least two ways. First, perception management tactics can strengthen a company's reputation by increasing the company's positive visibility and distinctiveness (Srivoravilai et al., 2011, p. 248). Second, perception management tactics can affect the corporate reputation by improving the following features of the company: Visibility, transparency, consistency, and authenticity (Fombrun & Van Riel, 2004, p. 393). A company can also improve its reputation by actively using tactics such as introducing itself and promoting its own features.

It is likely that the relationship marketing activities carried out by the company will have an impact on the company's stakeholders. It should not be forgotten that what is important is what the company does rather than what it says. Therefore, relationship marketing activities should not be seen as an alternative to quality management (Er, 2008, p. 39).

The positive corporate reputation of the companies will allow customers to be more tolerant in their mistakes by knowing or not knowing. Reputation is very important for stakeholders. Customers and partners try to build close relationships with companies that have an excellent reputation. Because corporate reputation has a great unifying power (Horgan et al., 2016, p. 129). In a study conducted by Van et al. (2016), it has been concluded that the positive reputation increases the likelihood of positive behaviors of the customers, creates a quality signal for them and represents trust (p. 306). In addition, the results showed that customer based corporate reputation is affected by customer orientation. On the other hand, in the event that the relationship marketing activities are carried out

correctly, the companies will have access to basic resources such as raw materials, labor and capital necessary to sustain their assets and secondary resources such as legitimacy and reputation (Van Riel & Fombrun, 2007, p. 1).

Communication with stakeholders will have an impact not only on their customers but also on all stakeholders of the company. This will affect both the image, brand and reputation of the company (Van Riel & Fombrun, 2007, p.13). Therefore, it would be a realistic approach to expect relationship marketing activities to have an impact on corporate reputation.

The basis of the relationship marketing activities to be prepared for existing and potential customers is the identification of the right communication channels. In this context, a communication cycle should be established, which makes possible a suitable communication system in order to get results from the relationship marketing activities and contribute to the company's reputation. If this communication cycle is carried out successfully, the company will engage in a supportive attitude to its stakeholders and the relationship marketing activities of the organization will yield the desired results (Van Riel & Fombrun, 2007, p. 59).

Based on all these explanations, the answer to this question was sought: Does relationship marketing practices have an impact on the perception of online corporate reputation?

3. Method of Research

The aim of the study is to determine whether consumers' perceptions of relationship marketing practices have an impact on perceptions of online corporate reputation. The universe of the research is composed of consumers who purchase services from banks in Konya. However, within the scope of the research, it is not possible to reach all consumers purchasing service from banks in Konya due to various limitations (time constraint, cost and sampling difficulties). Therefore, the research was carried out with purposive sampling method which is among the improbable (non-probability) sampling types. After disabling the questionnaires with missing and incorrect data, analyzes 419 were performed on the data obtained from the valid questionnaire. The face-to-face survey technique was used to reach primary data. In this study, the 'relationship marketing scale' which was prepared by Lin et al. (2003) were used. The 'online corporate reputation management scale', which was used in the research, was developed from the studies of Beal and Strauss (2008), Jones, Temperley and Lima (2009) and Meier and Portmann (2013). All of the variables in the scales were scaled according to the five-point Likert scale. Data analysis of the research was performed by using statistical programs. The survey data were obtained from consumers who were resident in Konya and served from banks operating in Konya. Research was conducted on a limited sample group because of its representability, sample size, time limit, cost, and difficulty in accessing participants. Therefore, the generalizability and external validity of the research results is limited. Another limitation is the time constraint in research. In this context, the study is a cross-sectional study. As a matter of fact, the results of the research are limited to December 2018 - January 2019. The first part of the questionnaire consists of statements about the demographic characteristics of the participants. There are 28 variables in the research questionnaire. The relationship marketing dimension consists of 14 observed variables, and the online corporate reputation perception dimension consists of 8 observed variables. The remaining 6 variables consist of class variables related to demographic characteristics. The main hypothesis of the study is that relationship marketing practices have a statistically significant effect on online reputation management.

The model of the study is presented below:

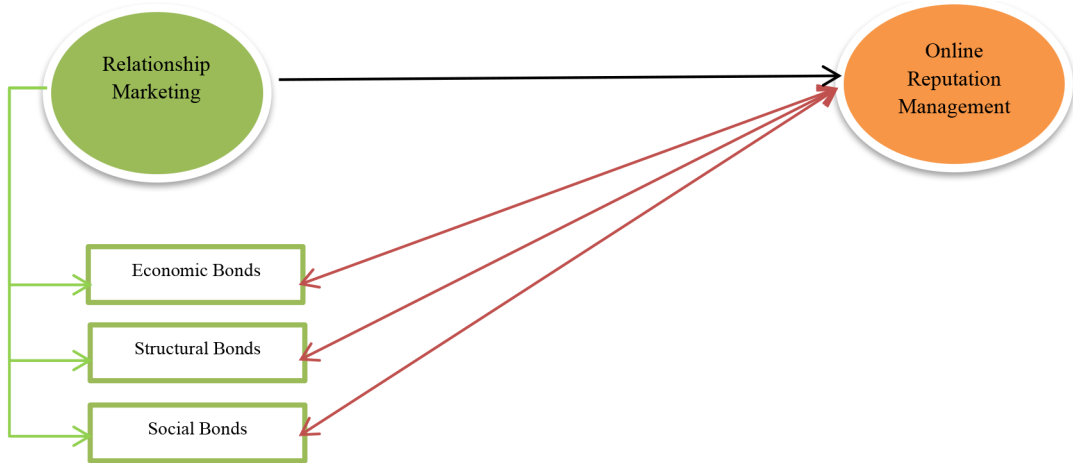


Figure 1: *The Relationship Between Relationship Marketing and Online Reputation Management Concepts*

3.1. Findings and Comments

In the research, firstly, it was tested whether the data set showed normal distribution. As a result of the normality test conducted to the data of the research, it was found that the data showed normal distribution. In order to evaluate the data obtained as a result of this research, descriptive statistics (frequency analysis), factor analysis, correlation analysis, multiple linear regression analysis were performed and research hypotheses were tested. The research data were analyzed in this systematic way and the relationships and the effect levels between the variables were determined according to the coefficients

3.1.1. Socio-Demographic Characteristics of Participants

In this section, descriptive statistics about the socio-demographic variables that determine the profile of the consumers purchasing service from various banks are shared.

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Table 1. *Socio-Demographic Characteristics of Participants (n=419)*

Demographic Variables	Value	Frequency	Percentage	Demographic Variables	Value	Frequency	Percentage
Gender	Male	257	61,3	Marital Status	Single	246	58,7
	Female	162	38,7		Married	173	41,3
	Total	419	100		Total	419	100
Age	18–24 years	136	32.5	Educational Status	Elementary school	25	6.0
	25–35 years	166	39.6		High school	96	22.9
	36–49 years	87	20.8		Associate Degree	44	10.5
	50–65 years	30	7.1		University	190	45.3
	Total	419	100		Master's degree	64	15.3
					Total	419	100
Occupation	Housewife	21	5.0		2000 TL or less	90	21.5
	Worker	32	7.6		2001-3500 TL	92	22.0
	Officer	98	23.4		3501-5000 TL	155	37.0
	Private sector employee	52	12.4		5001-7500 TL	68	16.2
	Artisan	89	21.2		7501 TL and above	14	3.3
	Instructor	47	11.2		Total	419	100
	Student	80	19.2				
	Total	419	100				

Table 1 shows that 38.7% of the participants were women, 61.3% of them were men, and 41.3% of them were married and 58.7% of them were single. When the age ranges of the participants are examined, it is seen that 32.5% of the participants are in the 18-24 age range, 39.6% are in the 25-35 age range, and 20.8% in the 36-49 age range. The percentage of participants in the 50-65 age group is very low (7.1%). When the education levels of the participants are examined, it is seen that the biggest percentage belongs to university graduates (45.3%). Then, respectively, high school graduates (22.9%) Master's degree graduates (15.3%) associate degree graduates (10.5%) is coming. Primary school graduates account for only 6% of the total participants. When the occupational distribution percentages of the participants are taken into consideration, it is seen that the percentage of the participants of the three occupational groups is determinant. These are officers; 23.4%, artisans; 21.2% and students; 19.2%. Other occupational groups have lower percentages: private sector employees; 12.4%, instructor; 11.2%, workers; 7.6% and housewife; 5%. The monthly income levels of the participants are as follows: 21.5% of the participants have a monthly income of 2000 TL or less. 22% of the participants have a monthly income between 2001 TL-3500 TL, 37% between 3501 TL-5000 TL, 16.2% between 5001 TL-7500 TL and 3.3% monthly income of 7501 TL and above.

3.1.2. Relationship Marketing Scale Factor Analysis

Factor analysis was performed to find out how many sub-dimensions of the relationship marketing scale were perceived. It was tested by KMO and Barlett tests whether the data were suitable for factor analysis. The relationship marketing factor is divided into three sub-dimensions. The sub-dimensions are discussed under the titles of economic bonds, social bonds and structural bonds.

Table 2. *Factor Structure of Relationship Marketing*

Factor	Variables	Factor Loadings			Cronbach Alpha
		1	2	3	
Economic Bonds	EB4_ If I transactions above a certain amount, it offers me some discounts.	.845			.874
	EB3_ Bank offers extra opportunities for transactions over a certain amount.	.835			
	EB2_ Bank gives me gifts in return for regular transactions. (extra installment, installment deferment etc.)	.816			
	EB1_ Bank offers points accumulation programs. (bonus, world points, etc.)	.756			
	EB5_ Bank provides faster service for regular customers. (special queue in the process queue etc.)	.621			
Structural Bonds	YB4_If I have a complaint from the bank, I can get an immediate response.		.782		.798
	YB3_Bank generally provides innovative services.		.775		
	YB5_Bank uses different products or services to solve my problem.		.712		
	YB2_Bank provides information on new services.		.647		
Social Bonds	SB4_ The Bank applies for my opinions on the services it offers.			.838	.797
	SB3_ Bank employees help me solve my personal problems.			.717	
	SB6_ Bank offers its members the opportunity to exchange ideas.			.612	
	SB2_Bank deals with my needs.			.576	
	SB5_Bank remembers me on special days (birthday message, card or gifts etc.).			.559	
Eigenvalue		6.028	1.708	1.069	
Variance Explained		25.361	18.994	18.539	
Total Variance Explained		62.894			
KMO		.872			
Barlett		2916.056 (sd.91; p=0.000)			
Cronbach Alpha		.895			

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As a result of the factor analysis of the relationship marketing scale, 2 questions that were found to be close to each other were excluded from the scale. These questions are: The bank offers me special services according to my needs. (special interest rate, special installment, etc.) and the Bank is in contact with me. The suitability of each variable for factor analysis was evaluated using the Measures of Sampling Adequacy (MSA) method and the anti-image correlation matrix of the variables was reviewed. When the MSA values in the anti-image correlation matrix were examined, it was determined that all variables were above 0.50. Three factors obtained as a result of factor analysis explain 62.894% of the total variance. The results of the Cronbach's Alpha analysis for the relationship marketing scale are presented in the table 2. It was seen that the internal consistency levels of all scales were above the acceptance limit (0.60). The discriminant validity of the scales used in the research was tested with explanatory factor analysis. Factor analysis was performed for the expressions of the relationship marketing scale used in the research. (KMO=0.872; $p<0.001$) Three sub-factors were obtained in which the scale expressions were consistent.

3.1.3. Online Reputation Management Factor Analysis

Factor analysis was performed to determine the sub-dimensions of the online reputation management scale. KMO and Barlett tests were used to determine whether the data were suitable for factor analysis.

