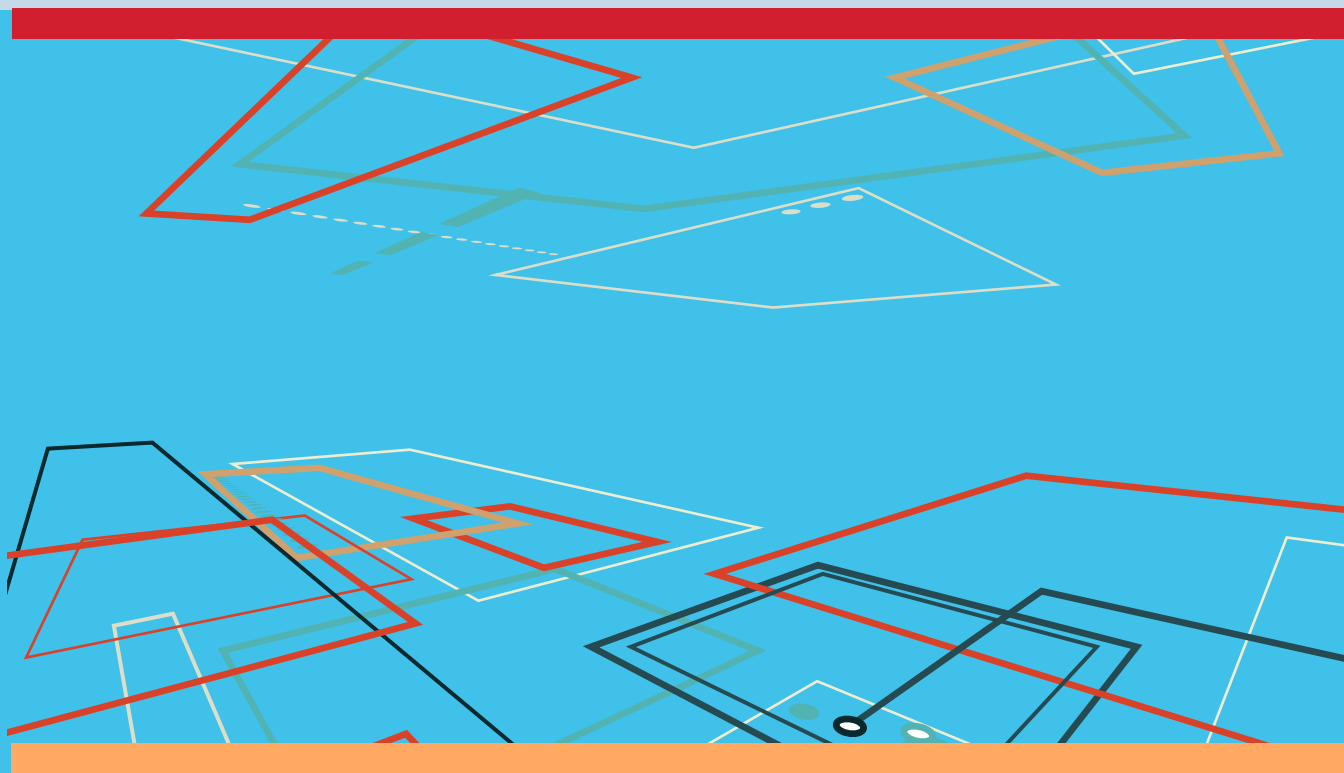# CHANGING ORGANIZATIONS

From the Psychological & Technological Perspectives

Hakan Kapucu
Cüneyt Akar

CHANGING ORGANIZATIONS:
FROM THE PSYCHOLOGICAL & TECHNOLOGICAL PERSPECTIVES

Edited By
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INTRODUCTION

CHANGING ORGANIZATIONS: FROM THE PSYCHOLOGICAL AND TECHNOLOGICAL PERSPECTIVES

In the modern business world, to involve in an intense, excessive and monotonous working order for people means that they may lose the real meaning of life and work. So that, satisfying individually has become very important in business organizations. In this context, workplace spirituality which is strongly related with the job satisfaction can be defined as the overall effort of the individual to find the ultimate goal in life, to develop a strong connection with colleagues and other business people, and to align their beliefs with workplace values. In other words, spirituality in the organizational dimension is also the sum of all values accepted by the people in the work life and in the institution.

Nonetheless, one of the most important issues which are concerned with job satisfaction in the business world both private and state institutions, is the leadership and procedural justice. In today's business conditions, managers and leaders have significant responsibilities both in the public and private sectors. Reaching the source of information, discovering new information or following it has become the most strategic task of the managers. As known, state institutions are organizations that are not profit-oriented, whose primary target is to serve citizens, and they are organizations that their activities and their employees' duties and authorities are limited by regulations. Although the duties and authorities of public institutions are limited by laws and regulations, these institutions must keep pace with technological developments swiftly. In order to provide better and faster service to the citizens, the public institutions not only use technology effectively but also they take measures that will provide maximum benefits from their employees. Reaching the source of information, discovering new information or following it has become the most strategic task of the managers.

Naturally, the leaders may face with the problem of efficiency in their organizations. Today, efforts to increase the efficiency of organizations can cause their employees to perform more than one role and a task at the same time. This is why they have to manage conflicts and ambiguities which affect employee's psychological resilience and their work life.

On the other hand, the leaders in the organizations in Turkey who have to manage efficiency face with brain drain. For organizations, brain drain is the immigrating of a group of talented employees from their organizations to other organizations for having more promising opportunities. Current and historical statistics about global immigration show that an increasingly large number of highly educated individuals from especially developing countries live and work in developed countries, particularly in Western Europe and North America that have been facing aging societies and shortages of talented employees in some specific professions. In this sense, the education systems of countries need to focus on talent improving and talent bringing methods rather than equipping the students/participants with complex knowledge that will not be used practically. More specifically, business organizations need to follow lifelong education and vocational training programs within a strategic human resource management perspective to make their employees satisfied with their jobs and thus committed to their organizations.

In any organization, not only measuring managerial performance but also financial performance in a given period is extremely essential to really understand if it is successful or not. In this frame, information concerning economic and financial structures of companies, their business results and changes in their financial status are submitted to the information and usage of companies' stakeholders by means of financial statements. The accuracy and reliability of information included in financial statements which are used by those concerned with the companies for different goals are crucial. The advancement, rapidly changing and progressing market conditions, new financial instruments, diversified expectations of stakeholders and big accounting scandals which took place in the early 2000's and their serious consequences emphasize the importance of rendering high-quality audit services. This service is rendered to companies by audit firms. For that reason, companies have to select the most appropriate (best) audit firm for them and demand audit service taking into account the conditions they are in.

While auditing is a controlling system, Enterprise Resource Planning (ERP) is also a planning and communicating system that involves all resources of a company. This system generally manages and controls the manufacturing, distribution, inventory, logistics, shipping, and accounting structures for businesses. This is why a comprehensive ERP system handles multiple elements of computer software and hardware to supply the integration. A significant gradient of most ERP systems is the usage of an integrated database to store data for different system modules.

One of the fundamental components of business organizations is consumers. Consumption represents a broad range of social, symbolic relationships and emotional experiences, not limited to requirements alone. Modern consumers tend to taste that they get from the experience in consumption rather than the product or service. This situation, make brands proposing to maximize the experience of consumption stand out from time to time with passion, and having certain brands can play a central role in the lives of consumers. Because of that, businesses are seeking ways to increase loyalty by providing their consumers with positive experiences related to their brands and to create passionate brands.

Today, dizzying developments in information and communication technologies such as digitalization, big data, internet of things, smart systems, artificial intelligence have brought with themselves big opportunities that would affect the business world as well. Machines with special algorithms and software and humans constantly communicate with each other and this, in turn, creates a huge amount of data. Emerging data contains very valuable information for businesses. At this point, data mining applications gain a high level of importance for the correct interpretation of data.

The first chapter of this book includes topics related to organizational behavior that define some of the contemporary issues such as job satisfaction, leadership, procedural justice, conflictions, and ambiguities. Kocabaş and Toraman aim to measure the effects of workplace spirituality on job satisfaction and life satisfaction of medical staff working in intensive care and operating room departments in a university hospital and they reached that workplace spirituality increases the possibility of promotion and decreases the desire to be rewarded by managers. In addition, it was determined that workplace spirituality contributed to life satisfaction. Şentürk and Erkubilay in their researches, the effect of procedural justice and leader support perception on employee voice behaviour. They obtained data from workers and civil servants work in Forest Management Directorates which is the sub-companies of the Bolu Forest Regional Directorate active at the Duzce province. As a result, they found that procedural justice and leadership support perception had positive effects on the employee voice behavior and there was a high positive correlation between procedural justice and leader support perception.

On the other hand, Oktay, Bozkurt, Akbaş, and Yazıcı examine the effects of perceived role conflicts and role uncertainties on their psychological resilience. They gathered data from the masters with thesis, non-thesis masters and doctorate students who study and work at the social sciences institute of a public university by using questionnaire. As a result of the research, it was determined that the employees did not have any effect on the psychological resilience of the role conflicts they experienced but when their roles were certain and their job descriptions were made, their psychological resilience was affected.

Demiral also aimed to explore whether the extent and quality indicators of education and training services explain brain drain in case of 10 home and 10 host countries in her study. The results showed that the quality of the general education system and local availability of specialized training services can reduce brain drain measured by the country capacity to retain talented individuals.

Chapter two deals with auditing and accounting topics indicating the selection of audit firms, gender in the accounting profession. Demirhan, Oktay ve Atasoy, analyses the applicability of Analytic Hierarchy Process (AHP) method which used for solving multi-criteria decision-making problems has been examined in the audit firm selection process. As a result, they found that the qualitative criteria have priority and audit fee, audit firm's size and audit firm's reputation have been the criteria that come to prominence. Özçelik in her study discusses the discrimination based on gender in the accounting profession. She indicates the structural and organizational problems that cause women's existing problems in the accounting profession and in the decision-making mechanisms of the profession and programs aimed at training women and supporting women's progress are needed. Akçay compares also Turkey's and Kazakhstan's general accounting systems in terms of uniform charts of accounts, balance sheet, income statement and cost accounting. Savcı investigates the theory of constraints to identify and manage the constraints that may stand in the way of achieving profit targets. The results of the study indicate that the theory of constraints improves the performance of businesses and continuously adds value to the operations.

Chapter three includes writing related to new methods and approaches in product management and marketing that gain importance parallel to development in commerce. Erdil aims to define the fundamental concepts and properties of Just in Time (JIT) perception, to present the literature of JIT approaching and to discover the principles towards the framework of this system. As known, the JIT system is certainly implementation for production/manufacturing structure in Quality Management. On the other hand, that research demonstrates a general overview and assessment of JIT in terms of management, quality management with the customer and market-business requirements via Quality Function Deployment (QFD) and Pareto Analysis (PA).

Uygun and Güner in this chapter, examine the brand passions of the university students and high school students on the basis of their brand experiences (functional, symbolic and affective experiences), which they live in particular in terms of mobile phone brands. In other words, it is to assess the potential relationships between brand experiences and brand passion of these consumers. The results show that there are significant positive relationships between brand experiences and brand passion; in this sense, the brand experiences, which are decisive in the level of obsessive brand passion, are symbolic, affective and functional brand experiences according to their importance and contribution level; the most important brand experiences that are decisive in the level of harmonious brand passion are affective and symbolic brand experiences, respectively. Same authors, in other research, try to determine the experiences of university students related to this city through the photography-based narrative technique, a new and integrated approach to understanding the nature of consumption experiences.

Chapter four discusses with data mining which is one of the contemporary topics in operating systems in organizations. Thanks to a series of technology such as digitalization, big data, internet of things, smart systems, artificial intelligence come to the fore and point to a newly emerging order. Basic motto of this new order may be summarized as "information is power." Soylu in his study examines main conceptional issues on data mining. Pınarbaşı and Canbolat, focus to analyze augmented reality mobile applications in application store to have a holistic perspective and investigate the augmented reality mobile applications rating and reviews in detail.

The last chapter of the book is related to healthcare management. Kocabaş and Korucu investigated the relationship between the nomophobia levels of the patients and the level of cyberchondria, a kind of e-disease, According to their findings; there was a significant positive correlation between nomophobia and cyberchondria. Finally, Korucu, Oksay and Kocabaş also focused on used literature studies to search the literature, and some of the resources that cybercondrivers access online are addressed. As a result, the Internet has a great impact on health beliefs and behaviors, it is necessary to act on the idea that health information on the internet can be of vital importance and health information on the internet should be of such quality. It is necessary to prove the trustworthiness of certain health sites by getting support from health professionals and by experts in the field of health informatics and to be announced to the public.

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EFFECTIVENESS OF WORKPLACE SPIRITUALITY JOB SATISFACTION AND LIFE SATISFACTION

Dilek Kocabaş[1], Aynur Toraman[2]

Abstract

In the effort to make a living, people who are involved in an intense, excessive and monotonous working order in working life lose the meaning of life and work. Satisfying the inner world, it has been found that people who have moved away from the point have not been happy enough to earn as much money and have not questioned their work. Workplace spirituality is defined as the overall effort of the individual to find the ultimate goal in life, to develop a strong connection with colleagues and other business people, and to align their beliefs with workplace values. It is important that the health care workers in the health sector feel comfortable in their conscience during the work they do and fulfill their tasks happily. This study aims to measure the effects of workplace spirituality on job satisfaction and life satisfaction of medical staff working in intensive care and operating room departments in university hospital. For this purpose, firstly the concepts of workplace spirit, job satisfaction and life satisfaction, which are the three basic concepts in the study, are explained and the relations between these three basic concepts are evaluated. The quality of the workplace environment significantly affects employee job satisfaction and life satisfaction. The perception of workplace spirituality and the high level of job satisfaction contribute positively to the increase of life satisfaction of employees.

Keywords: *Workplace Spirit, Job Satisfaction, Health Worker*

1. Introduction

The word spirituality is both in psychology and in religious matters. In the psychology of religion, spirituality is defined as the total of spiritual feelings, thoughts and behaviors that occur in the search and access to the holy, expressed spiritual values, true or truth (Örgev and Günalan, 2011: 53). In another definition, spirituality, the ability to connect with deep sources, is to include the individual living with feeling the connection with the rest of the world and to be aware of spirituality and to know that he is part of the same whole with others (Howard, 2002: 231). Spirituality in the organizational dimension is the sum of all values accepted by the people in the work life and in the institution (Seyyar, 2009: 44). Spirituality at work is defined by Kinjerski and Skrypnek (2006) as a special case of cognitive, interpersonal, spiritual and mysterious features and conceptualized in four sub-dimensions. Being one of the dimensions, work passion represents the cognitive feature of the concept. Work passion intense state of well-being, spiritual aims to highlight the significant work with the faith that includes the person's values and the sense of harmony between faith and not with the original work.

Community sentiment represents the characteristic of the concept based on interpersonal relationships and includes the shared sense of purpose and commitment that the individual shares with others. The spiritual bond size includes the feeling of attachment to a larger / greater person than the individual. The mysterious experience

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dimension includes the positive energy and vitality, the feeling of perfection, and the total enjoyment and ecstasy status (Kökalan, 2017: 38). When we look at the definition of the concept of job satisfaction, it explains: it is an emotion that an employee experiences as a result of his / her work and what he/she realizes when it meets the needs and personal value judgments or allows it to overlap (Barutçugil, 2004: 389). The concept of job satisfaction was first examined in the 1920s, but the importance of the subject was fully understood in the 1940s.

The concept of life satisfaction, first proposed by Neugarten in 1961, is the situation or result obtained by comparing the expectations of a person (what he/she wants) and what they have (Özer ve Karabulut 2003; Cited in Gündoğar et. all, 2007: 15). Satisfaction with the work of the individual makes significant contributions to the life satisfaction and productivity of the individual. By determining the factors that have positive or negative contribution to the life satisfaction of the individual, it may be ensured that the necessary arrangements are made to get more satisfaction. Although similar studies have not been observed in the literature with workplace spirituality, this concept is considered to be quite important. For this reason, it is concluded that the discussion and ethics of various aspects will be useful for both institutions and individuals.

2. Conceptual Framework

2.1. Job Satisfaction

High job satisfaction is related to the person developing a positive attitude towards the job as a result of his / her job, colleagues and business environment. The working conditions offered by the organization to the employees are perceived differently by the employees. The extent to which employees will be affected by the circumstances offered by the organization and what attitude they will develop will depend on their personal factors. Factors such as education, work experience and social environment of the person shape the evaluations of work and work conditions and are impressive in developing attitude (Eğinli, 2009: 38).

Job satisfaction is examined in two categories: personal factors and organizational factors. First of all, personal factors include age, gender, education level, organizational factors, wage, labor force, business environment and number of employees. The age and life period of the person plays a decisive role on the attitudes, behaviors and decisions of the person. Research shows that there is a U-shaped relationship between age and job satisfaction (Okpara, 2006: 50). When the results of the study examining the relationship between job satisfaction and gender, it was found that the interpersonal relationship factor was very important for job satisfaction for men and it was not important for women employees. The working conditions were important factors in the creation of job satisfaction for women employees, it has been shown to be very important for male employees. The individual's success in work life is related to internal job satisfaction, responsibility, progress, developmental standards. The standards of success and progress that the employee has set for him/her within the organization can only be concluded on the basis of the belief that the organization will realize its promises consistently and reliably (Sadykova and Tutar, 2014: 60). In order to increase the level of job satisfaction of the employees in the public sector, first of all, attention should be paid to the clues of job dissatisfaction (transfer of labor force, absenteeism, low motivation, increase in disease rates, etc). In this respect, it is necessary to check the records related to the employees frequently, to examine the remarkable results and to make researches about it (Eğinli, 2009: 50).

2.2. Workplace Spirituality

They define workplace spirituality as the internal life of employees who are fed by meaningful work and are realized in a community context (Ashmos and Duchon, 2000: 137). The main purpose of the workplace spirituality is to reach a person's potential and develop a positive relationship with the world (Neck and Milliman, 1994: 11). Workplace spirituality includes personal development, reliability and generosity in the work life, learning, responsibility, searching for the right and meaning, achieving a high purpose and compassion (Freshman, 1999: 321). Organizational trust is a climate of trust within the organization and it is the positive expectations of the members of the organization about the intentions and behaviors of individuals based on organizational roles, relationships and experiences (Kalemci-Tüzün, 2007: 105). While Başbuğ (2013) stated that spirituality is a right in terms of de social law ın, Eris (2013), with its experimental study that meaningfulness in the workplace, which is sub-dimensions of workplace spirituality, adaptation to workplace values, community awareness dimensions have a positive effect on job satisfaction and organizational commitment. has revealed. Although an important part of the employees work and earn money, they cannot be happy enough, they need to question the work they do, they desire meaning a job they can give meaning to (Seyyar and Evkaya, 2015: 167).

2.3. Life Satisfaction

Life satisfaction can be defined as the assessment of the quality of life as a whole in terms of family, school, friend, etc. Life satisfaction affects all areas in which people are involved. Working time has an important place in the life of the individual and increases the life satisfaction even though it does not increase the level of reaching the individual goals. Life satisfaction is defined as the degree of achievement of the goals determined by the individual in a sense (Aysan and Bozkurt, 2004). The level of life satisfaction, defined as the judicial evaluation of the suitability of personal goals and the goals achieved, is suggested to be effective in the emergence of psychiatric problems (Koivumaa Honkanen et al. 2001, cited by Ünal et al., 2001: 114). Life satisfaction consists of three parts. First, it defines the individual's life as a state of well-being comparing with external criteria. The second is the state of sensation created by judging his / her own life. The third one is the satisfaction of daily relationships (Serin and Özbulak, 2006).

3. Method

3.1. Population and sample

The sample of the study was composed of health personnel (N = 158) who work in the intensive care unit and operating room departments of the university hospital. The all population has been reached. Participation was reported on a voluntary basis and 16 people refused to participate in the study.

3.2. Data Collection Tool

Survey method was used as data collection tool.

3.2.1. Scales

In order to measure workplace spirituality, the 18-word scale developed by Kinjerski and Skrypnek (2006) was used. The scale is composed of four dimensions: work enthusiasm, mysterious experience, spiritual bond and community sentiment.

The Job Satisfaction Scale was developed by Spector (1985) in order to determine the level of satisfaction among individuals. Adaptation and validation of the scale to Turkish was performed by Yelboğa (2009). Life Satisfaction Scale, individuals to determine their level of life satisfaction by Diener and colleagues (1985), the Turkish version of the scale developed by Köker (1991). The scale consists of 5 items. For each item, options from 1 to 7 are presented, ranging from "not suitable" to "very appropriate".

3.3. Data Analysis

SPSS 22.0 package program was used to analyze the data. For descriptive statistics, regression analysis was used to test the relationship between frequency analysis, dependent and independent variables.

4. Findings

Table 1. Distribution of Participants by Demographic Findings

Gender	f	%
Male	43	30,9
Female	96	69,1
Total	139	100,0
Marital status	**f**	**%**
Married	95	68,3
Single	44	31,7
Total	139	100,0
Age	**f**	**%**
0-25	36	25,9
26-35	67	48,20
36 and above	36	25,9
Total	139	100,0
İncome	**f**	**%**
4500TL and below	52	41,3
4501 TL and above	74	58,7
Total	126	100,0
Seniority	**f**	**%**
0-10	88	63,3
11 years and above	51	36,7
Total	139	100,0

When the distribution of participants according to gender variable is examined; 69.1% of women are men of 30.9%. 68.3% of the participants were married and 31.7% were single. When the distribution of the participants according to the age variable is examined, it has been determined that 48.2% of the population is between 26-35 years old and 25.9% is between 0-25 years old and 25.9% is aged 36 and over. More than half of the participants (58.7%) have income of 4500TL and above. 63.3% of the participants work in the institution between 0-10 years. 36.7% of the participants who are working for more than 11 years constitute.

Table 2: Psychometric Properties of Workplace Spirituality Scale

Dimensions	Number of statements	Max/Min	Cronbach Alpha
Work Passion	6	1-7	0,75
Mystery Experience	5	1-7	0,81
Spiritual Bond	3	1-7	0,70
Community Sense	4	1-7	0,75

Table 2 consists of 18 questions, including 4 dimensions, 4 of which are workplace spirituality scale, 6 are mysterious experience dimension, 6 are spiritual bond size and 4 are community impression dimension. When the reliability values of the workplace dimensions are examined; work experience was determined to be 0.75, the mysterious experience size was 0.81, the spiritual bond size was 0.70 and the community sentiment was 0.75. These values confirm that the scale is reliable.

Table 3: Psychometric Properties of Job Satisfaction

Dimensions	Number of statements	Max/Min	Cronbach Alpha
Promotion	4	1-7	0,75
Fee	4	1-7	0,84
Control	4	1-7	0,73
Non-Salary Rights	4	1-7	0,71
Rewarding	4	1-7	0,8
Business Processor	4	1-7	0,75
Nature of Work	4	1-7	0,74
Workmates	4	1-7	0,69
Communication	4	1-7	0,74

Table 3 includes job satisfaction scale, promoted dimension 4, fee dimension 4, control dimension 4, non-salary rights dimension 4, rewarding dimension 4, business procedure dimension 4, nature of work dimension 4, workmates dimension 4 and communication dimensiin 4, 9 dimensions consist of 36 questions. When the reliability values of job satisfaction dimensions are examined, it can be said that the scale is reliable.

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Table 4: Psychometric Properties of Life Satisfaction

Dimensions	Number of statements	Max/Min	Cronbach Alpha
Life Satisfaction	5	1-7	0,80

Table 4 shows the psychometric properties of life satisfaction. The scale consists of a single dimension of 5 questions. The reliability of the scale is 0.80 and the scale is reliable.

Table 5: Effect of Workplace Spirituality on Work and Life Satisfaction

Dimension	Promotion		Fee		Control		Non-Salary Rights		Rewarding		Business Processor		Nature of Work		Workmates		Communication	
	B	t	B	t	B	t	B	t	B	t	B	t	B	t	B	t	B	t
Passion for work	-0,015	-0,155	0,021	0,271	,030	,270	0,183	1,649	-,207	-2,026	,100	0,874	0,019	0,258	,032	,293	0,0349	0,3396
Mystery Experience	0,073	0,868	0,009	0,13	,046	,463	0,095	0,973	-,024	-,265	-,184	-1,828	0,181*	2,754	,021	,219	-0,12	-1,3298
Spiritual Bond	0,151*	2,347	-0,063	-1,217	,007	,086	-0,065	-0,872	,059	,852	,051	0,663	0,018	0,356	-,148	-1,999	0,089	1,2854
Community Sense	-0,007	-0,101	0,109*	1,983	-,058	-,717	0,048	0,605	-,004	-,059	-,211	-2,599	0,268*	5,03	,106	1,359	0,0581	0,7945
F	3,44		1,47		,190		3,02		1,990		4,200		25,882		1,140		1,188	
R^2	0,09		0,41		,000		0,08		,050		,100		0,43		,030		0,03	
Adj. R^2	0,06		0,01		-,020		0,05		,020		,800		0,41		,000		0	

Table 5 presents the results of regression analysis. While dependent variables are job satisfaction and life satisfaction, the independent variable is workplace spirituality. In Table 2, there are sub-dimensions of workplace spirituality and the sub-dimensions of job satisfaction and life satisfaction. A statistically significant positive correlation was found between the spiritual bond and the sub-dimensions of the workplace spirituality. While a negative correlation was found between the sub-dimensions of the workplace spirituality and the rewarding of the mysterious experience, there was a positive relationship with the nature of the work. A negative meaningful relationship was found between community sentiment and business processor which is another sub-dimension of the workplace spirituality. A positive relationship was found between the passion and spiritual bond and life satisfaction.

If the results of the study are summarized briefly; In the study, it was determined that workplace spirituality contributed to job satisfaction and life satisfaction. Especially in the intensive care and operating room, when the participants do their jobs, the spirituality increases the promotion opportunity, the desire to be rewarded by the manager in the pleasure of being completely pleasant feeling away from the time and place while working, enjoying the job and finding the job meaningful, the commitment to other people while doing their job It has been revealed that feeling sense reduces unnecessary procedural work in the workplace. In addition, it has been found that the passion and spiritual bond have positive effects on life satisfaction.

5. Results

Nowadays, the spiritual needs of the employees in the working life are ignored and the people working in the busy pace of work are seen as machines. With the difficulties of working life, employees lose the meaning of living and working, and they become robots that are far from feeling and feeling. This negative situation causes alienation of

the employees both himself and his environment. It is unthinkable that any person who becomes alienated from himself and his environment will have no contribution to his work or society.

The most important problem of today's people is that they cannot be happy enough when they earn money from the work they work. When we come to the foundation of this situation, we have a problematic of spirituality. It can be seen that the employees who can not find meaning in their work and who cannot think about the contribution of their work to people do not create any value in their work life or family life. Considering the definition of workplace; It is observed that the employees are expressed as an environment in which they spend most of their daily life. The concept of work spirituality includes the spiritual needs, value judgments, world view of the employees in order to reveal the physical, mental and intrinsic motivations of the employees.

The concept of spirituality has a broader meaning in working life than in a narrow scope. Workplace spirituality is a concept that combines the spiritual needs, thoughts, values judgments of employees with the values of the organization. The institutions that have integrated the concept of workplace spirituality themselves respect the spiritual needs, value judgments, and world view of the employees in order to reveal the physical, mental and intrinsic motivations of the employees. In this case, employees can only develop a spirituality in their work.

In the study, people who were working in these two units were selected as samples because they were directly witnessed to the situations where people had vital importance such as death and birth, especially in the operating room and intensive care unit. In this study, it has been investigated whether workplace spirituality has an effect on job satisfaction and life satisfaction. In the literature, the results of the study are not presented comparatively since there is no similar study examining the effect of workplace spirituality on job satisfaction and life satisfaction.

As a result of the study, it was determined that workplace spirituality contributed positively to job satisfaction and life satisfaction. It has been revealed that workplace spirituality increases the possibility of promotion and decreases the desire to be rewarded by managers. In addition, it was determined that workplace spirituality contributed to life satisfaction. It is recommended to study with a larger sample in future studies and to compare between different cultural dimensions and socio-economic groups.

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2

EFFECTS OF PROCEDURAL JUSTICE AND LEADER SUPPORT ON EMPLOYEE VOICE BEHAVIOR

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Abstract

The purpose of the study is to determine the effect of procedural justice and leader support perception on employee voice behavior. The quantitative research method was preferred and the survey technique was used. The data were obtained from workers and civil servants works in Forest Management Directorates which is the sub-compines of the Bolu Forest Regional Directorate active at the Duzce province. As a result of the research, it is found that the procedural justice and leadership support perception had positive effects on the employee voice behavior and there was a high positive correlation between procedural justice and leader support perception. Significant differences were also found on procedural justice and leader support perception related to demographic characteristics of employees.

Keywords: *Voice, Employee Voice Behavior, Leader Support, Organizational Justice, Procedural Justice*

1. Introduction

Public institutions are organizations that are not profit-oriented, whose primary target is to serve citizens, and they are organizations that their activities and their employees' duties and authorities are limited by regulations. Although the duties and authorities of public institutions are limited by laws and regulations, these institutions must keep pace with technological developments swiftly. In order to provide better and faster service to the citizens, the public institutions not only use technology effectively but also they take measures that will provide maximum benefits from their employees. Working in a public institution is highly desirable in terms of having a reputation, continuity and average income level by every segment of the society. In our country, according to education level, millions of people apply for civil service exam held every year or every other year. However, very few people become civil servants by succeeding in these exams. Since civil servants represent the state, civil service is seen as a sign of reputation for employees and citizens. The gains of civil servants are provided by collective agreements and laws.) However, as noted in the concept of procedural justice (Greenberg, 1990), the perceptions about the appropriateness of the method, policy and procedures used to make decisions on the distribution of gains rather than the merits of gains have great importance for civil servants. It is suggested that employees develop behavior according to the attitudes of their organizations. According to this theory, employees, who are respected, esteemed and supported by their organizations and who feel they are important to their organizations feel more pleased and more committed to their organizations and leaders. In addition, it is stated that the employees also tend to contribute positively to this contribution of organization, thus they increase their motivation and performance (Çakar & Yıldız, 2009, pp. 77). Employees sometimes have more constructive information and opinions than their managers or bosses to improve or develop existing working conditions in the workplace. Depending on

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various factors, employees sometimes contribute to the development of the workplace by sharing this knowledge and opinions with managers and supervisors. Such behaviors are called as employee voices. The exhibition of such behaviors is closely related to expectations to receive support from their leaders, and their desire to work in a fair environment. In this context, it is stated that the main objective of the research is the determining the effects of procedural justice and leader support perception on employee voice.

2. Literature Review

In this part of the research, information that is obtained as a result of literature review of procedural justice, leader support, and employee voice variables in the context of organizational justice as research variables will be shared.

2.1. Organizational Justice

The concept of justice is based on Arabic origin and according to TLS (1983), it is used in the meaning of "Ensuring the use of the rights having by the laws by everyone.", "Compliance with right and law, taking care the right". The justice that has been mentioned since the early ages is a notion that changes from one thinker to another. This is because of being tried to express the longing for it in defining of justice. While justice is expressed as a real necessity for people to live harmony, whereas injustice is expressed as the seed of the chaos (Esener, 2004).)

The concept of justice has begun to be investigated by researchers since 1940s. Firstly, during the First World War, the difference in employees' satisfaction levels attracted attention in researches on the adaptation of troops to army life, in the result of the army's promotions in discipline and aviation unit (Iraq, 2004).

Justice was begun to be scrutinized under the theory of psychological equality in the 1960s and 1970s, and some psychologists emphasized the principle of equality as a fundamental principle of justice. This principle manages neither economic nor social relations. The principle of equality is based on the relationship between two people. Individuals' fair and honest behaviors, and behaving more fair and honest one from the other, brings reward or punishment to individual. By supposing every person as selfish, the theory of equality assumes that every person will act with the desire to provide the highest benefit for himself. This desire manages the behaviors of individuals (Wagstaff, 1999).

Organizational justice refers to situations in which whether employees are treated fairly in their field of work or not. Organizational justice is explained as a set of rules and social norms about the distribution of organizational resources (reward and punishments), the procedures used to determine such distribution decisions, and how should be the interpersonal behaviors during the execution of these procedures (Greenberg, 1996). According to the transfer of Özdevecioğlu (2003) from Luthans (1981), studies on organizational justice are based on Adams' Equality Theory. In the theory of equality, the people's job success and level of satisfaction is related to the equality or inequality they perceive about their workplace.

In the literature, studies on organizational justice are generally considered in three sub-dimensions; they are distributive, procedural, and interactional justice types.

2.1.1. Distributive Justice

The issue of distributive justice constitutes interpersonal gains such as distribution of tasks, wage levels, promotions, opportunities, rewards, punishments. Distributive justice gives an idea of whether the individual's gains are fair, appropriate and ethical by implying the justice perceived by the individual in the distribution of these gains (Folger & Cropanzano, 1998). There are three important rules of distributive justice, these are the following (Organ, 1988):

• **Equality Rule**: This rule explains that distribution is in accordance with the contributions of individuals. Namely, if a person works overtime, if he endeavors more, he/she deserves a higher wage (other conditions are equal) than part-time worker. Therefore, it is contrary to the equality rule that the manager does not pay more than the partial worker to the employee who works overtime.

• **Equal Share Rule:** According to this rule, equality of opportunity should be given to all employees in order to obtain the rewards without regarding their individual characteristics (race, gender, etc.). For example, suppose that there are two vacancies in a business foreman position and the human resources (HR) manager responsible for staff selection interviews two female and two male staff with the same level of competence to fill these vacancies. As a result of this interview, other two female candidates may think that equal share rule is ignored if HR manager prefers to work with two male candidates because of some considerations about gender, although their competencies and other characteristics are equal.

• **Requirement Rule:** Distribution must be according to the need of the individual. In other words, it should be paid more to those who have lower economic status than others. For example, an employee, a mother of two children should receive more wage than a woman who is not married (other conditions are equal). Otherwise, a mother of two children will think that the requirement rule is disregarded in her organization justice distribution.

2.1.2. Procedural Justice

Organizational justice researchers have conceptualized justice as procedural justice that is perceived from the processes and policies used to make decisions in the working environment. That is, they are perceptions on justification of the method, policy and procedures used to make decisions about the distribution of gains rather than the justification of the gains (Greenberg 1990).

The procedure is the tool used to reach the desired results. The result (gain) is to equitably distribute the distribution justice as much as possible. Procedural justice concerns about fairly perception of the methods used to distribute these gains (Özdevecioğlu, 2003). Procedural justice has two sub-dimensions. These are (Günaydın, 2001);

a- It concerns the "structural" feature of the procedures and practices used in the decision-making process. Giving employees the right to speak before the decision, the right to control the process, gathering the information completely and correctly while decisions are made is the implementation of taken decisions to employees in an impartial manner.

b- The perception of justice that is related to informing. Making a sufficient and justified explanation to the employees affected by the taken decisions is reserving the right to ask for clarification. Negative perceptions about procedural justice reduce the commitment of employees to their employers and organization, cause their performance to decline, and result in less exhibitions of citizenship behavior. The employees behave sensitively about how they

are treated. They want to feel the value given them.) Therefore, they have been in positive perceptions for the employers who enable them to express themselves and care their thoughts about the taken decision. As a result, such behaviors towards employees determine the quality of the interaction that develops between employees and employers (İşbaşı, 2000).

2.1.3. Interactional Justice

Interactional justice can be expressed as explanations of employers for workers respectfully and fairly about the processes in obtaining the distribution decisions. According to Bies (2001), it is certain that people deal with the procedures used in decision-making processes, but they also deal with the treatment in mutual relations between the individuals. This interest of people is called as "interactional justice".

Interactional justice has been recognized long time after distributive justice and procedural justice. Studies on distributive and especially on procedural justice have led researchers towards interactional justice. Interactional justice is the most studied type of organizational justice nowadays. It was first proposed by Bies and Moag (1986). Interactional justice is a concept that indicates the quality of interrelations between individual (Günaydın, 2001).

Employees expect from employers to communicate with other employees in the same way and seek justice in this communication. Employers who are respectful to some workers and disrespectful to some workers are not perceived as fair (Özdevecioğlu, 2003).

Four rules have been determined about interactional justice. These can be expressed in terms of respect, lawfulness, honesty and truth (Çolak & Erdost, 2004, pp. 60). Greenberg (1993, pp. 82-86) distinguishes these determined four rules into two groups. He has defined respect and lawfulness as interpersonal justice, and honesty and truth as informational justice. Interpersonal justice is the perception of justice for managers, who receive distribution decisions, how the decisions taken for employees are told. Behaving by managers' prejudice-free and respectful manner in their communications with employees provides them to be perceived fairly. Informational justice refers informing employees about the distribution of benefits such as wage and promotion, and about the processes related to how distribution decisions are taken and making necessary explanations about these situations.