Table 3. *Online Reputation Management Factor Structure*

Factor	Variables	Factor Loadings
		1
Online Reputation Management	KİA6_ I produce positive content about the bank I work with on social media platforms.	.887
	KİA7_ I make positive shares on corporate blogs about my bank.	.882
	KİA8_ On social media platforms, I share the social messages produced by the bank I work with.	.870
	KİA5_ I give feedback to the creative question content prepared by the bank I work with on social media platforms.	.847
	KİA4_ I give positive comments against negative shares about my bank.	.836
	KİA1_ I share on social media platforms about the bank I work with. (text, photos, videos, etc.)	.806
	KİA2_ I make positive comments on the social media platforms of the bank I work with.	.804
	KİA3_ It is important for me that the bank I work in is at the top of the search engines. (Google, Yahoo, Yandex, Yaani, etc.).	.634
Eigenvalue		5.435
Variance Explained		67.938
Total Variance Explained		67.938
KMO		.930
Barlett		2533.532 (sd.28; $p=0.000$)
Cronbach Alpha		.929

As a result of the Online Reputation Management Scale factor analysis, no variables were taken from the scale since no variables were found close to each other. The suitability of the variables for factor analysis was reviewed using the Sampling Capability Measurement (MSA) method (the anti-image correlation matrix of the variables).

When MSA values were examined, all variables were found to be higher than 0.50. The only factor obtained as a result of factor analysis explains 67.938% of the total variance. The results of the Cronbach's Alpha analysis of the online reputation management scale are shown in Table 3. As can be seen from the table, the internal consistency level of the scale is above the critical limit of 0.60. The discriminant validity of the scales used in the research was tested by factor analysis. Factor analysis was performed for the expressions of the online reputation management scale used in the research. (KMO=0.930; $p < 0,001$) A single factor was obtained in which the scale expressions were consistent.

3.1.4. Relationship Marketing and Online Reputation Relationship Correlation Analysis

The reliability coefficients of the relationship marketing scale ($\alpha = 0.895$) and online reputation management scale ($\alpha = 0.929$) used in the study are highly reliable. In this section, Pearson Correlation analysis was used in order to see the relationships between the sub-factors of the scales used in the questionnaire form. The results are shown in Table 4.

Table 4. Relationship Marketing Sub-Dimensions and Online Reputation Perception Relationship Correlation Analysis

		Economic Bonds	Social Bonds	Structural Bonds	Online Reputation Perception
Economic Bonds	r	1			
	p				
Social Bonds	r	.540**	1		
	p	.000			
Structural Bonds	r	.466**	.611**	1	
	p	.000	.000		
Online Reputation Perception	r	.240**	.297**	.361**	1
	p	.000	.000	.000	
**. The correlation is significant at the level of 0.01.					

When Table 4 is examined, significant relationships between online reputation perception scale dependent variable and relationship marketing sub-dimensions independent variables were determined. When these relations are examined, it is determined that there are a weak force level and meaningful relationships between economic bonds (.240), social bonds (.297) and structural bonds (.361) and online reputation perception.

3.1.5. Relationship between Relationship Marketing and Online Reputation Perception Regression Analysis

The relationship between relationship marketing sub-dimensions and online reputation perception regression coefficients are presented below:

Table 5. *Relationship Marketing Sub-Dimensions and Online Reputation Perception Regression Coefficients*

Dependent Variable	Independent Variable	Standardized Coefficients	Statistics t	P-value	Standard Error
		Beta			
Online Reputation Perception	Economic Bonds	.059	1.078	.282	.048
	Social Bonds	.098	1.589	.113	.062
	Structural Bonds	.274	4.664	.000	.060
R ²		.142			
Adjusted R ²		.136			
Statistics F		22.957 (p=.000)			

When Table 5 is examined, it is seen that the economic bonds and social bonds from the relationship marketing sub-dimensions did not significantly affect the online reputation perception. On the other hand, the structural bonds variable has a statistically significant effect on the online reputation perception variable.

As can be seen in Table 5, it can be said that the regression model, which is composed of F statistic is 22.957 and p-value is 000, is generally significant. In other words, it is statistically possible to estimate the online reputation perception variable with at least one of the 3 sub-dimensions of the relationship marketing scale. As a matter of fact, when we look at the table, it can be seen that this estimation can be made with structural bonds variable (p=.000). However, this cannot be said for the other two variables. Because the p-value for both variables is above the limit of 0,05. (For the economic bonds variable p=.282 and for the social bonds variable p=.113)

R² represents the explanatory power of the model. The results of the regression analysis are as follows: 3 independent variables related to relationship marketing explain the online reputation perception by 13.6%. Although the result shows that the effect of the relationship marketing practices on the perception of online reputation is significant and positive, the effect level is quite low.

4. Conclusion and Discussion

It is now widely accepted that the main goal in marketing is to establish and maintain beneficial relationships with selected customers. According to the other opinion, cement, which combines successful relationships, is a two-way flow of value. In other words, while the company earns higher profits from this relationship, the customer obtains real value (Christopher et al., 2002, p. 1).

The channels of detection of companies were much more limited before the Internet served as an online communication channel among people. It is a long time for people to share their experiences with their own environment. However, compared to today's online sharing, the number of these shares is much lower and the impact level is much lower. Now people can share their comments with the whole world. For this reason, the impact of a negative interpretation of companies can be very damaging. While it is not possible to prevent the publication of negative comments related to a company, the existing negativity can be minimized by the strategic approach to be developed against this negative share thanks to online reputation management. In the past, although reputation management is only a sub-group of an organization's marketing plan, it is the basic force that directs everything from a company's content marketing strategy to the tone of their choice.

As can be seen in the marketing literature, the importance of building and maintaining long-term relationships with both customers and other stakeholder groups has been neglected. However, it is generally accepted that managing firms' internal and external relations with key stakeholders are a critical approach for profitability. However, the traditional marketing approach has not emphasized enough on stakeholder management based on a long-term relationship. The only exception is the stakeholder management approach called 'public' by public relations practitioners. Some authors, however, have argued that this approach is often not sufficiently rigorous and has no relationship emphasis (Christopher et al., 2002, p. 1).

Fombrun (1996), considered reputation management as the ability of a company to manage perception, to establish strong relations in public relations and to manage rumors (p. 100). Fombrun examined the role of a public relations firm in reputation management with a three-stage approach: In the first phase, he made a diagnostic examination of the company's existing identity, image and reputation. In the second stage, a strategic analysis of trends, plans and competitor positioning, which define the desired future situation of the company. In the final stage, it has reviewed the management plans that propose the transition of the company to the desired future situation. Grunig and Hung (2002), see reputation management as equal to relationship management, provided that professionals who manage public relations activities play a role in managing an organization's course of action (p. 13). According to them, because corporate reputation is an intangible asset, it is difficult to measure in the short term. Therefore, they accepted reputation management as a product of corporate governance and public relations management of the institution. The good reputation of the service providers increases the replacement costs associated with the transfer of customers to another business and thus reduces the risks of customers leaving the company (Milan et al., 2015, p. 111). Some researchers have emphasized the potential of Web sites and blog sites to encourage relationships with customers (Kent et al., 2003, p. 74; Yang & Lim, 2009, p. 341). Lee and Park (2013), concluded in their study that open-two-way communication in an online context positively affected the online reputation of the institutions (p. 203). The authors found that such communication became more important in the digital age. They stated that all professionals who will mediate this communication should consider online communication strategically. Dijkmans et al. (2015), concluded that the perception derived from social media influence on companies is larger than the perception of corporate reputation (p. 638). In addition, it is concluded that the discourses of the participants in the sharing mediate the relationship between the company's social media activities and the perception of corporate reputation.

If companies have a positive corporate reputation, customers will be more tolerant. Reputation is very important for stakeholders. Customers and partners try to build close relationships with companies that have an excellent reputation. Because corporate reputation has a great unifying power (Horgan et al., 2016, p. 129). In a study by Van et al. (2016), it was concluded that the positive reputation increased the likelihood of positive behaviors for the service company, created a quality signal for them and represented trust (p. 306). In addition, the results showed that customer based corporate reputation is affected by customer orientation. Strong corporate reputation in the context of relationship marketing can be used as a mechanism by which a customer is trying to minimize the risk, strengthening self-confidence and trusting the company (Srivoravilai et al., 2011, p. 249). In fact, Horgan et al. (2016), concluded that customers and partners are willing to establish close relationships with high reputation companies (p. 127). Since corporate reputation relies on how stakeholders evaluate the organization and how they see it, companies that want to have a strong reputation should develop good relations with all stakeholders. This situation shows the importance of communication in the process of corporate reputation.

In other words, when a company's stakeholders make an assessment of the corporate reputation of the company, they attach a strategic value to their relations with the company's stakeholders (Silver & Orphan, 2010, p. 121).

As a result, companies should be actively involved in the digital environment in order to maintain their reputation in the online environment. Because companies can follow the developments in these environments by moving the factors affecting their reputation to online environment. And they can demonstrate effective management to prevent factors that may damage their reputation. In case of a negative situation that can damage their reputation, they can provide control in a short time. And they can prevent the growth of this negativity by providing accurate information to their stakeholders. In addition, companies can effectively communicate with their stakeholders by using social media effectively and meet the needs of customers through interactive customer relationship management.

Besides the number of samples and time constraints, the study is conducted in Konya scale and the evaluation of the effect of relationship marketing on online reputation management is another important constraint of the study. In subsequent studies, the effect of relationship marketing on many variables such as repurchase behavior, image management, e-commerce potential, etc. can be investigated.

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10

PERSONALIZED ADS: INTERNET USERS' PERSONALIZED ADS PERCEPTION ON FACEBOOK / KİŞİSELLEŞTİRİLMİŞ REKLAMLAR: İNTERNET KULLANICILARININ FACEBOOK'TAKİ KİŞİSELLEŞTİRİLMİŞ REKLAM ALGISI

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Abstract

Ads using the personal information of consumers are becoming increasingly popular. These ads, which have different forms, are used on various platforms and are mostly preferred by the advertisers. Because personalized advertisements reach the person who needs it directly, they reach consumers who are more interested by eliminating those who are not likely to buy and not interested. Social network sites are quite convenient sources for ads based on collecting and processing of personal information, which becomes a very convenient media for personalized advertisements when the interest of people on social media is included. Since social media has become the most popular communication channel especially for young people, it is preferred in the study to apply questionnaires to students in communication faculty. In this context, it was tried to determine the opinions of the young people about the personalized advertisements they see on Facebook.

Keywords: Personalized Advertising, Social Media, Privacy.

1. Giriş

İletişim teknolojilerindeki değişim toplumsal değişimleri etkilemekte ve toplumsal değişimlerden etkilenmektedir. Geline bu dönemde ise dijitalleşme toplumun her aşamasında ve yaşamın her alanında hissedilmektedir. İnternet ve bilgisayar teknolojilerindeki gelişim ekonomik, sosyal ve politik yaşamlarımızı da geliştirmektedir (Mok & Leung, 2012, s. 271). Zira teknolojinin yaşamı şekillendirmesi, küreselleşmenin sosyal dönüşüm üzerindeki etkisi bakımından en önemli argümanlardan biridir. Reklam ise tamda bu değişimin ortasında yer almaktadır. Bu durumu Arthur; 1970'li yıllarda kişisel bilgisayarların kullanımı ve 1990'lı yıllarda internetin eklenmesi ve ağa bağlı bilgisayarların katlanarak hızlarını artmasıyla, değişimin baş döndürücü bir şekilde yaşandığını ifade ederek, bu fırtınalı değişimin içindeki şirketlerin en önemli silahlarının donanım, yazılım ve reklamcılık olduğunu belirtmektedir (Arthur, 2014, s. 1).

Dolayısıyla dijitalleşmenin her alanda etkin olduğu bu dönemde reklamcılık sektörü de kendini bu değişime uyumlu hale getirmektedir. Dijital alanda çeşitli yöntemler geliştiren reklamcılık sektörünün en önemli adımlarından biri de kişiye özel reklamlar olmuştur.

1 Erciyes University

2 Erciyes University

Kişiselleştirme genel olarak yeni medya ve bilgi iletişim teknolojilerinin, bireysel kullanıcıların ihtiyaçlarını ve isteklerini karşılamak üzere adapte edilme kapasitesi olarak tanımlanmaktadır (Kennedy, 2008, s. 308). Charlie Leadbeater tarafından refah devletin dönüşümüne yönelik geniş bir yaklaşımı tanımlamak için ileri sürülen (Duffy, 2010, s. 203) kişiselleştirme terimi, özünde bilgi iletişim teknolojilerinin kamu hizmetlerine yapabilecekleri potansiyel katkıya işaret etmektedir. Ancak zaman içerisinde reklam sektöründe de kullanılmaya başlayan kişiselleştirme en genel ifadesiyle, reklamların kişiye özel hale getirilmesidir.