As the interpersonal gains such as personal rights, distribution of work, wage levels, promotions, opportunities, rewards, punishments of civil servants and workers working in public institutions are determined by laws or collective agreements signed by the government and authorized trade unions, and as their distribution does not differ according to managerial attitudes and behaviors, and as it is equally distributed to the determined people at the amount specified in the law only procedural justice is addressed in our study.

2.2. Employee Voice

Employee voice is a concept that has emerged by researching the employee voice behaviors first introduced by Hirschman (1970) over time. According to this theory, in case of a problem or dissatisfaction in the workplace, a person performs an evasive or voice action against the workplace depend on his/her commitment level. The voice concept arises from the idea of employees expressing dissatisfaction or business disadvantages to increase prosperity of employees or institutions (Hirschman, 1970).

Employees sometimes have more constructive knowledge and opinions than their managers or bosses to improve or develop existing working conditions in the workplace. Depending on various factors, employees sometimes contribute to the development of the workplace by sharing their ideas and thoughts with managers and supervisors and sometimes hide their knowledge and opinions by staying silent.

There are various definitions in the literature related to the employee voice concept that comes out in different definitions like giving voice, voice, positive voice.

- Acting a positive and constructive behavior for the organization's development, welfare and productivity, instead of criticizing the management and operation of the organization in which the employee works. Making innovative recommendations for changing stereotyped applications even other employees' thoughts are not same (Dyne & LePine, 1998).
- Expressing willingly these ideas verbally, instead of hiding the emotions, thoughts, and the information in order to make progress in business (Dyne et al., 2003).
- It is expressing of employees' thoughts and worries, if they have, to improve the performance of the organization (Morrison, 2011).

As it is understood from the literature, sharing the knowledge and thoughts with the top management that will remove the employee's dissatisfaction with the workplace and work lies in the basis of voice behavior. In this way, business prosperity and organizational commitment of employee will increase, so employee performance will be positively affected.

When the studies on the employee voice in the literature are examined, it is seen that employee voice is directly and indirectly investigated in two dimensions. Direct employee voice refers to individual employees or working groups' direct influence degree of basic decisions affecting their daily work. Indirect employee voice affects the works done by employees of trade unions, work councils, joint labor-management advisory committees and company management boards through their representatives (Levine, 1990).

2.3. Leader Support

The leader support concept is based on Blau's (1964) Social Interaction Theory. The theory suggests that employees develop their behavior according to the attitudes of their organizations. According to this theory, the employees who are respected esteemed and supported by their organizations and who feel that they are important for their organizations feels more satisfied and more connected to their leaders and organizations. In addition, the employees tend to contribute positively to this contribution of organization, thus it is stated that they increase their motivation and performance (Çakar & Yıldız, 2009).

The level of value given to employees in their organization and a supporting organizational culture are important for them. Employees develop perceptions on how much their leaders deal with their welfare and health, and how much they value their contributions to organization. Leaders are responsible for assessing and directing employees, as well as providing them with the necessary support for their work (Eisenberger et al., 2002). In the light of this information, leader support can be defined as the sense level of employees about the support shown by leader (DeConinck & Johnson, 2009). Leader support has a significant contribution to employee's attitudes and behaviors, and at the same time, it provides the development of employees' perceptions about organization

(DeConinck & Johnson, 2009). Leader support has widespread effects on employees' job satisfaction, performance and productivity (Al-Hussami, 2008).

3. Method

In this research, quantitative research technique has been preferred in terms of being able to be proved by numerical results. In this section, the population and sample structure of the research have been explained; the effects of perception of employees' procedural justice and leader support, which are the sub-dimensions of organizational justice, on employee voice have been tried to reveal with statistical methods.

3.1. Population of the Research

The population of research consists of total 270 civil servants and employees who work in Akçakoca, Düzce, Gölyaka and Yığılca Forestry Departments which provide service in Düzce province within the Bolu Reginal Directorate of Forestry. However, most of the personnel of the Forestry Directorates work on the land due to their general structure. Since it is difficult to reach the personnel working on the land both in terms of financial and time and as Nakip (2003) stated that a sample is taken to represent the population in case of difficulty to reach the whole population and when it can not be fully calculated. When the population can not be determined, as a general rule, the minimum number of observations must be more than 5 times the variable number has been applied. The scales used have consisted of 17 statements and accordingly the number of observations required to be 85 out of 17*5. Surveys distributed to employees have been answered by 130 people. As 4 surveys have not been filled properly, they have been excluded from the assessment. Statistical analyzes have been made on 126 remained surveys.

3.2. Measures

In order to collect data for learning employees' demographic characteristics, surveys, which consist of 17 questions from 6 (six) statements and 3 scales including gender, marital status, educational status, age, title and working period in GDF, have been used. The information about used surveys is given below.

3.2.1. Procedural Justice Scale

In order to measure the employees' perception levels of procedural justice, which is the sub-dimension of organizational justice, the Organizational Justice Scale developed by Niehoff and Moorman (1993) have been used. The original scale consists of three dimensions and 20 statements, it measures the distributive justice with 5, procedural justice with 6, interactional justice with 9 statements, only the procedural justice scale has been used in our research.

There are many Turkish translations and adaptations of scale. In this study, the scale adapted to Turkish by Karaeminoğulları (2006) has been used. As a result of reliability analyzes of this scale made by Çelik et al. (2011), the Cronbach alpha reliability coefficient has been .86 for procedural justice.

3.2.2. Leader Support Scale

To measure the leader support that perceived by employees, "Leader Support Scale" consisting 5 statements developed by Netemeyer et al. (1997) was used. The scale is translated into Turkish by Çelik and Turunç (2010), and as a result of reliability analyzes, the Cronbach alpha reliability coefficient has been determined as .95.

3.2.3. Employee Voice Behavior Scale

The Employee Voice Scale consisting of 6 statements was used to determine the employees' perceptions on voice. The Employee Voice Scale was developed by Dyne ve LePine (1998), it was adapted to Turkish by Arslan ve Yener (2015) by making its validity reliability study. Both original and Turkish adapted scale forms are one-dimensional, the Cronbach alpha reliability coefficient has been 0,76.

3.3. Research Model and Hypotheses

As independent variables, the procedural justice and leader support from the sub-dimensions of organizational justice and as dependent variable employee voice form the research model. Detailed information about the research model is presented in Figure 1.
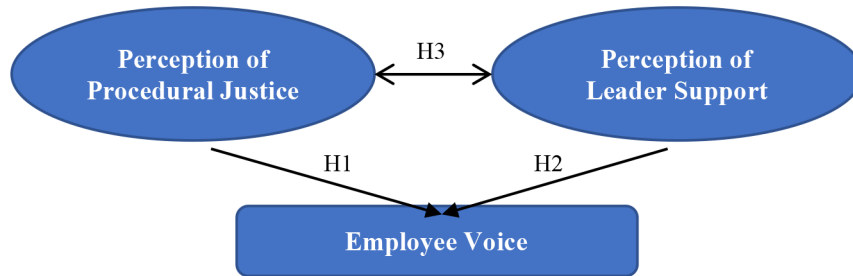
Figure 1: Research Model

Research hypotheses have been constituted by considering the model in Figure 1, and hypotheses that forming the basis of research have indicated below.

H1- The procedural justice perception of employees has an impact on employee voice.

H2 – The leader support perception of employees has an impact on employee voice.

H3 - There is a meaningful relationship between employees' procedural justice perception and leader support.

However, the following questions need to be answered in the research:

- Do the employees' procedural justice perception levels diffrenatiate according to their demographic characteristics?
- Does the employees' leader support perception levels diffrenatiate according to their demographic characteristics?
- Does the employees' employee voice perception levels diffrenatiate according to their demographic characteristics?

3.4. Participants

A variety of data has been collected on the personal characteristics of employees involved in the survey.) The findings about employees' personal characteristics are given in Table 1.

Table 1: *The Findings about Employees' Demographic Characteristics*

Demographic Characteristics	Categories	Frequency (f)	(%)	Demographic Characteristics	Categories	Frequency (f)	(%)
Gender	Male	98	77,8	**Marital status**	Married	103	81,7
	Female	28	22,2		Single	23	18,3
Education Level	Primary	19	15,1	**Age Level**	Between 18-29	20	15,9
	High school	55	43,7		Between 30-41	42	33,3
	Associate Degree	22	17,5		Between 42-53	43	34,1
	Graduate	30	23,8		Between 54-65	21	16,7
Title	Worker	47	37,3	**Duration of Work (year) in the GDF**	Between 0-10	67	53,2
	F.G.O.	21	16,7		Between 11-20	13	10,3
	Officer	43	34,1		21 years and over	46	36,5
	Engineer	15	11,9				

The majorities of the employees participating to research (77.8%) are male and married (81.7%). Considering that starting to work age is 18 years and mandatory retirement age is 65, for 48 years between these two ages, employees have been divided into 4 age category consisted 12 each year, and 34,1% of the participants in the research consist of individuals between the ages of 42-53. When the educational status of the employees is examined, 43% of them are high school graduates. Because in the worker recruitments, it is considered to be high school graduate. 37,3% of the participants are workers and 34,1% of them are officer. Finally, it is seen that 53.2% of the participants worked less than 10 years in the General Directorate of Forestry.

3.5. Limitations of the Research

The sample of research is limited to employees who work in Akçakoca, Düzce, Gölyaka and Yığılca Forestry Departments which provide service in Düzce province within the Bolu Reginal Directorate of Forestry. The study is limited to the fall semester of 2017 in terms of year and period. The survey distributed to the employees indicated that the data will only be used for academic purposes and the answers they give to the surveys are evaluated by assuming that they are not psychologically oppressed.

4. Findings

The data obtained in the study were analyzed by using the SPSS (Statistical Package for Social Sciences for Windows 21.0) program. While evaluating demographic data; descriptive, for differences; Anova and T-Test, for relation; correlation and for interaction between the variables; regression analysis have been used.

4.1. Preliminary Analysis

The results of the mean, standard deviation, number of questions belonging to scales, reliability coefficients, and scale levels for each variable are presented in Table 2.

Table 2: Descriptive Statistics Related to Variables

Değişkenler	$\overline{\mathbf{X}}$	S. D.	Number of Questions	Reliability Coefficient	Scale Level
Procedural Justice	3,21	1,16	6	.920	5 Likert
Leader Support	3,63	1,16	5	.924	5 Likert
Employee Voice	3,65	1,08	6	.918	5 Likert

When the descriptive statistics for variables are examined, it is found that employees have moderate level of procedural justice perception ($\overline{X}$= 3,21), leader support perception level is slightly higher than middle level ($\overline{X}$= 3,63) and employee voice levels are also slightly above ($\overline{X}$=3,65) the middle level. In addition, we can say that the reliability coefficients for the variables are very reliable according to the α values stated by Kayış (2010).

4.2. Correlational and Regression Analysis

In this section, findings are shared to determine interactions between research variables and to test hypotheses. A simple correlation technique has been used to determine the direction and level of the relationship between employees' perception levels of procedural justice, leader support and employee voice. The score ranges for the correlation (r) value are interpreted as follows: If r = 0, there is no relationship between the two variables, If r <.300 there is a low level of correlation between the two variables, If .300 <r <.700 there is a moderate relationship and r> .700, there is a high level of relationship. The correlations between the variables are presented in table 3.

Table 3: Correlation Analysis Findings

Variables	Procedural Justice (r)	Leader Support (r)	Employee Voice (r)
Procedural Justice	1		
Leader Support	,830**	1	
Employee Voice	,734**	,616**	1

When correlations between variables are examined to explain the relationship between procedural justice perception and leader support perception, which are independent variables in our study, it is seen that employees have a high positive correlation (r =, 830) between procedural justice perception level and leader support perception level, the H3 hypothesis has been accepted according to this.

In addition, it is seen that there is a high positive correlation (r =, 734) between the procedural justice perception level and the voice levels, and a moderately positive correlation (r =, 616) between the voice level and the perception level of the leader support.

Table 4: Employee Voice-Procedural Justice Perception Simple Regression Analysis Findings

Independent Variable	β	Significance Level of t Value
Procedural Justice	,734	,000
R²	**F**	**Significance Level of F Value**
,539	145,152	,000

According to the findings in the table, the level of independent variable for explaining the dependent variable is statistically meaningful. (R^2= ,539 F= 145,152, p= ,000). The level of procedural justice perception (β =, 734, p =, 000), which is an independent variable, for explaining dependent variable employee voice has been found statistically meaningful. It has been found that the independent variable has a significant effect as 54% on the dependent variable employee voice. The H1 hypothesis has been accepted according to this situation.

Table 5: Employee Voice-Leader Support Perception Simple Regression Analysis Findings

Independent Variable	β	Significance Level of t Value
Leader Support	,616	,000
R²	**F**	**Significance Level of F Value**
,380	75,979	,000

According to the findings in the table, the level of independent variable for explaining the dependent variable is statistically meaningful (R^2=, 380, F= 75,979, p=, 000). The level of leader support perception (β=, 616, p=, 000), which is an independent variable, for explaining dependent variable employee voice has been found statistically meaningful. It has been found that the independent variable has a significant effect as 38% on the dependent variable employee coice. The H1 hypothesis has been accepted according to this situation.

4.3. Difference Analysis

In this part of study, Anova analysis will be used to achieve sub-dimensions and determining whether employees' procedural justice, leader support and employee voice perception levels differentiate according to demographic characteristics such as educational status, title, age, working period category, but gender and marital status will be tried to be revealed through t-test.

Table 6: t-test Analysis Findings

Categorical Variables	Procedural Justice	Leader Support	Employee Voice
Gender	$\overline{X} \pm SS$	$\overline{X} \pm SS$	$\overline{X} \pm SS$
Male	3,18 ± 1,12	3,56±1,18	3,66±1,05
Female	3,32 ± 1,30	3,89±1,08	3,61±1,21
t-test	p= 0,108	p= 0,351	p= 0,610
Marital Status	$\overline{X} \pm SS$	$\overline{X} \pm SS$	$\overline{X} \pm SS$
Married	3,22 ± 1,16	3,61±1,20	3,72±1,06
Single	3,17 ± 1,18	3,71±0,99	3,33±1,15
t-test	p= 0,847	p= 0,052	p= 0,657

In Table 6, as a result of analyzes to test whether the employees' procedural justice, leader support and employee voice perception levels differentiate according to gender and marital status, statistically significant differences (p <0.05) have been not obtained.

Table 7: Anova Analysis Findings for Employees' Titles

Categorical Variables	Procedural Justice					Leader Support					Employee Voice				
Unvan	N	$\overline{X}$	S.D.	F	p	N	$\overline{X}$	S.D.	F	p	N	$\overline{X}$	S.D.	F	p
Worker	47	3,55	1,18			47	3,95	1,06			47	3,89	0,98		
Officer	21	3,37	1,06	3,30	**0,023***	21	3,54	1,17	3,50	**0,018***	21	3,69	0,91	1,61	0,191
F.G.O.	43	2,93	1,17			43	3,58	1,19			43	3,40	1,22		
Engineer	15	3,21	0,92			15	2,89	1,03			15	3,56	1,10		

In Table 7, as a result of analyzes to test whether the employees' procedural justice, leader support and employee voice perception levels differentiate according to titles, it has been determined that there are meaningful differences (p < 0,05) between the employees' procedural justice and leader support perception levels and their titles. The tukey post hoc test has been used in determining the group causing the difference and it has been found that there is a significant difference between the level of procedural justice perception of forest protection officer and the employees with the title of workers, and it has been determined that there are meaningful differences between the employees with engineer title and employees with the title of workers according to their leader support perception levels. Meaningful differences have not been able to obtain according to employees' voice levels and titles.

Table 8: Anova Analysis Findings for Employees' Education Level

Categorical Variables	Procedural Justice					Leader Support					Employee Voice				
Education Level	N	$\overline{X}$	S.D.	F	p	N	$\overline{X}$	S.D.	F	p	N	$\overline{X}$	S.D.	F	p
Primary	19	3,72	1,41			19	4,09	1,08			19	3,91	1,22		
High School	55	3,29	1,08	2,71	**0,048***	55	3,94	0,99	7,14	**0,000***	55	3,62	1,06	0,45	0,715
Associate Degree	22	3,16	0,89			22	3,42	0,94			22	3,61	0,96		
Graduate	30	3,21	1,20			30	2,93	1,32			30	3,56	1,15		

In Table 8, as a result of analyzes to test whether the employees' procedural justice, leader support and employee voice perception levels differentiate according to titles, it has been determined that there are meaningful differences (p < 0,05) between the employees' procedural justice and leader support perception levels and their educational status. The tukey post hoc test has been used in determining the group causing the difference and it has been found that there are meaningful differences between the procedural justice perception levels of employees who have primary and undergraduate education, and it has been also found that there are meaningful differences between employees who have primary and undergraduate education according to their leader support perception levels. Significant differences have not been able to obtain between employees' voice levels and educational status.

Table 9: Anova Analysis Findings for Employees' Age Level

Categorical Variables	Procedural Justice					Leader Support					Employee Voice				
Age Level	N	$\bar{X}$	S.D.	F	p	N	$\bar{X}$	S.D.	F	p	N	$\bar{X}$	S.D.	F	p
Between 18 – 29	20	3,29	1,25			20	3,60	1,18			20	3,23	1,30		
Between 30 – 41	42	2,89	1,18	2,67	**0,050***	42	3,23	1,29	3,17	**0,027***	42	3,47	1,15	2,63	0,054
Between 42 – 53 arası	43	3,57	1,12			43	3,97	1,01			43	3,92	0,92		
Between 54 – 65 arası	21	3,06	0,95			21	3,76	0,95			21	3,85	0,87		

In Table 9, as a result of analyzes to test whether the employees' procedural justice, leader support and employee voice perception levels differentiate according to age category, it has been determined that there are meaningful differences ($p < 0,05$) between the employees' procedural justice and leader support perception levels and their age category. The tukey post hoc test has been used in determining the group causing the difference and it has been determined that there are significant diffeences between the ages of 30-41 and 42-53 in terms of both procedural justice perception levels and leader support perception level. Significant differences have not been able to obtain between employees' voice levels and age categories.

5. Results and Suggestions

In today's business conditions, managers and leaders have significant responsibilities both in the public and private sectors. Reaching the source of information, discovering new information or following it has become the most strategic task of the managers. However, the amount of knowledge produced in today's conditions has become so huge that countries are investing billions of dollars in Big Data or artificial intelligence programs only to follow the data. Therefore, this excellent knowledge, the acquisition and follow-up of information has led to the necessity of working in team beyond the work of a person. Managers are able to achieve a faster and more reliable way of meeting their needs with their constructive ideas and criticisms by including employees in the process of acquiring this information. Accordingly, in this study, it has been aimed to determine the effect of the level of justice and leader support perceived by employees in their organizations on employee voices.

As a result of the analysis, it has been determined that the voice behaviors of the employees have been significantly influenced by the procedural justice perception. When we examine this result, it is seen that employees pay attention to the distribution of gains and their distribution, and they also deal with the fair perception of the methods used in distribution of gains. In this part of the implementation, the employees consider that they are given a right to speak, the right to control the process, the complete and accurate collection of information when the decisions are made, and the sufficient and justified explanation to employees affected by the taken decisions as a part of justice. If these things happen, employees express their feelings, knowledge, thoughts and worries about the business, in order to increase the performance of the work and the organization. Hsiung (2012) has achieved similar results in his work with business groups in the real estate sector. Walumbwa and Schaubroeck (2009) argue that ethical leaders with fair behaviors constitute a psychologically safe working environment and it increases the likelihood of showing voice behavior. Therefore, managers who want employees showing positive and constructive behavior for the development, welfare and productivity of the organization should take care to decide with their employees in ensuring justice.

According to another obtained result, it is seen that procedural perception level and leader support have high correlation. Accordingly, when employees are consulted about the ways and methods used to ensure justice and when decisions about them are clearly shared, they feel the leader support more strongly. Similarly, in the literature, it is noted that procedural justice climate affects employees' commitment to managers (Walumbwa et al., 2010) and support perception (Ehrhart, 2004). Alexander and Ruderman (1987) state hat procedural justice is much more important than distributive justice for employees' trust to management.

According to another result, it has been determined that voice behavior is positively influenced by the leader support. First of all, it must be remembered that many agent variables are needed to empathically connect employees to their organizations. One of these agents is the way of perception how they behave towards their employees. According to this result, the employee, who perceived leader support, makes constructive criticism and share information for his work and organization. This finding has importance for many businesses that are trying to survive in a business environment with variable conditions. Detert and Burris (2007) evaluated the impact of different types of leadership on voice behavior in their studies and they stated that the leaders listening to their employees, dealing with their ideas and evaluating the presented ideas fairly have important influences on the voice behavior. It is stated that leadership behaviors that indicate the needs clearly and take their employees' ideas seriously affect employees to raise their voice by taking risks (Edmondson, 2003). Güven (2017) states that the three leadership style, including the transformational, transactional and the laissez faire, also have an impact on employee voice. In addition, organizational trust has a moderator role in the interaction between transactional and laissez-faire leadership and employee voice.

Employee voices both increases the welfare of the employees and contribute to the development of the workplace. Therefore, it may be advisable to emphasize this subject in the training and seminars given to the managers by showing examples of researches conducted on it and take measures to encourage the employees for voice behaviors. Age and educational factors are important variables in the perception of justice and support within the organization. Therefore, managers should evaluate the questions about the functioning within the organization with the data obtained from the homogeneous groups. However, it should not be forgotten that it need to be provided voice in order to receive constructive criticisms and information sharings.

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3

THE EFFECT OF THE ROLE AMBIGUITIES AND ROLE CONFLICTS PERCEIVED BY EMPLOYEES ON PSYCHOLOGICAL RESILIENCE[1]

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Abstract

The purpose of this study is to examine the effects of perceived role conflicts and role uncertainties on their psychological resilience. The data is gathered from the masters with thesis, non-thesis masters and doctorate students who study and work at the social sciences institute of a public university. In this study, the questionnaire was used as a data collection tool. As a result of the research, it was determined that the employees did not have any effect on the psychological resilience of the role conflicts they experienced but when their roles were certain and their job descriptions were made, their psychological resilience was affected. Besides, it was seen that the role ambiguity among the research variables differed according to the working sector and working seniority. In addition to this, while psychological resilience was found to differ according to age, a relationship between role conflict and demographic characteristics could not be determined.

Keywords: *Role Ambiguities, Role Conflict, Psychological Resilience*

1. Introduction

Today, efforts to increase the efficiency of organizations can cause their employees to perform more than one role and a task at the same time. This situation brings along the role conflicts and role ambiguity. Conducting multiple roles at the same time from an employee's workplace can cause individuals' to experience role conflict.

Role conflicts and role ambiguities that employees will experience in their work life will also affect their psychological resilience. The study consists of non-thesis masters and doctorate students who study and work at the social sciences institute of a public university. In this study, the effects of these individuals' perceived role uncertainties and their role conflicts on their psychological resilience were examined.

For this purpose, in this study, firstly the concepts of role conflict and role ambiguity are defined. Then, the concept of psychological resilience was explained and hypotheses were formed that explained the relationship between the variables in the study. The study was terminated by giving results and suggestions.

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2. Conceptual Framework

2.1. The Concept of Role Conflict

The concept of the role expresses the rights and responsibilities that individuals have by means of their position (Gullahorn, 1956, p. 299). The notion of the role is divided into three groups. Types of this roles are *the basic role, general role, and independent role*. The main role is the role that individuals have in the direction of their age and gender. The general role implies roles that are accepted by society and that are outcomes can impact society. Independent roles are the roles that individuals make with their own will and lead to individual outcomes (Şimşek, Akgemici & Çelik, 2011, p. 30). Individuals who fulfill more than one role at the same time may experience a role conflict between their different roles due to the discrepancy they experience. The concept of role conflict has an increasingly importance, as individuals perform to have two or more roles at the same time in every period in which human beings are expected and will be expected from now on.

Although the concept of role conflict has been the subject of many studies in the 1950s, the concept of role conflict has been systematically first addressed by Kahn, Wolfe, Quinn, Snoek, & Rosenthal (1964). The concept of role conflict has been redefined by many researchers, including the emergence of research in different disciplines such as psychology, behavioral sciences, and sociology.

This behavior leads to contradictions in another role that is expected to be shown in a role in which the individuals have behaviors in these different roles. In this respect, the concept of role conflict refers to the compatibility-inconformity or congruency-inconformity situations that arise when individuals exhibit their roles (Rizzo, House & Lirtzman, 1970, p. 155). According to the role theory, the role conflict is defined as the incompatibility of demands for more than one job (Kahn et al., 1964; Katz & Kahn, 1978). That is, the role conflict indicates the inconsistency between the expectations of employees' roles and the requirements of their roles (Sager, 1994, p. 75). In other words, the role conflict is the incompatibility with the tasks performed by the individual, existing policies and colleagues (Nicholson & Goh, 1983, p. 149). The role conflict will increase the pressure on the employees who live on them, and therefore the employees' stress levels will increase while employees' job satisfaction is likely to decline (Keller, 1975, p. 60; Yongkang, Weixi, Yalin, Yipeng & Liu, 2014, p. 11). In order to avoid such negative consequences, it may be necessary for the organizations to take various precaution regarding the role conflict.

2.2. The Concept of Role Ambiguity

Every employee in the organization has a duty and role. Other employees in the organization also expect everyone to perform this role they have (Dozier, 2005, p. 350). At this point, the concept of role ambiguity has a great proposition in terms of organizations and employees.

Role ambiguity arises when employees are unable to fully understand what is expected of them when doing their jobs. So employees; they may face role ambiguity if they do not know the span of authority they have, their job descriptions, and their responsibilities. Likewise, role ambiguity also arises when the expectations of the employees are inconsistent with the work-related thoughts that employees need to do. In addition, role ambiguity may arise if employees do not know the goals they need to achieve in their work and if what they are expected to fulfillment is not explicitly expressed (Bernardin, 2010, p. 499; Ceylan & Ulutürk, 2006, p. 49). For example, if the authority and responsibilities of an employee who has just started a job are not explicitly stated; this may cause increased concern and uncertainty about the work of the employees.

The most valuable asset for organizations is human resources. However, organizations can not effectively use human capital, which is the most important resource, if the role ambiguity by the employees is not taken into consideration. Apart from that, the stress caused by the role ambiguities of the employees also reduces the satisfaction of the employees towards the work (Şimşek et. al., 2011, p. 338). For this reason, organizations should avoid the role ambiguity of their employees in order to be able to continue their assets effectively and efficiently.

2.3. The Concept of Psychological Resilience

Positive organizational behavior has led to the emergence of psychological capital concept which contains positive emotions in the field of positive organizational behavior (Güler, 2009). Psychological capital is expressed as a concept that enables the development of individuals and increases their performance. The increase in the performance of individuals contributes to the increase in organizational performance. Thus, organizations gain competitive advantage through the concept of psychological capital (Çetin, Şeşen, & Basım, 2013, p. 99).

The concept of psychological resilience in psychological capital; it expresses the ability of individuals to struggle with negative cases such as obstacles and uncertainties. In other words, psychological resilience is the ability of individuals to respond to the difficulties by approaching the negative events with a positive view. In other words, psychological resilience refers to the success of individuals with physical and/or psychological difficulties (Luthans, Avey, Avolio, Norman, & Combs, 2006; Masten & Reed, 2002, p. 75; Holahan & Moos, p. 1985). From here on, psychological resilience; It expresses the belief that individuals have positive expectations about their success and that they will be able to overcome difficult tasks (Avey, 2008, pp. 54-55).

The personal and structural characteristics of the individuals, the support they receive from their families and the support they receive from the social environment, affect the psychological resilience (Haase, 2004, p. 291). In other words, employees can increase their psychological resilience levels with the support of their colleagues. Increasing the psychological resilience of employees will increase organizational performance. In this respect, the studies on the psychological resilience of the individuals taking part in the working life were carried out. As a result of the research; It has been shown that there is a similar relationship between the employees' psychological resilience and organizational performance (Sutcliffe & Vogus, 2003; Coutu, 2002).

2.4. Hypothesis Development

There are two main research hypotheses in this study that investigated the effects of the individuals' perceived role ambiguities and their role conflicts on their psychological resilience. These hypotheses are as follows:

H_1: Role conflict and role specificity are effect on psychological resilience.

H_2: There is a relationship between role conflict, role specificity and psychological resilience.

In addition to these, research variables were examined according to demographic characteristics. The hypotheses developed in this direction are as follows:

H_{3a}: The specificity of the roles of employees differs in the working sector.

H_{3b}: There is a relationship between role ambiguity and employee seniority.

H_4: Employees' psychological resilience varies according to age.

3. Research Methodology

3.1. Purpose and Significance of The Research

The main purpose of this study is; the effects of the perceived role conflicts and role ambiguities on employees' psychological resilience will be examined. In addition, the objective of this study is to examine the differences between the related variables in the context of demographic variables. Role conflict and role ambiguity/ certainty were found to be independent variables in research. However, psychological resilience is a relatively new concept and it has not been investigated sufficiently whether it plays a decisive role in terms of the variables discussed. The researches on this subject have been examined as a research subject in the developed countries of America and Europe and there has not been much work under the conditions of our country. Therefore, the study attracts attention as one of the few studies.

3.2. Research Sample

The universe of the study consists of non-thesis masters and doctorate students who study and work at the social sciences institute of a public university. The research was conducted with 43 of these employees who participated in the study voluntarily. As the survey was conducted in the summer period, the questionnaire was sent to the e-mail addresses of the students.

3.3. Data Gathering Method

The questionnaire was used to collect data. The questionnaire consists of four sections. In the first part, there are statements about employees' role conflicts. In this section, the developed role conflict scale was used by Beauchamp & Bray (2001) (10 statements). In the second part, there are statements about the role of ambiguity/certainty of employees. A one-dimensional scale developed by Beauchamp, Bray & Eys, and Carron (2002) was used in this section. In the third part, there is a psychological resilience scale. This scale was developed by Işık (2016) (21 statements). In the last section, participants' gender, age, the sector of employment, seniority etc. demographic questions were asked to learn.

3.4. Data Analysis

Participants evaluated the role conflict and role ambiguity scales with a 7 point Likert type scale *(1: Strongly Disagree 7: Strongly Agree)* and a psychological resilience scale with a 5 point Likert-type scale (1: Strongly Disagree 5: Strongly Agree). SPSS for Windows program was used in data analysis. As a result of the Kolmogorov-Smirnov test, the data were found to be distributed normally. For this reason, parametric tests were used in the study.

3.5. Findings and Meanings

The findings of the research conducted to investigate the effects of role conflicts and role ambiguities on the psychological resilience of the participants are given below.

3.5.1. Sample

Participants were included in the study on a voluntary basis from different professional groups (n = 43). Information on sampling based on socio-demographic characteristics is as follows: 22 (51%) of the participants were female and 21 (49%) were male. When sectoral distribution is examined, 8 (19%) of the participants are public and 33 (77%) are

private sector employees. 2 people (4%) did not answer this question. 24 (56%) of the employees who participated in the research had less than 1 year and 1 to 3 years seniority. 7 people (16%), 7 years and over (21%) and 3 (7%) people did not answer this option. When the sections of the participants are examined, 8 (19%) people studying in the MBA Programme (Non-Thesis), 5 people (12%) M.A. Programme in Human Resources Management (Non-Thesis), 6 (14%) students with MBA Program in Innovation, Entrepreneurship and Management (Non-Thesis), 6 people (14%) M.A. Programme in Business Management (Thesis), 3 (% 7) people with M.A. Programme in Human Resources Management (Thesis) and 13 (% 30) participants are PhD. 2 (4%) people did not answer this question. When the distribution of age groups is examined; 18 (42%) people between the ages of 24-29, 16 (37%) among 30-35 years old, and 9 (21%) people of 36 and above. 27 (63%) of the participants are employees and 12 (28%) of the participants are managers. 4 people (9%) did not answer the question (Table 1).

Table 1: Demographic Characteristics of Research Participants

	Variables	Frequency	%
Gender	Female	22	51
	Male	21	49
Sector	Public	8	19
	Private	33	77
	Non-response	2	4
Tenure	>1	12	28
	1-3	12	28
	4-6	7	16
	7 and +	9	21
	Non-response	3	7
Department	Bus. Admin. (Non-thesis)	8	19
	HR (Non-thesis)	5	12
	İnovation-(Thesis)	6	14
	Bus. Admin. (Thesis)	6	14
	HR (tesis)	3	7
	Bus. Admin. - PhD.	13	30
	Non-response	2	4
Age	24-29	18	42
	30-35	16	37
	36 and +	9	21
Position	Manager	12	28
	Employee	27	63
	Non-response	4	9

For the reliability of the data, Cronbach alpha reliability values were examined. These values are; role conflict scale: 0.914 (10 expressions), role ambiguity scale: 0.784 (7 expressions) and psychological resilience scale: 0.850 (19 expressions). Statements 2 and 15, whose item-total correlation was low, were excluded from the psychological resilience scale (Table 2). The role conflict, role ambiguity and psychological resilience scales used in the study are considered to be reliable because they are above the 0.70 limits (Kalaycı, 2005, p. 405).

Table 2: Reliability Analysis

	Cronbach's Alpha Value
Role Conflict Scale	0.914
Role Ambiguity Scale	0.784
Psychological Resilience	0.850

3.5.2. Descriptive Statistics

When the descriptive statistical analyzes were examined, $\bar{x}$= 3,03 (σ= 1,27) for role conflict scale and $\bar{x}$=4,93 (σ=1,14) for role ambiguity scale and $\bar{x}$= 4,21 (σ= 0.46)for psychological strength scale. When the averages about role conflict are examined, it is seen that the participants give answers close to the answer expressed as "disagree". Statements on role ambiguity are defined as positive and the role of the employee is defined and specific. The average of the statements in this scale is close to the positive answer "I agree". When the averages in the psychological resilience scale are examined, it is seen that the participants give answers close to "strongly agree" (Table 3).

Table 3: Descriptive Statistics

	$\bar{x}$	σ
Role conflict	3.03	1.27
Role ambiguity	4.93	1.14
Psychological resilience	4.21	0.46

N=43

3.5.3. Results of Hypothesis Tests

Regression analysis was used to determine whether role conflict and role ambiguity were effective on psychological resilience. The result of the analysis explained 19.7% of the role ambiguity, the change in psychological resilience. This result suggests that there are multiple factors that explain psychological resilience (Table 5).

Table4: Regression Model [a]

	B	**Std. Er.**	**Beta**	**t**	**R²**	**F**	**P**
(Constant)	3.555	.438		8,110	.197	4.910	**.000****
Role Conflict	-,040	,059	-,108	-,681			.500
Role Ambiguity	,158	,065	,384	2,419			**.020***

a.**Predictors:** *(Fixed), Role conflict, Role Ambiguity* **Dependent variable**: *Psychological Resilience*
** p<.01 , *p<.05

As a result of regression analysis, role ambiguity revealed psychological resilience (p <.05). However, this is not the case for role conflict. The hypothesis H1 was partially accepted.

Pearson correlation analysis was used to test the relationship between participants' role conflict, role ambiguity, and psychological resilience. As a result of the analysis, it was found that there was a moderate significant relationship between role ambiguity and psychological resilience (p<.01; r: .433). This implies that the psychological resilience of employees is affected when their roles are specific and job descriptions are made. When the descriptive statistics are analyzed; there is a moderate inverse relationship between role conflict and role ambiguity (p<.01; r: -,453). According to this result; role ambiguities decrease as the role conflict of employees increases.

Table 5: Correlation Analysis Table for Investigation of the Relationship between Role Conflict, Role Uncertainty, and Psychological Resilience

	1	2	3
Role Conflict (1)	1		
	43		
Role ambiguity (2)	-.453**	1	
	.002		
Psychological resilience	-.282	.433**	1
	.067	.004	

** p< .01, N=43

The findings of the hypotheses developed to examine the relationships between demographic characteristics and the variables discussed in the study are given below.

"H3a: The specificity of the roles of employees differs to the sector "the t-test for the hypothesis test shows a statistically significant difference (p=.032<.05). Perceptions of role ambiguities differ according to the sector of the participants (Table 6). When the averages are examined; it appears that public sectors' role ambiguity is more than the private sector ($\bar{x}$=4.81).

Table 6: Examination of Role Ambiguity According to Sector

	Sector	N	$\bar{x}$	σ	t	p
Role ambiguity	Private	33	4,81	1,10	-2,218	**.032***
	Public	8	5,75	,97		

*p<.05

There is a relationship between role ambiguity and working seniority." one-way analysis of variance (p = .044 <.05) was found to be statistically significant. The evaluations of the participants in terms of seniority status are very close to each other (Table 7).