Bu sayede doğru hedef kitleye, doğru zamanda ulaşabilme imkânı veren kişiselleştirilmiş reklamlar, internet ortamında reklam verenler tarafından çokça tercih edilir hale gelmiştir. Hatta ilerleyen süreçte kişiye özel reklamların diğer kitle iletişim araçlarına da uygulanması beklenmektedir. Ancak bu reklam türü etik ve hukuki kaygıları da beraberinde getirmekte ve kişisel verilere dayanması sebebiyle de eleştirilmektedir. Zira Turow bu noktada dijital profillemeye yapmanın insanların sınıflandırılmasına sebebiyet vereceğini ve insanları dijital ortamda takip ederek ardından elde edilen bilgilerin “anonim” olduğunu belirtmenin bir anlamı olmadığını ifade etmektedir (2015, s. 21).

Bu bağlamda çalışma, kişiselleştirilmiş reklamlar hakkında bilgi vererek gençlerin bu konudaki düşüncelerini ölçmeyi amaçlamaktadır. Bu sebeple 450 öğrenci ile Facebook'ta karşılarına çıkan kişiselleştirilmiş reklamlar hakkında anket uygulaması yapılmıştır.

2. Sosyal Medya ve Kişiselleştirilmiş Reklamlar

Reklamların kişisel hale getirilebileceğinin fark edilmesi reklamın ölçümlemesi ile ilişkilidir. İnternet reklamlarının sağladığı en büyük kolaylık olan ölçümlenebilme beraberinde kimin, nereye tıkladığının fark edilmesi ile farklı bir reklam oluşumuna zemin hazırlamıştır. Kitlelerin internetteki içeriği görmek için para harcamayacağını anlaşılmaması üzerine, internet reklamlarının önemi fark edilerek “banner” reklamların satışı başlamıştır ve yapılan tıklamaların sayılması için yeni yollar keşfedilmiştir ki bu sayede yapılan tıklamaların hangi siteye yönelik olduğu, ardından hangi siteleri ziyaret ettikleri ölçümlemeye ve takip edilmeye başlanmıştır (Turow, 2015, s. 65). Kullanıcıların tıklamalarının takibi ile reklamların daha doğru hedef kitleye yönlendirilebileceğinin keşfi kişiselleştirilmiş reklamcılığı da beraberinde getirmiştir.

Reklamların kişiye özel hale getirilmesi ilk önceleri hedefleme yöntemi ile gerçekleştirilmiştir. Reklamcılar çeşitli hedefleme yöntemleri ile reklamlarını doğru hedef kitleye ulaştırma çabasında olmuşlardır. Bu sebeple demografik hedefleme, içeriğe dayalı hedefleme, davranışsal hedefleme, coğrafik hedefleme, gün içi hedefleme, ilişkisel hedefleme, satın almaya dayalı hedefleme şeklinde farklı kategoriler ile hedeflemeler yapılmıştır (Plummer, Rappaport, Hall, & Barocci, 2007, s. 8-29). Daha sonra bunlara teknolojik gelişmeler ile mikro ve nano hedefleme yöntemleri de eklenmiştir. Bu sayede örneğin, coğrafi hedefleme ile belirli bölgede yaşayan insanlar hedeflenebilirken, mikro ve nano hedefleme ile kapsamı daha daraltmak mümkün olabilmektedir. Zira, Kerpen yeni pazarlama stratejisinde milyonlarca insana ulaşmaktansa 1000, 100 hatta 1 kişiye ulaşmanın daha iyi olduğunu belirtmektedir (2011, s. 14).

Dolayısıyla, reklamların çeşitli yöntemlerle kişiselleştirilmesi, kişisel hesaplarla dev bir ağa dönüşmüş olan sosyal medya ortamıyla birleştiğinde oldukça etkili olduğu gözlenmektedir. Bu bağlamda sosyal medya, hem hesaplardaki bilgiler ile kişisel reklamlar için kaynak oluşturmakta hem de sosyal medyanın yoğun kullanımı sayesinde, özellikle gençler arasında, etkili bir dağıtım aracı olmaktadır. Çünkü sosyal medya, milyonlarca kullanıcıyı kendisine çeken güçlü bir araç olarak görülmektedir ve 2000’li yıllardan itibaren sosyal medyaya olan ilgi hızla artmaktadır

(Bat & Vural, 2014, s. 100). Zira 2019 yılının istatistik verilerine göre bir önceki yıla oranla %9'luk bir artışla toplam sosyal medya kullanıcısı 3.48 milyar kişiye ulaşmıştır ki bu rakam dünya nüfusunun % 45'ine tekabül etmektedir (wearesocial.com/global-digital-report-2019, E.T. 02/04/2019). Yine aynı rapora göre, Türkiye'de ise 52 milyon sosyal medya kullanıcısı bulunmakta ve bunun, %2.3'lük azalmaya karşın, %43'ünün Facebook kullanıcısı olduğu görülmektedir.

Aynı zamanda sosyal medya, küresel ekonomide güçlü bir pazarlama iletişimi aracı olarak da görülmektedir. Pazarlamacılar, sosyal medya aracılığıyla güven oluşturmak ve tüketicilerle ilişki kurmak için zamanlarını ve kaynaklarını ayırmaktadır (Kwon & Sung, 2011, s. 4). Özellikle genç kullanıcılar arasında sosyal medya uygulamaları yaygın olarak kullanılması ve bu bağlamda Facebook, genç kullanıcıların ilk tercih olması (Chu, 2011, s. 30), pazarlamacıların ve reklamcılarının oldukça ilgisini çekmektedir. Ayrıca sosyal medya, kişisel verilerin (profil bilgisi, sosyal ilişkiler, ilgi alanları ve davranış) büyük bir kısmının kullanıcı rızasıyla paylaşıldığı bir ortam (Keyzer, Dens, & Pelsmacker, 2015, s. 125) olması sebebiyle, reklamcılar buradaki bilgileri reklamları kişiselleştirmede kullanmaktadırlar.

Bu alanda yapılmış çeşitli çalışmalar bulunmaktadır ve yapılan çalışmalar kişiselleştirmenin reklamcılığı iyileştirdiğini göstermektedir. Arora ve arkadaşlarının yaptıkları çalışmada (2008, s. 317-318), ekonomideki fiyat ayrıcalığı ya da psikolojideki bilgi işleme modelinin kişiye göre anlam kazanması gibi, pazarlamanın da her tüketiciye farklı uyarlanması gerekliliği üzerinde durmaktadır ve teknolojik gelişmeler sayesinde bunun pazarlamaya büyük katkıları olduğunu belirtmektedirler. Daniel ve Kerin ise kişiselleştirilmiş reklamların, kişiye kendini özel hissettirdiği duygusuyla reklamlara daha olumlu yaklaştıklarını ifade etmektedir (2004, s. 278).

Ancak diğer taraftan, bu tür reklamların kişiselleştirilmesinin kişisel veriye dayanması sebebiyle mahremiyetle ilişki olduğu, kişisel verilerin toplanmasının kişinin mahremiyetine karşı işlenen bir suç olduğu belirtilmektedir. Bunun dayanak noktası ise, insan biyolojisinin büyük ölçüde sosyal olması sebebiyle başka insanlarla sosyal ilişki kurma ihtiyacı içinde bulunduğu, dolayısıyla kişisel verilerini zaten paylaşma eğiliminde olduğu ancak kiminle paylaşıp kiminle paylaşmayacağına kendisinin karar vermesi gerektiği, bu nedenle kişiselleştirilmiş reklamların kişisel mahremiyet alanında sorunlu olduğu ifade edilmektedir (Lokke, 2018, s. 21).

Bu noktada reklamcılar bilgilerin anonim olduğunu ve kimsenin isim soyisim şeklinde bilinmediği açıklamasıyla kendisini savunmasına karşın, uzmanlar bilgilerin her an anonimlikten çıkabilecek özellikte olduğunu ifade etmektedir. Zira, Texas Üniversitesi araştırmacıları, Netflixin veritabanından alınan bilgilere dayanarak bilgileri "anonimlikten" çıkarabilmiştir (Einstein, 2018, s. 183) .

Özetle, iletişim teknolojilerindeki gelişmeler farklı alanlarda değişimleri de beraberinde getirmektedir. Bu bağlamda, reklam alanında meydana gelen değişimlerde çeşitli şekillerde gerçekleşmektedir. İnternet vasıtasıyla kimin hangi reklama tıkladığının keşfi ile firmaların artan merakı bugün hangi sitede ne kadar zaman geçirildiği, neye ilgi duyulduğu, hangi haberlerin okunduğu veya tam tersi neye tıklanmadığı ya da hemen kapatıldığı, hangi video ne kadar izlendi hangi sürede kapatıldığı gibi kullanıcıların davranışları hakkında detaylı bilgi sağlamaktadır. Bu açıdan da sosyal medya oldukça avantajlı bir ortamdır. Sosyal medya da kişilik hakkında kullanıcıların verdiği bilgilerin dışında yaptığı beğeniler, yorumlar da elde edilen verilerin büyük kısmını oluşturmaktadır. Özellikle gençlerin tüketim tercihlerini belirlemede etkin rol oynamaktadır.

3. Yöntem

Çalışmada genç kullanıcıların Facebook'ta yayınlanan kişiselleştirilmiş reklamlar hakkındaki düşüncelerini belirlemeye yönelik olarak anket uygulaması yapılmıştır. Anket araştırması Facebook'un en yoğun kullanıcılarının öğrenciler olması (Hoy & Milne, 2010, s. 28) sebebiyle Facebook kullanan 450 üniversite öğrencisine yüz yüze uygulanmıştır. Anket soruları Bloux ve Desfougères tarafından hazırlanan "Behavioural Advertising on Facebook: The Users Perspective Regarding Leisure Industry" başlıklı çalışmasından örnek alınarak oluşturulmuştur. Örneklem ise araştırmanın yapıldığı iletişim fakültesinde reklam bilgilerinin ve duyarlılıklarının daha yüksek olduğu varsayılan halkla ilişkiler ve tanıtım bölümü öğrencilerine uygulanmıştır. Toplamda 700 civarı öğrencisi bulunan bölümün örneklemine, 0.03 örneklem hatası için 358 kişi (Yazıcıoğlu & Erdoğan, 2004, s. 50) olarak belirlenmiştir. Facebook kullanmadığı belirtilenen, hep aynı seçenek işaretlemesi veya desen oluşturacak şekilde işaretlemesi olan anketler değerlendirme dışı bırakılarak 368 anket değerlendirme tabi tutulmuştur.

Çalışmada aşağıdaki araştırma sorularının yanıtları aranmıştır.

- Facebook kullanıcısı üniversite öğrencileri kişiselleştirilmiş reklamları nasıl algılamaktadırlar?
- Facebook kullanıcısı üniversite öğrencileri hangi tür kişiselleştirilmiş reklamlar hakkında en olumlu algıya sahiptirler?
- Facebook kullanıcısı üniversite öğrencilerinde kişiselleştirilmiş reklamların satın almaya etkisi bulunmakta mıdır?

3.1. Facebook Kullanıcılarının Demografik Verilerine ve Kullanımlarına İlişkin Bulgular

Araştırmaya katılan 368 kişiden %60,6'sı kadın, %39,4'ü erkek kullanıcıdır. Katılımcıların demografik verilerine ilişkin bilgileri Tablo 1'de sunulmaktadır. Buna göre, %25,5'i 18-19 yaş aralığında iken %51,9'u 20-23, %22,6'sı ise 22-23 yaş aralığında bulunmaktadır. Öğrencilerin okudukları sınıflar bağlamında dengeli bir dağılım söz konusudur. %24,5'inin birinci sınıf, 27,2'sinin ikinci sınıf, %25,3'ünün üçüncü sınıf, %23,1'inin son sınıf öğrencisi olduğu görülmektedir. İnternet kullanım sürelerine bakıldığında ise %3'ü 1 saatten az, %10,9'u 1-2 saat, %21,2'si 3-4 saat, %16,6'sı 5-6 saat, %32,3'ü ise 6-8 saat arası, %16'sı ise 9 saat ve üzerinde internet kullanmaktadır.

Tablo 1. Katılımcıların Demografik Verilerine İlişkin Bulgular

		N	%
Cinsiyet	Kadın	223	60,6
	Erkek	145	39,4
	Toplam	368	100,0
Yaş Grubu	18-19	94	25,5
	20-21	191	51,9
	22-23	83	22,6
	Toplam	368	100,0
Bulunduğu Sınıf	Birinci Sınıf	90	24,5
	İkinci Sınıf	100	27,2
	Üçüncü Sınıf	93	25,3
	Dördüncü Sınıf	85	23,1
	Toplam	368	100,0

		N	%
İnternet Kullanım Süresi	1 Saatten Az	11	3,0
	1-2 Saat Arası	40	13,9
	3-4 Saat Arası	78	21,2
	5-6 Saat Arası	61	16,6
	6-8 Saat Arası	119	32,3
	9 Saat ve Üstü	59	16,0
	Toplam	368	100,0

Kullanıcıların Facebook davranışlarına ilişkin veriler için Tablo 2'ye bakıldığında ise, kullanıcıların Facebook profillerini kontrol etme sıklığı %25,5 günde birkaç kez, %38,3 günde bir kez, %18,2 haftada birkaç kez, %9 ayda birkaç kez, %9 hiç kontrol etmedikleri şeklinde belirlenirken, Facebook sayfalarındaki reklamları %34 her defasında, %24,7 çoğunlukla, %14,4 yarisında, %20,1 çok azında reklamları fark ederken %6,8 hiçbirinde reklamları fark etmediklerini belirtmişlerdir. Bu reklamlarda, %26,1 uygulamalarda, %61,7 ana sayfada, %1,6 duvar yazılarında ve %10,6 oranında profil sayfasının kenarında görülmektedir. Kullanıcıların %20,7'si Facebook ayalarını son derece sıkı (haber akışlarında görünmemek, resim erişim engeli olması gibi), %54,3'ü sıkı (sadece "arkadaş" olarak belirlenenlerin görebilmesi), %12,8'i açık (tüm arkadaşlıkların görebilmesi), 4,9'u tamamiyle açık (arkadaş olmayanlarında profili görüntüleyebilmesi) olarak belirlerken, %7,3'ü bu konuda bir fikri olmadığı belirtmektedir.

Tablo 2. Facebook Kullanımlarına İlişkin Veriler

		N	%
Facebook profilinin kontrolü	Günde birkaç kez	94	25,5
	Günde bir kez	141	38,3
	Haftada birkaç kez	67	18,2
	Ayda birkaç kez	33	9,0
	Neredeyse hiç	33	9,0
	Toplam	368	100,0
Facebook'a giriş yapıldığında reklamları fark etme	Her ziyaret ettiğimde	125	34
	Çoğunlukla	91	24,7
	Yarisında	53	14,4
	Çok azında	74	20,1
	Hiçbirinde	25	6,8
	Toplam	368	100,0
Facebook'ta reklamların fark edilme yeri	Uygulamalarda	96	26,1
	Ana sayfasında	227	61,7
	Duvar Yazısında	6	1,6
	Profil sayfasının kenarında	39	10,6
	Toplam	368	100,0

		N	%
Facebook gizlilik ayarı	Son derece sıkı	76	20,7
	Sıkı	200	54,3
	Açık	47	12,8
	Tamamıyla açık	18	4,9
	Hiçbir fikrim yok	27	7,3
	Toplam	368	100,0

3.2. Kişiselleştirilmiş Reklamlar ve Gizliliğe Dair Bulgular

Katılımcılara yöneltilen kişiselleştirilmiş reklamlar ve gizlilik ile ilişki sorulardan “Daha önce Facebook’ta kişiselleştirilmiş reklam gördünüz mü?” sorusuna %81,8’i evet derken, %18,2’si hayır cevabını vermiştir. “Kişiselleştirilmiş reklamlar Facebook’taki gizliliğe dair görüşleriniz etkiler mi?” sorusuna %63’ü evet, %37’si hayır derken; “Kişisel ilgi alanlarınızla alakalı reklamlar aldığınızda kendinizi rahatsız hissediyor musunuz?” sorusuna %48,6’sı evet, %51,4’ü hayır; “Facebook reklamları reklamveren şirketlere karşı algınızı etkiliyor mu?” sorusuna %37,2’si evet, %62,8’i hayır; “İnternette ürün/hizmet alırken kendinizi güvende hissediyor musunuz?” sorusuna %41,8’i evet, %58,2’si hayır; “Facebook’ta size göre ayarlanmış reklamlara tıklayarak hiç alışveriş yaptınız mı?” sorusuna ise %23,6’sı evet, %76,4’ü ise hayır cevabını vermiştir.

Tablo 3. Katılımcıların Kişiselleştirilmiş Reklamlar, Gizlilik ve Satın Almaya İlişkin Bulgular

		N	%
Daha önce kişiselleştirilmiş reklam gördünüz mü?	Evet	301	81,8
	Hayır	67	18,2
	Toplam	368	100,0
Kişiselleştirilmiş reklamlar Facebook’ta gizliliğe dair görüşlerini etkiler mi?	Evet	232	63
	Hayır	136	37
	Toplam	368	100,0
Kişisel ilgi alanlarınızla alakalı reklamlar aldığınızda kendinizi rahatsız hissediyor musunuz?	Evet	179	48,6
	Hayır	189	51,4
	Toplam	368	100,0
Facebook reklamları, reklamveren şirketlere karşı algınızı etkiliyor mu?	Evet	137	37,2
	Hayır	231	62,8
	Toplam	368	100,0
İnternette ürün/hizmet alırken kendinizi güvende hissediyor musunuz?	Evet	154	41,8
	Hayır	214	58,2
	Toplam	368	100,0
Facebook’ta size göre ayarlanmış reklamlara tıklayarak hiç alışveriş yaptınız mı?	Evet	87	23,6
	Hayır	281	76,4
	Toplam	368	100,0

3.3. Kişiselleştirilmiş Reklamların İçeriğine İlişkin Bulgular

Katılımcıların Facebook'ta karşlarına çıkan kişiselleştirilmiş reklamlara ilişkin hangi tür reklamların daha çok dikkatlerini çektiğini belirlemeye yönelik 1 en düşük 6 ise en yüksek ilgi düzeyini temsil edecek şekilde ifadelendirmeleri istenilen soruda giyim ile ilgili reklamların %29,9 ve teknoloji ile ilgili reklamların %39,9 ile en çok ilgi çeken reklam içeriği olurken, tanışma siteleri ile ilgili reklamlar %70 ile hiç ilgi çekmeyen reklam içeriği olarak belirlenmiştir. Diğer oranlar Tablo 4'te belirtilmektedir.

Tablo 4. Hangi Tür Reklamın Daha Çok İlgi Çektiğine İlişkin Bulgular

	1	2	3	4	5	6
Boş zaman aktivitelerine yönelik reklamlar	%31,9	%16,6	%18,3	%16,6	%6,5	%10,1
Yiyecek içeceklerle ilgili reklamlar	%19,9	%19,3	%21	%14,7	%12,0	%13,1
Giyim ile ilgili reklamlar	%13,6	%8,7	%14,4	%15,2	%18,2	%29,9
Tanışma siteleri ile ilgili reklamlar	%70	%7,9	%6,8	%3,3	%4,4	%7,6
Güzellik ve bakım ile ilgili reklamlar	%21,8	%12,3	%16,6	%14,4	%12,5	%22,3
İş ilanları ile ilgili reklamlar	%16,9	%15,3	%12,8	%15,3	%17,7	%22,1
Teknoloji ile ilgili reklamlar	%7,4	%9,3	%10,9	%14,4	%18,5	%39,5

4. Değerlendirme ve Sonuç

Çalışmada elde edilen bulgular doğrultusunda araştırmaya katılan öğrencilerin demografik özellikleri incelendiğinde, katılımcılarda cinsiyet olarak kadın katılımının daha çok olduğu (%60,6), katılımcıların 21-22 yaş bandında yoğunlaştığı (%51,9), okudukları sınıf bazında dengeli bir dağılım olduğu ve büyük çoğunluğunun 6-8 saat arası (%32,3) günlük internet kullanım süresi olduğu görülmektedir. Bu durum bize öğrencilerin internet kullanımının yüksek olduğu, internette uzun süre vakit geçirdiklerini göstermektedir.

Ankete katılanların Facebook kullanımına ve reklamları fark etme düzeylerine ilişki bulgular incelendiğinde, Facebook hesaplarını genellikle günde bir kez kontrol ettikleri görülmektedir (%38,3). Bu duruma 2019 istatistiklerine göre Instagram(%2,7), Twitter(%1,9) ve LinkedIn(%5,8) kullanımının artması buna karşılık Facebook kullanımının (%2,3) azalması (wearesocial.com/global-digital-report-2019, E.T. 02/04/2019) neden olarak gösterilebilir. Dolayısıyla Facebook'un katılımcı öğrenciler arasında da popülaritesini kaybetme eğiliminde olduğu söylenilebilir. Buna karşın katılımcı öğrenciler Facebook'a her girişlerinde yoğunlukla reklamları fark etmektedirler (%34). Bu reklamlar Facebook profillerinin her alanında yer almasına rağmen katılımcıların büyük bölümü reklamları Facebook ana sayfasında fark etmektedirler (%61,7) ve profil gizlilik ayarlarını yoğunlukla sadece belirlenen arkadaşlarının görebileceği şekilde ayarladıkları anlaşılmaktadır (%54,3). Bu noktada ise öğrencilerin gizliliklerine önem verdikleri ve sadece belirledikleri kişilerin ulaşabilmesine izin verdikleri anlaşılmaktadır.

Çalışmada katılımcıların kişiselleştirilmiş reklamlarla daha önce karşılaştıkları ve bu tür reklamları bildikleri (%81,8) ve bu reklam türünün Facebook'ta karşlarına çıkmasının gizliliğe dair büyük çoğunluğun görüşlerini etkilediği (%63) görülmektedir. Ancak kişiselleştirilmiş reklamlar Facebook gizliliğine dair düşüncelerini etkilerken diğer taraftan katılımcıların yaklaşık yarısı bu tür reklamları almaktan rahatsız olmamaktadırlar ancak diğer yarısı rahatsız olduklarını belirtmektedirler. Dolayısıyla kişiselleştirilmiş reklamlara karşı katılımcılar net

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Mustafa Akdağ, Nilay Akgün Akan

bir algıya sahip değillerdir (%51,4) ve bu durum reklamları aldıkları reklamveren şirketlere dair algılarını da etkilememektedir (%62,8).

Ayrıca “kişiselleştirilmiş reklamlar hakkında ne düşünüyorsunuz?” şeklinde sorulan açık uçlu soruya katılımcıların %57'si olumsuz değerlendirme yaparken (manipüle edici, gereksiz, etik dışı), %33'ü olumlu (zekice, faydalı) değerlendirmede bulunmuştur. %10'luk bir kısım bu soruyu cevaplamamıştır. Bu veri bize bu tür reklamlardan genel olarak olumsuz değerlendirme de bulunduklarını göstermektedir. Ancak detayında sınıf bazında incelendiğinde 2., 3. ve 4. Sınıflarda okuyan öğrencilerin çoğunluğu olumsuz değerlendirmede bulunurken 1. Sınıf öğrencilerinin çoğunluğu olumlu değerlendirmede bulundukları gözlemlenmiştir.

Bununla birlikte katılımcılar internetten alışverişin güvensiz olması noktasında da ikiye ayrılmakta ve yaklaşık yarısı güvenli olduğunu düşünürken, yarıdan biraz fazlası güvensiz olduğunu belirtmektedir (%58,2) fakat büyük bir kısmı kişiselleştirilmiş reklamlar yoluyla alışveriş yapmamaktadırlar (%76,4).