Table 7: Examination of Role Ambiguity According to Seniority

Role ambiguity	Sum of Squares	df	Mean Square	F	p
Between Groups	11.249	4	2.812	2.733	**.044***
Within Groups	36.016	35	1.029		
Total	47.265	39			

*p<.05

As a result of the LSD test conducted for the direction of the difference, there is a difference in the role certainty between employees with less than 1-year seniority ($\bar{x}$=5,35) and those with seniority of 1-3 years ($\bar{x}$=4,33). In addition, there are differences between employees of 1-3 years and those who have 7-9 years ($\bar{x}$=6,05) and 10 years + ($\bar{x}$=5,45) seniority.

"H_4: Psychological resilience of employees differs according to age." the t-test for the hypothesis test shows a statistically significant difference (p=.021<.05) (Table 8). In this respect, when the averages for psychological resilience are examined; Employees aged between 25 and 29 years were calculated as $\bar{x}$=4.30, and employees aged between 30-35 years were calculated as $\bar{x}$=3.97 and those at age 36 and above were $\bar{x}$=4.46. When the direction of difference is examined; There were differences between the ages of 25-29 and 30-35 age group, 36 years old and over, and 30-35 age group.

Table 8: Examination of Psychological Resilience to Age

Psychological Resilience	Sum of Squares	df	Mean Square	F	p
Between Groups	1.624	2	.812	4.255	**.021***
Within Groups	7.631	40	.191		
Total	9.254	42			

*p<.05

Conclusion & Recommendations

The role ambiguities and role conflicts that employees face in their working lives can have an impact on their psychological resilience at this point, it is important to examine the relationships between the variables discussed in the research. In this study conducted on the students who study in the postgraduate program and work at the same time, the effects of role conflicts and role ambiguities on psychological resilience are examined. Also, it has been tested whether the related variables differ according to the demographic characteristics of the employees.

In the study, the perceived role ambiguities of the employees affected psychological resilience. However, it was determined that role conflicts had no effect. In addition, differences in role ambiguities and psychological resilience variables were determined in the context of demographic characteristics of employees. The fact that the job descriptions of the employees in the public sector are more clearly defined within the framework of laws and regulations reduces their role ambiguities considerably. Similarly, job uncertainties are relatively low for new recruits

and higher senior employees. However, it was observed that the role ambiguities were higher in the employees with seniority of 1-3 years than in other groups. In addition, the psychological resilience of employees varies according to age. Especially the younger employees and the employees in the age group 36 and above are more resilient.

This study can be evaluated only in the context of the relevant sample. Therefore, more generalizable results can be achieved by increasing the number of samples in the subsequent studies. The low number of the research sample and the fact that the research was conducted in the summer period when there are no courses in the related university are seen as important constraints.

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4

DO EDUCATION AND TRAINING PREDICT BRAIN DRAIN? AN ORGANIZATIONAL PERSPECTIVE AND HOME/HOST COUNTRY FINDINGS FROM EXECUTIVE OPINION SURVEYS[1]

Özge Demiral[2]

Abstract

In the organizational perspective, brain drain is the mobility of talented employees between businesses. The relevant empirical literature has a huge gap in linking country-level and organizational antecedents and consequences of brain drain. Adopting an organizational perspective and using a 12-year (2006-2017) dataset of the Executive Opinion Surveys, this paper aims to explore whether the extent and quality indicators of education and training services explain brain drain in case of 10 home and 10 host countries. Results obtained from a longitudinal empirical setting reveal that the quality of the general education system and local availability of specialized training services can reduce brain drain measured by the country capacity to retain talented individuals. This evidence underlines the need for updated education and training practices to attract and retain employees. On the other hand, the talent-pushing impacts of the quality of math and science education along with the insignificant effect of the quality of management schools provide new insights into the debate questioning the return of the education. The study discusses the practices for both countries and business organizations that have been suffering from brain drain.

Keywords: *Brain Drain, Employee Mobility, Education, Employee Training, Executive Opinion Surveys.*

1. Introduction

Current and historical statistics about global immigration show that an increasingly large number of highly educated individuals from especially developing countries live and work in developed countries, particularly in Western Europe and North America (IAB, 2018) that have been facing aging societies and shortages of talented employees in some specific professions (Tishman *et al.*, 2012; SHRM, 2014). This trend is widely named as brain drain. In a broad sense, the phenomenon of brain drain refers to the substantial immigration of the young, highly educated, talented and skilled workforce from their home (native) countries to host countries to pursue miscellaneous opportunities (Portes, 1976; Dodani and LaPorte, 2005; Beine *et al.*, 2008). In the organizational perspective, brain drain is the immigrating of a group of talented employees from their organizations to other organizations for having more promising opportunities (Rosenblatt and Sheaffer, 2001; Yuan and Zhang, 2008; Gaiduk *et al.*, 2009; SHRM, 2014).

In the country-level point of view, the opportunities that attract the talented people are described as pulling factors and systematically evaluated and compared by individuals when they decide to immigrate considering a variety of indicators including the standard of living, quality of life, wages and salaries, access to advanced technology, political conditions, cultural proximity, language, climate, *etc*. Today's immigration movements show that these criteria more motivate people living in developing countries or working in business organizations operating in developing countries to immigrate to developed countries or organizations in these developed countries.

Because of having important consequences for both business organizations and the overall business environment in terms of the loss of productive workforce, brain drain has become a unique research interest of policy-makers, business professionals, managers, and scholars in the various fields of business and management disciplines. In addition to its pure economic origins such as wage and salary, employment opportunities and job quality differences, studies on brain drain have taken a variety of factors that include social, political, and cultural concerns into consideration (Giannoccolo, 2004). These multi-dimensional characteristics of brain drain has made it a multi-disciplinary subject examined within different aspects such as globalization (*e.g.*, Rizvi, 2005; Tung, 2016), health systems and life quality (*e.g.*, Stilwell *et al.*, 2004; Dodani and LaPorte, 2005), language causes (*e.g.*, Rumbaut and Massey, 2013; Adserà and Pytliková, 2016), education (*e.g.*, Rizvi, 2005; Baruch *et al.*, 2007), global career development (*e.g.*, Carr *et al.*, 2005), socio-cultural impacts (*e.g.*, Dutari, 1994), emotional adherence to homeland (diaspora) (*e.g.*, Barnard and Pendock, 2013), gender inequality (Elveren, 2018), *etc*.

Notwithstanding a vast literature on brain drain, many of the relevant studies have prominently adopted theoretical approaches. Studies with empirical settings have focused on the country-level determinants of brain drain whereas the research interest in the organization-related determinants has widely linked brain drain to the costs of high employee turnover caused low attachment of employees to their current job and organizations (*e.g.*, Rosenblatt and Sheaffer, 2001; Yuan and Zhang, 2008; Gaiduk *et al.*, 2009; SHRM, 2014). Ignoring the unemployed talented people, these organizational perspectives have dealt with the brain drain only considering people who are already working and found that some distinctive job characteristics, opportunities for promotion and training, and employee relations significantly explained brain drain that occurs between organizations.

On the education-brain drain nexus, studies with different samples have been usually examining the cases in which students from developing (home) countries studying in the developed (host) countries decide not to return after graduation (*e.g.*, Rizvi, 2005; Baruch *et al.*, 2007). There are also country-specific studies that combine country-level factors and individual intention to migrate within an education-brain drain perspective (*e.g.*, Tansel and Güngör (2003). This research strand again tends to investigate why students do not return home, and their results prominently point to the political instability, lower salaries, lack of employment opportunities, undesired economic features, and career aspirations. In non-economic drivers of brain drain, there are also studies (*e.g.*, Elveren, 2018) documenting that increasing gender inequality in home countries can motivate women to immigrate. Again, because the academics are considered as one of the main components of the brainpower, their mobility tendencies are also a specific interest (*e.g.*, Siekierski *et al.*, 2018). In these studies, along with the conventional determinants, the quality of life, the qualities of science education, and infrastructure of technology and innovation are also found attaching academics. Another important point of view is that the impacts of employee mobility between competitors and mobility between potential cooperators are different (Somaya *et al.*, 2008). Given these multidirectional characteristics of the existing evidence of organizational-level studies, additional empirical studies covering both macro and micro approaches are needed.

A comprehensive review of the relevant literature revealed some stylized facts that have jointly motivated the present study. Firstly, it can be inferred that the brain drain occurring between organizations in the same country does not bring a cost for the country. Furthermore, non-immigrant movements of talented people/employees between countries bring no or less cost to home countries as long as these non-immigrants return back. Likewise, every immigration is not a brain drain that skill and talent levels are the main attributes of the real brain drain. Secondly, there appears to be a lack of adequate data that seems to be preventing empirical analyses of brain drain. Thus, although the global interest in the impacts of education and training on brain drain has been growing, the findings have been still remained relatively weak, unclear, and confusing in some cases. Again, the existing studies widely focus on the current employees ignoring the brain drain effects of potential employees' or entrepreneurs' immigration which has also important consequences for both countries and business organizations. Thirdly, business studies have focused on the organizational causes attracting and retaining the talented employees ignoring the external factors that are determined by country-level conditions. Because brain drain is about both brain-sender and brain-receiver countries, the huge research gap in brain drain literature needs multi-country studies covering home and host countries in order to investigate the factors that both pull and push the talented and skilled employees. Consequently, the evidence so far underlines that brain drain has detrimental consequences for business organizations and countries, but the existing literature is not sufficient to give firmer ground for tackling challenges of international employee mobility. Therefore, more empirical studies on the causes and consequences of brain drain are needed to provide clearer policy initiatives for both business professionals and policy-makers.

Considering these propositions together with the research gaps in the brain drain literature particularly in business and management literature, this study adopts an organizational perspective and attempts to find out whether education and training indicators affect brain drain in the major home (brain-sender) and host (brain receiver) countries. Unlike the previous studies that have focused on either only organizational determinants or only country-level predictors of brain drain, the present study integrates the country-level consequences of education and training into several organizational perspectives. The paper goes on with highlighting theoretical foundations in Section 2 which covers the definitions and push and pull factors of brain drain along with the impacts of education and training practices, and talent management programs. Section 3 is devoted to the empirical framework which comprises hypotheses, models, sample, variables, and data, respectively. After the results of the followed analysis procedure are presented in Section 4, the study concludes with Section 5 which provides a short discussion on the practical implications and future research directions considering the strengths and weaknesses of the study.

2. Theoretical Background

2.1. Meanings of Brain Drain

The term 'brain drain' is generally used to describe the flight of human capital, where the net flow is heavily in the exit direction. Here, the word 'brain' means any skill, competency or property that are considered as one of the major strategic assets of competitive organizations while the word 'drain' implies that the flight of human capital occurs at an abnormal level that is greater than expected or acceptable. Combination of the two words, brain drain, implies the collective departure of the most talented people (Rosenblatt and Sheaffer, 2001; Giannoccolo, 2004). Since the British Royal Society first named the expression to describe the outflow of scientists and technologists to the United States and Canada in the 1950s and early 1960s (Giannoccolo, 2004), brain drain has been most frequently viewed as a developing-developed country challenge (Dodani and LaPorte, 2005; Beine *et al.*, 2008).

The initial definitions of brain drain were usually confined to the socio-politic aspects. Then, as the understanding of its undesired consequences for businesses and countries has increased, the brain drain phenomenon has become an economic and business issue (Portes, 1976; Giannoccolo, 2004). In an economic approach, the brain drain is defined as the migration of the active workforce. This premise is interpreted by business literature as the flight of talented employees who are well-educated and trained and thus equipped with some job-specific talents. In both approaches, the brain drain is attributed to the loss of productive skills.

As indicated by Rizvi (2005) and Iravani (2011), for a better understanding of the brain drain phenomenon, it needs to be dissociated from other brain mobility types such as brain overflow, brain export, and brain exchange. Brain overflow, labeled by Baldwin (1970), means an abundance of a highly talented workforce in a country where the business organizations cannot employ all of them, and consequently, this talented brainpower leaves the country for another. Brain overflow can also be specified for organizational cases, in which, businesses gather talented employees but not assign them properly and then lose them. Brain export is viewed as a form of typical product export that lets the home countries earn the foreign exchange and remittances (Rizvi, 2005). However, brain export is not a case for organizations since they will get nothing from this export, but competitiveness loss. Brain exchange is a mutual trade-off of the high-talent and the low-talent employees between home and host countries (Iravani, 2011). In practice, brain exchange occurs in the form that developed countries send their high-talent surplus to developing countries with a high-talent deficit. The adverse is also true that developing countries send their less-talented employees to developed countries where low-skilled employees are more needed in organizations operating in labor-intensive business activities. However, these mutual benefits of the exchange of brainpower and manpower (physical power) between countries are not valid for organizations' cases.

2.2. Push and Pull Factors of Brain Drain

Explanations for the cross-country differences in the degree of brain drain intensity widely center around push and pull factors. Push factors motivate or force talented people to leave their organizations and/or countries whereas pull factors attract and motivate them to come to or stay with their organizations and/or countries. The cross-country evidence in the relevant literature has identified that geographical distance, ease of immigration procedures (openness), socio-cultural and business networks, wage level, cost of living, social justice and quality of life, education and training opportunities and quality of health systems along with gender inequality, danger and insecurity are among the factors that can both push and pull people to immigrate depending on people's perceptions of these indicators are more favorable or unfavorable (Myers, 1972; Portes, 1976; Giannoccolo, 2004; Rizvi, 2005; Beine *et al.*, 2008; Iravani, 2011). In the sense of the study, these factors are considered as country-level determinants of brain drain.

Organizational push and pull factors of talented employees include payment, integration, human resource management practices, cultural values, job involvement, job quality, job-employee fit, organizational commitment, organizational support, organizational trust, reputational prestige, employee empowerment, job satisfaction that are commonly associated with employee turnover (Rosenblatt and Sheaffer, 2001; Allen, 2008; Yuan and Zhang, 2008). On the light of the evidence of previous studies, the present study considers the pushing and pulling impacts of education and training practices on brain drain in terms of their country-level and organizational consequences with a specific focus on the latter.

2.3. Education and Training Impacts on Brain Drain

Education is a traditional indicator to distinguish the workforce between manpower and brainpower (McClelland, 1969). However, the existing evidence of the impacts of education on brain drain is inconclusive that education seems to be affecting the brain drain in two contradicting ways. On the one hand, brain drain is naturally attributed to an immigration to pursue better education opportunities (Tansel and Güngör, 2003; Rizvi, 2005; Baruch *et al.*, 2007; Siekierski *et al.*, 2018). Here, better education is a pull factor while low-quality of education is a push factor. On the other hand, it is also argued that well-educated people tend to have higher expectations in terms of standards of living, quality of life, salaries, *etc.*, and thus have higher propensity to immigrate to other organizations or countries to take advantage of better opportunities offered by these attractive organizations or countries (Gonzalez, 1992; Dodani and LaPorte, 2005). In this sense, better education becomes a push factor which is related to the costs of over-education. Indeed, the brain drain phenomenon becomes more meaningful when the immigration occurs among well-educated employees. This two-way ambiguity underlines the necessity of the adoption of a microscopic approach to the education-brain drain nexus. One effective way to do so is disaggregating the education into its components which can help to hinder possible aggregation biases as well. Therefore, unlike the others studies, in the study, education is represented by three components: General education, math and science education, and management education. Math and science education indicator can capture the overqualification and brain exchange effects. Additionally, since the brain drain is directly related to the immigration of talented people equipped with the managerial capabilities, the quality of management schools in countries are also expected to be a significant predictor of both brain drain and brain gain.

These unclear results of education-brain drain linkages are also true for employee training since there are studies proving both pushing and pulling impacts of training on brain drain in terms of talented employee mobility between organizations. Even though the relevant studies in the extant literature predominantly have concluded with the 'train to retain' evidence by documenting the talent attractive and talent creative contributions of training (Bartlett, 2001; Owens, 2006; Allen, 2008) along with its other organizational benefits such as job satisfaction, productivity, and organizational attachment, there are also studies providing evidence for how training can cause issues that are closely related to brain drain (Chen and Su, 1995; Lancee, 2016). Despite the increasing attention paid by business and management literature to training activities, brain drain studies have failed to reflect the impacts of training. Since training is a planned teaching practice designed to convey some specific talents/skills to employees, it somewhat forms employees' careers and improves individual, team and organizational effectiveness. Coherently, the loss of trained employees causes extra cost on organizations, and thus, the training impacts on brain drain matter for organizational goals (Noe, 1986; Mathieu *et al.*, 1992; Bartlett, 2001; Fletcher *et al.*, 2016).

2.4. Talent Management-Brain Drain Nexus

One of the key functions of human resource management departments of business organizations is selecting high talents among the candidates. The existing literature lacks a global consensus on the definition of talent in a certain term and there are different organizational perspectives of talent. Current meanings of talent tend to be customized for individual organizations and highly influenced by the natures of the tasks that employees are assigned to undertake (Tansley, 2011). Thus, organizations have their own understandings of talent. In the brain drain connection, the term of talent can be defined as a group of employees who have particular abilities which they inherited and/or acquired to fulfill some certain tasks.

In practice, many business organizations face that job requirements and candidates' qualifications do not match perfectly. This mismatch occurs in mainly two ways: qualification mismatch and field-of-study mismatch. Qualification

mismatch arises when employees have an educational attainment that is higher or lower than required by their job assignments. If employees' education levels are higher than their job requirements, these employees are characterized as over-qualified or over-educated, in the opposite case, they are classified as under-qualified or under-educated. The field-of-study mismatch occurs when employees work in a different field from what they have specialized in (OECD, 2017). These skills imbalances are closely connected to globalization and migration that have increased the demand for talented employees with a global mindset. The increasing global demand for talented employees has resulted in a worldwide war for talent. Within this context, many organizations have been forced to transform their local human resource management practices into the international ones to attract and retain globally talented employees by implementing strict talent management policies (Beechler and Woodward, 2009; Tung, 2016). As an important function of human resource management, talent management is a business strategy which is committed to hire, manage, develop, and retain the talented and skilled employees to ensure the sustainable competitive advantages of organizations in terms of their talented human resource (Collings and Mellahi, 2009; Schiemann, 2014). It is obvious that when organizations fail to design and implement efficient and sustainable talent management programs they cannot attract and retain talented employees (Swailes *et al.* 2014) and they inevitably face brain drain challenge.

3. Empirical Framework

3.1. Hypothesis and Model

The study adopts both organizational and country-specific perspectives of brain drain and analyzes the impacts of education and training with a specific interest in the organizational consequences. Unlike the other research, the study considers both the qualities of education dimensions and the availabilities of training services. The education aspect is distinguished between the qualities of the general education system, math and science education, and management schools. The corresponding hypotheses are stated as follows.

Hypothesis 1. *The quality of education system in countries significantly affects their capacities to retain the talented people/employees.*

Hypothesis 2. *The quality of math and science education in countries significantly affects their capacities to retain the talented people/employees.*

Hypothesis 3. *The quality of management schools in countries significantly affects their capacities to retain the talented people/employees.*

About the impacts of employee training, the study takes the local availability and the extent of specialized training services into consideration separately and constructs the following hypotheses.

Hypothesis 4. *Local availability of specialized training services in countries significantly affects their capacities to retain the talented people/employees.*

Hypothesis 5. *The extent of employee training in countries significantly affects their capacities to retain the talented people/employees.*

It is notable that, as previously discussed, the impacts of the investigated factors are, to some degree, inconclusive and thus they cannot be presumed. Therefore, the hypotheses do not imply any direction for the proposed relationships. To estimate the hypothesized effects, the country capacity to retain talented people/employees which is used as a

proxy for brain drain is regressed on the education and training determinants. Within a longitudinal empirical setting that covers a sample of 20 countries' 12-year data, the general model of the study is formulated as in Equation 1.

$$CCRT_{it} = b_0 + b_1 QES_{it} + b_2 QMSE_{it} + b_3 QMS_{it} + b_4 LASTS_{it} + b_5 EST_{it} + e_{it} \quad\quad (1)$$
$$(i = 1, 2, ...20 = N; \quad t = 2006, 2007, ..., 2017 = T)$$

where, *CCRT* is the country capacity to retain talent which represents brain drain adversely (*i.e.*, a higher *CCRT* refers to a lower brain drain, and *vice versa*), *QES* is the quality of the education system, *QMSE* is the quality of math and science education, *QMS* is the quality of management schools, *LASTS* is the local availability of specialized training services, and *EST* is the extent of staff training. The subscripts i and t are the cross-section units (countries) and the time units (years), respectively. The parameter β_0 is the regression constant, the other betas $(\beta_1$-$\beta_5)$ are the coefficients to be estimated, and e is the error term. Since the number of cross-section units (N=20 countries) is larger than that of temporal units (T=12 years), the study has a cross-section dominant (N>T) longitudinal data structure with 240 (20x12) observations in total.

3.2. Sample

The sample of the study shown in Table 1 and Table 2 was determined based on some observations of actual immigration trends provided by the brain drain data portals of the Institute for Employment Research-IAB (2018). Sample of the top-10 host (brain receiver) countries listed in Table 1 are those with the highest ranks by the weighted averages of both the total number of immigrant stock and the share of highly educated immigrants over a period of 1980-2010 (in 5 years intervals). As it can be seen in Table 1, the sample of host countries are all developed countries attracting many immigrants from all around the world, and the share of the USA is strikingly much higher than those of others.

Table 1. *The Sample of Host Countries, Top-10 Global Brain Receivers (Total Immigration Stock in 2010)*

Destination country	Men				Women			
	Total number	Education level, %			Total number	Education level, %		
		low	Medium	High		low	Medium	High
Australia	2,062,532	22.8	27.9	49.3	2,576,775	30.2	19.8	50.0
Canada	3,118,957	14.9	14.4	70.8	3,510,173	18.1	16.1	65.8
Switzerland	627,245	43.7	31.5	24.8	699,874	47.0	33.6	19.4
Germany	2,615,799	39.6	37.9	22.5	2,533,113	48.0	31.0	21.0
Spain	2,498,765	19.8	55.9	24.3	2,385,481	18.6	53.5	27.9
France	2,310,598	64.5	12.8	22.7	2,398,473	64.2	13.3	22.5
England	2,337,276	43.4	7.7	48.9	2,749,132	43.6	7.6	48.8
Netherlands	701,304	46.2	28.9	24.8	763,631	43.9	29.6	26.5
Sweden	546,966	30.9	36.7	32.4	588,710	32.1	33.9	34.0
United States	15,886,966	29.8	28.1	42.1	16,478,484	28.2	29.0	42.8

Note: The periods of big wars that caused mass immigration were excluded in the original database.
Source: Brücker *et al.* (2013); The Institute for Employment Research-IAB (2018).

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Sample of the top-10 home (brain sender) countries listed in Table 2 comprises those that have sent the highest number of immigrants to the USA, on average, over the period of 1980-2010 (in 5 years intervals). As it can be seen in Table 2, Mexico has the highest share by the total number of people who immigrated to the USA, but it is noticed that the Mexican immigrants in the USA, on average, are those with the lowest education attainment compared to other immigrant groups. In this sense, India, Philippines, and Pakistan seem to be facing a brain drain caused by the mass immigration of high-educated workforce to the USA. Again, in line with the general wisdom which suggests that brain drain occurs from developed to developing countries, the sample of home countries are all developing countries.

Table 2. *The Sample of Home Countries, Top-10 Brain Senders to the USA (Total Immigration Stock in 2010)*

Country of birth	Men				Women			
	Total number	Education level, %			Total number	Education level, %		
		low	Medium	High		low	Medium	High
Mexico	5,044,610	57.5	29.1	13.4	4,189,730	57.1	27.6	15.3
India	778,907	4.6	9.8	85.6	678,733	9.2	12.8	78.0
Philippines	601,969	5.3	21.0	73.7	921,239	8.0	18.9	73.1
China	550,991	21.3	22.7	56.1	643,184	24.2	23.6	52.2
Poland	184,305	10.6	40.6	48.8	234,240	11.6	36.8	51.5
Ukraine	156,698	7.3	22.9	69.7	217,080	8.7	18.4	72.9
Brazil	126,256	14.0	38.1	47.9	150,919	10.3	34.5	55.2
Pakistan	126,191	8.7	19.2	72.1	103,166	14.4	24.5	61.1
Romania	64,812	6.6	29.3	64.1	78,500	9.9	32.5	57.7
Turkey	49,245	9.9	22.1	68.0	41,289	13.3	24.6	62.1

Note: Countries were included in the study's sample considering the weighted averages of the total number of immigrants in the USA, the share of highly educated immigrants, and regional distribution of home countries.
Source: Brücker *et al.*, (2013); The Institute for Employment Research-IAB (2018).

3.3. Measurements and Data: The Executive Opinion Survey

The study uses a multi-country dataset of the Executive Opinion Surveys (WEF, 2018) which is one of the longest-running and most extensive surveys of its kind, capturing the opinions of business leaders around the world on a broad range of topics including in institutional quality, infrastructure, business environment, education, technological readiness, business sophistication, and innovation. The Executive Opinion Surveys initiative is a trusted resource providing both business-level and country-level competitiveness indicators for researchers, policy-makers, and business professionals. These surveys collect raw data from Likert-type survey questions and provide a variety of datasets that can be customized. The numbers of executives per country vary depending on the country size. In 2017, the surveys were made available in 39 languages and the views of 14,375 business executives in 148 countries were captured (Schwab, 2017; WEF, 2018). In the study, we analyze a 12-year (2006-2017) datasets of the surveys of 20 countries shown in Table 1 and Table 2. For the study's sample, in the year 2017, the number of executives responded to the survey was 2,781 (958 are from 10 host countries and 1,823 are from 10 home

countries). The overall sample of the study (20 countries' 12-year data) covered more than 20,000 responses. The variables were measured relying on the systematic and quantitative assessments of the business executives on the variables regarding their countries on a seven-point scale. How the variables were proxied and measured utilizing the Executive Opinion Surveys are presented in Table 3. It is important to highlight that all of the respondents to the questionnaires were senior-level executives at their respective business organizations and therefore, qualified to provide accurate and unbiased responses to the survey questions.

Table 3. *Measurements of Variables Based on Executive Opinion Surveys*

Variables	Survey Questions
Dependent Variable: Brain Drain	
I. Brain Drain [1]: Country capacity to retain talented people/ employees. (*CCRT*)	Does your country retain talented people/employees? *(1=Talented people/employees normally leave to pursue opportunities in other countries-there are not many opportunities for talented people/employees within the country, 7=Talented people/employees almost always remain in the country-there are many opportunities for talented people/employees within the country)* Higher scores refer to less brain drain.
Independent Variables: Presumed Predictors of Brain Drain	
i. Quality of the education system (*QES*)	In your country, how well does the education system meet the needs of a competitive business environment? *(1=Not well at all; 7=Extremely well)*
ii. Quality of math and science education (*QMSE*)	In your country, how do you assess the quality of math and science education? *(1=Extremely poor-among the worst in the world; 7=Excellent-among the best in the world)*
iii. Quality of management schools (*QMS*)	In your country, how do you assess the quality of management schools? *(1=Extremely poor-among the worst in the world; 7=Excellent-among the best in the world)*
iv. Local availability of specialized training services (*LASTS*)	In your country, to what extent are high-quality, specialized professional training services available? *(1=Not available at all; 7-Widely available)*
v. Extent of staff training (*EST*)	In your country, to what extent do companies invest in training and employee development? *(1=not at all; 7=to a great extent)*

Notes: (1) Since 2013, the Executive Opinion Surveys has also included the brain gain aspect (*country capacity to attract talented people*) of brain drain (see Schwab, 2017; WEF, 2018). However, for the data consistency concern and because the study focuses on the country incapability of retaining talented employees within the country/organization, this brain gain aspect was not included. Yet, for the study's sample, the difference in the mean scores of '*capacity to retain talent*' and '*capacity to attract talent*', and the bilateral correlation coefficient between them were respectively found around 0.03 and 0.96, implying that both measurements can be used interchangeably and the results of one can be strongly generalized to the other one.

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4. Empirical Analysis

4.1. Stationarity Control: Unit Root Tests

An increasing number of studies in the business and management literature have been using longitudinal (panel) data for its advantages over either purely time series or purely cross-sectional data (Certo and Semadeni, 2006). Longitudinal data analysis enables to study dynamic relationships over time units, *i.e.*, time series dimension, and heterogeneities among subjects, *i.e.* cross-section units (Frees, 2004; Hedeker and Gibbons, 2006; Wooldridge, 2010). However, longitudinal empirical setting introduces analytic problems when the series are non-stationary, a case that likely causes an important issue of spurious regression (Hedeker and Gibbons, 2006; Braun *et al.*, 2013). In the literature, longitudinal (panel) unit root tests of Levin, Lin and Chu (2002) and Im, Pesaran and Shin (2003) have been commonly used. In the study, both tests were carried out and the results are reported in Table 4. As seen in Table 4, all the variables are found level-stationary at most 10% level implying that the analysis can be proceeded in an ordinary least squares-type regression estimation that will produce reliable results without spurious regression.

Table 4. *Results of Unit Root Tests (At Level)*

Tests→	Levin-Lin-Chu		Im-Pesaran-Shin	
Variables↓	Intercept	Intercept and Trend	Intercept	Intercept and Trend
CCRT	-14.542 (0.000)[a]	-23.292 (0.000)[a]	-9.828 (0.000)[a]	-4.540 (0.000)[a]
QES	-4.293 (0.000)[a]	-11.455 (0.000)[a]	-2.582 (0.005)[a]	-3.182 (0.001)[a]
QMSE	-6.115 (0.000)[a]	-7.473 (0.000)[a]	-2.505 (0.006)[a]	-1.684 (0.046)[b]
QMS	-32.626 (0.000)[a]	-25.078 (0.000)[a]	-5.399 (0.000)[a]	-6.629 (0.000)[a]
LASTS	-4.103 (0.000)[a]	-8.036 (0.000)[a]	-1.560 (0.059)[c]	-2.003 (0.023)[b]
EST	-5.981 (0.000)[a]	-10.757 (0.000)[a]	-3.165 (0.001)[a]	-1.317 (0.094)[c]

Notes: Lag length selection was automatic let change from 0 to 3 based on the Schwarz information criterion. Probabilities of the calculated statistics are shown in the (parentheses). The superscripts a, b, and c imply stationarities at the 1%, 5%, and 10% levels, respectively. *CCRT*=Country capacity to retain talent, *QES*=Quality of the education system, *QMSE*=Quality of math and science education, *QMS*=Quality of management schools, *LASTS*=Local availability of specialized training services, *EST*=Extent of staff training.

4.2. Descriptive Statistics and Correlations

Several descriptive statistics and the correlation coefficients are presented in Table 5. For robustness concern, the kurtosis and skewness statistics are required to be zero for the perfect normality which is assumed by the unit roots tests employed in the study. But is it noticed in the literature that the absolute values 2 (for skewness) and 7 (for kurtosis) are accepted as maximum thresholds for normal distribution (West *et al.*, 1995; Field, 2013). As

seen in Table 5, the skewness values ranged between -0.482 and 0.079 while minimum and maximum kurtosis values were 1.620 and 2.440 inferring that there was not any serious deviation from the normality assumption. Additionally, the bilateral correlations among variables were found significantly and positively higher (>0.50), except for that of between *CCRT* and *QMSE* (0.429).

Table 5. *Descriptive Statistics and Correlation Coefficients*

	CCRT	QES	QMSE	QMS	LASTS	EST
Mean	4.060	4.246	4.407	4.898	4.946	4.456
Median	4.050	4.300	4.600	5.000	4.800	4.400
Maximum	6.300	6.200	6.100	6.400	6.700	6.100
Minimum	2.00	2.400	2.500	3.300	3.300	2.900
Std. Dev.	1.057	0.902	0.881	0.848	0.871	0.736
Skewness	0.058	0.057	-0.482	-0.125	-0.010	0.079
Kurtosis	2.178	2.087	2.440	1.620	1.784	2.118

	CCRT	QES	QMSE	QMS	LASTS	EST
CCRT	1	0.745	0.429	0.747	0.836	0.817
QES		1	0.817	0.760	0.819	0.814
QMSE			1	0.543	0.626	0.571
QMS				1	0.824	0.760
LASTS					1	0.885
EST						1

Notes: CCRT=Country capacity to retain talent, QES=Quality of the education system, QMSE=Quality of math and science education, QMS=Quality of management schools, LASTS=Local availability of specialized training services, EST=Extent of staff training.

Additionally, unreported[3] statistical characteristics of the data revealed that the highest and the lowest mean scores in the averages of all variables belong respectively to Switzerland (5.972) and Spain (4.132) in the host-country group, whereas the best and worst performers, in this context, are India (4.542) and Pakistan (3.496), respectively, in the home country group.

4.3. Panel Regression Analysis and Results

Within a longitudinal data framework, linear regression estimation can be carried out through the pooled, fixed effect and random effect models (Frees, 2004; Hedeker and Gibbons, 2006; Wooldridge, 2010). However, in the study the regression model in Equation 1 was estimated within all three alternates for a better comparison and results are reported in Table 6.

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3   All unreported results in the study are available from the author upon request.

Table 6. *Determinants of Brain Drain: Results of Panel Regression Estimation*
(Dependent Variable: Country Capacity to Retain Talent-CCRT)

Explanatory variables (predictors)↓	Pooled model	Random effect model	Fixed effect model
	Estimated coefficients	*Estimated coefficients*	*Estimated coefficients*
QES	0.585 [0.096]; (0.000)[a]	0.625 [0.081]; (0.000)[a]	0.533 [0.087]; (0.000)[a]
QMSE	-0.495 [0.067]; (0.000)[a]	-0.194 [0.080]; (0.017)[b]	-0.018 [0.090]; (0.840)
QMS	0.083 [0.070]; (0.236)	-0.059 [0.094]; (0.534)	-0.109 [0.104]; (0.294)
LASTS	0.575 [0.094]; (0.000)[a]	0.435 [0.074]; (0.000)[a]	0.333 [0.078]; (0.000)[a]
EST	0.253 [0.103]; (0.014)[b]	0.020 [0.079]; (0.797)	0.001 [0.083]; (0.992)
Constant	-0.619 [0.236]; (0.009)[c]	0.305 [0.400]; (0.446)	0.765 [0.444]; (0.086)[c]
R-squared	0.785	0.412	0.954
Adjusted R-squared	0.781	0.399	0.946
F-statistic	170.974 (0.000)[a]	32.760 (0.000)a	120.321 (0.000)[a]

Notes: Figures in [brackets] and (parentheses) are standard errors and probabilities, respectively. The superscripts *a*, *b*, and *c* denote statistical significance at the 1%, 5%, and 10% level, respectively. *CCRT*=Country capacity to retain talent, *QES*=Quality of the education system, *QMSE*=Quality of math and science education, *QMS*=Quality of management schools, *LASTS*=Local availability of specialized training services, *EST*=Extent of staff training.

Common results of all the three estimations reveal that the quality of the general education system and local availability of specialized training services can reduce brain drain (in the home countries) that is measured by the country capacity to retain talented people/employees. This evidence also implies that the host countries have been attracting talented people by providing a high-quality general education and by more implementing specialized training services. This suggestion is strongly consistent with the observed brain drain trends in practice. On the other hand, the quality of math and science education was found with a talent-pushing impact which implies the potential skill/talent mismatch and brain export that can be explained by overeducation and overqualification aspects in the relevant literature. In practice, this negative impact points to the cases where individuals have a higher quality of math and science education but can not find a job that is able to fit their capabilities, and consequently, they immigrate to other countries where their high-quality math and science education are more appreciated. Again, these mechanisms are apparently consistent with many talent mobility cases in the world. The evidence of that the effect of the quality of management schools is not statistically significant will question the contributions and returns of the management schools to countries' workforce, and again underlines the possibility of skill/talent mismatch within an organizational perspective. In the practical perspective, the neutral effect of the quality of management schools also keeps the door open to debate on the inconsistency of the theory and practice. Thus, as sometimes discussed by business leaders and global executives well, the contents of the education of management schools need to be instantly updated to meet the ever-changing needs of business environments. This is important for the

talent competition among business organizations that it is sometimes pointed out that business and management education has fallen far behind of meeting what today's business world really needs.