Çalışmada katılımcıların kişiselleştirilmiş reklamlar yoluyla alışveriş yapmamalarına karşın bu tür reklamlara ilgisiz olmadıkları görülmektedir. Ancak giyim (%29,9) ve teknoloji (%39,9) ile ilgili reklamlar dikkatlerini en çok çeken reklam içeriği iken, tanışma siteleri (%70) ile ilgili reklam hiç ilgilerini çekmemektedir.

Sonuç olarak, kişilerin internette gösterdikleri davranışlara göre oluşan ve Facebook'ta gösterilen kişiselleştirilmiş reklamların incelendiği çalışmada, genç Facebook kullanıcılarının kişisel reklam algısı, en çok ilgilerini çeken kişiselleştirilmiş reklam içeriği ve bu durumların satın alma ile ilişkisi gibi sorulara cevap aranmıştır.

Ankete katılan 368 kişiyle yapılan çalışmada Facebook kullanan gençlerin kişiselleştirilmiş reklamların farkında olduğu ve ne olduğunu bildikleri, Facebook ayarlarında gizliliğe önem verdikleri ve bu tür reklamların Facebook'ta karşılına çıkması gizlilik hakkındaki görüşlerini etkiledikleri ancak kişiselleştirilmiş reklam almak konusunda net bir görüş sergileyemedikleri görülmektedir. Bu durum da Facebook'ta yayınlanan kişiselleştirilmiş reklam sisteminin nasıl çalıştığını, fırsatlarını ve tehditlerini bilmemelerinden kaynaklanmaktadır. Bir yandan tedirgin olurken diğer yandan beğenip dikkatlerini çekmektedir. Zira bu tür reklamlardan giyim ve teknoloji en ilgilerini çeken içerik olarak belirlenirken, tanışma siteleri ile ilgili reklamlar en uzak oldukları reklam içeriği olarak göze çarpmaktadır. Satış ile ilişkilendirme noktasında ise internet üzerinden alışverişe tam olarak güvenmedikleri, dolayısıyla kişiselleştirilmiş reklamlar üzerinden alışveriş de yapmadıkları belirlenmiştir.

Çalışma genç kullanıcıların kişiselleştirilmiş reklamlara ilişkin genel algılarını ortaya koymak için anket yöntemi tercih edilmiştir. Ancak konunun gizlilik ve mahremiyet gibi hassas özellikleri bulunması ve detaylı olarak bilinen bir yapısı olmadığından derinlemesine mülakat gibi nitel araştırma yöntemleri ile desteklenerek katılımcıların tam olarak ne algıladıkları ortaya konmalıdır. Aynı zamanda birinci sınıfta okuyan öğrencilerin ilerleyen sınıflardaki görüşlerini belirlemek açısından benzer çalışmanın belirli bir süre sonra tekrarlanması, karşılaştırma açısından önemli olacağı düşünülmektedir. Bu sayede dijital reklamcılığın getirileri ve riskleri konusunda bilinçlenme düzeylerinin tespiti önemli olacaktır.

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THE ROLE OF HUMANITARIAN RELIEF LOGISTIC IN THE PROCESS OF FORCED MIGRATION

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Abstract

One of the global issues of today is forced migration within political, economic, and socio-cultural dimensions. Since the 1980s, forced migration, which is defined as human mobility by causes that pose threats to life and livelihood, has increased due to conflict, violence, and natural disasters. The forced migration process is mostly unprepared, sudden, and irregular. Besides, displaced people face difficulties in meeting their basic human needs, both on the migration route and at the destination. Humanitarian relief logistics (HRL) is gaining importance in terms of meeting the basic human needs of refugees with urgency. In this study, the importance of HRL in the forced migration process and the role of states and national/international organizations in the policies and practices for the functioning of HRL are examined.

Keywords: Forced Migration; Refugees; Internally Displaced Persons (IDPs); Humanitarian Relief Logistics (HRL).

1. Introduction

Although migration is not a new phenomenon, today it is considered as a humanitarian crisis in the political agenda. The most important reason for this kind of evaluation is the problems experienced in the management of migration at the national, regional, and international level. Especially in mass migrations, people become more vulnerable because of their inability to meet their needs. Also, forced displacement leads to a secondary crisis such as abuses against vulnerable displaced persons (Oloruntoba & Banomyong, 2018, p.283). In short, a crisis can create new crises. However, policymakers, scholars, and practitioners focus on the solutions of the crises caused by forced migration since the 1980s.

Forced migration can be defined as human mobility by causes that threaten life and livelihood. Moreover, it is possible to classify geographically displaced people (forced migrants) into two categories as refugees and IDPs. Whether or not the state's frontier is passed, forced migrants are not capable of satisfying their basic needs. Especially in the first phase of migration, urgent assistance, and support for these groups gain importance. So HRL for refugees and IDPs is essential and is also new sub-field for researchers (Oloruntoba & Banomyong, 2018; Seifert, Kunz & Gold, 2018).

HRL is a process of planning, implementing, and controlling the flow of materials and information from the point of origin to the point of need with an efficient and cost-effective way. Because of the requirement of response agility, national and international organizations have to take part in the process of HRL. The coordination of the

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national and international organizations has utmost importance at forced and mass migration, one of the causes of HRL, for meeting the needs of displaced people -forced migrants- in the shortest time.

The main aims of this study are to present relationship between HRL and forced migration, to explain the key role of HRL at forced migration process and to draw attention to HRL, which is a topic relatively overlooked in the field of in migration studies. In this study, the concept of forced migration, the problems faced by forcibly displaced persons, the concept of HRL and the importance of HRL for the forced migration process, the role of states, and national/international organizations in the policies and practices for the functioning of HRL are examined. In section 2, forced migration and related concepts are explained, then concepts of the humanitarian crisis, the humanitarian aid, and humanitarian relief logistics are described detailed in Section 3. Section 4 discusses the role of humanitarian relief logistics in the process of forced migration, and finally, the study concludes with a discussion.

2. Forced migration

Forced migration, which expresses the forced separation of people from settlements due to wars, conflicts, famine, development projects, climate change or disasters, is one of the critical issues of the global agenda. These factors, which are mentioned, make people vulnerable in different ways in many countries of the world today (Hameed, Sadiq and, Din, 2018; Hunter, 2005; Myers, Slack and Singelmann, 2008). For example, displaced people face problems in different subjects such as shelter, food, hygiene, transportation, security, legal protection, access to education and health services, and they are often subjected to rights violations and xenophobia. Besides, not only the people who migrate but also those who are left behind and the local people of the host country or region, are affected by forced migration that has the power to influence people economically, socially and politically. Therefore, migration has a multidimensional and complex structure.

It is possible to say that international interest for people affected by forced migration increased in the 20th century. The waves of forced migration created by the World Wars in Europe opened up the issue in political and academic fields. In the political sphere, states have taken steps towards the protection of refugees and the establishment of the asylum system, while Refugee Studies have started to appear in the academy as a new field. In these steps, the 1951 Refugee Convention plays a vital role. The Convention is still a centerpiece to determine who will be granted refugee status by specific criteria, and the two main criteria are persecution and alienage (Turton, 2003, p. 13). Moreover, the office of the United Nations High Commissioner for Refugees (the UN Refugee Agency) (UNHCR) is the most critical institution in terms of the international refugee regime.

According to International Organization of Migration (IOM), a refugee is “a person who, “owing to a well-founded fear of persecution for reasons of race, religion, nationality, membership of a particular social group or political opinions, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country.”³ However, people affected by forced migration are much more than “refugees” today because of the narrow legal framework (Burson, 2010; Turton, 2003; Zetter, 2003). Besides, forced migration can occur without crossing an international border. Thus, some of the people affected by forced migration are described as internally displaced persons (IDPs) (Castles, 2006). In 1998, the United Nations formed “Guiding Principles on Internal Displacement” as a normative framework (Feller, 2008, p. 286). These principles have been created to meet the help and protection needs of IDPs.

3 IOM, Key Migration Terms: <https://www.iom.int/key-migration-terms>

Apart from the refugee and IDP, there are different categories of forced migrants. These categories are (Castles, 2006, 8-12):

- b. Refugees
- c. Persons of Concern to the UNHCR
- d. Asylum Seekers
- e. Internally Displaced Persons (IDPs)
- f. Protracted Refugee Situations
- g. Returnees
- h. Development Displacees
- i. Environmental Displacees
- j. Disaster Displacees
- k. People-trafficking

As seen above, the categories vary. It is possible to explain this variety with the root causes and also political processes and legal frameworks (Castles, 2006; Turton, 2003). There is critical literature on conceptualization and categorization of migrants and migration. According to Zetter (2007), these labels were established by the governments of the developed Northern countries and set limits on who would be protected. Also, Bloch and Dona (2019, p.3) note that type of forced migrants with their own experiences and conditions “do not fit into the bureaucratic boxes.” For example, Crawley and Skleparis’ (2018) work with Syrian people who crossed the Turkey-Greece sea border after the civil war argues that the distinction between a migrant and a refugee is a sort of categorical fetishism.

The paradigm shift can also explain the diversity of categories in terms of the PostCold War era in the 20th century: With the increase of conflicts at the end of the Cold War era, especially in regions outside Europe, the geographical location of forced migration has changed. As a result, Refugee Studies transformed and took the form of Forced Migration Studies. This differentiation is related to the fact that the European sufferers of forced migration are replaced by third world people (Chimni, 2009; Elie, 2014; Hathaway, 2007). Today, Forced Migration Studies are progressing in two directions: asylum and refugees in the North, and humanitarian issues in the South (Castles, 2010, p.1570).

As mentioned above, there has been a dramatic increase in the forced migration of those who have escaped conflict and violence worldwide. People not only run from conflicts but also disasters such as extreme temperatures, landslides, wildfires, droughts, storms, earthquakes, and volcanic eruptions. Hence, today’s main forced migrations are caused by conflicts in Syria, The Democratic Republic of Congo (DRC), Iraq, Afghanistan, and by disasters in China, Cuba, Bangladesh, and Indonesia (The Internal Displacement Monitoring Centre [IDMC], 2018).

Whatever the primary driver of migration, one of the main problems in the migration process is the inability to meet the basic requirements of people. The infrastructural inadequacy of the destination countries/regions, the lack of experience of the institutions to organize the aid, the coordination problems among the organizations, the perception of the local people against the refugees/displaced people confront individuals, societies and states with different problems in the forced migration process.

According to UNHCR (2018, p.2), 68.5 million people are forcibly displaced worldwide (40 million IDPs, 25.4 million refugees, and 3.1 million asylum-seekers). Also 44.400 people a day were forced to flee in 2017. In short, nearly every two seconds, a person is displaced because of conflicts and persecution all around the world.⁴ The figures show us the importance and urgency of the issue, which is also considered a humanitarian crisis.

3. The humanitarian crisis, humanitarian aid, and humanitarian relief logistics

A humanitarian crisis is a series of events that pose a threat to the health, safety, and well-being of a community in a country or a vast region or a large group (World Health Organization [WHO], 2007).

The main reasons of humanitarian crises are armed conflicts, epidemics, famines, natural disasters, and other emergencies. The main reasons of humanitarian crises can be classified as cause into two groups: natural and human-made. Also, these are examined as sudden onset and slow onset. Figure 1 shows the cause of disasters and warning time.

	Natural	Man-made
Sudden-onset	Earthquake Hurricane Tornadoes	Terrorist attack Coup d'Etat Chemical leak
Slow-onset	Famine Drought Poverty	Political crisis Refugee crisis

Figure 1: Classification of disasters (Van Wassenhove, 2006; p.476)

The humanitarian crisis which leaves people vulnerable in different ways, need to be resolved urgently and globally. Notably, children, pregnant and nursing women, and persons with disabilities are more vulnerable in the forced migration process. In a humanitarian crisis, a single state or organization cannot overcome it, so collaboration between organizations gain importance.

People who are sufferers of humanitarian crises need to meet their basic needs from outside to survive, that can be done with humanitarian aid. Humanitarian aid aims to save lives and improve the conditions of people who suffer from natural or human-made disasters, as quickly as possible. Basic humanitarian aid operations involve meeting the urgent needs for food, shelter, and medical support to people in need. Humanitarian aid operations must be done with humanity, non-discrimination, impartiality, and independence.

Humanitarian aid operations have specific properties (Van Wassenhove, 2006; p.486):

- Agility → Quick deployment on demand,
- Adaptability → Consociations, joint forces, on demand,
- Alignment → Collaboration and share resources and risk.

By the report of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), 131.7 million people will need \$21.9 billion worth of financial humanitarian aid in the year 2019 (OCHA, 2018). As a

⁴ UNHCR, Figures at a glance. Retrieved from <https://www.unhcr.org/figures-at-a-glance.html>

result of these properties and growing numbers of affected people and the financial size of humanitarian aid, we face with the concept of HRL.

Humanitarian relief logistics is a process of planning, implementing, and controlling the flow of materials and information from the point of origin to the point of need with an efficient and cost-effective way. Humanitarian logistics aims to deliver the right aid materials in the right and correct amounts to the disaster areas and people in need as quickly as possible.

The main characteristics of HRL can be summarized as below (Tomasini & Van Wassenhove, 2009 and Kovács & Spens, 2009):

- Ambiguous objectives: There are different stakeholders such as donors, organizations, beneficiaries, and media; and their relations one to another and the contribution of the process are different. In a disaster situation, generally, actions are done uncoordinatedly, spontaneously, unsolicited, and disparately; in high quantities related to adequate and on-time delivery.
- Limited resources: Lack of resources (human, capital, infrastructure, material, technology, etc.) is the primary specialty of the process; and managing these scarce resources is the reason for the emergence of human relief logistics.
- High uncertainty: Demand is not predictable from the point of type, amount, time and place.
- Urgency: Demand has occurred in huge quantities and short lead times for a wide range of materials after an acute urgency typically characterizes a disaster situation.
- Politicized environment: The processes of humanitarian aid operations are shaped by political decisions. HRL should maintain doing operations independently from outside pressures.

HRL's core function is providing aid to vulnerable people (Seifert, Kunz & Gold, 2018). HRL has four phases: preparedness, response, recovery, and rehabilitation (Van Wassenhove, 2006; Howden, 2009; Leira et al., 2014). The preparedness phase focuses on building the capacity of the logistics unit for emergency supply for the response of vulnerable people. In this phase, the basic necessities of life (food, medical equipment, water, shelter, etc.) are pre-positioned for emergency response and also staff is employed and trained. Humanitarian logistics is very important in the response phase, which occurs immediately after the disaster. In this phase, the primary activities are saving lives and preventing further damage. The necessities of life are distributed to vulnerable people. The third phase is the recovery phase. The recovery phase involves helping vulnerable people to return to their prior conditions. Training people and distributing materials for rebuilding livelihoods, houses, buildings, and infrastructure are the main activities of this phase. The last phase is rehabilitation. The rehabilitation phase activities focus on improving all conditions of the affected people (Howden, 2009).

4. The role of humanitarian relief logistics in the process of forced migration

A displaced person has to be flexible, agile, creative, and resilient for surviving. These needs of displaced person drive to logistics planning, and managing of process forced migration (Oloruntoba & Banomyong, 2018). Because the basic principles of logistics are to get the right goods, at the right time, to the right place and the right people, they are applicable for HRL (Van Wassenhove, 2006; p.480). These principles help displaced persons to survive.

Globally there is a significant increase in numbers of displaced persons. Figure 2 shows the numbers of displaced person in years 2016 and 2017 by country; the number of people in need of HRL rises due to the increase in these numbers.

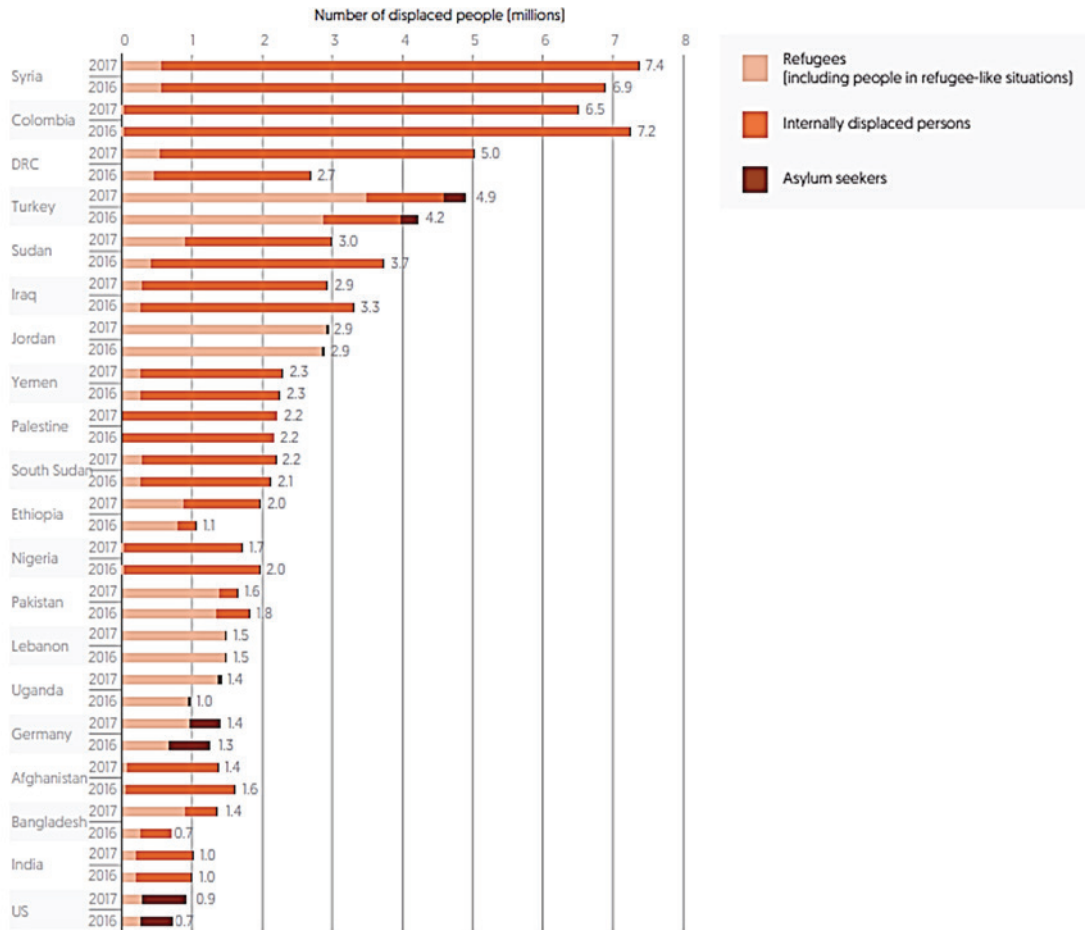


Figure 2: Numbers of displaced person by years of 2016 and 2017

(Retrieved from: <http://devinit.org/wp-content/uploads/2018/06/GHA-Report-2018.pdf>; p. 19)

The importance of fast and accurate delivery of humanitarian aid to refugees and IDPs brings HRL facilities into spotlight globally. There are several studies conducted in the literature on this topic; such as, the effectiveness of HRL facilities in Turkey to Syrian refugees and IDPs are discussed by Köseoğlu and Çevikel (2014); who evaluated the HRL facilities as Turkey's soft power. After the Ukrainian conflict, Polish humanitarian non-governmental organizations provided humanitarian relief to Ukrainian IDPs with HRL (Piotrowicz, 2018). Jahre et al. (2018) showed how HRL facilities function at refugee camps in Kenya, Ethiopia, Greece, and Turkey. In Jordan, HRL facilities were operated with the collaboration of international non-governmental organizations and local non-governmental organizations for Syrian refugees (Adem et al., 2018).

HRL can help refugees and IDPs during the response, recovery, and rehabilitation phases of forced migration (Oloruntoba & Banomyong, 2018). HRL and the responsible persons have to respond to displaced persons without any discrimination regarding where their origin country, where they are going, or what caused this. HRL and the responsible persons provide immediate and longer-term support, like food, water, healthcare and shelter for immediate support, or adaptation and settlement into host communities for long term support (Oloruntoba & Banomyong, 2018). HRL and the responsible persons must act with the principles of humanity, neutrality, and impartiality (Van Wassenhove, 2006; p.478). Once the forced migration situation becomes permanent, the needs change from emergency aid to social, cultural, economic, and geographical support; the process turns to rehabilitation and integration to the community.

In HRL process for refugees and IDPs, security, political conditions, and international convention must be considered for planning activities. Security must be ensured for vulnerable people and also humanitarian aid workers. Political conditions should not be allowed to affect the process, and the HRL operations should be done independently from outside pressures. Forced migration may include more than one country, so international conventions must be considered for humanitarian relief operations. Humanitarian relief provider organizations have to act under international conventions.

HRL in the forced migration process is a complicated area, and effective management of this process needs the collaboration of different organizations, such as governments, international non-governmental organizations, local non-governmental organizations, the private sector, and the armed forces. The importance of collaboration between humanitarian actors is maintaining the exchange of resources, such as knowledge, money, skills, products, and labor efficiency. If the collaboration between humanitarian actors is not sufficient as a result the humanitarian system failures and aid cannot be delivered effectively and efficiently, these may cause massive loss of lives (Adem et al., 2018).

5. Conclusion

Whatever the reason, migration has a great power to influence people's lives. Migration is not the goal for people, but it is a tool to survive and achieve better living conditions. No matter where in the world, HRL is vital for reducing the adverse effects of the forced migration process. HRL may need to be placed under a more comprehensive to recognize the wider socio-political and socio-economic factors that affect deeply in logistics.

In this study, HRL is viewed with meeting the need for things to survive necessities of life for refugees and internally displaced persons (IDPs). For efficient management of HRL operations, states and national/international organizations have to take part in the system. The integration of organizations is critical to the success of a global, responsive and agile HRL (Oloruntoba & Gray, 2006). Co-ordinated service with institutions at the national and international level, HRL improves the lives of many people without discrimination.

Considering the human dimension of migration, the HRL needs to benefit from the knowledge of areas such as sociology, anthropology, psychology, social policy, and social services in order to determine the needs correctly and deliver them to displaced people. Therefore, not only institutional cooperation but also academic cooperation is essential for a better service.

Long-term programs are needed to improve the living conditions of displaced persons since the factors causing the forced migration do not disappear in a short time. Social policies should be developed to provide security, housing, education, access to health services, infrastructure work, employment opportunities, and support services for people with special needs. One of the problems faced by displaced people and HRL staff is the language barrier in short term. Getting interpreter support to overcome communication problems between HRL staff and migrants can provide a more effective service. These short-term and long-term applications are related to the solution of the existing problem. It is therapeutic. However, it should be noted that there is a need for efforts to eliminate the source of the problem at the national, regional, and global levels.

Besides, forced migration is considered as a core public health issue (Wild and Dawson, 2018; Wickramage et al., 2018). For this reason, HRL operations are essential in providing effective health services to both displaced people and the local community.

Finally, Chimni (2009, p.22) draws attention to the fact that humanitarian agencies are in competition to access international funds and are affected by neoliberal vision. *Market humanitarianism* (Chimni, 2009; Currión, 2018) tends to overlook the human dimension of the process and to reduce the humanitarian assistance to a simple system of operations. It causes ethical problems in humanitarian activities. To take concrete steps in resolving moral problems, it is vital to emphasize *humanitarian ethics* (Slim, 1997, 2015).

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PART **III**

ENTREPRENEURSHIP AND HUMAN RESOURCE MANAGEMENT

12

THE IMPORTANCE OF ENTREPRENEURSHIP TRAINING ACTIVITIES FOR INCREASING WOMEN EMPLOYMENT IN TURKEY

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Abstract

Nowadays, entrepreneurship training activities are becoming more widespread. By these activities, women employment can be developed. The importance of entrepreneurship training activities in increasing women's employment will be emphasized, and various applications will be discussed. The content analysis method was used in their search. While providing information for content analysis, google.com was screened as 'women's entrepreneurship training'. The universe of the research consists of resources which are scanned as 'women's entrepreneurship training' on google.com. The sample of the study consists of training activities for the development of women entrepreneurship between 2014-2019. When we look at the studies, entrepreneurship education is becoming more widespread, and entrepreneurship awareness is growing, because women are more active in the economy by grasping their work plan and purpose better.