5. Discussion and Conclusion

5.1. Practical Implications and Future Research Directions

The overall evidence of the study underlines the importance of investing in continuous training activities and in the quality dimension of education (beyond the quantity of education) for both countries and organizations. This importance also emphasizes the necessity of skill-task matching practices which requires a public-private partnership (sometimes referred to as 3P) to a better combination of education and training. In this sense, the education systems of countries need to focus on talent improving and talent bringing methods rather than equipping the students/ participants with complex knowledge that will not be used practically. More specifically, business organizations need to follow lifelong education and vocational training programs within a strategic human resource management perspective to make their employees satisfied with their jobs and thus committed to their organizations (and countries). One way to do so is to learn how the best-performing organizations retain and attract the talented people. Therefore, more empirical studies about the predictors and consequences of brain drain are needed. The results of the study evidentially explored that education and training matter for explaining the causes of brain drain and therefore the study recommends future research considering education and training when analyzing brain drain in both organizational and country-level perspectives. It is noteworthy that such non-economic and non-business factors as cultures, geographic distance, and immigration policies that are likely to explain migrants' decisions were excluded in the model of the study. Therefore, future studies should consider these pushing and pulling factors when analyzing the brain drain phenomenon.

5.2. Strengths and Weaknesses of the Results

The study's originality comes from its several strengths: By means of covering both brain sender and receiver countries, the study was able to capture both pushing and pulling factors for brain drain. The panel structure of the study captured the changes over both time and countries. Given the high share of the country sample in global immigration, the explored relationships are able to reflect the average causes that can be generalized to the global brain drain issue. The data source, Executive Opinion Surveys, provides data for also the brain gain aspect (capacity to attract talented people) of brain drain. Some descriptive statistics revealed that variables of the capacities to both attract and retain talented people might be used interchangeably and thus the brain drain findings of the study can be strongly generalized to the brain gain case. Besides these advantages of the large country sample and the aspect-variable fit, the data used in the study originated from a large-number of participants from each country. The participants, executives, were competent to observe and systematically assess the magnitudes of the examined variables. The consideration of the key pillars (education and training) of global brain drain in both country-level and organizational perspectives, and distinguishing them between different aspects are among the other strengths of the findings. Therefore, the study is an original initiative which can contribute to the attempts aiming at filling the research gap in the relevant literature.

On the other hand, the results of the study need further supplementary evidence for why employees really go to other organizations in foreign countries utilizing some specific survey data collected from most recent immigrants with different demographic characteristics such as age, gender, ethnicity, language, education, employment type

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(waged or self-employed), *etc*. Moreover, because of the lack of consistent and comparable data, the study could not go details in other push and pull factors regarding the inter-organizational differences in wage, job quality, job strain, employment security, workplace issues, organizational prestige, human resource practices, talent management programs, *etc*. that would produce more specific implications for practitioners and future researchers in the business and management field.

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5

AUDIT FIRM SELECTION USING ANALYTIC HIERARCHY PROCESS AND AN APPLICATION[1]

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Abstract

Audit services today have become a big necessity for companies at both national and international levels. The selection of an audit firm that would render such important service is one of the most important company decisions. The decision on the most appropriate audit firm in terms of businesses; is a multi-criteria decision-making problem that requires both quantitative and qualitative factors to be taken into consideration. In this study, the applicability of Analytic Hierarchy Process (AHP) method, one of the methods used for solving multi-criteria decision-making problems has been examined in the audit firm selection process. The data used in this study were obtained from face-to-face interviews conducted with senior managers of 5 companies with various scales that are currently being rendered audit services. As a result of the analysis, it has been seen that the qualitative criteria have priority and audit fee, audit firm's size and audit firm's reputation have been the criteria that come to prominence.

Keywords: Analytic Hierarchy Process Method (AHP), Audit Firm, Multi-Criteria Decision-Making (MCDM), Big 4

1. Introduction

Financial statements form one of the most important parts of the system about the disclosure of information concerning companies which are essential elements of the economic life. Information concerning economical and financial structures of companies, their business results and changes in their financial status are submitted to the information and usage of companies' stakeholders by means of financial statements. Those mainly concerned with companies today are shareholders, managers and employees of the companies, investors, those which have commercial ties to companies, monetary and capital market institutions, and labor unions, state and public. Financial statements are used in decisions which are to be made by those concerned with the companies which form an extremely large spectrum. The accuracy and reliability of information included in financial statements which are used by those concerned with the companies for different goals is crucial. The information disclosed in financial statements must be accurate, reliable and complete. On the other hand, due the development of the society, the advancement of the economy and the fact that it has gotten more complex each day and many other reasons, the probability that the information disclosed in financial statements is accurate and reliable decreases. For that reason, an examination which would investigate and prove the accuracy and reliability of the information disclosed in financial statements is inevitable. The risk of true and unreliable information needs to be reduced as

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much as possible. At this point, the term "audit" comes out. Audit is the most common method which is referred and accepted today in reduction of the information risk.

Audit is a process in which independent people who possess sufficient professional knowledge and experience collect audit evidences independently and report their opinions with regards to Generally Accepted Auditing Standards (GAAS) with the aim to determine whether the information disclosed in financial statements of a company is in accordance with Generally Accepted Accounting Principles (GAAP) and legislation provisions. Information which is proven to have been disclosed in accordance with GAAP and legislation provisions is accurate and reliable. Information of which accuracy, reliability and neutrality have been proven enables those concerned with the company to meet accurate, appropriate and efficient decisions and thus, the resources are allocated productively and accordingly, all dimensions of the society benefit from this occasion.

The advancement, rapidly changing and progressing market conditions, new financial instruments, diversified expectations of stakeholders and big accounting scandals which took place in early 2000s and their serious consequences emphasize the importance of rendering high-quality audit services. This very important and necessary service is rendered to companies by audit firms. For that reason, companies have to select the most appropriate (best) audit firm for them and demand audit service taking into account the conditions they are in. In that case, the process of selecting the most appropriate one among audit firms requires a multi-criteria decision problem solving which needs to take into account both quantitative and qualitative factors. The most preferred and effective method in solving multi-criteria decision-making problems is the AHP method. For that reason, the research about usage of the AHP method has been aimed in the process of selecting among audit firms by clients. The study aims to guide companies that receive audit services and to contribute to the literature.

2. Literature

At the present time, the AHP method has many application fields such as human resources management, finance, production, marketing, education, economics, medicine, public politics and sports. The AHP is a technique which helps analytical and accurate decision-making.

Should the application of the AHP method in business only be examined, it could be seen that it intensively contributes to decision-making processes in business field. This indicates that the AHP method is a very practical and flexible method in business decisions (Kuruüzüm & Atsan, 2001, p.101). Besides, its properties such as simplicity and easy-interpretability which it shows in analysis of complex decision problems contribute to the popularity of the AHP method. However, a very limited number of studies that examine the practices where the AHP method is used in audit field have been determined Öztürk & Erdoğan(2017), have tried to determine the most appropriate audit firm selection for a production company that is listed in BIST (Borsa Istanbul – Istanbul Stock Exchange) using the AHP and TOPSIS methods. In internal audit field Ös(2010), has a study that examines the usage of the AHP method in determining the audit universe.

There are only a few studies in our country that regard to the selection of audit firms by clients. Karaibrahimoğlu (2013), has researched the relationship between corporate governance and auditor selection based on the data concerning the years 2005-2009 of the companies listed in Istanbul Stock Exchange. Ünal & Altay(2015) have examined the relationship between corporate governance and auditor selection based on the data of production companies that are listed in BIST concerning the years 2005-2013. Tuan(2015) has researched whether corporate

governance and company attributes have influence on audit firm selection based on the data that belong to non-financial companies listed in BIST National Market using Logistic Regression Model in 2014. Özcan(2018) has examined the factors that have an impact on audit firm selection of 94 companies listed in BIST using Discriminant Analysis in 2017. Kesimli(2018) has brought forward a proposal of Audit Firms Quality Index aiming that audit firm selection of companies shall be based on objective criteria and thus, it shall mediate to enable a rational selection.

After performing a foreign literature review concerning audit firm selection, it has been found out that in Atkinson & Bayazit's (2014) study, the AHP method has been recommended to the companies as a helpful instrument when selecting and evaluating audit firms. The study has been conducted on a non-profit organization and the durability of the decision met has been tested with Sensitivity Analysis. Having examined only the studies that are about audit firm selection, the following studies come into prominence: Addams & Allred (2005), Broye & Weill (2008), Ettredge, Kwon & Lim (2009), Jaffar (2009), Knechel, Niemi & Sundgren (2008), Sands & McPhail (2003), Scott & Van der Walt (1995), Stanny, Anderson & Nowak(2000), Chou, Zaiats & Zhang,(2014), He, Rui, Zheng, &, Zhu(2014), Pitman & Fortin(2004), Almer, Philbrick& Rupley (2014), Abbott & Parker (2001) and Tate (2007).

As a result of the whole examinations conducted in related literature, it is seen that this study is one of the rare studies that research clients which make a decision when selecting audit firms just by taking into consideration the attributes regarding the audit firm by means of the AHP method.

3. Data Analysis Method

The Analytic Hierarchy Process (AHP) has been used as the analysis method in the study. The theoretical background of this method is as follows.

3.1. The Analytic Hierarchy Process Method (AHP)

Generally, Saaty states that decision-making includes duties such as planning, producing some alternatives, prioritization, choosing the best politics after evaluating a range of alternatives, allocation of resources, determining necessities, guessing the results, designing the systems, measuring performance, assuring the stability of a system and optimization and solution of a conflict (Saaty, 1986, pp.841-855).

"Multi-criteria decision-making methods (MCDM)" is frequently used today in decision-making processes. These methods are used, when there are criteria and goals which include more than one quality and quantities in order to make a decision. One of the methods used for this goal is the Analytic Hierarchy Process (AHP). The AHP is a method, developed by Thomas L. Saaty (1980), which has a broad usage area (Saaty, 1987, pp.161-176). The AHP is generally based on making the most appropriate selection among alternatives.

The AHP method enables decision-makers to model complex problems in a hierarchical structure that shows the connection between problem's main goal, criteria, sub-criteria and alternatives. The most important characteristic of the AHP method is known to be that it can incorporate both objective and subjective opinions of the decision-makers into the decision-making process. In other words, the AHP can be described as a method where data, experience, opinions and foresight of the individual are brought together in a logical way (Kuruüzüm ve Atsan, 2001, p. 84).

The AHP method is performed in following steps; definition of the decision problem, structuring the hierarchical model, separation of the problem, pairwise comparison among criteria and triage, performing consistency analysis of comparison matrices with hierarchical synthesizing, and evaluation and conclusion (Saaty, 1994, p.25).

The intensity of importance and definitions are shown in Table 1 below pairwise comparison matrix profiting from the 1-9 point decision (intensity) scale.

Table 1: *The Fundamental Scale for Pairwise Comparisons*

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, 1994, pp.19-44.*

During the pairwise comparison process in the AHP, the consistency of the judgments of the decision-maker is very important. In order to measure whether or not the decision-maker is consistent in comparison, the "Consistency Ratio (CR)" needs to be calculated which is obtained by dividing Consistency Index (CI) by randomness indicator (Erkiletlioğlu, 2000, pp.76-77). Saaty has determined the upper limit of consistency ratio as 10%.

4. Application

4.1. The Purpose and Importance of the Study

The purpose of this study is to determine the main and sub-criteria (which solely pertain to audit firms) which companies that are subject to audit pay regard to during their selection process among audit firms to receive audit service, and to select the most appropriate one among candidate audit firms.

Because of the fact that there is only one similar study in Turkish audit literature in which the criteria which are primarily considered by companies while selecting audit firms are determined and evaluated via the AHP method, it can be claimed that this study possesses the qualities of being a pioneer in its field.

4.2. The Scope of the Study

Authorized audit firms which can be selected by companies in Turkey that are subject to auditing form the scope of this study. Active audit firms can be classified as "Big 4 firm" or "Non-Big 4 firm". The majority of the audit firms are in Istanbul. For that reason, the study was conducted via face-to-face interviews with senior level managers of 5 companies some of which are listed in Istanbul Stock Exchange. Consequently, the main and sub-criteria

that are considered by companies when selecting audit firms have been determined. Those interviews have been conducted with the managers that have high impact on the decision-making process of those companies while selecting audit firms.

4.3. Findings of the Study

The main and sub-criteria that are sought in candidates by companies operating in Turkey while selecting audit firms are shown below in Table 2 "The Hierarchical Structure of the Problem of Selecting the Best Audit Firm". Using those criteria, it has been tried to determine the most appropriate candidate among 3 candidate companies in audit firm selection by means of the AHP method. In this regard, 2 main and 10 sub-criteria which have come out in accordance with senior manager opinions have been used in order to perform the audit firm selection process. Moreover, Expert Choice (EC) software has been used in calculation of the matrices used in data analysis.

Table 2: *The Hierarchical Structure of the Problem of Selecting the Best Audit Firm*

	Criteria (Factors)	Sub-criteria (Sub-factors)
THE SELECTION OF THE BEST AUDIT FIRM	**Qualitative Criteria**	Audit Firm's Size
		Audit Firm's Sector Experience
		Qualifications of the Audit Team (Foreign Language, Position in Organization, Experience, # of People)
		Audit Firm's Service Scope
		Audit Firm's Reputation
		Whether or Not the Audit Firm is a Member of an International Network
	Quantitative Criteria	Audit Fee (Annual)
		Accessibility (# and Duration of Conversations, Monthly # of Meetings)
		Authorized Activity Duration
		Audit Firm's Geographical Location

Candidate 1	Candidate 2	Candidate 3

The characteristics of 3 candidate audit firms which are used for analysis in the study are shown in Table 3. As a result of the analysis to be performed, the decision-makers shall perform a selection for the best audit firm within the framework of main and sub-criteria taking into consideration the characteristics of the 3 candidate firms.

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Table 3: *The Characteristics of Candidate Audit Firms*

Main Criteria	Sub-criteria	Candidate 1	Candidate 2	Candidate 3
Qualitative Criteria	Audit Firm's Size	A Big 4 Firm	Not a Big 4 Firm	Not a Big 4 Firm
	Audit Firm's Sector Experience	Does have experience in the sector the client operates	Does have experience in the sector the client operates	Does not have experience in the sector the client operates
	Qualifications of the Audit Team (Foreign Language, Position in Organization, Experience, # of People)	- Team members do have sector experience - Foreign language level of the team members is advanced - 60% of the team members is in senior or higher level - The number of team members is sufficient	- Team members do have experience - Foreign language level of the team members is advanced - 40% of the team members is in senior or higher level - The number of team members is sufficient	- Team members do have limited sector experience - Foreign language level of the team members is intermediate - 30% of the team members is in senior or higher level - The number of team members is sufficient
	Audit Firm's Service Scope	Full Scope of Services (%100) (Audit / Tax / Advisory)	Services to a Large Extent (%80) (Audit / Tax / Advisory in a limited range)	Limited Service Range (%40) (Audit / Tax)
	Audit Firm's Reputation	World-renowned, Reliable, Corporate, Active In Several Countries, Never Involved In Accounting/Auditing Scandals, Never Been Subject to Serious Penalties by the Regulatory and Supervisory Authorities in Turkey	Highly Recognized, Reliable, Active In A Limited # of Countries, Never Involved In Accounting/Auditing Scandals, Never Been Subject to Serious Penalties by the Regulatory and Supervisory Authorities in Turkey	Obscure, Reliable, Not Corporate, Active Only In Turkey, Never Involved In Accounting/Auditing Scandals, Never Been Subject to Serious Penalties by the Regulatory and Supervisory Authorities in Turkey
	Whether or Not the Audit Firm is a Member of an International Network	Is a member of an international network	Is a member of an international network	Is not a member of an international network
Quantitative Criteria	Audit Fee (Annual)	200.000 $ / Year	120.000 $ / Year	65.000 $ / Year
	Accessibility (# and Duration of Conversations, Monthly # of Meetings)	3 Meetings / Monthly Unlimited Conversation	4 Meetings / Monthly Limited Conversation	6 Meetings / Monthly Unlimited Conversation
	Authorized Activity Duration	25 Years	15 Years	10 Years
	Audit Firm's Geographical Location	Istanbul / 40 km	Ankara / 450 km	Istanbul / 55 km

In the study there are two main criteria which are qualitative and quantitative, and also ten sub-criteria called Audit Firm's Size, Audit Firm's Sector Experience, Qualifications of the Audit Team (Foreign Language, Position in Organization, Experience, # of People), Audit Firm's Service Scope, Audit Firm's Reputation, Whether or Not the Audit Firm is a Member of an International Network, Audit Fee(Annual), Accessibility (# and Duration of Conversations, Monthly # of Meetings), Authorized Activity Duration

Audit Firm's Geographical Location.

The values concerning the priority status of main criteria and their consistency ratio (CR) are shown in Table 4.

Table 4: *Priority Values and Consistency Ratio of Main Criteria*

	Criterion Priority Value	Consistency Ratio
Qualitative Criteria	0.83	0.076
Quantitative Criteria	0.17	0.070
	Consistency Ratio (CR) : 0.073	

Having examined the priority vectors of main criteria in Table 4, it can be seen that the most important criteria in audit firm selection are qualitative criteria with a ratio of 83%. Separate priority vectors of qualitative and quantitative criteria are shown below in Table 5 and Table 6.

Table 5: *Companies' Criterion Priorities According to Qualitative Sub-criteria*

QUALITATIVE CRITERIA	Criterion Priority Value
Audit Firm's Size	0.431
Audit Firm's Sector Experience	0.050
Qualifications of the Audit Team (Foreign Language, Position in Organization, Experience, # of People)	0.074
Audit Firm's Service Scope	0.029
Audit Firm's Reputation	0.144
Whether or Not the Audit Firm is a Member of an International Network	0.127

As can be seen from Table 5, the criterion "Audit Firm's Size" has come out as the most important criterion with a ratio of 43.1% among the criteria regarding the qualitative characteristics. It is being followed by "Audit Firm's Reputation" with 14.4%, "Whether or Not the Audit Firm is a Member of an International Network" with 12.7% respectively.

Table 6: *Companies' Criterion Priorities According to Quantitative Sub-criteria*

QUANTITATIVE CRITERIA	Criterion Priority Value
Audit Fee (Annual)	0.48
Accessibility (# and Duration of Conversations, Monthly # of Meetings)	0.24
Authorized Activity Duration	0.14
Audit Firm's Geographical Location	0.08

Having observed Table 6, it has been determined that the criterion "Audit Fee (Annual)" which is among the criteria regarding the quantitative characteristics has been placed on the top with a ratio of 48%. The followers are "Accessibility" with 24% and "Authorized Activity Duration" with 14%.

Table 7: *Candidate Firms' Criterion Priorities According to All Sub-criteria*

MAIN CRITERIA / Sub-criteria	Candi date 1	Candi date 2	Candi date 3	Criterion Priority Value	Consis tency Ratio (CR)
QUALITATIVE CRITERIA					
Audit Firm's Size	0.17	0.77	0.06	0.231	0.072
Audit Firm's Sector Experience	0.47	0.76	0.06	0.082	0.068
Qualifications of the Audit Team (Foreign Language, Position in Organization, Experience, # of People)	0.24	0.69	0.05	0.076	0.050
Audit Firm's Service Scope	0.22	0.71	0.02	0.046	0.052
Audit Firm's Reputation	0.20	0.75	0.05	0.144	0.074
Whether or Not the Audit Firm is a Member of an International Network	0.22	0.73	0.07	0.028	0.049
QUANTITATIVE CRITERIA					
Audit Fee (Annual)	0.14	0.79	0.07	**0.375**	0.073
Accessibility (# and Duration of Conversations, Monthly # of Meetings)	0.08	0.72	0.19	0.076	0.047
Authorized Activity Duration	0.22	0.73	0.05	0.032	0.037
Audit Firm's Geographical Location	0.49	0.31	0.20	0.011	0.071

The results of the analysis which has been performed incorporating all sub-criteria are given in Table 7. The values in that table show the sensitivity of each audit firm against the determined criteria. It has been set that "Audit Fee" with a ratio of 37.5% has come on the first place among all criteria. It is being followed by the criterion "Audit Firm's Size" with 23.1%, and "Audit Firm's Reputation" with 14.4% respectively.

Besides, after having examined the Table 7, it has been determined that the Candidate 2 is significantly predominant with regard to all criteria except "Audit Firm's Geographical Location". Having examined the consistency ratios of all sub-criteria, the fact that those ratios are less than 10% shows that the values set by decision-makers in accordance with their judgments are consistent, in other words, the results are within the consistency limits.

Based on the data in Table 7, when all criteria are taken into consideration, the decision, which candidate audit firm shall be preferred, will be able to be made.

Table 8: *Candidate Audit Firms' Criterion Priority Values (Total)*

CANDIDATE AUDIT FIRMS	CRITERION PRIOROTY VALUES
CANDIDATE 1	0.19922
CANDIDATE 2	**0.73599 ←**
CANDIDATE 3	0.06503

In Table 8 it can be seen that, when all candidates are evaluated in audit firm selection taking into consideration all criteria, the Candidate 2 possesses the properties to be selected with the highest ratio of 73.5% where it is being followed by the Candidate 1 with a ratio of 19.9%. According to that result, a rational manager needs to prefer the Candidate 2 when deciding for an audit firm using the AHP method.

5. Conclusion

In today's economic environment, there are several factors which can affect and challenge companies' decisions. In this context, the techniques are coming into prominence which is used in solving complex and multi-criteria decision-making problems. One of those techniques is the AHP method which finds usage in many fields.

The purpose of this study is the usage of the AHP method by companies in Turkey that are subject to auditing while deciding among audit firm alternatives that would render audit services to them. Primarily, 2 main and 10 sub-criteria have been set after conducting face-to-face interviews with senior managers from 5 companies which are to be used in selecting the most appropriate audit firm among 3 candidates. 3 of those companies are selected from large-sized companies that are listed in stock exchange and the other 2 are middle-sized and large-sized, but not listed in stock exchange. For the analysis, the main and sub-criteria which have been set based on the interview with the senior manager of a large-sized, listed company have been used and pairwise comparison matrices have been formed and the consistency of the received answers have been examined.

As a result of the analysis performed, it has been seen that one of the two main criteria set for the selection of a candidate audit firm that come to prominence are the criteria regarding the qualitative characteristics. The most important criterion among the qualitative criteria has been "Audit Firm's Size" with a ratio of 43.1%. This is being followed by "Audit Firm's Reputation" with 14.4% and "Whether or Not the Audit Firm is a Member of an International Network" with 12.7% respectively. Besides that, the criterion "Audit Fee (Annual)" has become the first among the criteria regarding the qualitative characteristics with a ratio of 48%.

As a result of the analysis performed including all sub-criteria, "Audit Fee (Annual)" has become the first with a ratio of 37.5% among all criteria. It is being followed by "Audit Firm's Size" with and "Audit Firm's Reputation" with 14.4% respectively. Having said that, Candidate 2 is significantly predominant with regard to all criteria except "Audit Firm's Geographical Location". In all analysis, it has been seen that the values given by decision-makers based on their judgments have been consistent.

From the viewpoint of all criteria to be regarded in audit firm selection, it has been determined that the Candidate 2 possesses the properties to be selected with the highest ratio of 73.5% where it is being followed by the Candidate 1 with a ratio of 19.9%. According to that result, a rational manager needs to prefer the Candidate 2 when deciding for an audit firm using the AHP method. According to that result, a rational manager needs to prefer the Candidate 2 when deciding for an audit firm using the AHP method.

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6

DISCRIMINATION BASED ON GENDER IN THE ACCOUNTING PROFESSION [1]

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Abstract

Employment discrimination based on gender, constituting one of the most important issues of the labor market, is an issue emerging in different levels in all economies, social and cultural environments. Studies on and statistics related to employment discrimination based on gender, defined as the concentration of women or men in certain occupations, reveal that women are more disadvantaged. Separation of jobs as "female jobs" or "male jobs" based on gender has always been a problem that women have had to overcome in every period of their work life. Discrimination based on gender can be observed in a number of areas from vocational guidance to in-house applications and senior tasks. The accounting profession is one of the professions where discrimination based on gender is seen intensely.

Following an explanation of employment discrimination based on gender and sex and discrimination based on gender in the accounting profession based on literature review, this study analyses the gender distribution in the accounting profession titles, professional chambers and chambers of associations in Turkey by employing statistical data and tries to determine the level of discrimination based on gender.

Keywords: Accounting Profession, Discrimination Based on Gender, Female Members of the Accounting Profession

1. Introduction

Deprived of social and economic rights such as going to school, traveling, owning properties and doing certain jobs, women have experienced gender discrimination and inequality for centuries. From the first half of the twentieth century, international arrangements have been made to ensure that gender equality is guaranteed at the constitutional and legal level and to prohibit gender inequality and discrimination. However, the results of international research on gender equality indicate that while equality of access to health and education is on the rise, the rate of inequality in participation in economy and politics is quite high (listelist.com, 23.11.2017).

Gammie and Gammie (1997) emphasize that there is an expectation in the society that women need to organize their careers according to their family needs and that successful career and active parenting cannot come together (Flynn et al., 2015).

This mindset affects the social life and the organization of the labor market, causing the separation of jobs as women and men jobs (Urhan & Etiler, 2011; 197). Worldwide surveys show that the accounting profession is also considered to be a male profession where discrimination based on gender is experienced.

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Due to the inadequate number of researches carried out in Turkey on gender issues in the accounting profession, this research was conducted in order to bring the issue on the agenda, encourage further discussion and research, and shed light on practices that will support gender equality.

After focusing on employment discrimination based on gender and sex, the research discusses the discrimination based on gender in the accounting profession. Following some definitions of accounting profession and professional organizations in Turkey, this research analyses the gender distribution in the accounting profession titles, professional chambers and chambers of associations by employing statistical data and tries to determine the level of discrimination based on gender.

2. Gender

Rather than biological differences, gender refers to the differences between men and women with regards to the roles and responsibilities shaped by the cultural values and norms of the society (Özmete & Zubaroğlu Yanardağ, 2016, p. 92). Biological diversity, which exists between men and women and does not in itself have an inequality relation, has been conceptualized as "gender" by turning into an unequal, hierarchical difference in society and culture (Berktay, 2004, p. 2).

The patriarchal system has an important role in determining the social and cultural structure. This system adopts the domestic space a private area and allocates it to women, while it considers the public space as a male-specific area and pushes the presence of women in the public space to the background. Definition of men as rational and women as emotional has become an obstruction in front of women's existence in the public arena and and women restricted to the domestic space could not find the opportunity to express themselves directly.

Gender inequality in the form of inadequacy of women's participation in political life, inadequate presence in the economic arena etc have emerged as the result of this understanding and value judgment, causing economic and social right losses to the detriment of women. These losses of rights have been subjects to international documents, regulations emphasizing equality and prohibition of discrimination were made, and gender equality was tried to be ensured through constitutional and legal assurance (İspir, 2016; 174-177).

Since many international declarations and documents, adopted in the first half of the 20th century, deal with the specific rights of women in a general "human rights" package and assume that these rights are recognized, discussion, identification and resolution of women-specific problems have been delayed.

With the conversion of the feminist movement rising in the 1970s into social movement, the awareness and sensitivity in this regard increase, and as a result the United Nations opened the 1979 Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) for signature to the member states. However, among all human rights conventions, CEDAW was one of the conventions with the most reservations; Turkey was among the countries which expressed a reservation.

The 1993 Vienna World Conference on Human Rights was an important step towards the recognition of women's rights. The Vienna Conference, which responded to the demands of women's groups, stated that "ensuring that women fully and equally benefit all human rights" is among the priority tasks of governments and the UN.

After the Vienna Conference, in the 4th UN Women's Conference held in Beijing in 1995, the understanding that women's rights are an integral but specific part of human rights was accepted and women's human rights became a part of international law and administrative mechanism (Berktay, 2004, p. 8-10). In this conference, two documents titled "Beijing Declaration" and "Action Platform" were published. The Beijing Declaration stipulates that governments are obliged to improve the situation of women; the Action Platform pointed out that obstacles in front of women can only be removed if women actively participate in all platforms (Gül et al., 2014; 171).

Despite differences in developmental levels of countries, gender discrimination against women continues to exist in the stages such as guidance to professions and establishment of business relations, wage, promotion and pregnancy matters in the business relations and in the end of business relations (Işık, 2009, 69).

Major international institutions and organizations have developed indices to measure and monitor developments in each country related to the equality of men and women on a global basis with standard indicators; have published data for measurement and comparison. The leading organizations in this area in the world are the United Nations Development Program (UNDP) and the EU and the World Economic Forum (WEF). (TÜSİAD-KAGİDER, 2008, 286-287).

The report including the results of the World Economic Forum (WEF) research carried out on gender equality by dividing the data of 144 countries into four categories as health, politics, education and economy in 2017 highlighted the following issues:

- Equality in access to health and education is increasing, while the rate of inequality in participation in economy and politics is quite high;

- Gender inequality rate is 68% across the world;

- Iceland is the country with the least inequality; Yemen is the country with the most inequality;

- Rwanda ranked fourth in gender equality, is the country with the highest number of women in parliament worldwide;

- Turkey ranks 131th among 144 countries in gender equality;

- In Turkey, ranked 130th a year ago, the rate of women's participation in the labor force was 33%; this year it is 36%.

- The reason for Turkey's falling in the rank of gender inequality despite the increase in the participation in labor force results from the involvement of women in jobs like housekeeping and wage inequality;

- 18% of senior executives in Turkey are women;

- The proportion of women among specialist professions and technical staff is 39%; Turkey ranks 104th worldwide in this regard;

- According to calculations made, if current conditions continue in the same way, gender equality in the world can be achieved 217 years later;

- Gender inequality increased in 60 countries and decreased in 82 countries when compared to the previous year; Turkey is one of the countries where inequality was on the rise (listelist.com).

Although legal arrangements have been made to prevent gender discrimination, these results indicate that gender inequality exists and that the problem is related to application of the laws rather than the laws (Alparslan et al., 2015, 68).

3. Employment Discrimination Based on Gender

Separation of professions by sex refers to the separation of jobs not according to technical realities but according to whether they are suitable for men and women or to the concentration of men in certain professions.

Cultural value judgments and beliefs about the differences between sexes influence the social life and the organization of the labor market, thereby causing women to be excluded both in the workplace and to be concentrated in certain professions. These judgments and beliefs are;

- The stereotype that the place of women is their houses and their main responsibilities are in the house;

- Judgments concerning the relationship between men and women in society and their personalities;

- Differences between sexes are considered biological/natural (Urhan & Etiler, 2011; 197).

Social stereotypes regarding gender influence the choice of profession of girls and boys, differentiating the social orientation of girls and boys. Although the level of development of each country is different, gender discrimination continues with the separation of "women's jobs" and "men's jobs" in the labor market (Işık, 2009, 69). The basic idea is that the role of earning money for the livelihood of a family belongs to men while the roles of house-keeping and child care belongs to women (Ecevit, 2001: 157).

For this reason, women who start working life are expected to be employed in the jobs compatible with their gender as a reflection of social roles. If a woman has participated in the workforce after receiving higher education, she may face obstacles such as failure to progress in her career, not being appointed to the managerial level, distrust in the job she does etc. (Anker, 1985: 74).

The separation of professions as women's and men's professions can be called "professional stratification" developed by Bergmann (Lordoğlu & Özkaplan, 2003: 224).

This separation is divided into two as horizontal and vertical separation. The horizontal stratification of professions refers to the separation within a profession group or within a particular sector. In other words, the profession is divided into two as women's profession and men's profession. Vertical stratification of professions refers to separation at the hierarchical level within the organization (Ecevit, 2001: 158). Both horizontal and vertical separation affects women's status in their workplaces as well as their incomes (Anker, 1997: 315).

As a result of the horizontal stratification of the professions, "women's jobs" are generally low-status, low-paid, temporary, insecure and unqualified jobs whereas "men's jobs" are high-paid, permanent and secure jobs that require authority and responsibility.

As a result of vertical stratification of the professions, women are not able to reach senior management levels as much as men and are exposed to promotion discrimination. Very low women employment rate in upper management levels of selected professions in Turkey indicates that there is a "glass ceiling" problem (Parlaktuna, 2010, 1222).

"Glass ceiling" is a theory that points to artificial invisible obstacles created by the prejudices in the behavior of people in the periphery. In most cases, women are exposed to discrimination although their occupational level is higher than that of men when they are given very difficult tasks leading to promotion, or when they are promoted to managerial positions (Faragulla, 2015; 123).

4. Discrimination Based on Gender in Accounting Occupation

The accounting profession, an important activity of carrying out economic and technical measures based on certain rules, standards and procedures for the economic development of the society (Ağca & Yalçın, 2009, 39, 41), is a profession notable for long working hours, intensive business volume, deadlines, work-related and environment-related stress (Ribeiro et al., 2016; 2).

Being a qualified and approved accountant requires practical training and excellence in exams after graduation. Achieving career goals in this profession depends on personal commitments such as financial investments, time and energy investments as well as a significant reduction in the time spent with family members. The most important factor for the accounting career is technical knowledge. In order to have the necessary equipment as progress is achieved in the profession, technical knowledge needs to be continually increased. This means more time and energy dedicated to professional development by the accountant (Okpechi and Belmasrour, 2011).

Accounting services in the United States are carried out by firms called "CPA" (Chartered Professional Accountants). A CPA firm consists of individuals at various levels in accounting and business careers. The firm may provide financial and advisory services to individuals, companies, partnerships, non-profit organizations and government agencies. Company partners generally actively pursue new business while also advising young employees (budgeting. thenest.com, 27.11.2017).

In a large company or accountancy firm, an accountant who proves his/her talent may have the opportunity to reach senior positions such as Finance and Accounting Manager or Chief Financial Officer. Candidates with a track record of business intelligence, leadership, influencing others, and job development are preferred for the management position.

Major accounting firms - Deloitte Touche Tohmatsu, PricewaterhouseCoopers, Ernst & Young and KPMG, known as "Big Four" - are the largest accounting and auditing firms in the world. In these firms and many middle-level firms, each business partner is responsible for making new business agreements and developing profitable customer relationships. Business partners have a share in the business and earn a share of the profits. It is a great honor and success for many accountants to establish a partnership in an accounting firm. The best ones in this area rise to the top and are invited to join the partnership (work.chron.com).

Some researchers have observed that female accountants lack access to business opportunities such as education, development, guidance and networking in their career development. These opportunities are very important for achieving progress in career, as through these opportunities, accountants are open to business contacts and people can appreciate the services of the accounting firm (Dorcas et al., 2014).

The total rate of women working in the accounting profession across the world is about 49% in 2016. This rate is 69.5% in Finland, 69.4% in Germany, 68% in France, 63% in Sweden, 61.6% in Italy, 61.3% in the United

States, 58.5% in Norway, 58% in Spain, 57.4% in Switzerland, 57.3% in Ireland, 54.1% in the United Kingdom, and 50.2% in Canada (www.catalyst.org).

While the proportion of women in the public accounting has risen to significant levels in the last 20 years, they have had more difficulties than men to get promotion in CPA firms. In order to draw attention to the upward mobility of women since 1984, AICPA set up a committee with the task of monitoring upward mobility and established the "Executive Committee" for "Women and Domestic Issues".

Statistics and studies, however, continue to point to relatively slow progress in women's achieving senior positions in the accounting profession. Only 4.1% of the shareholders of the country's largest accounting firms were female in 1989; 4.9% in 1992 (Borgia and Dwyer, 1994), 17% in 2011 (Sarah, 2017), 19% in 2012 (Pendergast, 2015) and 24% in 2017 (Sarah, 2017).

The fact is that women face unfair restrictions in the accounting profession for a long time; and while favorable conditions are developing for women, it will take a long time to progress. According to the data from Catalyst.org, while less than 19 percent of the partners of Deloitte and KPMG, major accounting firms in the United States, are women, only 18% of the partners of Ernst & Young and only 17% of the partners of PricewaterhouseCoopers are women (onlinedegrees.nec.edu).

McGregor (2014) argues that although the statistics have increased over the years, women are inadequately represented on board of directors, and states that a study on this issue shows that gender equality cannot be achieved by 2042 on board of directors of accounting firms (Sarah, 2017). It is clear that the time has not removed gender inequality in the accounting profession or elsewhere in the business world (Pendergast, 2015).

Collins (2016) states that women feel less connected to the workplace due to structural obstacles and discrimination supporting male colleagues and that they prefer to quit their jobs due to problems such as dissatisfaction, overtime demands, lack of quality in appointments and problems with inspectors (Sarah, 2017).

Over the past 20 years, 50% of newly certified professional accounts are women in the USA, but only 19% of shareholders in the accounting firms across the country are women. American Women's Society Certified Public Accountants (AWSCPA) "MOVE Project" found that "women have evaporated from the partnership pipelines of firms" (pcaobus.org, 21.11.2017).

Aranya (2016) discussed that women's quitting their jobs early limits not only opportunities offered to them but also their lives in the future a limited number of role models and mentors contribute to the women entering in the profession and influence the success perceptions of the women recently entering in the profession (Sarah, 2017).

Because of the high turnover rate of women in the accounting profession, there are very few women who can be promoted to higher levels (Yardımcıoğlu, 2008, 148). Many pieces of research attribute the high turnover rate of female accountants to male dominated accounting profession culture consisting of men who do not meet life cycle needs such as child care and parenting. For this reason, parental leave or flexible working hours in this culture are seen as obstacles to efficiency and a stable workflow.