Keywords: Women, Entrepreneurship, Women Entrepreneurship, Employment, Training.

Introduction

For struggling with poverty, it is essential to increase women employment and get women into the economy. Increasing the participation of women in their working life and strengthening their social and economic strength are necessary for the development of the country's economy (Yeşil, 2018, pp.93). Women entrepreneurship is significant for economic growth for a country. Governments and different organizations must support women entrepreneurship and promote growth. By systematically help to develop women entrepreneurship, women employment increases and they have opportunity to develop and use their potential to get a better position in their daily and social life (Vidic et al., 2016, pp.354).

Women's entrepreneurship is necessary to increase women's employment. The women's entrepreneurship training activities to improve women's entrepreneurship in Turkey has increased in recent years. Through these training programs, women learn better entrepreneurship and develop themselves. Thanks to the training programs, women are more successful in the economy, entrepreneurship activities and the success of women entrepreneurs is increasing. With entrepreneurship training, entrepreneurs learn how to design and implement their business. Women's entrepreneurship activities contribute to the increase in women's employment and women gain professional knowledge and experience through entrepreneurship training activities. Women are more economically independent.

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1. Entrepreneurship and Entrepreneurship Training

Globalization has mostly eliminated the international boundaries due to its nature and causes countries that want to exist as international ones themselves to try to increase their competitiveness. Developing entrepreneurship is fundamental for increasing competitiveness. For this purpose, it is seen that many countries give private entrepreneurship a central place in the national development program (İlhan, 2003, pp. 76).

Entrepreneurship means the capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit. The most obvious example of entrepreneurship is the starting of new businesses. In economics, entrepreneurship combined with land, labour, natural resources and capital can produce a profit (Entrepreneurship, 2019).

According to Demirel (2003), from the information age, the weight of human labour on production decreased, whereas the weight of knowledge-based labour began to increase. At this point, the importance of entrepreneurship emerged as a complement to innovation, creativity and management activities (Beybur, 2009, pp. 17).

According to Raposo and Paço (2011), entrepreneurship training is the ability to see opportunities in a person's life, produce new ideas, follow the opportunities and find the necessary resources, establish a new company (Bozkurt & Alpaslan, 2013, pp. 11).

2. The Importance of Entrepreneurship Education in Enhancing Women's Employment

According to Karabıyık (2012), increasing women's employment is a crucial factor in achieving sustainable development both individually and socially. However, the employment rate in Turkey is a low rise every year. Women are less likely to participate in employment due to inadequate employment in the economy. The low level of participation of women in employment both constitutes a noteworthy obstacle to the capabilities of women and makes it impossible to realize social development (Dirik, 2016, pp. 11).

There has also been an increase in interest in women's entrepreneurship in recent years; entrepreneurship contributes to economic growth. Women have the opportunity to develop themselves through entrepreneurship, increase their self-confidence and have the power to make more independent decisions and act. Because of these elements; women's entrepreneurship increases in Turkey and is also developing (Fidan et al., 2015).

According to women worker studies in Turkey; more than half of women business entrepreneurs are in the trade sector. They are generally in the 30-39 age groups, and almost half of them have only a high school education level, and they are generally urban (<https://anahtar.sanayi.gov.tr/tr/news/turkiyede-girisimcilik-ve-kadin/1970>).

According to Çelik & Özdevecioğlu (2001), women entrepreneurs are located mostly in food, ready-made clothing, tourism, insurance, health and cleaning sectors (Gül&Gül, 2018, pp. 85). Training activities will be determined according to the needs in the sectors.

According to Gorman et al. (1997); entrepreneurship education and promotion of entrepreneurship are one of the most important policies that are very important for the development of entrepreneurship culture. According to various researches by entrepreneurship education, individuals are aware of entrepreneurship and show interventional behaviour. There is a positive relationship between entrepreneurship programs and interventional behaviours.

Entrepreneurship courses enable individuals to become aware of entrepreneurship as a career choice. Entrepreneurship courses and participation in these courses are also increasing (Aslan, 2009, pp.36).

Entrepreneurship training activities also promote women entrepreneurship and thus increase women's employment. With entrepreneurship education; women design, better manage and implement their jobs. They have sufficient knowledge about entrepreneurship. With the empowerment of women, the contribution of women to the economy will increase, and they will contribute to employment. Gaining a qualified labour force in the labour market will improve service and product quality.

3. Research

3.1. The Purpose and Importance of Research

The aim and importance of the study are to evaluate the importance of entrepreneurship education to increase women's employment.

3.2. Method of Research

The content analysis method was used in the research. Content analysis is a research technique used to make replicable and valid inferences by interpreting and coding textual material. By systematically evaluating texts (e.g., documents, oral communication, and graphics), qualitative data can be converted into quantitative data. Although the method has been used frequently in the social sciences, only recently has it become more prevalent among organizational scholars (<https://www.terry.uga.edu/management/contentanalysis/research/>). While providing information for content analysis, google.com was screened as 'women's entrepreneurship training'.

3.3. Sample of Research

The universe of the research consists of resources which are scanned as 'women's entrepreneurship training' on google.com. The sample of the study consists of training activities for the development of women entrepreneurship between 2014-2019.

3.4. Research Findings

*Entrepreneurship education is given according to the protocol between KOSGEB with Turkey Business Association (TEO) ([https://www.iskur.gov.tr/is-aryan/kurs-ve-programlar/girisimcilik -Education-programs /](https://www.iskur.gov.tr/is-aryan/kurs-ve-programlar/girisimcilik-Education-programs/)).

*Young Women's Internship Project aims to prepare young women for the business world and encourage them to enter entrepreneurship. With the establishment of a full-time and continuous business development center in Istanbul with the Women Entrepreneur Development Center (KAGİMER), it is aimed that the female entrepreneurs who will take part in this center will increase their success rate in the establishment years and be included in a communication network that will enable them to benefit from the experiences of successful female entrepreneurs of KAGİDER. Within the scope of KAGİMER Project, women's business ideas were evaluated, and 60 entrepreneur candidates received training and five entrepreneurs who were selected used free office services for one year and established their companies. The main goal of the 'European Women Entrepreneurs Mentor Network'

project is to support entrepreneurial business women who need new support and support young entrepreneurs and to improve their business management visions and volumes positively following this support (Kagider,2015).

*The main objective of the European Women Entrepreneurs Mentor Network project is the support of entrepreneurs who have recently established their own business and have been experienced in business life by entrepreneurial business women who have newly established young people and who need support. Direction development (Kagider,2015).

*Halkbank launched “First Step Credit to Women Entrepreneurs” for encouraging entrepreneurship, increasing employment and encouraging women with an entrepreneurial spirit to participate in economic life. The loan guarantee fund (KGF) covers women entrepreneurs who wish to establish a business for the first time or commercial activities for a period not exceeding one year. Credit limits are determined by the training and experience of the female entrepreneur (Halkbank,2015).

*International Labor Organization (ILO) conducted “Women to Get More and Better Jobs: Women’s Empowerment for Decent Work in Turkey” project by the aim of increasing female employment in Turkey, according to this project entrepreneurship trainings in the pilot provinces for women began in February 2017 (<https://www.bmdergi.org/language/tr/ilo-projesi-kapsaminda-kadinlar-icin-girisimcilik-egitimleri-basladi/>).

*Turkey Women Entrepreneurs Association of Women Entrepreneurs Development Program determined the application for 150 women entrepreneurs have come together in September organized camps. Participants received training on business model management, customer discovery and retention, relationships with investors, corporate culture and digital management. At the end of the process, 15 women entrepreneurs who will come forward with their business ideas will be provided with support to investors and support, such as mentoring (<https://www.istekadınlar.com/kadin-orgutleri/kagider-kampinda-150-kadin-girisimci-egitim-aldi-h2419.html>).

4. Results And Evaluation

In recent years entrepreneurship training activities have increased for supporting women entrepreneurship development in Turkey. Women’s entrepreneurship development positively affects women’s employment. Entrepreneurship education enables the entrepreneurship culture to become widespread, and at the same time, entrepreneurship awareness is improved because women are more active in the economy by grasping the business plan and its purpose better. Besides, women can create their vision and missions more easily thanks to their entrepreneurship awareness. Thus, they can draw road maps more easily.

Women who have the opportunity to develop themselves and their activities through entrepreneurship training can become more productive and improve their performance. Entrepreneurship training enables women to develop entrepreneurship awareness and develop their activities by recognizing themselves better. Women who are motivated by success are systematically working more consciously and can develop themselves. Women entrepreneurship is developing through entrepreneurship, and their contribution to the economy increases as women are strengthened. Increasing employment in the labour market, introducing qualified workforce to the market, enabling women to participate more dynamically in the business environment, adapting to change and development, becoming more productive can be achieved by developing women’s entrepreneurship.

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TRANSFORMATION OF HUMAN RESOURCES IN DIGITALIZATION: Y, Z AND ALPHA GENERATIONS

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Abstract

The use of computers and the internet in human resources (HR) processes and the inclusion of Generation Y in working life has ensured the digitalization of human resources departments. In most operations, all HR processes from storing, processing and archiving employee information, employment procedures, promotions, performance assessment and education are performed in the digital environment. In this situation, it is very important that the current employees from Y and Z generations who use technology very well and have analytical skills and the future employees of the Alpha generation adapt to the business and working environment. The aim of this study is to put emphasize the Y, Z and Alpha generations in digital human resources management. In this context, a literature search will be completed about the needs and consideration of generational features in terms of the Y generation keeping pace with this change, and the importance of growth and improvement of Z and Alpha generations as required.

Keywords: Y, Z and Alpha Generation, Digitalization, Digital Human Resources.

1. Introduction

The digital concept was derived from “digitus”, a word which means finger in Latin. This word means counting with a finger or touched in French (<https://sondevir.gaste24.com>). The impact of digitalization is boosted by the emergence of digital technologies (cyber-physical systems, cloud technologies, smart factories, internet of things, autonomic robots, big data, cyber security, etc.). Digitalization can be defined as the adoption of digital technologies to improve or disrupt business models, human resource management, and business processes as well as products and services (Denner, Püschel & Röglinger, 2018:). Therefore, it was stated that digital businesses undergo change and transformation with information technologies (<https://sondevir.gaste24.com>).

For business aims, the most important resource is “human resources” so that they can maintain their entity in the market, be successful and obtain competitive advantages. For this reason, making the necessary investments in human resources has gradually become a more important issue for business (Göktaş & Baysal, 2018). In a firm, all employees from the top manager to the lowest unqualified employee create the human resources. Using all human resources well, effectively and correctly in a firm, increases the importance of human resources management (Öğütoğulları & Akpınar, 2016: 26).

Today, developments arising from information, communication and internet technologies allow human resources management functions to be completed in electronic environments. As a result of the transfer of human resources management into electronic environments, Digital or Electronic Human Resources Management developed (Şengül,

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2016). The other factor which leads to the development of digital human resources management is the inclusion of the Y generation in business world. Y generation firms, which use the technology intensely, force digitalization and firms have to keep pace with this generation as well (<https://medium.com>, 16.04.2019).

On the other hand, due to the involvement of the Z and Alpha generations, which will be the future employees in work life, important changes will occur in work life. In this situation, a lot of responsibilities will increase especially for human resources managers. With Y, Z and Alpha generations all working together, the human resources department will create more modern and quicker production and communication capacities with high efficiency by working as a catalyst.

2. Importance of Digital Generations in Digital Human Resources Management

As the result of the wide use of computers and rapid developments in internet technology, Digital or Electronic Human Resources Management (E-HRM) includes the activities involving a significant portion of work done by human resource department being transferred to digital environments and completed in the digital environment (Şengül, 2016).