Recent studies argue that the inadequacy of representation of women in these firms is not due to lack of loyalty or talent but due to their roles of child care, as opposed to their male counterparts. For this reason, the work-family conflict continues to be an obstacle to the promotion of female accountants.

Other causes that are indicated as possible causes for the high turnover rate of women are workload and employment security. Long working hours, workload and environment-related stress have a negative impact on the permanence of female accountants.

Other causes for the low number of female accountants are related to the lack of opportunities for growth and development. Some of these causes are mentoring and formal talent management, lack of sense of belonging to an organization, the inadequacy of women's networking skills compared to men as emphasized by male and female accountants receiving different levels of social support from their managers, lack of opportunity for progress and unequal wages and benefits (Ribeiro et al., 2016, 2-3).

Operating a successful financial consulting firm requires employing and maintaining highly skilled professionals. When a financial consulting firm loses an experienced female member, it will have to train a new one in her position which will cause money and time loss. For this reason, women's needs should be met (Eğirdoğlu, 2008, 148).

Regardless of the country or culture in which an accounting firm operates, if a significant percentage of new recruits are women and if these women quit their jobs, it is necessary to investigate their main causes and to analyze what kind of decisions may be most rational in order to avoid economic issues.

For example, if women and other skilled professionals leave their accounting firms due to reasons such as excessive working hours, uncontrolled time schedules, challenging travel schedules, and lack of career paths consistent with other life activities, structural and organizational solutions are needed to these problems.

If the profession can handle organizational and structural problems that cause women to leave accounting firms, firms' ability to keep talented women will substantially develop (pcaobus.org, 21.11.2017).

In the early 1990's, the situation of women professionals in public accounting firms in countries such as the United States, the United Kingdom and Canada started to attract attention as a problem of the business world. The progress made in these countries over the last 20 years has led to a better assessment of work/life balance, including efforts to increase the ease between maternity leave and return to work.

AICPA, CICA and ICAEW in the United States, Canada and the United Kingdom have programs that aim to train and support companies and individuals in the advancement of women in the profession. All efforts show the sustainability of the profession as a fundamental reason to invest in initiatives.

While women's failure to progress towards leadership positions continues to be a focal point in the countries that have initiatives to promote women, the problem of the presence of women in the profession is yet to be visible in other countries (Arford & Bennet, 2012).

4.1. Accounting Profession in Turkey and Discrimination Based on Gender in the Accounting Profession

The subject, standards and ethical rules of the profession were accepted on 01.06.1989 in the Public Accountant, Independent Accountant and Financial Advisor and Sworn-in Certified Public Accountant Law No. 3568 published in the Official Gazette dated 13.06.1989 and numbered 20194. In this law, the profession was formed with three titles and three basic tasks. Public Accountant was assigned to carry out the accounting record, Independent Accountant and Financial Advisor to audit and carry out the accounting record and Sworn-in Certified Public Accountant to certify and audit. The title of public accountant was removed from the legal regulation in 2008. (Güvemli, 2009, 8)

To become an Independent Accountant and Financial Advisor, following conditions need to be met: graduate degree in law, economics, finance, business, accounting, banking, public administration and political sciences, postgraduate in the above mentioned sciences for graduates of other disciplines at undergraduate level, at least three years of internship, success in the exams of public accountancy and financial consultancy and public accountancy and financial consultancy licenses (Law No. 3568, Article5).

To become a Certified Public Accountant, following conditions need to be met: at least 10 years of independent accountancy and financial consultancy success in the exam for certified public accountancy and certified public accountant license (Law No. 3568, Article 9).

Members of professions having these titles in Turkey can work independently in their own offices without having to be employed by any employer.

Members of the profession organize under the professional chambers and the Union of Chambers of Certified Public Accountants and Sworn-in Certified Public Accountants of Turkey (TURMOB), the top professional chamber representing the accounting and auditing profession at the highest level.

TURMOB aims to defend the rights and interest of the members of the profession who are members to all the Certified Public Accountant (CPA) and Sworn-in Certified Public Accountant (S-CPA) chambers affiliated with it, to develop professional solidarity, to ensure that the members of the profession complies with international standards and that they have new business opportunities, and also to ensure that they get in return for their services in the context of professional discipline and ethical rules.

TURMOB established the Basic Training Internship Center in 1993 with the short name "TESMER" in order to provide training services for members of the profession and candidate members of the profession (www.turmob. org.tr Access Date, 01.10.2017).

The CPA and S-CPA chambers are established in the city centers with a minimum of 250 professional members and in the districts (excluding the districts within the boundaries of metropolitan municipalities) with 250 professional members

The number of CPA chambers, which was 65 in 1994, increased to 70 in 2008, whereas the number of S-CPA chambers, which was 6 in 1994, increased to 8 in 2008 (Güvemli, 2009; 10). In 2016, the number of S-CPA chambers was 8 and the number of CPA chambers was 77 (www.turmob.org.tr 01.10.2017).

4.1.1. Distribution of Members of the Accounting Profession by Gender in Turkey

Law No. 3568 published in 1989 divides accountancy profession into three titles as "Public Accountant", "Independent Accountant and Financial Advisor" and "Sworn-in Certified Public Accountant". Law No. 5786 published in the Official Gazette dated 26 July 2008 abolished the title "Public Accountant", resolving that the profession be executed with two titles (Law No. 5786). However, those who had previously taken the title of "Public Accountant" continue their profession with this title.

For this reason, as can be seen in Table 1 showing the distribution of the Public Accountants over the years, there is a decline in the number of members of the profession working with the title of "Public Accountant" over the years. Gender distribution in this title indicates that the rate of female members of the profession is 17.7% while the rate of male members is 82.3%.

Table 1. Distribution of Public Accountants by Gender over the Years

YEARS	FEMALE		MALE		TOTAL
	Number	Rate (%)	Number	Rate (%)	
2009	5.082	17,7	23.583	82,3	28.665
2010	3.917	18,5	17.247	81,5	21.164
2011	2.315	17,4	10.964	82,6	13.279
2012	2.122	17,1	10.311	82,9	12.433
2013	1.972	17,0	9.614	83,0	11.586
2014	1.848	17,0	9.032	83,0	10.880
2015	1.736	17,1	8.408	82,9	10.144
2016	1.635	17,1	7.916	82,9	9.551
2017	1.603	17,7	7.479	82,3	9.082

Source *: TURMOB study reports, www.türmob.org.tr. , 01.10.2017*

Table 2. Distribution of Independent Accountant and Financial Advisors by Gender over the Years

YEARS	FEMALE		MALE		TOTAL
	Number	Rate (%)	Number	Rate (%)	
2009	11.600	24,3	36.136	75,7	47.736
2010	13.772	24,0	53.633	76,0	57.405
2011	17.069	25,4	50.066	74,6	67.135
2012	19.290	26,4	53.694	73,6	72.984
2013	20.800	27,2	55.761	72,8	76.561
2014	22.290	27,7	58.287	72,3	80.577
2015	24.469	28,5	61.271	71,5	85.740
2016	28.306	29,9	66.334	70,1	94.640
2017	28.618	30,0	66.746	70,0	95.364

Source *: TURMOB study reports, www.türmob.org.tr . , 01.10.2017*

Table 2 shows the increase in the percentage of female certified independent accountants over the years. However, this rate has not even reached the half of the male colleagues.

Table 3. Distribution of Sworn-in Certified Public Accountants by Gender over the Years

YEARS	FEMALE		MALE		TOTAL
	Number	Rate (%)	Number	Rate (%)	
2009	241	6,3	3.614	93,7	3.855
2010	244	6,3	3.614	93,7	3.858
2011	257	6,6	3.638	93,4	3.895
2012	273	6,7	3.824	93,3	4.097
2013	299	7,0	3.972	93,0	4.271
2014	338	7,4	4.240	92,6	4.578
2015	351	7,5	4.334	92,5	4.685
2016	361	7,6	4.362	92,4	4.723
2017	371	7,8	4.371	92,2	4.742

Source *: TURMOB study reports, www.türmob.org.tr. , 01.10.2017*

Despite the steady increase in the number of female Sworn-in Certified Public Accountants, the top point in the profession, over the years, this rate is still highly low at 7.8%.

4.1.2. Distribution of Organizational Structure of the Association of Accounting Professional Chambers by Gender

Table 4 demonstrates that executive boards and committees of TURMOB, the top professional chamber representing the accounting and auditing profession at the highest level, do not include any female members of the profession at all. There are no female members of the profession at the presidency level. Only 1 of the 10 vice-presidents and 2 of the 47 members are female members.

Table 4. Distribution of Organizational Structure of the Boards and Committees of the Association of
Accounting Professional Chambers by Gender (2016)

BOARDS AND COMMITTEES	FEMALE			MALE		
	President	Vice President	Member	President	Vice President	Member
Board of Directors	-	-	-	1	1	7
Board of discipline	-	1	-	1	-	3
Board of Auditors	-	-	-	1	-	2
Board of Struggle against Unfair Competition	-	-	-	1	1	5
Board of Workplace Service and Quality Monitoring	-	-	1	1	1	4
Board of Continuous Professional Education	-	-	1	1	1	4
Board of Professional Legislation Monitoring	-	-	-	1	1	5
Committee of Service Assessment and Fee Determination	-	-	-	1	1	5
Committee of Ethics	-	-	-	1	1	5
TESMER Board of Directors	-	-	-	1	1	5
Total	-	1	2	10	8	45

Source: *2016 year TÜRMOB working paper, www.turmob.org.tr, 01.10.2017*

4.1.3. Distribution of Institutional Structure of Professional Chambers by Gender

When the institutional structure of the professional chambers of the year 2016 is examined, it can be observed that all of the presidents of 77 Public Accountant chambers and 8 Sworn-in Certified Public Accountant chambers are male. Therefore, no table has been prepared showing the distribution of presidents of the chambers by gender.

Gender distribution of the presidents of boards and committees of professional chambers in the cities and district representatives is shown in Table 5 for the cities where 77% of all the Public Accountants and Independent Accountant and Financial Advisors are.

Of all the 104.446 Public Accountants and Independent Accountant and Financial Advisors in Turkey, 39% are in İstanbul, 12% in Ankara, 7% in İzmir, 5% in Bursa and 3% in Antalya. In these cities, the percentage of female presidents 23%, 17%, 18%, 24% and 11% respectively; of all the presidents in the cities covered in the table, 13.83% are female. Since the percentage of female Public Accountants and Independent Accountant and Financial Advisors in other cities is below 1%, they have not been included in the table.

Table 5. Distribution of Institutional Structure of Independent Accountant and Financial Advisor Chambers by Gender

Cities	Number of PA and IAFA	Percentage of Total PA and IAFA (%)	Presidents of the Boards		Presidents of Commissions and Committees		District Representatives		Percentage of Female Presidents (%)
			F	M	F	M	F	M	
İstanbul	40.567	39%	1	7	6	18	9	28	23%
Ankara	12.466	12%	1	4	5	15	1	15	17%
İzmir	7.222	7%	2	7	4	18	3	17	18%
Bursa	4.779	5%	-	5	6	10	1	7	24%
Antalya	2.986	3%	-	7	2	6	1	11	11 %
Adana	2.267	%2	-	5	3	35	-	2	7%
Konya	2.268	%2	1	4	-	1	-	16	5%
G.Antep	1.874	%2	2	4	1	9	-	4	15%
Mersin	1.817	%2	-	6	3	11	1	4	16 %
Kocaeli	1.693	%2	-	6	3	9	2	3	25%
Kayseri	1.437	1%	-	5	-	2	-	3	0%
Eskişehir	910	1%	-	10	1	8	-	-	5%

Source: *Accessed from the websites of the professional chambers.*

As can be seen from the tables above, the number of female members of the profession is considerably lower than that of male members. There are no female members at the presidential level in the professional chambers; the number of female members in the boards and commissions of professional chambers is very low. This suggests that problems due to discrimination based on gender exist in these chambers.

5. Discussion

The fact that the number of women in the accounting profession is less than that of men and that there are no female representatives in decision mechanisms of the professional organizations indicates that female members of the profession are exposed to horizontal and vertical employment discrimination and that this profession is regarded as a 'men's job'.

Research on structural and organizational problems that cause women's existence problems in the accounting profession and in the decision making mechanisms of the profession and programs aimed at training women and supporting women's progress are needed.

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A COMPARATIVE EVALUATION ON THE GENERAL ACCOUNTING SYSTEMS OF TURKEY AND KAZAKHSTAN

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Abstract

In this study, it is aimed to conduct a comparison of Turkey's and Kazakhstan's general accounting systems in terms of uniform charts of accounts, balance sheet, income statement and cost accounting. The study has been completed by reviewing the orldtüre belonging to both countries. The comparison of the two countries is due to the fact that both countries come from different and great state traditions. The accounting systems which used to have significant differences because Turkey comes from the Ottoman Empire tradition and Kazakhstan comes from the Russian Empire tradition has turned into a similar structure due to the effect of globalization. The study concludes that, although Turkey and Kazakhstan come from different state traditions and have some differences, these two countries have similar characteristics as to general accounting systems. It has been concluded that the existence of similarities between Turkey, which uses the European accounting system, and Kazakhstan, which uses the mixed accounting system, stems from globalization of the orld, the enhancement of foreign investments in all countries and the obligation of standardizing the application of accounting. Globalization has converged countries coming from different accounting traditions over the subject of transformation and different accounting systems have been integrated through similar applications.

Key Words: *Accounting, Turkey, Kazakhstan, History, Account*

1.Introduction

The development of the accounting system in Kazakhstan is divided into two as the USSR era and post thereof. The current system is a continuation of the one in the USSR era and transformations are happening in line with global developments in recent years. This transformation is similar to the one that took place in the Ottoman era and beyond in Turkey. The aim of transformation is to take measures to better keep up with the renewed and globalizing world.

The reason for the comparison of Turkey's and Kazakhstan's accounting systems in the study is because both countries come from two different and powerful state traditions. It is because Turkey has a strong tradition as a followup of the Ottoman accounting system and organization, and, by the same token, Kazakhstan comes from the Russian Empire tradition.

In terms of land size, Kazakhstan is the second after Russia in the Commonwealth of Independent States, and ninth in the world. The surface area of the country is larger than the total land area of 12 member countries of the European Union. Turkey has been the first country to acknowledge Kazakhstan which declared independence

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in 1991. Turkey and Kazakhstan are situated on important geographical regions in terms of their locations(www. okan.edu.tr 2018).

The European model accounting system is implemented in Turkey. Mixed economy accounting system is implemented in former Soviet Union Republics such as Kazakhstan. A majority of European countries, including Turkey, and Japan is applying the European model. In these countries, businesses provide a significant portion of their capital needs from banks. The accounting system is regulated by law, and firms maintain their accounting records in accordance with this legal framework. The accounting system is not organized in a way to facilitate the decision-making of institutions granting funds to firms. In the formation of the accounting system, the purposes of calculating the income tax and demonstrating compliance with the government's macro-economic plans are mostly given weight. The Mixed Economy Model, on the other hand, is applied in the Republics of the former Soviet Union and Eastern European countries. Many of these countries are experiencing the transition to the free market economy. The accounting system responds in the same way to the needs of the public economic enterprises which are left over from the centrally planned economy period and are managed by the old methods, together with private enterprises. In most of these countries, the role of the state in the economy sustains its dominance (Fredrick et al.,1999; Gerhard et al., 1997).

2. History Of Accounting In Turkey

The emergence of Turkish accounting occupations occurred within the state accounting framework in the classical era of Ottoman State (Güvemli et al., 2013). This accounting record method, which is known as the Ladder Method because the record type covers from top to down the main amount and the details forming it, is one of the longest-lived record techniques known in the world (Elitaş et al., 2008). Ottomans did not use the ladder method name and used general accounting instead (Otar, 2012). The first known examples of the ladder method date back to the second half of the 8th century. The method was introduced by the Abbasid State, passed to the Ilkhanids in the middle of the 13th century, used by Seljuks- albeit not clear,- however as it is known more widely, the method has been adopted from the Ilkhanids and used by the Ottomans until the end of the 19th century. The known lifetime of the method is around 1100 years (Elitaş et al., 2008). The accounting record method, which is called as the ladder method and the first tracks of which can be found in the Abbasids, is also used by Ilkhanids and Ottomans. The method, which has a life of about 1100 years, was started and developed in the Middle East (Aydemir & Erkan, 2011; Aslan, 2015).

The Four Doctrines book, written in Persian between 1309-1363, which introduced the method of the ladder, have survived to this day. The most important of these is the Kitab-us Siyakat (The Siy-Aqad Book) (Güvemli, 2015, 9).

A great many books were organized in the Ladder Method. These are the record books called: Ruznamçe (The Daily Book), Evarece (The Ledger), Tevcihat (Cost Tracking Book), Tahvilat (Individual account tracking book), Müfredat (Books in which income and expenses of provinces are recorded), Defter-i Camiü'l Hesap (Book in which annual income and expenses of the state are brought together), Defter-i Kanun (The book that introduces the state taxes). When the accounting books in the archives are examined, it is seen that first, daily book records are done and then the records are transferred from this book to the ledgers which is sorted according to the subjects (Otar, 2012).

As the Ladder Method fell short of meeting the increasing needs in the accounting field, and when the efforts for modernization in the Ottoman institutions started with the Tanzimat Imperial Edict declared in 1839, in the second part of the 19th century (1879) when the seek for a new accounting method started to gain momentum, the ladder method was quieted and the double entry bookkeeping system was adopted (Demirhan, et al., 2012, 3-4).

The post-Tanzimat era has a special importance for Turkish history of accounting. Economic and social structure has entered into a process of rapid development (Erkan et al., 2006, 25). The impact of this process on the accounting doctrine is large. These impacts manifest themselves primarily in the legal regulations related to accounting. In fact, the signals of change had been started to be given before the Tanzimat. The Head Accountancy Authority, which had been in service for centuries was abrogated and the Ministry of Finance of the present day was established in 1838. The state accounting was implemented in the Ministry of Finance under the title of general accounting that still exists today. That is the financial administration where financial decisions are made and these decisions are followed had come to the forefront and accounting, as a service function, had taken part in the financial system (Güvemli & Kaya, 2015, 5).

In the accounting laws that entered into force in the first quarter of the 18th century, the way of keeping the accounts was emphasized and certain principles on such subject matters as the inventory and the balance sheet were established limited to the accounting periods. The foundation of the Ministry of Finance Inspection Board was laid in 1879. Between 1926 and 1934, well-known professional accountants were given the "tax audit" authority. Meanwhile, in the period starting from the Tanzimat Period to until 1928, the French School prevailed in accounting education in Turkey.

In 1942, a group of accountants, academics and senior executives of state supervisory bodies came together to form an association under the name of Turkey Expert Accountants and Association of Business Organizers. Today the association is called Turkey Accounting Professionals Association (Güvemli et al., 2013). In 1957, Turkey Accounting Congress gathered for the first time by the Faculty of Ankara Political Sciences. Along with this congress, the drafting of the law on the regulation of the accounting profession was opened up for discussion (Çarıkçıoğlu, 1995). In 1958, The magazine named Muhasebe Mecmuası, which was started to be published by Turkish Association of Accounting Professionals later got the name Muhasebe Dergisi and published declarations in accounting congresses until 1967 (www.tmud.org.tr, 2018). In 1975, Arthur Andersen opened an independent audit firm office for the first time in Turkey (Uzay et al., 2009, 5). In 1983, Arthur Young, independent auditing company, opened an office in Turkey (Uzay et al., 2009, 6). In 1989, the Union of Chambers of Certified Public Accountants and Sworn-in Certified Public Accountants of Turkey was established by Law No. 3568 (Kocamaz, 2012, 111). In 1994, "Turkish Accounting and Auditing Standards Board" was formed by TÜRMOB. The aim of the board is to take the regulation of financial statements of businesses and other organizations operating throughout the country as a basis for realizing single order in accounting principles (Yalkın, 1997). Organization at professional level began for the Turkish Institute of Internal Auditors and internal audit sector, established in 1995. TIDE created an opportunity for international recognition and certification of the internal audit profession in our country (Şenat, 2017, 43). In 1999, SAY2000 Project works started in the public. In the year, SAY2000 accounting program started to be used in public (www.maliye.gov.tr, 2018). In 1999, Turkish Accounting Standards Board was established by TÜRMOB. In the year 2000, Banking Regulation and Supervision Agency was established (www.bddk.org.tr, 2018). In 2003, the Public Financial Management and Control Law No. 5018, which is the constitution of the Public Financial Management, was accepted and entered into force. It replaced the Law No.

1050 which was abolished. Internal audit stepped into the public for the first time with the Law No. 5018. The accounting was removed from the public. The principle of responsibility in the public was removed from individual responsibility; instead, management responsibility principle was adopted. Strategy Development Presidencies were established (www.maliye.gov.tr, 2018). It is like the constitution of banking; it is a fundamental law. It's a law that regulates internal audit in banks. In 2006, the practice of internal auditing in the public sector started for the first time. In 2003, internal audit in public was included in the Law No. 5018. In 2010, the new Court of Accounts Law was adopted. The Court of Accounts has been given the authority to conduct efficiency audit. Its conformability audit authority has been removed. The Report Evaluation Board was established within the Court of Accounts to evaluate audit reports from all public institutions (www.sayistay.gov.tr, 2018). In 2011, the Office of the Ombudsman was established. Today, all member countries of the European Union have ombudsmen (www.ombudsman.europa.eu). Since the Administration is making use of public power privilege in the operations and actions, sometimes they can do unfair practices against individuals. To avoid or minimize this unfair practice, the employee's actions and processes must be audited. One of these control methods is ombudsman. It was established for this purpose (Tutal, 2014).

3. History of Accounting in Kazakhstan

There are three basic periods in Russian state history(www.e-reading.club/chapter, 2018):

a) In the Russian Empire (early XVIII - XX century);

b) During the Soviet period (1917 - August 1991);

c) In the modern period (from 1991 to the present day).

The history of the development of accounting in Russia starts with the 18th century. There are studies on accounting also previously. Count sequence (1654) is the first document that regulates the organization of accounting. In 1710, a new "accountant" word appeared in the newspaper "Moskovskye Vedomosti", which means "the accountant". Another document is the Administration of Admiralty and Shipyards Regulation (1722) that involves a strict method for the natural cost accounting of materials. This period of Russian history is related to the emergence of the first accounting books at the same time. "Accounting" magazine became the first private publication to deal with this problem. Before the 1917 revolution, the Accountants 'Association, the Commercial World, the Commercial Education and the Accountants' newspaper were published in Russia.

The most interesting aspect of studies related to accounting in the first years of the USSR is that Lenin is closely interested in accounting. Lenin is not only interested in accounting, but he is also the primary one of the heads of state who are closely involved in accounting theory. Because the saying " Socialism is Accounting" belongs to Lenin. According to Lenin, the objective of accounting should be the inspection of the labor and consumption criteria. The principles set for this purpose are holism, openness, responsibility and simplicity. Three of these four principals are among the generally accepted accounting principles. Lenin views accounting as a field of work in which the public will participate and writes the first principle for this. Because, Lenin sees the success of socialism in accounting (Güvemli, 2010, 243).

The second period of the development of accounting in Russia started after the October Revolution (1917). In the new socialist state, two views were formed on the further development of accounting. While the supporters

of the first tendency insisted on the liquidation of the money, others tried to keep accounting in a revolutionary way. There was an increase in the number of printed publications related to accounting in this period. One of the most famous books of that period was the book "General Principles for Accounting" by French writer E. Leotey, A. Gilbo.

The third period began in modern Russia in 1991 with the collapse of the Soviet accounting system and the foundation of Russia as a new democratic state. The history of accounting in the USSR organically maintained the traditions of pre-revolutionary Russia. At the beginning of March 1917, workers' control emerged and was put into practice. The Great October Socialist Revolution has led to enormous social and economic changes that did not, but could, affect accounting. This evolution has passed through a few stages (www.works.doklad.ru, 2018; www.studfiles.net, 2018):

Between 1917 and 1918, attempts were made to stabilize the ways of adapting traditional accounting methods in the new economic system. Between 1918 and 1921, the establishment of new accounting counters became important on the basis of approaches to the communist formation, the collapse of old systems and accounting forms. Between 1921 and 1929, restoration of the traditional accounting system was attempted. Between 1929 and 1953 the construction of socialism was the deformation of accounting principles. Between 1953 and 1984, the improvement of production accounting, the analysis of organizational structures and the distribution of the mechanical processes of economic knowledge became important. Between 1984 and 1992, efforts were made to restructure all socio-economic relations in the country and revive the classical accounting principles.

In the 1940s it is seen that balance sheet is debated more than accounting in the USSR. The active side of the balance sheet was classified as fixed assets, current assets, non-current assets. This was a form of classification also applied in capitalist countries. The main problem emerged in the classification of the passive side of the balance sheet. The problem of legal property emerged. In short, those who had rights on assets were subject to discussion. To avoid this problem, a classification such as 1-Funds, 2-Credits, 3-Adjustable passive elements, 4-Outcomes was being thought. There was no consensus on this classification either. The disagreement focused on the funds. The funds were the sources that the central authority offered for the use of the enterprise. That is, the capital was used in substitute for equity. Valuation accounts were related to reciprocal settlements of accounts. The outcomes were periodic values that the enterprise produced. In sum, it was profit of loss. But these terms were not desired to be used (Güvemli, 2001).

At the beginning of the 20th century, a uniform accounting plan was being used in the USSR and there were 13 main account entries in this accounting plan. In the early years of the socialist order, it was determined that this number first increased to 44 then reduced to 31 entries. By the 1940s, there were 124 account entries and 80 sub account entries. At the end of the first period of the socialist accounting culture, which ended with Stalin's death, it is remarkable that there were 79 account entries and 142 sub-account entries (Riyabbin, 1990).

The most important difference of the current economic order in the USSR from other countries out of the Union is that state is the sole proprietor of all commercial enterprises. This difference has affected the accounting registration system and the main purpose of the accounting records has been to provide financial information to the state. Accountants were strictly abiding by the directives of the USSR Ministry of Finance in the of preparation accounting records. In addition, the administration of economy has removed the idea of making decisions and using resources based on the information obtained from accounting. In this period, all economic decisions were

taken by the central government. However, under capitalist economic conditions, those who operate in the market make these decisions (Cəfərov, 2002, 3-5).

It was decided to examine the reform experiences in other countries and to work for developing the accounting based on an optimal version of transition to international standards. For this reason, in 1995, the relevant decree related to the Law "on Accounting" of the law of the Republic of Kazakhstan was adopted. With the enuring of Kazakhstan Accounting Standards (KAS), which was developed based on international standards, in 1996 a step has been taken to initiate the transition to International Financial Reporting Standards (IFRS). The next step was the recognition of the transactions between 1995 and 1996 and the recognition of income and expenses according to the accrual basis. A cash-based method has been passed on from an accrual-based method. This method is one of the basic principles of IFRS. The advantage of the accrued method over the previously used cash method is its ability to determine the enterprise's current financial position by performing an objective analysis of the expected real income or financial resources (articlekz.com, 2018).

The unified chart of accounts which had 8 account groups and put into practice in 2008, was inured on January 1, 2013, by renewing and increasing the number of account groups to 9 by adding the off-balance sheet accounts. Moreover, innovations in accounting have significantly improved the level of openness of the economy, which has become a necessity of time. Openness of the economy is evaluated not only by the share of exports in gross national product or other statistical indicators but also by the extent to which these data related to the economy can reach to everyone who needs them and how high the transparency and reliability of these data are. The maximum approach to IFRS allows Kazakhstan companies to compete on the international economic scale.

4. Comparison Of Charts Of Accounts

Historical and cultural ties between Turkey and Kazakhstan both drive us to invest in this country and cause a number of economic, social and political rapprochements between Turkey and this country. Kazakhstan is in the process of transition from a socialist regime to liberal economy and there are differences and similarities with Turkey in terms of accounting systems. Despite this, the number of publications made in this area is scarcely any.

• Kazakhstan's accounting system is a follow-up of the USSR accounting system while Turkey's accounting system is a follow-up of the Ottoman accounting system. Of course, studies of modernization is going on in both countries with the effect of globalization. The aim here is to reveal similarities and differences between the two accounting systems that are under the influence of different cultures. The chart of accounts in Turkey has been in practice since January 1, 1994. The previous chart of accounts used by Kazakhstan had been adopted in 2007 and being implemented since January 1, 2008. However, since January 1, 2013, the updated new chart of accounts is being used in Kazakhstan and this renewed chart of accounts is still in force. With this new chart of accounts, the number of accounts has been increased and further details have been included in the account groups of no.1 current assets, no.2 fixed assets, no.3 short term liabilities, no.6 incomes and no.7 costs account groups according to the chart of accounts implemented from 2008 until 2013. In the no. 4 long term liabilities and no.5 capital and reserves account groups, the number of accounts has been decreased and fewer details have been specified. The No. 8 production accounting (industrial accounts) group, that took place in detail in the 2008 account plan, was also removed, and replaced by the production costs and other objectives account group that is less detailed. In addition, an off-balance sheet account group was added to the chart of accounts that was started to be implemented in 2013.

- In Turkey, account codes in charts of accounts are 3 digits(for example 100 Cash Account). In Kazakhstan, on the other hand, account codes in charts of accounts are 4 digits(For example 1000 Cash Account).

- **Off-balance sheet accounts** are the accounts on which values that are not owned by the business but are needed to be monitored. Transactions that do not cause a change in the enterprise's assets and resources are monitored in off-balance sheet accounts. However, these transactions may cause a change in business assets in future. Businesses using off-balance sheet accounts create an off-balance sheet account group in accordance with their needs and business structures http://www.muhasebedersleri.com 2018).

- When both countries' charts of accounts are examined, it's seen that the first five account groups in the charts of accounts are used as balance sheet accounts. In both countries, no. 1 account group is titled current assets and no. 2 account group is titled fixed assets and these form the active side of the balance sheet. On the passive sides of the balance sheets of both countries, no.3 account group includes short term liabilities, no.4 account group includes long term liabilities, and no.5 account group includes equities. In both charts of accounts, no.7 account group is cost accounting account group.

5. Balance Sheet and Income Statement In Turkey and Kazakhstan

In Turkey, the accounting process in the accounting period begins by making an opening balance sheet. After that, opening record is made as journal number 1. Then the current term transactions are recorded in the journal. And transferred to the general ledger from there. After this process is over, the trial balance is organized and the inventory procedures are started. Counts including all these account entries are made. Verifications are made. The errors are corrected and the inventory procedures are finalized. After the inventory process is over, the adjusted trial balance is organized. Afterwards, an income (profit/loss) table is prepared according to the adjusted trial balance, the profit or loss of the enterprise is calculated and the income statement accounts are closed and transferred to the balance sheet account. After the profit or loss is calculated, the year-end post-closing balance is prepared, the balance sheet accounts are closed and the accounting period is terminated.

The income statement entries in Turkey start with 6. There are 37 pieces of account entries in the income statement. 20 pieces of these are loss group and 14 pieces are profit group. In the income statement, predominantly the loss group account classification is made. Details are given more importance in the loss entries. The last three account entries are the profit or loss, corporate tax and net profit or loss account entries.

In Kazakhstan, the income statement entries start with 6. There are 34 pieces of account entries in the income statement. Most of these are profit group. In the income statement, predominantly the profit group account classification is made. Details are given more importance in the profit entries.

The accounting process is a series of steps leading to financial reporting. This process is repeated every year from January 1 to December 31, 2018. The steps in the accounting process that covers an accounting term in Kazakhstan is as follows:

-Recording accounting records to related journals, copying information from journals to the general ledger;

- Establishing an appropriate list for controlling the balance of debt and credit materials for the correctness of the records in the journal (Balance Preparation);

-Preparation of a correction sheet and preparation of relevant financial statements;

-Closing the closing accounts in general ledger, closing temporary accounts appropriately and calculation of net income and profit;

-Preparation of the closing balance sheet after closing the accounts, controlling the payables and receivables after the accounts are closed;

At present, Kazakhstan has a four-tier accounting regulation.

First tier - President's laws and executive orders,

Second tier - IASS accounting rules,

Third tier, methodological guidelines for industry specifications.

Fourth tier - Internal documents of institutions.

6. Comparıson Of The Accountıng Systems Of Both Countrıes

In Kazakhstan First of all, costs are determined by resource use. Secondly, costs are expressed in monetary terms and thus indicate the number of resources used. Third, costs are comparable with the activities of any subdivision, product development and implementation of various services. For this reason, costs reflect the level of resource use in monetary terms from costs for certain purposes at the same time. Cost classification is included in a process that identifies management problems as an arbiter tool and determines its outcomes. Classification of costs is viewed important to be able to make the right decisions. The purpose of classifying costs is to distinguish only relevant costs from the total cost and to calculate future costs that vary only when making a decision.

The number 700 Cost Accounting Connection Account that is used in the accounting framework Turkey or any account similar to it does not exist in the accounting framework of cost accounting in Kazakhstan. The number 700 Cost Accounting Connection Account is the account that is used in the general accounting and provides connection with the cost accounting. In industrial enterprises that apply the independent cost accounting registration system, the production department is regarded as a separate accounting personality and the expenses accruing for both production and other activities are recorded in this account representing the very accounting personality as payable, and receivable to the related active or passive account by the financial accounting department according to the simultaneous record method (Ayboğa, 2003). Accounting framework in the cost accounting system in Turkey was divided into two as 7 / A and 7 / B. Functionality- based classification was made in the 7 / A option. On the other hand, expense- based classification was made in the 7 / B option. The 7 / A option is more appealing to larger companies whereas the 7 / B option addresses smaller businesses. But small companies can use 7 / A instead of 7 / B if they want.

The classification according to both options is made as follows (Ayboğa, 2003).

7. Method

The study was based on the content analysis method. In the study, a review of the relevant literature was carried out and by referring to the opinions of the experts in the field, all gathered information was analyzed and interpreted.

8. Conclusıons

Kazakhstan is the 2nd after Russia within the independent countries group in Asia and 9th largest country all over the world in terms of surface area, and it is an important country in terms of natural gas and oil reserves. Turkey is an important country that connect Asia and Europe continents, that is strategically important, G-20 member and conduct exports and imports with almost all world countries. Both countries come from powerful country traditions. Turkey is a country which has historical connections with the Ottoman Empire, and remain under the Ottoman influence not only in terms of state organization but also financial organization and accounting system and integrated its accounting system in the new system as a result of the global transformation. Historically, Kazakhstan is a country with ties to the Russian Empire and was influenced by the Russian empire as to financial organization in addition to state organization. Kazakhstan has also integrated its financial organization and accounting system which was under the influence of the Russian empire and then the Soviet Socialist Republic in the new system in line with the influence of global change. Despite coming from different schools and different traditions, both countries have started to exhibit similar features in the last ten years in terms of accounting system as a result of globalization. Turkey adopted European model accounting system while Kazakhstan adopted the mixed model accounting system. Both systems have met in the same route as accounting systems thanks to the impact of globalization. In Turkey, the uniform chart of accounts that consists of nine account groups and has been in application since 1994 is being used at present. Kazakhstan has re-updated the chart of accounts it had already updated and started to use in 2008 and has been using the new uniform chart of accounts consisting of nine main account groups since January 1, 2013. The balance sheet comprises of 5 main account groups in both countries. While two of these accounts are located at the actives side of the statement as1. Current Assets and 2. Fixed Assets; other three take place in the passive side of the statement as Short Term Liabilities (Debts), Long Term Liabilities (Debts) and Equities (Capital). In the charts of accounts of both countries, the no. 6 account group is named incomes and no.7 account group is named expenses. The group no. 8 takes place as management accounting group in the chart of accounts of Turkey whereas it is cost accounting annex account group in Kazakhstan's. The no.9 account group is included as the off-balance sheet account group in both countries. Income (Profit-Loss) statement accounts are also made up of no.6 income accounts in both countries. As the cost accounting system, a function-based accounting framework which is named in the chart of accounts as 7/A group is used which facilitates making more detailed expense recording for larger companies in Turkey. For smaller companies, it applies the 7 / B option which has less details. The smaller companies who wants to make more detailed cost recording have the freedom to use 7/A option instead of 7/B. In Kazakhstan, a single cost account group option in the cost accounting is seen and no. 7 cost account group and, in addition, no. 8 account groups are also used. With the impact of globalization, both countries have gained accounting structures that comply with international accounting and auditing standards and easily comparable to world companies and that are easily auditable. At the same time, efforts for updating the accounting systems in both countries is continuing.

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8

THE IMPACT OF THE THEORY OF CONSTRAINTS ON COST MANAGEMENT IN GLOBAL COMPETITIVE ENVIRONMENT

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Abstract

The success of businesses in a global competitive environment relies on having competitive advantage. From the view point of businesses, having a competitive advantage depends on the efficient use of resources and good management of costs. Cost management is an effort such that it consists of efficient use of resources, maximization of profits, and minimization of costs to produce competitive outputs in the global competitive environment. Cost is used in profit calculations as the monetary equivalence of the resources used. To achieve sustainable profits, costs must be managed effectively. According to the theory of constraints, this condition relies on effective management of resources of which are used in both production and non-production activities. The main purpose of the theory of constraints is to identify and manage the constraints that may stand in the way of achieving profit targets. Every business is subject to at least one constraint, which should be overcome to improve the performance of business during the operational process. In this study, we explain how the theory of constraints affects cost management and examine its contribution to the success of businesses in the global competitive environment. As a result of this study, we find that the theory of constraints is an approach, which improves the performance of businesses and continuously adds value to the operations.

Keywords: *The Theory of Constraints, Global Competitive Environment, Cost Management*

1.Introduction

It is important for businesses to have accurate cost information that leads to cost leadership in terms of providing a competitive advantage in a globally competitive environment. In particular, manufacturing enterprises have to offer low-cost, high-quality products to their customers in order to adapt quickly to changing external environmental conditions. The pre-condition for achieving this is to get accurate cost information (Demirel & Ersoy, 2008, p. 1628) and to use this information strategically to manage costs.

Two points are important in cost management. *The first* is to look at the broader and longer-term perspective of the global competitive environment in which decisions are made. *The second* is that strategic cost analysis should be included within the scope of strategic plans (Bursal & Yücel, 2002, p. 485). Moreover, in order for enterprises to be successful in cost management, it is necessary to reach the aim of continuous improvement in all conditions (Erol, 2008, p.101).

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The main goal of business management is to achieve sustainable growth and profit by increasing partners' welfare levels and the market value of the business. In order to achieve this goal, it is necessary to effectively manage its resources. Resource management is a process, and this process is influential in the formation of revenue, cost, profit, and cash values in business. The most important factor affecting the market value and profit of the operator is cost. Cost is used in profit calculations as the monetary allowance of the resources used. Costs must be effectively managed in order to make the profit sustainable, reduce costs and increase the market value of the business. This requires effective management of resources.

Business management may not always achieve the goals that it has set when managing its resources. The reason for this is the existence of constraints that prevent the achievement of goals. The constraint not only prevents the business from achieving its goals but also influences the decisions of the management. The future plans for this need to take into account the possible effects of the constraint. The constraint will determine the future revenue, cost, cash flows and profit of the business. Business management should take account of business constraints when using profit planning tools, such as cost volume profit analysis, and when calculating risk indicators such as the security margin and security ratio for the future of the business (Kaygusuz, 2011, p.171). The main objective of cost management is to overcome constraints and increase the market value and profit of the business, reduce their costs and thus gain a competitive advantage. In order to achieve this aim, contemporary enterprises must prepare themselves for the future by constantly improving themselves in accordance with the constraint theory (Erol, 2008, p. 101).

2. Definition and Development of the Theory of Constraints

The Theory of Constraints is a process of thinking that is developed to continually improve production and non-production activities, recognizing that all resources are limited and advocating that these resources should be used effectively (Kartal & Gündüz & Sevim, 2013, p. 15). This theory incorporates best practices in management philosophy, discipline, and industry that are designed to improve the performance of any system by finding and removing the most obstructive elements of the system's performance. The constraint, according to the constraints theory, is any element that prevents a system from achieving its goal of earning money (Küçüksavaş, 2006, p. 706). This element impedes the performance of the business in the direction of its development and achievement of the objectives it has set. Performance barriers must be overcome to achieve the stated goal. At this point, it is important to determine the constraints that may hamper the performance of the business.

Louderback & Patterson (1996) discusses the constraints that can hamper business performance under two headings: internal constraints (such as capacity limits, manager, and employee behaviour, logistics or management policies), and external constraints (such as market demands or suppliers) Patterson, 1996, p.189).

It is possible to come across many academic studies regarding the application of the Theory of Constraints. In some of these studies, the theory of constraints is explained as:

- A management technique developed for production optimization (Rahman, 2002, p. 828)
- A method of improving performance in a system by focusing management's attention on the constraints of the system (Erol, 2008, p.103)
- The method based on the weakest ring principle in the parts of the system and strengthening this ring (Dettmer, 1997, p.17)

- A management approach that focuses on continuous improvement through the management of constraints (Atwater & Gagne, 1997, pp.6-7).

From a literary point of view, it can be said that the theory of constraints is a management concept aimed at removing the constraints that adversely affect performance in order to improve performance in a business.

The Theory of Constraints was developed by Goldratt and Cox in the 1970s with the aim of finding solutions to problems in production and logistics. Criticizing the decision-making of managers in a production-oriented way, the concept of Theory of Constraints leads to optimizing production planning and the interest of managers to increase sales and profits rather than to produce for stock in the enterprise (Taylor & Nunley& Flock, 2004, p. 20). In 1979, Goldratt argued that production managers were malfunctioning in programming and monitoring stocks and resources, and developed a software called Optimized Production Technology (Blocher & Chen & Lin, 2002, p.162) to solve this problem. He started to introduce the basic logic of Optimize Production Technology under the name Synchronized Production in 1984, and in 1987 he used the concept of Theory of Constraints and placed the logic and basic principles of Optimized Production Technology in the literature with his book named "The Goal" under the concept of Constraints (Blocher & Chen & 2002, p.162). After 1990, Thinking Processes TP tools were added to the theory. Thinking Processes provide rigorous, systematic and logical tools to solve problems related to management policies (Linhart & Skorkovsky, 2014, p.1345).

According to the above-mentioned explanations, the development of the Theory of Constraints can be dealt with in three stages (Sadıç& Özdemir & Gözlü, 2006, p.100).

In the first phase, the Theory of Constraints emerged as a production flow and inventory management system between 1975-1985.

The second phase emphasized the importance of enhancing the system output in the Theory of Constraints from 1986 to 1990. It has been stated that what was needed in the system was not savings, but to get more profit with the available resources. In this period, the accounting system was also criticized and it was alleged that the existing costing system did not reflect the reality and the costs were recalculated.

The third stage was the development of "Thinking Process" after the 1990s. In the book "It Is Not Luck" published in 1994, it is mentioned how the theory of constraints can be used for continuous improvement.

2.1. The Purpose of The Theory Of Constraints

The main purpose of the constraints theory is to manage the constraints that can obstruct the realization of profitability goals that are determined by the firm. According to Goldratt, the management of constraints consists of five steps. **The first** of these steps is the identification of constraints; **the second** is to decide how to effectively manage the constraints; **the third** is focusing of the system on the goal of the second step; **the fourth** is to eliminate the constraints, and **the fifth** and final step is to return to the first step when the constraint of the previous step is over. The most important thing to note here is that the last step has to go back to the first step. This includes the continual development that underlies Goldratt's constraint theory. The main strength of continuous development is that each business always has at least one constraint (Goldratt, 1990, p.4-6). Every business activity has at least one constraint in its process. It is necessary to determine the constraints and to remove them from the process for productivity and profit increase (Goldratt.& Cox, 2007, p.427).

In a nutshell, the aim of the *Theory of Constraints* is to better separate the conditions and tools necessary to well-define the constraints on the systems of businesses that want to make money, increase value and sustainability in the global competitive environment now and in the future, and to remove these constraints.

2.2. Main Structure of The Theory of Constraints

The main structure of the constraint theory consists of three subdivisions as logistics, performance measurement and thinking process (Cox, & Spencer, 1998, p.352).

1. Logistics: Activities to be done in order to ensure that the right goods are delivered in the correct quantity, in the right condition, at the right time and place, at the right price to the right consumer (Sürmen & Aygün, 2006, p. 54-55). Logistics activities include activities such as demand forecasting, inventory management in global competitive environment, shipping materials, order taking, etc. Logistics is very important for the Theory of Constraints, and it is the process by which appropriate tools are used for planning control and continuous improvement.

2. Performance measurement: It is the measurement of activities and measurement of effectiveness and efficiency. The effectiveness indicates how much of the purpose is reached, and the efficiency shows the extent to which the resources used as inputs are turned to outputs (Özkan, 2013, p.173). Traditional cost accounting does not pay attention to global markets when you make performance measurement, it only focuses on local markets. The theory of constraints predicts a set of global metrics that follow the system's ability to achieve its global goal. One of them is motivation. The concept of motivation is important to reach the goal as a whole in the theory of constraints. Working as a whole to achieve the goal of the system is the best way to work.

3. Thinking process: Problem solving methodology of the theory of constraints. The majority of business constraints may be due to business policy constraints. Therefore, it may not be easy to change the constraints on the operation. To do this, Goldratt designed a general set of logic tools or problem-solving techniques called thinking processes.

According to Goldratt, in the process of thinking, managers need to answer three important questions. These are as follows:

1-What will change? (To find the main problem)

2-What will it turn into? (To find simple and practical solutions)

3-How will this change take place? (To implement the solutions)

There are five tools of thinking process in order to determine the solutions of these questions. These tools are important and systematic tools to be used in identifying and solving business problems related to management policies (Rahman, 2002, p.812):

- Current Reality Tree
- Evaporative Cloud
- Future Reality Tree
- Pre-requisite Tree
- Transition Tree

Current Reality Tree: Analysing the current state of the system is used to better understand the problems and to identify the basic problems that adversely affect the performance of the system.

Evaporative Cloud: By identifying and examining the problem that the system is encountering, it helps to eliminate the problem by gradually resolving the problem as it arises.

Future Reality Tree: It shows the cause and effect relation between the changes to be made in the system and the results and allows the evaluation and improvement of the solution before the application.

Prerequisite Tree: It shows the order of the decisions to be taken and the decisions taken to overcome the obstacles that may occur during the implementation of the practice.

Transition Tree: It is the step by step application plan. The pre-requisite step-by-step guidance is presented, showing how to achieve the goals defined by the tree and how to reach the decision to achieve the desired situation.

2.3. Phases of Theory of Constraints:

When we look at the Theory of Constraints, the system contains a structure with certain phases in it (Karagün & Sözen, 2017, p.186):

- First, the bottleneck is defined.
- Then the performance measures of the defined bottleneck are determined.
- Constraints are defined.
- The ways to eliminate the constraints are decided.
- The most appropriate way is selected.
- The constraint is removed or it is improved.
- Then, without going back again, another constraint is determined starting from the third stage, the determined constraint is tried to be removed again, and the process continues in this way.

The main argument of the theory of constraints is that every system has at least one part. Thus, as a result of eliminating the defined constraints, a new constraint is composed and the cycle continues in this manner (Küçüksavaş & Tanış & Ünal, 2005, p.435).

2.4. The Theory of Constraints and Global Competitive Environment

The global competitive environment is that, with globalization, competition moves from local markets to international markets and competition takes place in international markets. Globalization is, in its most general sense, the movement of economic activities, trade, investment and capital movements, the movement of labour and entrepreneurs and the transfer of technology to the international dimension (BCagwati, 2004, p.3). With globalization, all the constraints in business life between the countries are removed. As a result, businessmen and businesses may lose their competitive advantage by facing threats from foreign countries in their local markets, or they can gain competitive advantage and gain high profits by taking advantage of opportunities in foreign countries (Ülgen & Mirze, 2010, p.309).

Global competition environment differs from national competition at various points. In developing global competition strategy, factor cost differences between countries, different conditions in foreign markets, different roles of foreign countries, differences in targets, resources, and talents in terms of watching foreign competitions are indicated as the elements to be emphasized (Porter, 1998, p.276).

In order to increase/protect the market shares and profits of enterprises in global competitive environment, it is necessary to provide low cost resources, to use these resources efficiently, to produce competitively cost, quality and goods and services in accordance with the customers' wishes, and to provide the producers with the desired place and time. Barney (1991) argues that resources and skills should be rare, that the business should be rare among its existing and potential competitors, it should not be easily imitated, and that there should not be a strategically equivalent substitute of its resources and skills, in order to have a sustainable competitive advantage (Barney, 1991, p. 99).

Theory of Constraints argues that the resources used in production and non-production activities are limited in order to gain competitive advantage in the global competitive environment, and thought processes should be developed in order to reduce costs, improve productivity and profitability while using these resources, and ensure that these processes continuously improve the performance of the business.

2.5 Theory of Constraints and Cost Management

Cost management deals with how well the resources are analysed, how costs are planned, controlled and balanced, and how profitability can be improved. The accurate calculation of these costs, the provision of the necessary information communication, the arrangement of the reports, the analysis enable the management to make the right decision in a short and long time (Capusneanu, 2008, p.9).

Cost management is an effort to provide information necessary for the efficient use of resources in the production of competitive products and services in international markets in terms of time, cost, quality and functionality and to maximize the profits that are aimed at the operator and to reduce the costs to the minimum in this respect (Karcıoğlu, 2000, p. 62).

The most important goal of cost management is to inform the managers about the quality, cost and time required in the business and to provide decision support to them (Acar, 2005, pp.44-45).

In this context, the objectives of cost management can be listed as follows (Basık, 2012, p.7-10).

- Doing the right product costing,
- Making the performance evaluation of the product's lifetime,
- Performing a success evaluation
- Understanding and evaluating the processes correctly,
- Controlling costs and help implement organizational strategies,
- Focusing on reducing costs and increasing profitability,
- Continuous improvement focused on quality, efficiency and speed in the business.

In summary, in order to achieve the desired goal in cost management; resource analysis, planning of costs, control of costs is very important. In a global environment where resources are limited, businesses need to be able to analyse their resources very well and be able to use those resources very effectively in order to be successful in cost management. In addition, costs must be planned and costs that do not create value during the control must be eliminated, and efforts for continuous improvement must be supported.

2.6. The Effect of Theory of Constraints on Cost Management

Goldratt states that most of the unfavorable behaviours in businesses arise from the "Cost Approach". The cost approach is the best way to improve local goals for global purposes. This is the reason for creating most of the constraints in businesses (Stein, 1997, p.306). According to the theory of constraints, cost management's influence is important in the theory of constraints, since the main goal of the business is to increase profitability and reduce costs by using resources effectively. This effect is more meaningful in increasing investment profitability, cost-volume relationship, SWOT analysis, full-time production, total quality management, activity-based costing, process contribution accounting etc.

Increase investment profitability; Goldratt has pointed out that the main objective of businesses is to increase profitability, and that the return on investments should be increased. In order to increase the profitability of the investment, it is necessary to increase the period and decrease the activity expenses and stocks. In summary, in order to increase the return on investment; it is necessary to increase sales, to reduce costs and to reduce the amount of investment (Haftacı 2010, p.205).

Cost volume relation: In general, costs are classified as variable, fixed and mixed costs according to the relationship between cost and volume. Costs that change depending on the changes in the activity volume are defined as variable costs and unchanged costs are defined as fixed costs. Variability of costs in the theory of constraints is defined by the volume of sales, not by the amount of production. For this reason, costs such as direct first material and material cost, energy cost and distribution, which vary depending on the sales volume, are considered as variable costs (Kaygusuz, 2011, p.178).

SWOT analysis: Through this analysis, the strengths and weaknesses of the business are identified with their threats and opportunities. Their activities are supervised. In this respect, it tries to take measures to increase the value of the business and reduce its costs.

Full-time production: In philosophy, the theory of constraints and full-time production are similar in many respects. Both are working to remove the inefficiency by using the resources effectively, to use the continuous development process, to increase the quality, and to reduce the semi-finished stock level.

Total quality management: According to the theory of constraints, aiming to increase the quality of an enterprise in all its activities by using resources effectively prevents possible errors. Losses are reduced by prevention of faults. The second quality product, unnecessary stocks, time lost, delays in delivery, etc., all go away (Kavrakoğlu, 2004, p.10). As a result, costs are reduced while quality and customer satisfaction increase.

Activity-based costing: Activity-based costing and theory of constraints complement each other. While the theory of constraints enables short-term gains to be maximized, activity-based costing provides the supply of resource for long-term profitability, product design and profitability, pricing, supplier and customer relationships to be dynamic

and optimal. Activity-based costing and the theory of constraints share the same purposes: "to maximize business profits." Theory of constraints tries to generate profits by means of available resources, constraints, products and customer relationships. Activity-based costing determines the economics of current resource provision, product design, price, product mix and customer profitability (Okudan, 2005, pp. 61-62).

Process contribution accounting: While traditional approaches primarily focus on reducing costs, then increasing the process and, finally, reducing inventories, the process contribution accounting focuses primarily on increasing the process. In the process contribution accounting, it is necessary to focus on increasing the process first, then to decrease the stock and operating expenses (Ünal, 2000, p.61).

According to the above explanations; it can be said that the theory of constraints has a positive effect on cost management. In the enterprises where the constraint theory is applied; while the productivity, quality, and process development is improving, supply period, inventory level, production and non-production costs decrease.

2.7. Benefits of Theory of Constraints for the Businesses

In a globally competitive environment, businesses want to profit continuously, improve their market value and come to a better position. They will have to overcome the obstacles that they are facing. The Theory of Constraints applies scientific methods to overcome the main obstacles before the development in every aspect of life. It has often been beneficial for businesses to consider the realization of the desired conditions as a function of the performance of people and processes. The Theory of Constraints is often seen as a knowledge of performance improvement (Şahin, 2012, p.34).

The benefits provided by the theory of constraints can be listed as follows (Utku, 2007, p.15):

• By increasing production quality, the delay time is reduced,
• Increase in business revenue and cash flow,
• Capacity-related activity is improved.
• The order fulfilment time is reduced,
• Customer satisfaction is increased,
• The waste material is reduced,
• Production and non-production operating expenses are reduced,
• The market value of the business increases.
• The continuous self-renewal and development process of the business is improved,
• It achieves competitive advantage against its competitors.

It is stated that the theory of constraints provides various benefits to business managers in terms of discipline and structural necessity. These benefits can be summarized as follows (Shoemaker & Reid, 2006, p. 96):

• An in-depth review of the organization's current structure,
• Analysis and development of situations that may arise with application results,
• Determination of the main causes of unintended consequences,
• It is an estimate of how the system performance will change from various angles and the results.

3. Conclusion and Recommendations

The Theory of Constraints is an approach that criticizes managers' production-oriented decision making and aims to increase sales, profit, and advocate continuous improvement rather than producing for stock. In this approach, in order to gain competitive advantage, it is necessary to improve the owned resources with the determined constraints, to use the business specific skills effectively and to continuously improve the continuous performance in the business.

The easiest way to achieve competitive advantage in a globally competitive environment is through cost leadership. The cost leadership requires delivering the desired product to the customer at the desired location and time, without sacrificing quality, and at a lower cost than the competitors. This increases the importance of cost management day by day in businesses. Because cost management is a limiting factor in enabling businesses to increase their earnings and value now and in the future, to ensure their continuity and reduce their costs. According to the theory of constraints, this constraint needs to be well managed and overcome to improve performance.

In summary, the theory of constraints affects cost management positively. This effect is felt more in the global competitive environment. Today and in the near future, the theory of constraints will make it easier to solve problems in businesses. Because thought processes within the theory of constraints have been developed to solve problems. Businesses are advised to focus on the constraint theory if they want more return on investment, customer satisfaction, total quality, continuous improvement, fewer mistakes and lower costs.

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9

EVALUATION THE INTEGRATING DIFFICULTIES-ISSUES FOR JUST-IN TIME AND ERP SYSTEMS IN TERMS OF QUALITY MANAGEMENT IN MANUFACTURING SECTOR: A CASE STUDY FOR AN AUTOMOTIVE ENTERPRISE IN TURKEY

Ayşenur Erdil[1]

Abstract

Due to the high productivity proportion, providing different products varieties, using qualified automated technics and the obstacles of automotive industry like a manufacturing company in the rivalry, ABC Automotive Company is considered to examine the integrating issues in ERP (Enterprise Resource Planning) systems and to evaluate the fundamentals of effective processing of ERP and developments. The literature and concepts of ERP and implementations of these concepts in the system are presented in order to support the objective of this study. For the efficient production, system design, Just In Time (JIT) and ERP systems are examined and much more production systems are developed according to the integrated structures. The purpose of this research is to define the fundamental concepts and properties of JIT perception, to present the literature of JIT approaching and to discover the principles towards the framework of this system. JIT system is certainly implementation for production/manufacturing structure in Quality Management. Within the development field of this study, JIT supports a better management and potentially efficient of development for production/manufacturing stages between software and information systems-ERP. The objective of this study includes the proposed structure which can be provided more efficient solution techniques with constraints management from general materials management system (GMMS) to the outlines by company vehicle planning (CVP) in ABC Company. The other objective of the research is to demonstrate a genaral overview and assessment of JIT in terms of management, quality management with the customer and market-business requirements via Quality Function Deployment (QFD) and Pareto Analysis (PA).

Key Words: Enterprise Resource Planning, Just In Time, Quality Function Deployment

1. Introduction

Enterprise Resource Planning (ERP) is a planning and communicating system that involves all resources of a company. Another similar uniform of Enterprises System (ES) is an information structure that operates all resources useful in a company. It is a general concept for a co-operating software that operates and co-ordinates resources and facilities of a company. ERP systems combine all data and procedures of an organization into an integrated system. A comprehensive ERP system handles multiple elements of computer software and hardware to supply the integration. A significant gradient of most ERP systems is the usage of an integrated database to store data for the different system modules (Shehab et al., 2004; Chang et al., 2013; Daryl et al., 2013).

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ERP structure as a key factor is the integrating of data from all positions of an organization. It is a designation initially reproduced from manufacturing resource planning. (Teltumbde, 2000; Chang et al., 2013). This system generally manage and control the manufacturing, distribution, inventory, logistics, shipping, and accounting structures for a business. ERP or software of a company can support the control of many business facilities like marketing, delivery, supply chain management, human resources management, production, quality management and inventory management (Shehab et al., 2004; Wei et al., 2004).

Just-in-time (JIT) is intially all about acquiring the right thing, to the right location, at the right time, in the right amount while decreasing volume of waste and calm down and open to difference. Kaizen principles touch on a workplace 'quality' policy and is generally associated with Automotive Production System and interconnected to several quality-control systems. Kaizen (continous development) purposes to eliminate waste described as facilities that add expenditure but do not join value. It is usually the condition that this intends 'to take it away and put back jointly' in a better route (Meredith, 1992; Naufa et al., 2012).

An initial difference between traditional and JIT stratejies involves the perception taken in the intermediate processing stages of production. The traditional perception follows a useful organizing designed to reduce manufacturing costs for the specific component. A JIT system integrates the tranditional operations to recombine directly to demands from subsequent operations of production. This distinction could be referred to as the difference between payment-'push' and order-'pull' (Chase and Aquilano, 1998; Puchkova et al., 2016; D'Ouville et al., 2010).

JIT manufacturing fundamentals involve these following issues (Setsuo and Taiichi, 1986; Dilworth, 1992; Aradhyea and Kallurkarb, 2014; Chung et al., 2018):

-waste eliminating all facilities which do not combine importance and safety internet connection, increasing the usage of resources.

-establishing and sustaining a long period connection with supplier by way of risk sharing, expenditure sharing and information sharing with regulation and coordinating.

-overall first-time quality for zero defects, revealing and solving problems at the source.

-sustainable development-decreasing expenditures, developing quality level, increasing productivity and information share-out.

- products are pulled from the consumer order, not pushed from the end of production

Just In Time (JIT) is a management viewpoint basing on decreasing of the seven wastes to develop the customer satisfaction. Transport, Inventory, Waiting, Overproduction, Motion, Defects and Over-Processing are the wastes of lean manufacturing. Quality is developed by the eliminating waste, and also production time, waiting time and costs are decreased. To explain the issues of waste, lean manufacturing has several equipments at its management. These are sorted "continous development" and production by tools of kanban (Maiga, A.S., and Jacobs, 2009; Inmana et al., 2011; Iqbal et al., 2018).

2. Analysis the Enterprise Resource Planning System of ABC Company

The system in ABC Company continues according to the Just-In Time principles with the integration software programs of Enterprise Resource Planning (ERP) structure. For the purpose of this part of study, the definations

and introductions of the ERP and sub-systems with different departments of this company are presented and analyzed. The system combines the information technologies, material planning, material supply, capacity planning, supply chain, expenditure accounting, material movements and all components of the integration of the ERP. The support softwares of the systems about the production-manufacturing of this company have General Material Management Systems (GMMS) and CVP (Company Vehicle Planning).

The evalautions of the systems in the ABC Automotive Company are summarized as below:

(i) Evaluation of General Material Management Systems (GMMS)

-GMMS cannot trace the distinctions in the location, this sitution is insufficient.

-Problems take place according to the volume of materials insufficient, warehouse location and movement issues, inputs issues about importation.

- GMMS consists a financial system which is not utilized. Because it is not convenient for the Turkish financial systems and it has yearly expenditure.

(ii) Evaluation of Company Vehicle Planning (CVP)

- This system has a communication issue between external structure and montage processing stages owing to a programming problem in CVP.

- CVP is not combined with the other systems, therefore systems must be transformed to each other for the intercommunication**.**

These support softwares of the systems regarding the production are the current system in the ABC company. The integration structure of the systems is demonstrated as below in Figure 1.
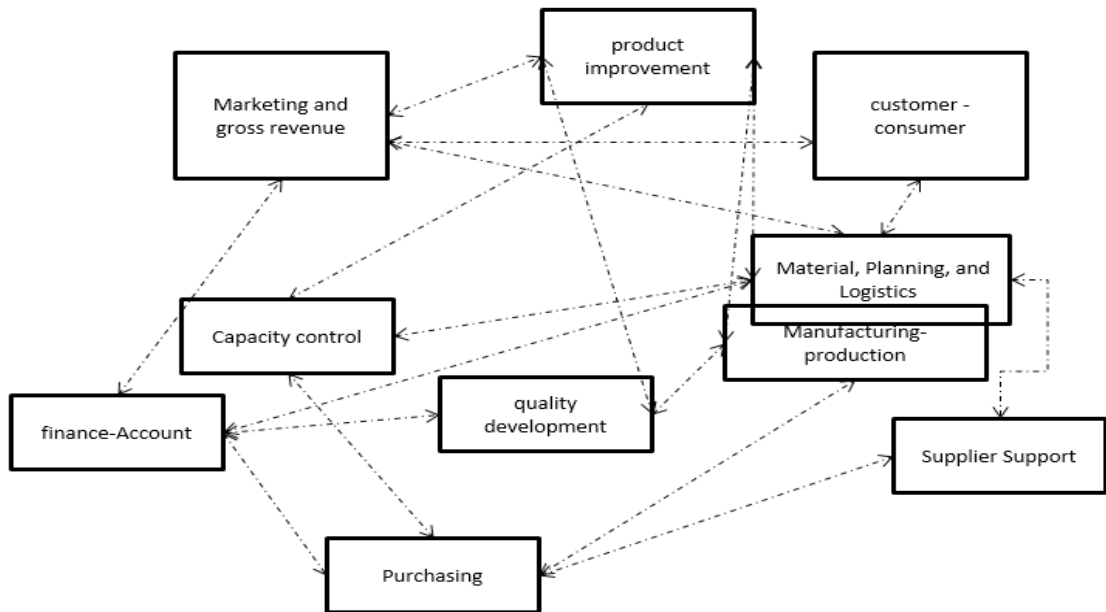

Figure 1. *The integration of the structure of the current System for ABC company, 2010, erp system department)*

The functions of the components of the current system for the ABC Company are summarized and submitted as in the Figure 2.

The determinations about the problems of the current integration system of this ABC Company are defined like this; the engineering modification in the GMMS are holded thanks to CVP manually. The vehicle-machines are counted in GMMS according to the information requested and taken from CVP. Integration between GMMS and CVP has some interconnection problem. there is not an excellent integration between these systems. The numbers of vehicle stocks decrease in batches in the end of the day, it does not have the decreasing with an online dropping. The engineering modification applied in the GMMS are not proceeded owing to CVP in an online database system.
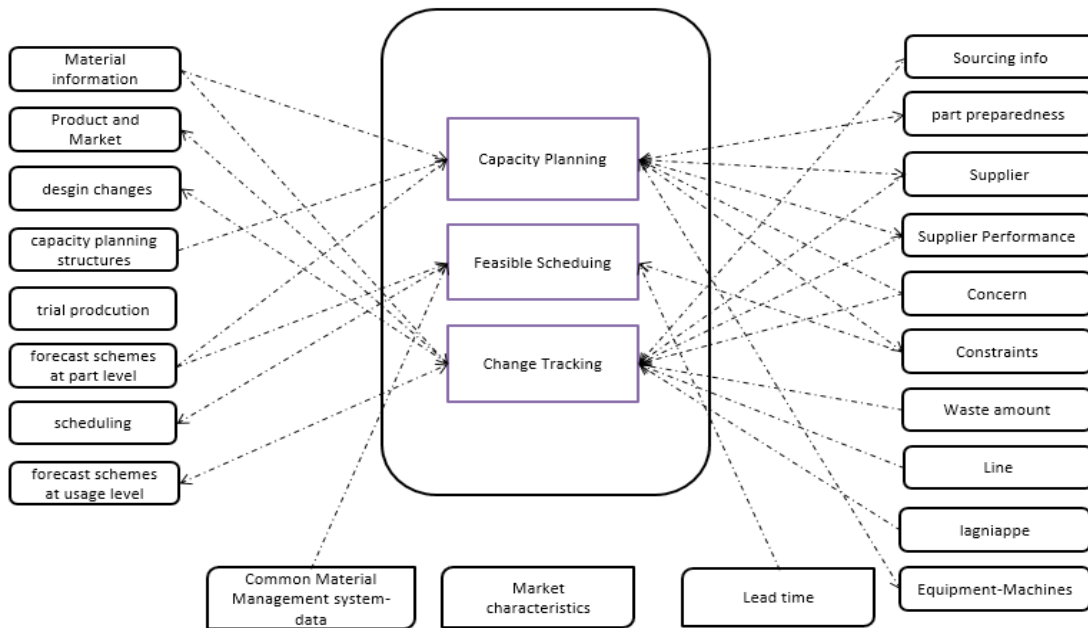

Figure 2. The common properties of the System (ABC company, 2010, JIT-erp system)

The difficulties of the Current System are listed as below;

(a) ERP systems like Oracle or Sap is not incompatible convenient for the currrent system of the ABC Automotive Company. The Reasons of this issue are described like this;

-The combination of the system is difficult to deploy, it has high expenditure and low scalability.

- The system is interconnected in all facilities of ABC Automotive Company within much more suppliers. This structure could be difficult to achieve and control all the related systems.

- Adjustment and Setting up a new customer control system which integrates all systems and departments of the company have difficulties, so it is not possible.

- Such a big oriented automotive plan has not been experienced before. The customized structure of this company is convenient for the Oracle systems

According to the difficulties and Issues of the current system of the ABC company, A model which supplies the requirements of a holistic integration system as the suggested system for the company has an oriented department that integrates the each other. So it is not complex and the modification, coordination in the system are carried out owing to Material Planning department. As shown in Figure 3, this structure must be existed through Materials Planning and Logistics-Supply Chain department because all production and interconnected processes are applied regarding to the priorities and restrictions of the movements which is determined via this department.
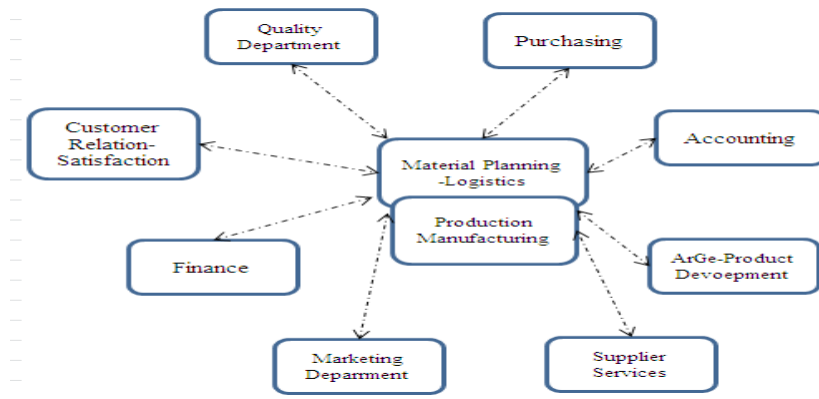

Figure 3. *The suggested Model for the ABC Company*

(b) Recommendations for the suggested Model: Connection Framework of the System for ABC company

ERP structure integrates all steps in point of the structure of the production by handling a unique and common database system. In order to avoid repetition of data and all issues that the plant is exposed, all departments of the company should be instructed online thanks to an interconnected database. This integration operation owing to a single database might be actualized by describing the structure of bill of materials, material plans and work centers in this database and all other elements of the production. This structure can provide the cost accounting module of GMMS usable. Thus, all other departments such as CVP and GMMS departments and also the other related departments can improve the collection of on-line, real time and unique data. By this way, ABC Company may accomplish the failures and problems that take place in the connection of the departments and also regarding the planning, management and control of the production.

3. Methodology

3.1. Quality Function Deployment

Quality Function Deployment (QFD) is a technique implemented in more efficient product development and quality improvement in many subjects (Shen et al., 2000). QFD method discovers customer needs in comprehensive particular and qualifies organizations to surpass noticeable competitory policies. Therefore, QFD is a customer-determined quality management structure (Kaulio, 1998) focusing to generate higher customer gratification.

QFD is a acknowledged technique that is effective in originating high quality manufacturing and services (Mazur, 2008; Sivasamy et al., 2015). Lam and Dai (2015) argued that QFD is well known as a structure for delivering the "voice of customers" into convenient business requirement. QFD is esteemed as an influence equipment for businesses to define customer requests, extend market share and improve strategies to provide customer satisfaction (Yeh et al., 2013). Khorshidi et al. (2016) specified that QFD could support to present an effective factor to a success of product or service. Vinodh and Chintha (2011) highlighted the reality that QFD is not be applied to use as a problem-solving technique, but it is very beneficial in defining what has to be implemented to extend market contribution.

The purpose of the QFD is to give permisssion for the organisation to define the consumers; observe and prioritise the needs of customers; include value towards quality level maximisation; plan an extensive quality structure for satisfaction of consumer; and improve strategies, policies and optimize influences of the product/service which leads the most significant competitive benefit (Garver, 2012).

An important amount of QFD successful implementations in the service industry have been described, involving service environment such as teaching (Koksal and Egitman, 1998; Lam and Zhao, 1998), complicated libraries and information services (Chin et al., 2001), public industry (Gerst, 2004), e-banking (Gonzalez et al., 2004), viewer occasions (Enriquez et al., 2004), and sociability (Stuart and Tax, 1996).

The basic opinion of QFD is to design and build the requirement control issues prior to manuafacturing start-up so that quality of product might be confirmed in the planning point (Akao, 1990b). The fundamentals of total quality management (TQM), QFD bases on presenting value by realizing the requirement of customers and performing this information during the improvement operation jointly to the manufacturing operation and control structure and systems (Hill, 1994).

QFD is a extensively applied systematic development evaluated by cross-functional groups to define and analyse problems arising from the provision of products, operations, services, and policies remembered to provide customer satisfaction (Gonzalez et al., 2004). QFD is a fundamental method for the improvement or evolvement of properties, attributes, or responsibilities which present high quality and robust of a product and service.

3.2. Quality Function Deployment Process

Quality Function Deployment (QFD) is a visual connective operation that provides groups base on the requirements of the customers through the total improvement loop. It supplies the means for providing requirements of customer into convenient technical requirements for each phase of a product/operation improvement lifecycle. It is well verified that the utilization of QFD can decrease the improvement time by 50 percentage and engineering expenditures by 30 percentage (Clausing and Pugh, 1991).

The operation of QFD includes four stages:

(1) Product scheduling: house of quality.

(2) Design and Plan of Product: components evolvement.

(3) Process planning.

(4) Control of operation (quality control diagrams).

A chart-matrix shows each steps of the process of QFD method. QFD chart is a matrix that defines the "whats", the "hows", the relationships between "what (customer requirements)", and criteria for deciding which of the "hows (technical characteristics)" will support the highest and most important customer satisfaction (Chahal and Thareja, 2012; Zare Mehrjerdi, 2011).

3.3. House of Quality

As can be seen in Figure 1, The house of quality (HoQ) involves six steps:

1- define requirements of customer (WHATs) and determine these weights for the wall of the left side of the house;

2- associate the competitiveness of the product or providing service for the wall of right side;

3- transform customer needs into properties and criteria of service design (HOWs) just underneath the roof;

4- determine the relationship-corelation between WHATs and HOWs in the fundamental deployment matrix or named relationship matrix;

5- determime the relationships between the different product and service design properties-characteristics for the correlation matrix of the roof and

6- design and build the objective variables of the service for the ground floor of the house, which is the absolute importance for the properties-requirements of each product/service design.