Today, many businesses have set up E-HRM systems in order to provide information belonging to human resources and to store this. Although a lot of resources are necessary for digitalization of human resources in the first step, digitalization of human resources is very important in terms of making all human resources management functions quicker and easier such as finding and selecting human, education, job evaluation and performance, charging, industry relationships, and increasing motivation of employees (Aksel, Arslan, Kızıl, Okur & Şeker, 2013). With the use of digital system applications in human resources management a lot of benefits are obtained, such as decreasing time and other costs, active participating in applications of employees and managers, assistance given to employees regarding planning their careers, new opportunities for employees, increasing satisfaction of employees, decreasing in monotonous and routine work processes, increasing interdepartmental communication and cooperation, making easier work process by decreasing bureaucracy, and increasing activity and efficiency, etc. (Aksel, Arslan, Kızıl, Okur & Şeker, 2013).

As a result of people and businesses becoming involved in digitalization processes, a new generation of human laborers has developed. These are more informed, have different expectations and needs, do not accept less, question necessities, and spare special time, instead of being employees who accept authority unquestioningly and accepted less from firms in the past (Latif & Serbest, 2014).

Today there are four different generations (silent generation, baby boom, X generation, Y generation) which have to work with each other in business life. The fifth generation, Z generation, has begun to work as trainees or in some workplaces. In the near future, the whole Z generation will participate actively in business life (Metin & Kızıldağ, 2017). Apart from these five generations, the 'Alpha generation' who will work with robot colleagues will begin to participate in business life in the future, as well.

In the past, there were many problems occasionally because people who were members of different generations were working together in the same business and at the same workplaces. It is possible there will also be problems in the future. Each generation has a different motivation, dependence on business, satisfaction levels, type of work, promotion, and wage expectations. It is inevitable there will be disagreements, disparities, communication problems,

and conflicts related with generations in these work environments which have as many differences. This situation leads to determination of human resources strategies by business according to generation differences (Latif & Serbest, 2014). In light of this, businesses have started to reregulate their working conditions in order to ensure different generations work together coherently, to motivate them, to create employment in the long term and to direct their career (Metin & Kızıldağ, 2017).

In today's working world, it is important that qualified employees are permanent, so businesses have started to use digital human resources applications rather than conventional human resources applications. In staff recruiting, human resources departments of firms have started to use institutional pages such as Facebook and career pages, LinkedIn, Twitter, Instagram, YouTube and Google Plus pages actively, apart from the firm's own website (<http://www.zorlu.com.tr>).

3. Generations: Y, Z and Alpha Generations and Work Life

The Turkish Language Society describes the generation concept as 'human societies who were born in the same years, share the same conditions of the same age, and for this reason who share similar fates, problems and who are in charge of similar tasks' (www.tdkterim.gov.tr). In terms of sociological concepts, generation is described as groups who were born between determined dates, who were inspired by common social, political, and economic events in social period, who have common values, beliefs, expectations and behaviors due to their similar responsibilities under these conditions (Taş, Demirdöğmez & Küçükoğlu, 2017).

Generally, generations are classified as silent generation, baby boom, X generation, Y generation, Z generation and Alpha generation.

Silent Generation; The silent generation includes people born between 1900 and 1945 (Kyles, 2005: 54). The personal characteristics of this generation are; focus on discussion, implication and being process-driven, difficulties in decision making so much, loyal towards authority, waiting for directions, preferring balance and the system, being respectful towards leaders, traditional, keeping pace with technology slowly and it is a generation where seniority is associated with age (Keleş, 2011).

Baby Boom Generation; This includes people born between 1946 and 1964 (Kyles, 2005: 54). This generation is also called the War Generation (Adıgüzel, Batur & Ekşili, 2014: 172). People of this generation have characteristics such as equality of women and men, struggle against racial discrimination and being sensitive towards the environment, loyal, view work as a duty or an obligation but lack technical skills (Demirkaya, Akdemir, Karaman & Atan, 2015; Bejtkovský, 2018: 27).

X Generation; X generation includes people born between 1965 and 1979 (Kyles, 2005: 54). People of this generation in the business world are rather contented, loyal, have high motivation, are respectful towards authority and able to work at the same workplace for many years and have idealist character feature. However, the negative characteristics of these people can be shown as having non-assertive behaviors in business world, paying more attention to individual success rather than team success and using technology mandatorily (Taş, Demirdöğmez & Küçükoğlu, 2017).

3.1. Y Generation and Work Life

The Y generation includes people born between 1980 and 1999 (Kyles, 2005: 54). Y generation is called the millennium generation (Andrea, Gabriella & Tímea, 2016: 92). This generation is also named differently, such as Future Generation, Eco Boom and Digital Generation. The Y generation, called the Digital Generation, has some specific characteristic features. These are technology addiction, being free and social, being enterprising, advanced thinking, accessing information rapidly, having high adaptation power, doing more than one job concurrently, having self-confidence, easily accepting changes, living for today, not planning for long periods, having university degrees and having corporation behavior (Adıgüzel, Batur & Ekşili, 2014; Andrea, Gabriella & Tímea, 2016: 93). Apart from these, Y generations have some negative characteristic behaviors such as becoming easily bored in jobs and for this reason changing jobs easily, not putting the job in the center of their life, having insufficient satisfaction and loyal emotions, and aggressive behaviors against authority (Göktaş, 2016).

Taking responsibility and gaining prestige are very important for members of the Y generation. This generation prefers being transparent, thinking freely and being asked their opinions and see themselves as a part of the team in the firms by joining management. Y generation employees expect promotions as soon as getting a job. Many Y generation members prefer working at a workplace where the environment is flexible, there is teamwork, and continuous and enjoyable learning (Metin & Kızıldağ, 2017). Y generation employees do not side with traditional office rules and hierarchy. They prefer being in the new jobs which aid in developing the business. They are ready for intense work pressure as long as they have managers who believe in them and that they can get feedback from. When viewed from this aspect, they have different work styles from previous generations. They do not inspire to degree and positions which belong to traditional hierarchy's pyramid structure. For them, all employees in the business should be informed about events regardless of seniority and opportunities should be given to employees with good ideas (Adıgüzel, Batur & Ekşili, 2014). With these features, the Y generation should be motivated by managers in the firm, and a work environment where they can work flexibly and socially should be created.

3.2. Z Generation and Work Life

Born after the 2000s, this generation is also called the 'Crystal Generation, Internet Generation, Digital Generation or Quiet Generation'. Unlike the previous generation, this generation is able to use social networks and new communication technologies very well and are members of various networks (Metin & Kızıldağ, 2017). The Z generation does not know life without internet, mobile phones and the web. They mostly form communication and friend relationships on social media such as Facebook and Twitter instead of e-mail (Nagy & Kölcsey, 2017: 109). Using technology very well, this generation perceives technology as being a natural life standard without technology addiction or being technology devotees. People of the Z generation are open to innovation, they are able to integrate any kind of innovation which is useful into their lives rapidly. These innovations include innovative products such as wearable technology, artificial intelligence as well as mobile communication and social media. For this reason, people in the Z generation called digital natives (Kayıkçı & Bozkurt, 2018).

The reason why the Z generation is also called the Quiet Generation is that they react by means of communication instruments rather than raising their voice or using physical force. Born in a period when digital and advanced technology are used widely, Z generation is different from previous generations due to having reading, seeing and speaking features at the same time and completing multiple duties. For this reason, it is described as

“the generation with the highest motor nerve ability integration such as hand, eye, and ear in history of humans” (Metin & Kızıldağ, 2017). Other positive features of Z generation are paying attention to individualism and freedom, knowing what they want, preferring being friend with colleagues, making self-expression easily without any complexes, and having a lot of enterprising sides and wishes. Apart from positive features, this generation has also negative features. These are being disloyal, giving up easily, being ego-centered, not being inclined to teamwork, and always having increasing expectations (Taş, Demirdöğmez & Küçüköğlü, 2017).

Starting to participate in the business world recently, Z generation's people attach great importance to business success and productivity because they can focus and they do not lose themselves in the details. People of this generation chase fun and continuous learning while they are working. This situation can contribute positively. Because this generation has the possibility to improve their abilities rapidly especially with the impact of technology, they are the most important human resource for business. However, because they have lower feelings of belonging and easily give up, it will be rather difficult to keep them in business with standard systems. Many sector managers indicate that there will be more screens, paper and procedures will decrease a lot, flexible working hours and models will increase much more, with project groups, temporary teams, and international team members instead of firm departments with the involvement of people from the Z generation (Taş, Demirdöğmez & Küçüköğlü, 2017).

3.3. Alfa Generation and Work Life

The “Alpha” generation are individuals born after 2010 (Reis, 2018). The Alpha generation is or will be the children of generation X, Y and Z (Bejtkovský, 2018). Therefore, people of this generation will have some features which belong to all generations. However, they will transform social life and the economy by differing completely from other generations in many aspects (<https://www.techinside.com>). The characteristics of this generation (Bejtkovský, 2018);

- they will be the best entrepreneurial generation so far
- they will be the best tech user generation ever
- they will primarily shop online
- they will have less human contact than previous generations
- they will be extremely pampered and influenced by their generation X and Y parents;
- they will be more self-sufficient,
- they will be better educated.

In addition, it is estimated they will be fond of their families. Considering the Alpha generations will be born in technology, the methods which will appeal to this generation require customized, user-friendly and dominant visuals for both marketing campaigns and also for recruitment processes (Kaynak, 2017). Playing with robot friends or assistants, studying lessons, talking, and spending time will be a part of life in the Alpha generation (<https://www.techinside.com>). In the future, Z generation will generally prefer to leadership professions and autonomy in terms of decision-making and technology. For example, they will be digital influencers, bloggers and YouTubers, etc. (Reis, 2018: 17).

4. Results

Digital transformations have caused amendments to strategies, work models, work processes, products and services, organization culture, decision-making, technological infrastructure, human resource management and collaboration of businesses (Aksel, Arslan, Kızıl, Okur ve Şeker, 2013: 14).

Nowadays, in addition, businesses perform human resource functions and use digital human resources systems. The advantages of digital human resources are decreases in business costs, increases in competition level, assist personnel for planning career, increasing collaboration and communication with all departments, making work easier by decreasing bureaucracy, managing time effectively, increasing morals and motivation, increasing productivity, increasing job satisfaction and organizational dependence. Besides, it can provide a decrease in job stress and intentions of quitting the job.

With the inclusion of digital generations in digital business, different generations will start to participate in business. As a result of this, firms may encounter some problems in order to eliminate these problems, and human resources department should take many precautions and make arrangements. The features of different generations should be known by human resources departments to determine career expectations of generations, attempt to understand each generation's values, create flexible working hours, arrange modern and technological work environments, create a strong communication network, and to ensure balance between the experienced generation and new generation. Thus, conflict of generations which will arise in business will be avoided in conclusion, business will be able to work efficiently and be more successful together with different generations.

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CONTEMPORARY CHALLENGES IN BUSINESS & LIFE SCIENCES

The motivation of this book is the need for understanding the new challenges in business world, commercial or social organizations have to face some challenges such as competition, economic burden, innovation, change, ethics, customer loyalty, satisfaction and social responsibility. These modern challenges bring new opportunities for any organization, besides some threats. The most important way to become a developed country is to have a competitive industry in today's global world. The other issue is also an innovation which is especially considered by commercial organizations. They are finding innovative ways of making their existence in the world. On the other hand, change is an inevitable fact for any business in today's fast-moving competitive environment. In addition, customer loyalty became as a remarkable research topic. Nevertheless, satisfaction is one of the newest challenges that means measuring how happy workers and consumers are with their working environment and life. In addition to this, nowadays, businesses started to use digital human resources systems for performing human resource functions. By the way, in recent years, consumption has begun to be examined as a social process that satisfies the psychological needs such as creating and presenting the self, identifying the status or social class, building relationships with others, influencing people in the environment or admiring oneself and proving themselves. In this context, the first chapter of this book includes topics related to decision making and forecasting that include some of the multi-criteria issues such as Data Envelopment Analysis, data mining, Analytic Hierarchy Process, Trend Analysis and CRITIC and Entropy-Efficiency Analysis. Chapter two deals with marketing and logistics topics such as loyalty, satisfaction, corporate reputation and personalized Ads. Finally, chapter three includes writing related to the issues in entrepreneurship and human resource.

CONTEMPORARY CHALLENGES

IN BUSINESS & LIFE SCIENCES