The QFD diagrams provide the group to build objectives on subjects, which are most significant to the customer and how these can be carried out technically.

To sum up, The ranking of the opponent's products and services could be executed by benchmarking of technical, theoretical and customer. The QFD diagram is a multifunctional equipment that could be applied throughout the association. For engineers, it is a method to resumes simple and fundamantal data in a usable form-document. For the terms of marketing, it describes the voice of customer and general top management apply and use it to dertermine and investigate new opportunities (Clausing and Pugh, 1991; Shen et al., 2000).

4. Data And Methodology

In this part of the study, a quality function deployment (QFD) was applied to obtain the evaluation of JIT in terms of management, quality management with the customer and market-business anticipation for the Automotive Enterprise. In this application, customer requirements, customer significance level and technical characteristics were determined and scored with the experts and employees of all aoutomotive industrial sectors (TUSIAD). Besides, a questionnaire was prepared for learning the opinions, perspectives of customers about the quality of products. This step of the study was very important to gather data and also to assist in the implementation of the research. The research was focused on a quantitative perception by means of a questionnaire-based survey determining the assessment of the sustainability of the lifecycle and quality of automobiles (production systems) for the automotive industry with companies in Turkey currently enrolled in the program. This survey was e-mailed to approximately a total of 63 companies of Automotive Industry in Turkey with the help of the Turkish Industrialists' and Businessmen's Association (TUSIAD) and Turkey Exporters Assembly (TIM). The results of this questionnaire were assessed on the framework of quality-oriented production according to the performance of the integration

the JIT and ERP systems of the companies. The sample size was 41, returning the survey from the automotive companies in Turkey, with a 65 % rate of response.

4.1. Quality Function Deployment Application

Customer requirements in the term of the quality oriented and customer satisfaction with the products depending on the productions system of the automotive enterprise include some criteria. These are Production, Levels of Inventory, Set Up Time, Quality and Diversity of Products. The Technical characteristics include groupings identified according to the questionnaire on the environment which is focused on quality of product and sustainability of the integration of the production system of the enterprise. These characteristics which were determined according to the survey questions and answers are shown in Table 1 and Table 2.

Table 1. Quality Function Deployment Table –Matrix for Automotive Industry

Customer Requirements (What)	Importance of customer**/Technical characteristics (How)*	Production*					Levels of Inventory*			Set Up Time*				Quality*							Diversity of Products*			General Total
		p1	p2	p3	p4	p5	l1	l2	l3	s1	s2	s3	s4	q1	q2	q3	q4	q5	q6	q7	d1	d2	d3	
Development the order compliance of customers	4	3	9	3	9	9	9	9	3	3	9	9	3	3	9	9	3	3	9	1	0	3	3	
Decreasing the warranty problems of customers and Improving the quality of products	5	3	9	3	9	9	9	9	9	9	3	3	9	9	9	9	3	1	9	1	1	3	1	
Providing the loyalty and faster delivery	4	3	3	3	3	9	9	9	9	9	9	9	3	0	1	0	1	1	9	1	0	0	0	
Decreasing the inspection of material sources via customers.	3	3	3	9	9	9	9	9	9	9	9	9	3	0	1	3	3	1	3	1	3	3	3	
Long Lifecycle Product	4	3	3	3	9	9	9	9	9	1	3	1	9	9	9	9	0	9	9	1	0	1	3	
AW		60	114	78	156	180	180	180	156	124	126	118	114	93	124	126	40	60	162	20	14	40	38	2303
CNW		2,61	4,95	3,39	6,77	7,82	7,82	7,82	6,77	5,38	5,47	5,12	4,95	4,04	5,38	5,47	1,74	2,61	7,03	0,87	0,61	1,74	1,65	100,00
Rank		16	12	15	5	1	1	1	5	9	7	11	12	14	9	7	18	16	4	21	22	18	20	22

Note : Strenght of relationships(Yılmaz, 2009): **Importance of customer **1-5**(1-Not important;2-Less important;3-not decide;4- important;5-Very important),
Technical characteristics* (0-Not correlated;9-Very strong correlate;3-Middle correlate;1-Weak correlate)

Table 2. Technical Characteristics-Requirements (TCs-TRs)

Symbol	Production	Symbol	Levels of Inventory	Symbol	Set Up Time	Symbol	Quality	Symbol	Diversity of Products
p1	Supporting the development of capability of process	l1	Decreasing the amount of finished goods inventory	s1	Reducing the production lead time	q1	Reduction the volume of waste and scrap	d1	Reducing the cycle time to improve the new products
p2	Decreasing in Space land requirement	l2	Reducing the raw material sources-inventory	s2	Minimizing the set up time	q2	Minimizing the process defects and rejections	d2	Archieving the categories of products.
p3	Development in productivity	l3	Minimization in Work In Process Inventory	s3	maintainability and vailability of equipments	q3	Proving development for quality of product	d3	alteration for the design of product
p4	Reducing the cost of production			s4	Providing the utilizations of equipments and machines	q4	Decreasing the supervision of outbound material sources		
p5	Kaizen approach and Team Projects- Ideas					q5	Production and controlof process stages		
p6						q6	Custommers orientation-satisfaction		
p7						q7	Supporting the opinions of the employees		

The QFD team determines interactions/correlations (improvement ratio) between the customer requirements for the analyzed companies' products of automotive industry compared with technical requirements of products. The objective of this analysis is to discover how the variation in values of some quality characteristics affects the values of the other sustainability criteria (Hows). This analysis has an important effect for designing the new product in terms of sustainability on the quality and enviromental friendly of automobiles-products as it shows the impact of actions-suggestions to develop the whole product. The results of this evaluation are recorded in the correlations matrix, which forms the quality house without the roof. The QFD application evaluates the degree of customers' satisfaction towards the quality characteristics of the customer requirements (Whats) for the analyzed companies products with technical requirements of the whole automotive products in terms of sustainability dimensions of the automotive industry, related to the customer requirements. The importance weights (IW) - degrees of customers' requirements are expressed from 1 to 5 (5 – very important, 1 – not important,) and the degree of the strength of correlation between Customer Requirements and Technical Characteristics-requirements are expressed from 0 to 9 (9 – very strong correlate, 0 – not correlated,).

The scoring and calculation details are explained for the first column only regarding the quality function deployment application in the automotive industry as explained in below. The scoring and calculations in the other columns are done in the same way with Equations (1) and (2) according to the correlation values of the QFD Application Table (Table 1).

A significant and easy technique for discovering the weights is to assign numerical values in the relationship matrix symbols. The absolute weight (AW) for the jth technical requirement is given as equation (1).

Absolute weight (AW): multiplying the importance weight (IW) and improvement ratio (IR) give absolute weights of the customer requirements to us. The easy method to calculate technical requirement weight is to assign numbers to symbols in the relationship matrix. The absolute weight of technical requirement-characteristic is demonstrated by the following equation (1):

The conversion of the degree of importance of counterpart quality characteristics can be denoted by the following equations (1) and (2) in below (Yılmaz, 2009; Talebi, 2014; Mukherjee, 2014):

$$AW_j = \sum_{i=1}^{n} IR_{ij} \text{ x } IW_i \qquad (1)$$

AW: Row vector of absolute weight for the degree-grade of technical difficulty of technical requirements- Absolute Weight

Where;

IW: Importance Weight - importance weight of customer's requirement in respect with IR_{ij}

IR : Improvement Ratio - weight appointed to the relationship matrix, weight dedicated to the relationship matrix by row i and column j (i = 1,.2…,m m = 29 ; j = 1, 2, …..,n n = 5)

m = number of technical requirements

n = number of customer requirements.

Absolute importance weight (AW) for each of the selected quality characteristics-criteria are recorded in the results matrix and the greater values of absolute weight indicate the higher importance of the technical descriptor to address VoC ("volume of customer").

Customer need weight (CNW- the relative importance): The AW value of each technical requirement divides the cumulative AW and then calculates the percentage ratio to yield a normalized customer need weight.

$$CNW_j = \frac{AW_j}{\sum AW_j} \; x \; 100 \qquad\qquad (2) \; j=1,2, \ldots,m \; m = 29$$

CNW in the first column = (The first total absolute weight in the first column / General Total of the Absolute weight) x 100

Also, the relative importance (CNW) weight is calculated for each quality characteristic-criteria in part, as a share of the total relative importance of all properties-criteria. From this information, the QFD group will determine which of the quality characteristics-requirement contribute greater satisfaction to customers according to the formulated requirements and which therefore will require to be developed. The scoring-weighting and calculations in the other columns were conducted, proceed just as above formula (2) for the calculation of CNW.

Scoring and calculations were implemented for the automobiles (products) of an enterprise (ABC company) in the autuomotive sector according to the relationship between customer requirements and technical characteristics. In the calculations, sorting was conducted from higher to lower value-weight (CNW) with the support of the statistical package program oriented on the weight of customer requirements. As a result of this sorting (see Table 3), 3 units of technical characteristics which are the first priority, were identified with a value of 7.82 percent; The second priority technical characteristic includes 1 units of technical characteristics which were identified with a value of 7.03 percent, the third priority technical characteristic involves 2 unit of technical characteristics which were identified with a value of 6.77 percent, so on. The classified priority order for the Technical Requirements is listed in Table 3.

Table 3. *The groups of the priority order for the Technical Requirements (Depending on the sorting (Rank) CNW -percentage value)*

The priority number-importance (Rank)	CNW-percentage value	Technical Requirements
1 (1)	7.82	p5; l1 ;l2
2 (4)	7.03	q6
3 (5)	6.77	p4;l3
4 (7)	5.47	s2;q3
5 (9)	5.38	s1;q2
6 (11)	5.12	s3
7 (12)	4.95	p2;s4
8 (14)	4.04	q1
9 (15)	3.39	p3
10 (16)	2.61	p1;q5
11 (18)	1.74	q4;d2
12 (20)	1.65	d3
13 (21)	0.87	q7
14 (22)	0.61	d1

4.2. Pareto Analysis Application

Literature research further presented that there is no suspicion that the Technical requirements (TCs-TRs) are the true alteration of requirements of customer and demands, but the current prioritization sorting-rank of TCs-TRs. TRs are not adequately and can be improved further. One TR may has priority over the other TR due to the general cause. It can also be determined that higher statistical Importance of few TRs can do a better position than all the rest TRs which might archieve an application of Pareto's 80/20 principle (Sander, 1987).

The values of absolute weight (AW) from the quality function deployment matrix (Table 1) can be organized into a Pareto diagram to show which technical characteristics are the most important in meeting customer requirements.

A pareto chart can be constructed by segmenting the range of the data into groups (also called segments, bins or categories). The left-side vertical axis of the pareto chart is labeled 'absolute weight' (AW-the number of counts for each category), the right side vertical axis of the pareto chart is the cumulative AW percentage and the horizontal axis of the pareto chart is labeled with the group names of technical requirements. The number of data points is determined by residing within each group and construct the pareto chart but unlike the bar chart, the pareto chart is ordered in descending frequency magnitude and users define the groups (Sander, 1987; Figure 4).

In this research, a significant threshold risk variable is selected as 80% Pareto analysis (PA) presented focused on risk factors which might happen when designing and modifying quality oriented engineering researches and graded due to the severity of the risk criteria with according to the quality dimensions, and computing variables of relevant ratio % is presented (Sankar and Prabhu, 2001). In this type of studies that need team study and research, it is one of the importance of the analysis of a movement to a connected determination that supports measures against the possible failures getting a high-risk level that is computed on the center of the Average weight (AW) variables table.

Table 4. *The Cumulative Values of CNW of the Technical Requirements for Pareto Analysis*

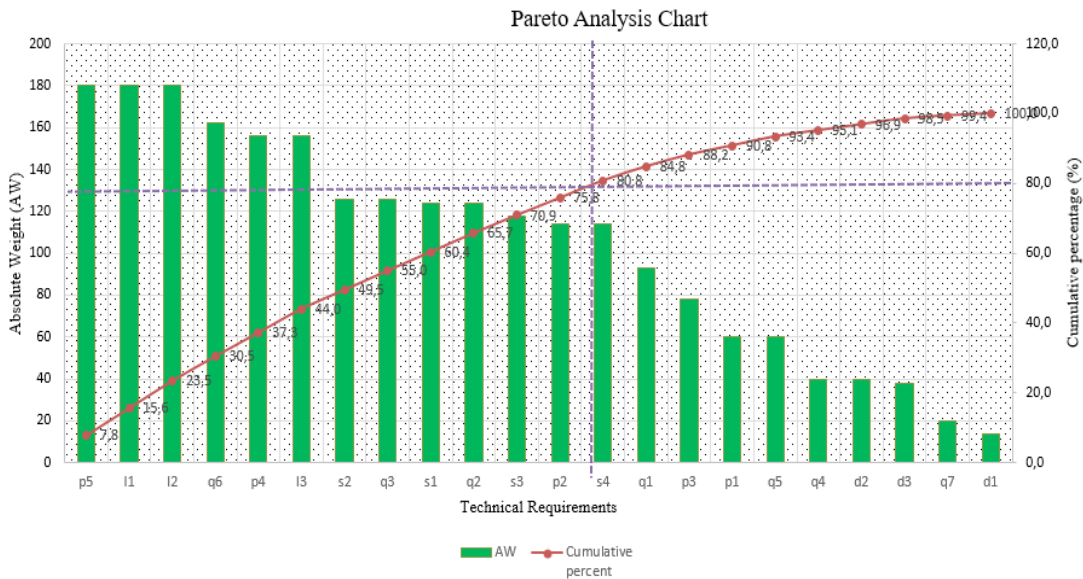| Technical requirements	AW	CNW-Percent (%)	Cumulative percent
p5	180	7.82	7.8
l1	180	7.82	15.6
l2	180	7.82	23.5
q6	162	7.03	30.5
p4	156	6.77	37.3
l3	156	6.77	44.0
s2	126	5.47	49.5
q3	126	5.47	55.0
s1	124	5.38	60.4
q2	124	5.38	65.7
s3	118	5.12	70.9
p2	114	4.95	75.8
s4	114	4.95	80.8
q1	93	4.04	84.8
p3	78	3.39	88.2
p1	60	2.61	90.8
q5	60	2.61	93.4
q4	40	1.74	95.1
d2	40	1.74	96.9
d3	38	1.65	98.5
q7	20	0.87	99.4
d1	14	0.61	100.0

Figure 4. *Pareto Analysis for the Prioritization of Technical Requirements*

Consequently, in order of importance when designing, producing and modifying the automotive products of the business world-automotive industry in Turkey based on engineering importance when the quality oriented engineering studies, determining the TR for sustainability of lifecycle of automotive products pursuing orderly requirements

are identified initial priority. The results of PA led to suggestions-solutions for processes and requirements that founded problems or problems with the 80/20 ratio.

5. Discussions and Evaluations

In prioritizing the technical requirements, Pareto Analysis (PA) technique supports to determine the top 20% of causes that requirements to be addressed to resolve the 80% of the problems. The AW values of the technical requirements which are calculated for each technical requirement obtained that exclude in the high weight classified. While evaluating the high-priority absolute weights supported requirements point sources between the values of these criteria in PA, conformity with 80% threshold risk variable, the initial 12 failure point sources prominence until %75.8 (cumulative percent; see Table 4). The values of absolute weight can be organized into a Pareto diagram to show which technical characteristics are most important and the risk prioritization of requirements in meeting customer requirements. These are labelled and sorted with AW (the values of absolute weights) that are symbolised p5; l1; l2; q6; p4; l3; s2; q3; s1; q2;s3 and p2 respectively (Figure 4; the description of these symbols in Table 2).

Some suggestions about the risk prioritization of requirements are listed as below;

-Focusing on the available materials of products (for instance performance-durability parameters, costs, type etc.) support to prevent the risk components-failures.

-Improving and following the available technology (for example, production line, machines, usage equipment, expenditure, resource demand of customers) can provide to eliminate the risk types during the process.

- The least energy and least toxic emissions are major risk parameters during the production process. This factor is presented for the scope of cost and health conditions for the population-customers and the economy of the country.

- Business and producer companies should force socially rational solutions involving the design and production scope of environmental friendly and quality-oriented products supplying the formation of a minimum amount of waste

- Reused the second-hand products, recycling and designing and producing quality products/services etc. are the factors of developments and sustainability life. This can provide the diminishing the ecological and ethical problems, difficulties.

- JIT is a tehnique for optimizing operations of prodcution/manuafacturing that involves continual decreased of waste. It can handle a system perception to improve and perform and manage a manufacturing system with software program, ERP. This method can arrange the production operation so that component and material are available when the stages of production are required. This perception is a production system with new values to develop productivity.

- High-quality products and greater efficiency can be derived from following a Just-In-Time (JIT) production system. Overproduction can be eliminated when JIT manufacturing is adopted with the current system of the company.

6. Conclusions

Pareto analysis (PA) and Quality Function Deployment (QFD) have been widely used in the literature and also these techniques are used for the identification-determination of the most significant-dangerous failures,

the removal or reduction of the most important failure modes. These are power analytical methods that can be used to estimate what sort of order should be followed for recommended action according to the calculated and determined values. It can be pointed out that the House of Quality created the opportunity to demonstrate the technical characteristics of sustainability of lifecycle of automotive product around customer needs-satisfactions, setting the stage for further real-life improvements. By focusing on the strengths and weaknesses highlighted by the relationship matrix between the customer properties and the counterpart characteristics, an activity schedule for further improvement and performance improvement can develop by a joint group of representatives.

These two methods were integrated and used together to determine basic requirements, increase the quality level of the industry and voice of the customer (VoC - customer satisfaction) for this application. QFD is a systematic method of improving a new product or supporting sustainability, by which the association should guarantee that requirements of customers are translated correctly into its specifications. Therefore, achieving or exceeding customers' expectations means more than maintaining or improving customers' performances. Producers that supply this, that to be competitory, focus on innovation and creativity and provide the needs of their customers, will be able to develop in the universal business environment. This application supports to identify and categorize the requirements of the sustainability dimensions for the considering the lifecycle and quality of automotive products.

According to the QFD, the resulting Pareto analysis led to suggestions for processes that constituted problems or problems with the 80/20 ratio. Pareto analysis technique supports to determine the top 20% of causes that requirements to be addressed to resolve the 80% of the problems (Sanders, 1987; Sankar and Prabhu, 2001). These techniques are used to reduce of the most important failure modes, to provide the initial requirements of the business and customer satisfaction. This issue can be applied in every industrial manufacturing and service sectors. This topic can integrate with every research areas and can be developed with other technical and customer requirements by Failure Modes and Effects Analysis and Multi-Criteria Decision Making Methods.

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10

THE ROLE OF BRAND EXPERIENCES IN THE DEVELOPMENT OF BRAND PASSION

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Abstract

The main purpose of this study is to examine the brand passions of the university students and high school students on the basis of their brand experiences (functional, symbolic and affective experiences), which they live in particular in terms of mobile phone brands. In other words, it is to assess the potential relationships between brand experiences and brand passion of these consumers. In order to meet this aim, quantitative research approach and survey model (field study) was used, the data were collected according to the convenience sampling by means of a questionnaire which was formed from 613 high school and university students between the ages of 14 and 27 living in Aksaray city. Data were analyzed by statistical techniques such as factor analysis, pearson-product-moment correlation coefficient, multiple linear regression and multivariate variance analysis (MANOVA). As a result of the analysis, it was determined that the brand passions for the telephone product category of the participants consisting of young consumers could be dealt with in two sub-dimensions as harmonious and obsessive. The results show that there are significant positive relationships between brand experiences and brand passion; in this sense, the brand experiences, which are decisive in the level of obsessive brand passion, are symbolic, affective and functional brand experiences according to their importance and contribution level; the most important brand experiences that are decisive in the level of harmonious brand passion are affective and symbolic brand experiences, respectively. In addition, it has been found that brand experiences and brand passions may vary depending on demographic and personal characteristics such as gender, family income and school type. These results are thought to contain noteworthy clues in terms of brand decision makers in practice as well as conceptual literature. It can be said that the results of the obsessive brand dimension, which represents the negative component of the brand passion, can be important for the people responsible for the young consumers.

Keywords: *Brand Experiences, Harmonious Brand Passion, Obsessive Brand Passion.*

1. Introduction

Consumption represents a broad range of social, symbolic relationships and emotional experiences, not limited to requirements alone. The important point for today's consumers is the taste they get from the experience in consumption rather than the product or service (Odabaşı, 2004, p.35). This can make brands proposing to maximize the experience of consumption stand out from time to time with passion, and having certain brands can play a central role in the lives of consumers (Thomson et al., 2005, p.77). Accordingly, strong relationships may arise between consumers and their preferred brands (Ahuvia, 2005, p.180), and for some consumers, a certain brand can become a true cult (Albert et al., 2013, p.904). Therefore, on the one hand, the field experts believe that creating a high level of affective consumer-brand relationship is one of the driving forces in a competitive global

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market where numerous brands compete to satisfy consumer demands and needs (Swimberghe et al., 2014, p.2657) and on the other hand, businesses are seeking ways to increase loyalty by providing their consumers with positive experiences related to their brands (Shim, 2012, p.ii) and to create passionate brands (Bauer et al., 2007, p.2189).

In today's mysterious world of consumption, people have increasingly begun to seek out new opportunities that add meaning to their lives and often start to satisfy their deep desires through the consumption of products, brands or services, or by possessing loved ones (Bauer et al., 2007, p.2189). This phenomenon means that consumers can develop an intense affective bond as a result of numerous interactions with products and brands in their lives (Thomson et al., 2005, p.77). Deep personal meanings of consumers in their lives and the brands accepted as favorite (loved) objects (assets) (Matzler et al., 2007, p.3) can provide support for identifying consumers' lives and can play a central role in consumption behavior (Ahuvia, 2005, p.180) and in this respect they can undertake important psychological and social functions. Therefore, there is an increasing emphasis on the literature in which a successful emotional consumer-brand relationship is hidden in creating brand passion, which is seen as the ultimate emotional link (Albert et al., 2013, p.904; Swimberghe et al., 2014, p.2657).

The passion that points to a particular state of emotion (Baumeister & Bratslavsky, 1999, p.51) is dealt with as a strong tendency towards an entity or activity that people find to be loved, important, reserving time and energy (Vallerand et al., 2003, p.756). Passionate feelings not only direct one person to another person but also a product or brand (Matzler et al., 2007, p.6). Passionate consumers can consume consumption-related assets with intense desire (Belk et al., 2000, p.99). Consequently, the passion phenomenon and brand passion in the context of consumption has turned into an important field of work in recent years. Although often the role of emotions is discussed in marketing literature, not sufficiently explored the brand passion concept (especially in Turkey) is noteworthy. The growing importance of passionate brands in marketing practices makes it even more important to analyze the determinants of brand passion (Bauer et al., 2007, p.2189). In this sense, Albert and colleagues (2013, p.908) emphasize that the brand passion concept still remains relatively new and that more research is needed to better understand the structure, dimensions, key determinants and results. Thus, in this study, the structure and dimensions of brand passion and the role of brand experiences in the development of brand passion are discussed, in other words, whether brand experiences are one of the key determinants of brand passion. In addition, the potential negative ways (obsessive brand passion) of the brand passion which is mostly associated with the positive aspects of consumers in the literature is also evaluated.

1.1. Problem

Consumers can invest in certain brands personally, and sometimes they can live with them more than their friends and loved ones. Among the marketing academicians working in the field (Albert et al., 2008; Albert et al., 2013; Batra et al., 2012; Bauer et al., 2007; Swimberghe et al., 2014), it is observed that an idea that passion is an essential element or essence of this emotional relationship and that this is closely related to customer loyalty. But despite this importance, in consumption surveys, it is stand out that consumer passion is not adequately dealt with (Belk et al., 2003, p.326), in other words, it is seen that marketing academicians have recently started to examine the passion phenomenon in the context of consumption in detail and with a more accurate basis (Swimberghe et al., 2014, p.2657).

Together with the view that creating passionate brands is vitally important in marketing practices (Albert et al., 2013; Swimberghe et al., 2014), the need for examining the factors and consequences of the development of

brand passion has begun to make itself more felt. In the studies in the literature, it is noteworthy that the brand passion phenomenon has been handled within the framework of costumer characteristics and brand characteristics, such as brand identity (symbolic brand experiences) (Albert et al., 2013; Batra et al., 2012; Bauer et al., 2007; Swimberghe et al., 2014) and brand trust (functional brand experiences (Albert et al., 2013); in terms of results, brand loyalty (Albert et al., 2013; Bauer et al., 2007; Swimberghe et al., 2014; Thomson et al., 2005; Whang et al., 2004), being willing to pay higher prices (Albert et al., 2013; Swimberghe et al., 2014) and positive Word of Mouth Communication (WOM) (Albert et al., 2013; Bauer et al., 2007; Carroll & Ahuvia, 2006; Matzler et al., 2007; Swimberghe et al., 2014). In these researches, brand identity, brand trust and consumer characteristics play an important role in the development of brand passion, in other words, it is one of the important determinants of brand passion; and brand passion has a significant effect on outcome variables accepted as the desired consumer behavior, such as brand loyalty, being willing to pay high prices and a positive WOM. In a significant part of these studies, it is also observed that the issue is mostly addressed in the scope of marketing offerings with hedonic content and more positive brand passion dimension. However, the brand passion that does not appear to be limited to the hedonic marketing offerings can be evolved into a structure that includes obsessive (negative brand passion) (Albert et al., 2013, p.904) at the same time, it is the excitement and enthusiasm of a brand (harmonious/positive brand passion) with two basic component ways showed itself as the existence of the brand in the consumer's mind and the idealization of the brand. In this respect, the brand passion can have some positive results, but also some negative consequences that reach the obsessive dimension. Vallerand and et al. (2003, p.765) and Swimberghe et al. (2014, p.2657) discuss the existence of both aspects of the passion dimensions such as a harmonious brand passion that controls one's feelings in terms of brand and the obsessive brand passion that the brand controls the person, in other words, his emotions and the need to examine them. This view is important in order to approach the issue from the point of view of consumers.

In marketing literature, it is understood that the passion phenomenon or high emotional consumer-brand relationship is discussed in the framework of triangular theory of love, which is represented by Sternberg (1986) and shows the interpersonal relationship. In the theory of triangular love, passion is conceptualized as the third component of love (Sternberg, 1997, p.315) with intimacy and decision/commitment. In this theory, it is suggested that a balanced love occurs when these three components coexist harmoniously. Wang (2015, p.22) states that the love relationship has a mixed structure of different weights of these three components. In some researches based on this theory (Bauer et al., 2007; Matzler et al., 2007; Pichler & Hemetsberger, 2007; Whang et al., 2004), it has been determined that passion is the most important component in emotional consumer-object relationship and has a significant effect on key consumer behaviors, especially loyalty. In recent studies (Albert et al., 2013; Batra et al., 2012; Swimberghe et al., 2014), it is pointed out that the integration of consumer identity and brand, in other words, the consumer's sense of identity or self-expression (symbolic brand experience) is critical to brand love. However, Swimberghe et al. (2014, p.2658) point out that Sternberg's theory of triangular love does not involve the integration of the lover's self. Therefore, they suggest that the conceptualization of the brand passion, based on this theory, probably, ignoring the ways in which brands are used to support the creation of their identities by consumers. In this respect, the theory of consumer-brand identity integration is becoming important which Lam and colleagues (2010) put forward in recent years and increasingly began to be accepted in the literature. Consumer-brand identity is defined as the psychological state of a consumer to perceive, feel and value a brand's belonging, and consists of three basic dimensions: cognitive (rational results of brand use), affective (emotional results of brand use) and evaluation (whether the consumer's psychological unity/identity with the brand is individually and socially valuable) (Lam et al., 2010, pp.130-137). In recent studies, this theory is harmonized

with the consumer-brand environment by a combination of dualistic approach to brand passion, composed of the dimensions of harmonious and obsessive passion for activities by Vallerand and colleagues (2003) and the phenomenon of brand passion can be examined accordingly. In terms of this research, which aims to address the possible relationships between brand experiences and brand passion, it is understood that this approach is much more suitable than the triangular love theory. Therefore, this approach has been adopted in the research in terms of brand passion.

Brands can have various and important meanings for consumers. When consumers identify themselves with a brand in relation to these meanings, they begin to develop positive feelings for the brand. If the brand has the meanings that they attach importance to the consumers, in other words, it corresponds to the important subjective brand experiences that the consumers desire, especially in playing an important role in the identity structure, then the passion for a brand begins to develop (Albert et al., 2013, p.905). In this sense, Carroll and Ahuvia (2006, p.82) argue that passion is a strong emotional experience and its expresses the importance of emotional intensity in consumer behavior. Based on this, it will not be wrong to say that there is a close relationship between the subjective brand experiences of the consumers and their brand passions. In the few studies in the literature, it is noteworthy that there are results that have been strengthened this judgment. In this sense, Loureiro and Kaufmann (2012) have found that brand experience can have strong effects on brand love and, brand passion accepted as one of its components; Bauer et al. (2007) also found that they were affected by the symbolic and hedonic brand characteristics (consumers' brand experiences) of the brand passion. However, it is noteworthy that this close relationship (brand experience-brand passion relationship) has not been handled at the desired level in the literature; although there is an increase in the number of studies that address consumers' brand experiences to include symbolic and experiential benefits, it is relatively inadequate and, representing the positive and negative aspects of brand experience together, the level of passion is largely ignored in the works and even in Turkey, especially entry-level issues that dramatically not been sufficiently examined. Therefore, in this study, the brand passion is examined by both harmonious and obsessive dimensions within the framework of brand experiences based on a brand that does not only have hedonic properties. Consequently, the problem of this research is to examine the role that brand experiences play in the development of both harmonious and obsessive brand passion, in other words, to identify possible relationships between them.

1.2. Purpose and Research Model

The main purpose of this study is to examine the brand passions of the university students and high school students on the basis of their brand experiences (functional, symbolic and affective experiences), which they live in particular in terms of mobile phone brands. In other words, it is to assess the potential relationships between brand experiences and brand passion of these consumers. For this purpose, the research questions shaped within the framework of the research model presented in Figure 1 based on the relevant literature were discussed and discussed.
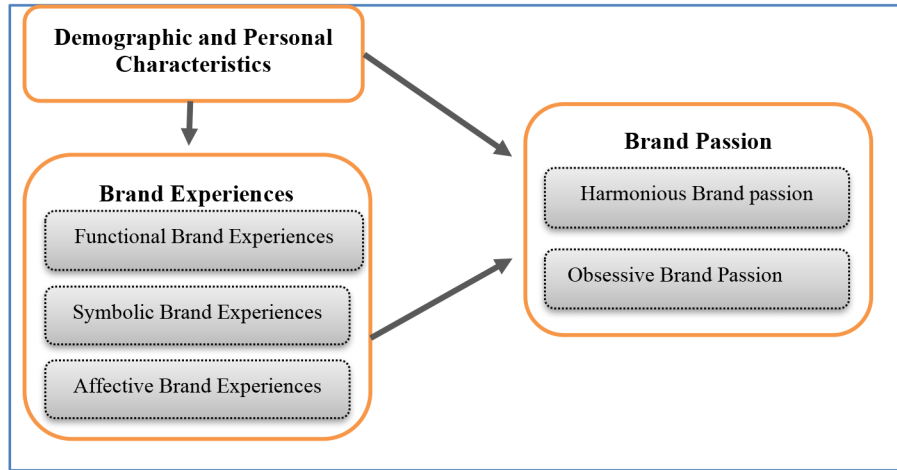
Figure 1. Research Model

Before evaluating the relationships constructed in the research model and to provide a more robust discussion ground for the subject, it would be appropriate to examine and test which brand passion is composed of the basic dimensions representing an important discussion area in the literature. The dualistic approach to passion, which is demonstrated by Vallerand and colleagues (2003) is increasingly accepted in the literature for the concept of passion in recent years, constitutes an important basis for the fact that passion is not one-dimensional. The essence of this approach, which was discussed by the authors (2003) in the context of consumption of activities, indicates that the brand passion can be addressed in two dimensions representing the brand's presence in the consumer's mind (harmonious brand passion) and the idealization of the brand (obsessive brand passion). Based on this approach, there will be no false expectation that brand passion can be experienced within these dimensions. The research question (RQ) based on this is given below:

RQ$_1$: *What are the dimensions of consumers' passion for a brand?*

Brand passion is a complex phenomenon which are interrelated but can contain different components (Albert et al., 2013, p.904) and cause different relationships with other variables (Swimberghe et al., 2014, p.2657). However, as mentioned earlier, it is noteworthy that the relationship of brand experiences with brand passion, which have the potential to play an important role in the development of brand passion compared to other variables, has not been adequately examined. Carroll and Ahuvia (2006,p.82) argue that passion is a strong emotional experience and expresses the importance of emotional intensity in consumer behavior. In case of a brand carries the meanings that consumers attach importance and where the consumers correspond to the important subjective brand experiences that they desire, in particular, to play an important role in the identity structure, Albert and colleagues (2013, p.905) state that consumers will begin to develop passion for that brand, in other words, it can be said that subjective brand experiences can also promote brand passion. The authors (2013, p.908) argue that a consumer's intense feelings for the brand reflect in some sense the value (experience) they derive from that brand. Similarly, Wang (2015, p.28) states that brand passion is internalized by matching the ideal brand experience that the consumers desire or expect. Although it is more limited with symbolic brand experiences, the results of some research conducted (Albert et al., 2013; Bauer et al., 2007; Carroll & Ahuvia, 2006; Loureiro & Kaufmann, 2012;

Swimberghe et al., 2014) indicate that there may be a relationship between brand experience and brand passion of consumers for the brand. Therefore, it would not be wrong to say that there is a close relationship between the subjective brand experiences of the consumers and their brand passions. The research questions examined on the basis of this judgment are given below:

RQ$_2$: *Do the brand passions differ depending on the brand experiences of consumers?*

RQ$_3$: *What are the brand experiences that are decisive or prioritized in consumers' brand passions?*

Desmet and Hekkert (2007, p.58) state that the experience phenomenon is shaped by the characteristics of the consumer with the background, cultural values and motivations, and the characteristics of the marketing offering. Processing the experience stimulation, consumers divide them into meaningful categories by interpreting them based on their personal interests, characteristics and cultural interests. Accordingly, consumer experiences are accepted as a result of interpretations based on personal characteristics. In other words, various personal and situational factors can stimulate or trigger experiences and can be a powerful influence of individuals' experiences. Based on this, the discussion of the research question stated below is also considered important for it can be expected that individuals' brand experiences and brand passion, assumed to be associated with it, may differ depending on their personal characteristics:

RQ$_4$: *Do consumers' brand experiences and brand passions differ depending on demographic and personal characteristics such as gender, age, family income, school, city, parents' education level and profession?*

With the recent developments, it can be said that every research to be carried out on the concept of brand passion, which remains relatively new, has the potential to make significant contributions to better understanding the subject. Therefore, it is thought that contributions to both conceptual literature and practice area can be provided by answering the above-mentioned research questions related to the brand passion phenomenon. First of all, it can be said that this study has the ability to make a theoretical contribution to consumer behaviors and brand literature by addressing conceptually consumers' brand passions with key dimensions and priorities. In terms of practice, it is hoped that the results obtained from this study will provide an awareness of the importance of brand experience to encourage marketing or brand decision makers to develop strong relationships with consumers and to promote the brand passion as the ultimate emotional link to be. With this awareness, it may also be possible for decision-makers to encourage their consumers to search for more effective strategies to bring brand experiences that are memorable and to develop brand passion. Primarily, through an approach that will be developed in this direction, decision makers will be able to achieve an increase in the opportunities for consumers to experience what they desire in relation to brands in the medium and long term. Furthermore, the possibility of developing an awareness in terms of the obsessive brand dimension that represents the negative component of brand passion in consumers constitutes another important aspect of this study for consumers. These results for young consumers are also important for those responsible for them. It is also thought that this study contains remarkable results that can encourage studies on this subject.

2. Literature Review and Conceptual Framework

In this section, the relevant literature in theory and in supporting this structure is partly examined through a summary of relevant studies in order to demonstrate and discuss the conceptual framework in relation to the

variables that represent the main purpose of the research. In this sense, brand experience and brand passion concepts and dimensions are explained.

2.1. Brand Experience and Dimensions

It is seen that the consumer experience concept has attracted great interest both in academic literature and in practice in recent years. In this sense, it is noteworthy that marketers have increasingly begun to develop a high level of awareness that consumers understand how and what kind of experiences they have with their products, brands and service contexts, which are critical to developing marketing strategies. Consumption experiences are multidimensional and include hedonic dimensions such as feelings, fantasies and fun (Holbrook & Hirschman, 1982). Most experiences can occur directly when consumers do shopping, make purchases and consume products, but can also be indirect when consumers are exposed to advertising and marketing communications, including websites.

Nowadays, since brands can have a wide variety of important meanings for consumers (Albert et al., 2013, p.905), subjective brand experiences representing these meanings that consumers experience with brands have started to be a key factor in terms of sustainable success. Thus, in recent years, it has come to the forefront as an increasingly accepted understanding that in addition to the functional benefits of brands, symbolic and affective experiences play an important role in explaining brand decisions for consumers. However, although studies on brand experience have accelerated, they have not yet reached the desired levels and studies in this direction are mostly addressed in the context of service experience so it is understood that the nature and dimensional structure of the brand experience is relatively neglected compared to other studies. In addition, the majority of experience researches in the literature (especially in Turkey), ignoring the emotional content of experiences provided by brands, it is observed that the focus is on more utilitarian (rational) goods characteristics and category experiences. Consumers are exposed to rational product features, of course, in the search for brand, shopping and consumption. However, consumers are also exposed to components that make a variety of symbolic and affective experiences associated with the brand (Uygun & Akın, 2012) and all stimulants associated with the brand constitute the core subjectivity source and internal consumer responses, which are referred to as brand experience. Therefore, Brakus et al. (2009, p.53) conceptualize brand experiences as subjective, internal (sensations, feelings, and cognitions) and behavioral consumer responses promoted through a brand's design and identity, packaging, communication, and all associated stimuli created around it. In the definition, psychological and behavioral responses to brand-related stimuli have been highlighted as elements representing the brand experience. The internal intensity of these responses is based on direct and indirect interactions. The interactions that make up the ground for the brand experience are stated to include direct contacts with the products (such as consumption or physical contact), contact with marketing communication tools (such as TV advertisements, press releases, websites, sales promotions or events) and social effects (WOM or observing / tracking others who use the product / brand) and through such interactions it is assumed that a consumer's mind develops a holistic impression towards a brand and that the concept of brand experience reflects this impression (Brakus et al., 2009, p.53; Ishikawa, 2013, p.31). Based on this, it can be said that the brand experience corresponds to all cognitive, emotional and behavioral responses (Ishikawa, 2013, p.34), which are generally stimulated by brand stimulants, reflecting all past interactions with the brand.

Because brand experience represents cumulative consumer experiences based on interactions with all brand-related stimuli, it is considered to be a multi-dimensional structure with various components (Shim, 2012, p.21).

Since an experience represents an emotionally important personal phenomenon (Caru & Cova, 2003; Holbrook & Hirschman, 1982; Schmitt, 1999), brand experiences include rational and relational dimensions as well as emotional dimensions. Therefore, it is important to reflect all possible aspects of the experience through the interaction with brand-related stimuli in addressing the brand experience. As reported by Uygun and Akın (2012, p.111), Park et al. (1986), in their preliminary studies in the literature, have shown that the types of benefits that consumers look for in terms of products or brands; in other words, they discuss the issue through a conceptual model that sets out brand experiences. The authors (1986) state that consumers are able to lead three types of benefits: functional, symbolic and experiential (affective) provided by brands. According to these field experts (1986), symbolic needs cover the needs for products or brands which meet internally emerging desires in terms of self-development or realization, role playing, group membership or identity, while functional needs correspond to the elements that encourage consumer search for products or brands that produce solutions to problems such as solving a problem associated with consumption, avoiding a potential problem, resolving conflict, reconfiguring an undesirable condition or getting rid of it. Thus, the symbolic nature of a product or brand is revealed related to the group that the individual desires or wishes to belong to in relation to the role or subjective image he/she wishes to undertake. Experiential needs are defined as desires for products or brands that provide sensory pleasure, search for difference and/or cognitive stimulation (Park et al., 1986, p.136).

Another field expert, Keller (1993), who discusses functional, symbolic and experiential benefits in terms of products or brands through a conceptual model, points out that consumers' brand evaluations are affected by the benefits of a brand. According to Keller (1993, p.4), the functional benefits often refer to the advantages of a product or service consumption and often correspond to product-related characteristics. Symbolic benefits more often refer to the external advantages of product or service consumption and are related with needs associated with social approval, self-expression or identity, and external or social self-esteem. Experiential benefits relate to what are the feelings or feelings that are enjoyed in the use of a product or service, and often correspond to the benefits that satisfy the experiential needs of the product, such as sensory pleasure, search for difference, and cognitive stimulation. The basic assumptions of these theories put forth more conceptually and showing a certain degree of similarity with each other are that consumers acquire certain brands and products based on the functional, symbolic and experiential benefits they provide (Uygun & Akın, 2012, p.111). While these theories are general models for the types of benefits provided to consumers (functional, symbolic and affective/experiential), they constitute the basis for the conceptual framework and design priorities associated with the brand experience of this research.

Some of the research results in the literature also support the theories expressed, indicating that the experiences of consumers in relation to brands may include functional or rational brand experiences as well as the dimensions of symbolic (Albert et al., 2013; Belk, 1988; Brakus et al., 2009; Campbell, 2002; Davies & Elliott, 2006; Escalas & Bettman, 2003; Kleine et al., 1995; Kressman et al., 2006; Piacentini & Mailler, 2004 ; Uygun & Akın, 2012) and affective (Albert et al., 2013; Brakus et al., 2009; Campbell, 2002; Caru & Cova, 2003; Ishikawa, 2013; McAlexander et al., 2002; Schmitt, 2009; Shim, 2012; Uygun & Akin, 2012) brand experiences. The results obtained from these researches reveal that the dimensions that constitute the basis of the brand experiences of consumers can be discussed in the study by conceptualizing the three basic levels as rational, symbolic and affective. Therefore, in the study, this notion has been adopted based on the literature and brand experiences representing the input variable of the study are examined within the framework of the mentioned dimensions and the possible relations with the brand passion are evaluated.

2.2. Brand Passion and Dimensions

The brand passion is increasingly being seen as the ultimate emotional link between the consumer and the brand, and has become the subject of more and more research. Passion, in the most general form, is a strong feeling of intense life for being in unity with others (Hatfield & Walster, 1978, p.9) or a strong sense for another person (or object) (Baumeister & Bratslavsky, 1999, p.52). Thus, passion is considered a strong tendency towards an activity (or object) that people find to be loved, important, and put their time and energy (Vallerand et al., 2003, p.756). In terms of a consumption context, brand passion refers to a sentimental and high-intensity attitude that leads to emotional commitment to a particular brand (Bauer et al., 2007, p.2190); in other words, it reflects feelings that evoke high intensity feelings towards a brand (Thomson et al., 2005, p.80). According to this definition, a passionate consumer can develop an intense emotional relationship with the brand and can experience a longing for the brand when it is not available. Thus, the brand passion emerges as the intense emotion of the consumers towards the brand, and this feeling points to the consumer's willingness to establish a close relationship with a brand, the possession of that brand, or the excitation of consumption (Albert et al., 2013, p.904). According to Albert and colleagues (2013, p.908), a consumer's intense feelings for the brand may affect his desire to maintain a relationship with the brand and, in a sense, reflect the value (experience) he receives from the brand and limit the number of alternative choices. Also, brand passion can be effective in carrying a strong motivation to share this excitement with others with a passionate consumer as it requires the brand to be idealized, strong emotion and excitement towards the brand. Only even these can be considered sufficient to demonstrate the importance of brand passion for businesses.

As stated earlier, with the latest developments in the field of psychology, it is noteworthy that Vallerand and colleagues (2003) proposed a dualistic approach to passion and that the approach is increasingly accepted. Vallerand et al. (2003, p.757), who describe passion as a strong trend towards an activity that people love, which they think are important, and where they allocate time and energy, argue that the individual can emerge in two dimensions as harmonious and obsessive depending on the manner in which the subject-specific activity is internalized by its subjective identity. In this sense, a passionate individual can demonstrate a harmonious attitude by keeping his passions consistent with other aspects of his life, the subject of their passions may also have a passion that is so dominant that they cause the balance of the other habitats to deteriorate. Based on this, it can be said that the brand passion can consist of two components or dimensions that are harmonious and obsessive. In other words, it can be said that brand passion is a complex phenomenon (Swimberghe et al., 2014, p.2657), which may be interrelated but may include different components (Albert et al., 2013, p.904) and cause different relationships with other variables. The harmonious brand passion dimension in this structure results from the internalization of the brand independent of its identity (autonomous). This internalization form for the brand occurs when individuals love the brand, regardless of any contingent or other effects or they find it important or they desire to acquire or use the brand and decide to spend resources. Individuals buy or use the brand without feeling obliged to do so on the basis of any social or other external pressures. Therefore, this intrinsic motivation to pursue the brand enables individuals to maintain their relationships with the brand in accordance with other aspects or areas of their lives. On the other hand, the brand passion dimension at the obsessive level results from the internalization of the brand with the identity of the brand in a controlled manner. This internalization form occurs when individuals like the brand because of their interpersonal (social), personal (internal) pressures or occasional invisible pressures or when they find it important or they want to acquire or use the brand and decide to spend resources. In this case, although individuals enjoy the brand, the conditions such as the feelings of social acceptance (interpersonal

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or social) or self-esteem (personal or internal) are controlled by individuals' commitment to the brand and the relationship with the brand is experienced outside the control of the individual and the brand can judge its identity as a result of the ownership or use of the individual. Therefore, the individual can become obsessed with the brand and the brand passion can interact with other aspects or areas of the individual's life (Swimberghe et al., 2014, p.2659; Vallerand et al., 2003, p.757). As a result, it is understood that the brand passion can be experienced in two dimensions representing the brand's existence in the consumer's mind and the idealization of the brand (Albert et al., 2013, p.904). In this study, by adopting a similar understanding, brand passion is considered as a structure which includes both dimensions.

3. Method

In this study, quantitative method was used in order to test the relationships between the variables, relational research type and field study (survey model) pattern were used according to the way the variables were examined. Field study is a research design conducted to determine the views, thoughts, evaluations, perceptions, attitudes and behaviors of the participants without any intervention (Babbie, 2007, p.287). The details of sampling and data collection process, data collection tool, validity, reliability and data analysis are presented in the following section.

3.1. Sampling and Data Collection Process

The population of this study consists of young consumers who are high school and university students between the ages of 14 and 27 living in Aksaray city. Young consumers (young and adolescents) have been selected as participants in terms of being able to carry more emotional tendency towards certain brands and to be more and more passionate about the brands especially with the search for new and different experiences. The preference of the mobile phone product category as a brand is due to the fact that this group of consumers has a more important place in their lives compared to other product categories of this product category. Uygun and Akın (2012), in a study conducted on consumer brand experiences, have determined that the mobile phone product category is the most important product for young consumers in terms of frequently used products. Therefore, in this study, the data were collected from 613 people in total from young people studying in a public university in Aksaray, and from young adolescents studying state and private high school through an formed questionnaire within the 3-month period covering the year 2018 one-to-one interview with individuals according to convenience sampling method.

Table 1. Demographic and Personal Characteristics of Research Participants

CHARACTERISTICS (N=613)		%	CHARACTERISTICS (N=613)		%
Gender	-Male	41,3	**Age***	-14-18 years old	59,4
	-Female	58,7		-19-27 years old	40,6
School Type	-State High School	47,0	**Expenditure Amount ***	-250 TL and below	48,3
	-Private high school	13,0		-Between 251 and 500 TL	32,5
	-State University	40,0		-501 TL and above	19,2
Mother's Profession	-Civil servant	7,3	**Father's Profession**	-Civil servant	25,7
	-Retired	2,6		-Retired	18,4
	-Shopkeeper	1,1		-Shopkeeper	17,2
	-Private sector	4,1		-Industrialist	3,4
	-Self-employment	1,9		-Private sector	21,0
	-Unemployed/Housewife	83,0		-Self-employment	11,9
				-Unemployed	2,4
Mother's Education Status	-Primary education	70,5	**Father's Education Status**	-Primary education	43,0
	-High school	16,5		-High school	31,3
	-University	10,0		-University	20,9
	-Postgraduate	3,0		-Postgraduate	4,8
Homeland	-Village or town	16,0	**Family Income ***	-2500 TL and below	57,4
	-Small town	17,5		-Between 2501-5000 TL	33,6
	-City	45,8		-Between 5001-7500 TL	3,4
	-Metropolis	20,7		-7501 TL and above	5,6

* These variables are continuous and ratio measurement in the data collection tool; the categorisation of these variables is based on the breakpoints resulting from the descriptive statistics.

As can be seen from the examination of Table 1, 58.7% of the participants are female and 41.3% are male and nearly 60% were between 14 and 18 years old and attending high school and nearly half of the participants' (48.3%) monthly individual expenditure is 250 TL and below. It is seen that the majority of the participants mothers (83%) are housewife and primary school graduate (70.5%) and 25.7% of participants fathers are officer and 43% have primary school education. In terms of monthly income, families have a maximum of 2,500 TL as more than half of the participants (57.4%) and the rate of families with income above 7500 TL is 5.6%. In addition, 45.8% of the participants grew up in a medium-sized city while 16% in village or town.

3.2. Data Collection Tool, Validity-Reliability and Data Analysis

In the study, data were gathered through a questionnaire developed by using various scales which were tested for certain purposes in the literature and tested for their validity and reliability. In the first part of the three-part questionnaire, personal participant information is included and in the second the brand experience scale (Uygun & Akın, 2012) and in the third brand passion scale (Swimberghe et al., 2014; Vallerand et al., 2003) is included. While the questions in the first part show multiple choice categorical and continuous data features, brand experience and brand passion scales are Likert type interval measurement tools whose midpoint is neutral and ranged from (1) Strongly Disagree to (5) Strongly Agree.

Factor analysis was performed in order to determine the dimensions of brand experiences and brand passion scales and to evaluate the variance adequacy of the scales. Kaiser-Meyer-Olkin (KMO) criterion and Bartlett's Sphericity test were used to examine the suitability of the data for factor analysis and sample adequacy. In terms of sample adequacy, KMO value should be 0.60 or higher and result of Bartlett's Sphericity test should be statistically significant (Tabachnick & Fidell, 2007, p.614). Accordingly, the 0.94 KMO and p = 0.000 <0.01 values obtained for the brand experience scale indicate that the data are suitable for factor analysis. As a result of this analysis, it has been seen that 3 sub-dimensions which explain 61,96% of the total variance, including functional brand experience (10 items), symbolic brand experience (10 items) and affective brand experience (12 items). The KMO = 0,95 and p = 0,000 <0,01 values obtained for the brand passion scale indicate that the data in this direction are also suitable for factor analysis. The details of this analysis, which is related to the brand passion, are given in the findings part as the equivalent of RQ1. Cronbach's alpha coefficients were calculated for the overall and sub-dimensions of both scales and the reliability of the scales were also tested. According to Nunnally (1978, p.245), the alpha value of 0.70 and above can be considered sufficient for the reliability of the scale. Table 2 shows the Cronbach's alpha coefficients calculated for the overall and sub-dimensions of the scales.

Table 2. Reliability Statistics

Scale	Cronbach's Alpha	
		Sub-Dimensions
Brand Experience	,93	Functional Brand Experience **,85**; Symbolic Brand Experience **,88**; Affective Brand Experience **,89**
Brand Passion	,95	Harmonious Brand Passion **,91**; Obsessive Brand Passion **,95**

The SPSS version 20 of statistical package software program was used for data analysis. For the evaluation of the dimensions (RQ_1) of the brand passion for the mobile phone of the participants, the factor analysis was used in which determine the factors (dimensions) that statistically explain the variance and covariance between scale items measuring a social phenomenon (Green et al., 2000, p.292). Pearson Product Moment Correlation Coefficients were calculated to determine whether there is a relationship between brand experiences (RQ_4) or not and whether there were family income and brand passion between the brand experiences of the participants and the sub-dimensions of brand passion (RQ_2). Since this analysis tests the linear relationships between continuous variables, a scatter plot for all of the pre-analysis variables is obtained and the suitability of this situation is checked.

Standard Multiple Regression analysis was used to identify brand experiences that are the priority for brand passions for young consumers (RQ_3). This analysis is effective in determining how much of a dependent variable is predicted by an independent set of variables and the relative contribution of each argument (Pallant, 2007, p.151). This analysis requires assumptions such as normal distribution, sample size, linearity, constant variance, no autocorrelation, and lack of multicollinearity between independent variables. Tabachnick and Fidell (2007, p.123) state that the sample size required for multiple regression can be determined by the formula N> 50 + 8m (m = number of independent variables). The number of 613> 50 + 8.3 = 74 obtained for this study indicates that the number of participants is sufficient. The other assumptions were checked by the correlation results obtained from the analysis and residuals scatterplots.

One of the basic assumptions of regression analysis is to test whether residues have a normal distribution (Kalaycı, 2005, p.259; Tabachnick & Fidell, 2007, p.125) and then it is recommended to examine the histograms and P-P

graphs of standardized residues (Field, 2005, p.204; Hinton et al., 2004, pp.317-318). In this study, the histogram and P-P graphs for the normal distribution of the residues obtained for this analysis were examined and it was checked and confirmed that the distribution was relatively normal. Another assumption of regression analysis is that there is no autocorrelation between observations in the data set. In this case, the residues should not be in correlation with each other, in other words, the errors in the data set should be independent of each other. The Durbin-Watson Test (DW) is used to test this issue. The DW test statistic has a value between 0 and 4 and it is stated that values between 1-3 or near 2 value are within acceptable limits (Field, 2005, p.170). Kalaycı (2005, p.264) states that the range of 1.5-2.5 is the acceptable limit for the DW test statistic. In this study, the results of the DW test were found to be 1,948 for the obsessive level of passion and 1,951 for the level of compassionate passion, and it is understood that the data do not contain an autocorrelation problem. One of the assumptions of regression analysis is that independent variables should not show high correlation with each other. The fact that the correlation between independent variables is 0.80 and above is considered as an indicator of multicollinearity problem (Büyüköztürk, 2017, p.100; Field, 2005, p.170; Kalaycı, 2005, pp.266-267). Correlation analysis was performed between the independent variables to test this problem which expressed multicollinearity and the correlation values of 0,4 to 0,7 revealed that there were not multicollinearity problems. Variance Inflation Factor (VIF) and tolerance statistics were also examined. Accordingly, the tolerance of 0.443 - 0.803 (since they are over 0.20) for the independent variables and the VIF values in the range of 1.245 - 2.273 (since they are less than 10) indicate that there is not multicollinearity problems.

Whether there is a relationship between the gender (female, male), age (14-18 years old, 19-27 years old), school (high school-private, high school-public and university-public), the city property according to their own definitions (homeland) (village or town, small town, city, metropolitan), their parents' education level (primary, high school, university, postgraduate) and profession (civil servant, retired, shopkeeper, industrialist, private sector employee, self-employed, unemployed), and brand experiences (functional, symbolic and affective brand experience) and brand passions (harmonious and obsessive brand passion) (RQ_4) were tested with Multivariate Variance Analysis (MANOVA). There are some assumptions such as sample size, normality, control of outliers, linearity, homogeneity of variance-covariance matrices for MANOVA. Although there is no definitive rule for MANOVA, there should be more number of participants in each cell than the minimum number of dependent variables (Pallant, 2007, p.277). In the study, it can be said that the number of participants who exceed these numbers in the relevant cells in terms of each variable combination in question for each predictive variable in relation to each predicted variable. To meet both the univariate and multivariate normality assumption, a sample size of at least 20 participants in each cell may be sufficient according to Tabachnick and Fidell (2007, p.251). In this respect, it can be said that the sample is relatively appropriate. η^2 statistics for MANOVA test were also calculated to examine the effect sizes of these independent variables related to the dependent variable. η^2 shows how many independent variables or factors explain the total variance in the dependent variable and η^2 values at 0.01, 0.06 and 0.14 levels are interpreted as small, medium and wide effect size, respectively (Büyüköztürk, 2017, p.44). Linearity was controlled by a scatter plot between each pair of variables for each group. And to evaluate the equality of variance-covariance matrices Box's M and Levene's test statistics were used.

4. Findings and Discussion

This section includes the findings and the discussions in accordance with the research questions of the data. In this sense, it is discussed, respectively, the dimensions that constitute the basis of the brand passion of young

consumers, the relationship between brand experiences and brand passion, and priority brand experiences in the brand passion, relationship between demographic and personal characteristics of participants and brand experiences and brand passion and the findings are interpreted by taking into consideration some research results which have been carried out in the literature.

4.1. Dimensions of the Brand Passion for Young Consumers

Factor analysis was used to examine the sub-dimensions of the passions of young consumers which they have for a mobile phone brand. The results of the factor analysis are presented in Table 3.

Table 3. Factor Analysis Results Regarding Dimensions of Brand Passion

Items* (N=613)	Obsessive Brand Passion	Harmonious Brand Passion
I am emotionally dependent on this brand.	.849	
I have almost an obsessive feeling for this brand.	.843	
I have not imagining my life without this brand.	.840	
Gives me distress to think that I don't have this brand.	.840	
My mood depends on me being able to do this brand.	.794	
I cannot live without it.	.783	
I can't help myself from this brand.	.778	
This brand allows me to live a variety of experiences.		.829
This brand allows me to live memorable experiences.		.770
This brand represents me and my lifestyle.		.769
The new things that I discover with this brand allows me to personal development.		.737
This brand allows me to like about myself.		.728
I am passionate about this brand.		.704
This brand attracts me from all aspects.		.636
Eigenvalues	5.435	4.587
% of Variances	% 38.82	% 32.76
Rotation Method: Varimax	**Cumulative Variance:** %71,58	

* The scale is interval in its mid-point neutral, (1) Strongly Disagree (5) Strongly Agree.

When Table 3 is examined, it can be seen that young consumers' brand passions consist of two basic dimensions: obsessive passion (negative - 7 items) and harmonious passion (positive - 7 items). In addition, it is noteworthy that the total variance of these dimensions has an important explanatory level of 71.58%, which can be considered high. Also, these results are similar to the results obtained from some studies in the literature (Swimberghe et al., 2014; Vallerand et al., 2003). In these researches, it is noteworthy that the brand passion is handled in two

dimensions as harmonious and obsessive. Therefore, analyzes in the next part of the study were carried out by taking these basic dimensions into consideration.

4.2. Relationships between Brand Experience and Brand Passion

Pearson Product Moment Correlation Coefficients are presented in Table 4 for each of the related variables in order to examine whether there is a relationship between brand experience and brand passion of the participants. In terms of behavioral sciences, correlation coefficients of 0.10, 0.30 and 0.50 can be interpreted as small, medium and large coefficients respectively (Green et al., 2000, p.236).

Table 4. Results of Correlation Analysis for Brand Experience and Brand Passion

N=613	Functional Brand Experience	Symbolic Brand Experience	Affective Brand Experience
Obsessive Brand Passion	.140*	.602*	.600*
Harmonious Brand Passion	.338*	.702*	.812*

In order to minimize the probability of Type I error, Bonferroni approach (Green et al., 2000, p.238) was used, the significance level, calculated by dividing the number of correlations (.05 / 6 = .008) results were evaluated according to the .008 level.
*Correlation coefficient (r) indicates significance at .008 level (2-tailed).

As can be seen from Table 4, with all brand experience consisting of three sub-dimensions, there are statistically significant positive correlations between obsessive and harmonious brand passion sub-dimensions relatively at a level that can be considered medium and large. In other words, as the functional, symbolic and affective brand experiences of consumers for their mobile phone brands increase, the level of obsessive and harmonious passion for this brand has also increased.

4.3. Determinative and Priority Brand Experiences in Brand Passion

To determine the prioritized brand experiences that affect participants' obsessive and harmonious brand passions, standard multiple regression analysis was performed with three independent variables: functional brand experience, symbolic brand experience and affective brand experience for each dependent variable. According to the result of the analysis, the value of 0.443 R^2 obtained for the obsessive passion predicted variable reveals that 44.3% of the variance in this variable is explained by predictive variables in the model. The values of F (3,608) = 161,390, p =0,000 <0,01 obtained according to the results of variance analysis (ANOVA) where the general significance of the regression model was tested indicate that the whole model was statistically significant in the 99% confidence interval. The results of t-test are presented in Table 5 which obtained to evaluate the relationship of each predictive variable composed of types of brand experience with the regression model for brand passion.

Table 5. *The Relationship with the Regression Model for Obsessive Passion Level of Brand Experiences*

Predictive Variables	Standardized Beta Coefficients	t	Sig.
Functional Brand Experience	.182	5,395	.000*
Symbolic Brand Experience	.389	8,632	.000*
Affective Brand Experience	.391	8,599	.000*

The relationship of the variable with the model indicates a statistically significant 99% confidence interval.

As can be seen from Table 5, with the value of Standardized Regression Coefficients=.391, t=8,599, sig=,000<,01 it is observed that affective brand experience variables make a statistically significant contribution to the clarification of the model for obsessive brand passion, and with the value of Standardized Regression Coefficients=.389, t=8,632, sig=,000 < ,01 to the symbolic brand experience and with the value of Standardized Regression Coefficients=.-.182, t=5,395, sig=,000<,01 functional brand experience. In other words, brand experiences, which are the determining factor at the level of obsessive brand passion for the mobile phone brand that young consumers have, are listed as symbolic, emotional and functional brand experiences according to their importance and contribution level.

The, 684 R^2 value of harmonious brand passion derived for the predicted variable shows that 68.4% of the variance in this variable is explained by the predictive variables in the model. The value of F (3,609) = 439,795, p =, 000 <, 01 obtained according to indicates that the whole model is statistically significant in the 99% confidence interval. Table 6 presents the t-test results obtained in order to evaluate the relationship of each predictor variable representing the brand experience types with the regression model for the harmonious brand passion.

Tablo 6. *The Relationship with the Regression Model for Harmonious Passion Level of Brand Experiences*

Predictive Variables	Standardized Beta Coefficients	t	Sig.
Functional Brand Experience	.032	1,268	.205
Symbolic Brand Experience	.238	7,018	.000*
Affective Brand Experience	.651	19,022	.000*

* *The relationship of the variable with the model indicates a statistically significant 99% confidence interval.*

When Table 6 is examined, with standardized Regression Coefficient = .238, t=7,018, sig=,000 < ,01 symbolic brand experience and with standardized Regression Coefficient = .651, t = 19,022, sig =, 000 <, 01, it is understood that affective brand experience variables make the significant and highest contribution to the clarification of the model for compatible brand passion. In other words, the most important brand experiences are respectively affective and symbolic brand experiences which is determining factor at the level of a harmonious brand passion for the mobile phone brand that young consumers have. Although these experiences follow functional brand experience in terms of the contribution to the clarification of the model, it is understood that the contribution of this experience to the model for harmonious brand passion levels is not statistically significant.

The results obtained from some studies in the literature have significantly consistent with the findings obtained from this study focusing on the relationships between brand experiences and brand passion. Some of these researches have shown that brand passion is strongly influenced by symbolic brand experiences (Batra et al., 2012; Carroll & Ahuvia, 2006; Swimberghe et al., 2014), some from emotional or hedonic brand experiences (Loureiro & Kaufmann, 2012), some from both symbolic and emotional or hedonic brand experiences (Albert et al., 2013;

Bauer et al., 2007); in other words, these experiences were among the important determinants of brand passion. The findings from this study include important results to indicate the priority levels of brand experiences in terms of both obsessive and harmonious brand passion, including the functional dimension of brand experience.

4.4. The Effect of Personal Characteristics on Brand Experience and Brand Passion

MANOVA was used to examine whether the brand experience and brand passion of the participants differ according to the demographic and personal characteristics such as gender, age, school type, the homeland, parents' education and profession. The MANOVA results in terms of brand experiences and *for gender* "Wilk's Lambda= ,994; F(3,609)= 1,205; sig= ,38>,01"; *for age* "Wilk's Lambda= ,993; F(3,609)= 1,476; sig= ,22>,01"; *for homeland* "Wilk's Lambda= ,968; F(12,1604)= 1,665; sig= ,07>,01"; *for mother's education level* "Wilk's Lambda= ,965; F(18,1709)= 1,208; sig= ,25>,01"; *for the mother's profession* "Wilk's Lambda= ,980; F(18,1709)= ,693; sig= ,82>,01"; *for father's education level* "Wilk's Lambda= ,966; F(18,1709)= 1,156; sig= ,29>,01"; *and for the father profession* "Wilk's Lambda= ,971; F(21,1732)= ,841; sig= ,67>,01" obtained showed that, based on these variables, brand experiences did not differ statistically significantly in the 99% confidence interval. On the other hand, the MANOVA results of Wilk's Lambda=, 994; F(6,1218)= 5,831; sig=, 000 <, 01 showed that the brand experiences differed significantly in the 99% confidence interval based on the *school type*. The η^2 = .028 value which calculated for examining the effect size of the school type predictor variable indicates that a relatively small portion of the total variance in the brand experience variable can be explained by this variable. The F= 4.514; sig= ,011 < ,05 value obtained for the functional brand experience from the post hoc tests and the F= 5.504; sig= ,004 < ,05 value obtained for the affective brand experience revealed that this difference occurred in the sub-dimensions of functional and affective brand experiences. In other words, as can be seen from Table 7, it has been found that those who study at state high schools and state universities have a higher level of experience in functional brand experience than those in private high schools; however, those who study in private high schools have a higher level of experience in terms of affective brand experience than in state high schools and state university students.,

Table 7. Mean and Standard Deviation Values of Brand Experience Points for School Type

School Type	Brand Experience Sub-Dimensions	Mean*	Std. Deviation
Private High School	Functional Brand Experience	34,45	10,00
	Symbolic Brand Experience	30,58	10,33
	Affective Brand Experience	39,31	11,62
State High School	Functional Brand Experience	37,08	7,54
	Symbolic Brand Experience	28,86	9,43
	Affective Brand Experience	34,56	11,27
State University	Functional Brand Experience	37,57	7,28
	Symbolic Brand Experience	28,89	8,79
	Affective Brand Experience	35,32	10,08

Mean were calculated based on the total scores obtained from the responses of the participants to the items related to each experience dimension on the scale.

The MANOVA results in terms of brand passion and *for age* "Wilk's Lambda= ,994; F(2,609)= 1,804; sig= ,17>,01"; *for the homeland* "Wilk's Lambda= ,993; F(8,1212)= ,549; sig= ,82>,01"; *for mother's education level* "Wilk's Lambda= ,974; F(12,1208)= 1,338; sig= ,19>,01"; *for the mother's profession* "Wilk's Lambda= ,977;

F(12,1208)= 1,203; sig= ,28>,01"; *for father's education level* "Wilk's Lambda= ,973; F(12,1208)= 1,385; sig= ,17>,01", and *for the father profession* "Wilk's Lambda= ,971; F(12,1208)= ,841; p= ,10>,01" according to these characteristics of the participants, the brand passion did not differ significantly in the 99% confidence interval. On the other hand, MANOVA results *for gender* "Wilk's Lambda= ,984; F(2,609)= 5,075; sig= ,007 < ,01" and *for school type* "Wilk's Lambda= ,965; F(4,1216)= 5,354; sig= ,000 < ,01" showed that the brand passion of the participants differed significantly in the 99% confidence interval depending on gender and school type. The value of η^2 = .016 calculated for examining the effect size of gender variable indicates that a relatively small portion of the total variance in the brand passion variable can be explained by this variable. The F= 8,515; sig= ,004 < ,05 values obtained for the obsessive brand passion from post hoc tests and the F= 8,761; sig= ,003 < ,05 values obtained for the harmonious brand passion show that this difference has occurred in both the passion dimensions. In other words, it can be observed from Table 8 that males have a higher level of obsessive and harmonious brand passion than female.

Table 8. Mean and Standard Deviation Values of Brand Passion Points for Gender

Gender	Brand Passion Sub-Dimensions	Mean*	Std. Deviation
Male	Obsessive Brand Passion	16,63	9,28
	Harmonious Brand Passion	20,19	8,19
Female	Obsessive Brand Passion	14,53	8,34
	Harmonious Brand Passion	18,33	7,31

* Mean were calculated based on the total scores obtained from the responses of the participants to the items related to each passion dimension on the scale.

The value of η^2 = .017 calculated for examining the effect size of the school type predictor variable indicates that a relatively small portion of the total variance in the brand passion variable can be explained by this variable. The F= 10.884; sig= ,000 < ,05 values obtained for the obsessive brand passion from post hoc tests and the F= 5.702; p= ,004 < ,05 values obtained for the harmonious brand passion indicate that this difference was observed in both brand passion sub-dimensions. In other words, as can be seen in Table 9, it was determined that the participants who studied at the private high school were much more obsessed and compatible than the state high school students.

Table 9. Mean and Standard Deviation Values of Brand Passion Points for School Type

School Type	Brand Passion Sub-Dimensions	Mean*	Std. Deviation
Private High School	Obsessive Brand Passion	19,87	8,74
	Harmonious Brand Passion	21,97	8,35
State High School	Obsessive Brand Passion	15,01	8,99
	Harmonious Brand Passion	18,84	7,94
State University	Obsessive Brand Passion	14,59	8,23
	Harmonious Brand Passion	18,58	7,15

* Mean were calculated based on the total scores obtained from the responses of the participants to the items related to each passion dimension on the scale.

To determine whether the brand experience and brand passion of the participants differ depending on the total family income Pearson Correlation Coefficients were calculated with the related variables. The results are presented in Table 10.

Table 10. Results of Correlation Analysis for Brand Experience, Brand Passion and Family Income

N=613	Functional Brand Experience	Symbolic Brand Experience	Affective Brand Experience	Obsessive Brand Passion	Harmonious Brand Passion
Family Income	,097 (,017)	,104* (,010)	,130* (,001)	,178* (,001)	,136* (,001)

In order to minimize the probability of Type I error, Bonferroni approach (Green et al., 2000, p.238) was used, the significance level, calculated by dividing the number of correlations (.05 / 5 = .01) results were evaluated according to the .01 level.
*Correlation coefficient (r) indicates significance at .01 level (2-tailed).

As seen in Table 10 it is noteworthy that there are statistically significant positive and low-level relationships between family income and symbolic - affective brand experience and obsessive - harmonious brand passion. Accordingly, as the family income of the participant increases, the symbolic and affective brand experiences for the mobile phone brand they have, as well as their obsessive and harmonious brand passions are increasing; however, there is no statistically significant increase in functional brand experience. This means that the experiences with emotional content on the mobile phone brand is more important for young participants with higher family income and accordingly the level of brand passion is higher. These results are consistent with the results obtained for the participants' brand experiences and passions.

5. Conclusion and Suggestions

The results indicate that the young consumers' brand passion for the mobile phone product category consists of two basic dimensions: obsessive and harmonious brand passion. It has found that there is statistically positive, relatively moderate and large significant relationships between the sub-dimensions of brand experience and sub-dimensions of brand passion. It has been determined that the brand experiences, which is decisive and priority for the obsessive brand passion for the mobile phone brand of young consumers, is composed of symbolic, affective and functional brand experiences respectively; that the brand experiences, which is decisive and priority for the harmonious brand passion, is composed of affective and symbolic brand experiences respectively according to the importance and contribution level. In addition, it is found that these results, in other words, brand experiences and brand passions may vary depending on personal characteristics such as gender, family income and type of school. In this sense, males have higher obsessive and harmonious brand passion compared to women; state high schools and state universities have a higher level of experience in functional brand experience than private high school students; whereas, in private high school students, they have a higher level of experience in the affective brand experience; the level of obsessive and harmonious brand passion is much higher for participants in private high schools than in state high schools and state university participants; As the family income of the participants increased, the symbolic and affective brand experiences they experienced for the mobile phone brand, as well as the obsessive and harmonious brand passions, have increased.

These results indicate that this situation can be adopted as a measurable strategic goal by creating an awareness of the importance of developing emotional relations with its consumers in brand decision makers. In other words,

these results are noteworthy for managers to see how enhancing and reinforcing the symbolic and affective aspects of their brand have increased the brand passion for the consumer's intense emotional response. In addition, these results contain important clues about how to control the obsessive brand passion, which are considered negative by the consumer perspective, to produce social benefits by the responsible person or institutions. Especially for businesses to develop the desired harmonious brand passion, rather than the functional brand experiences, It should be kept in mind that affective brand experiences such as the brand has a sense of freedom, be entertaining, offering opportunities to follow fashion and current innovations, being aesthetically attractive, providing a sense of nostalgia through the past, providing social interaction opportunities, make a dream come true and feel a sense of surprise; symbolic brand experiences such as to appeal to the relevant target audience, to represent the lifestyle of this target group, to allow them to express their identity and personality, to give social prestige and status, to give a sense of uniqueness and to give a sense of a person, a belief, an ideology or a sense of bonding with a group felt are vital.

In this study, convenience sampling method was used. In addition, this research is limited to high school and university students in a city and their experiences and passions for the mobile phone brand category. Therefore, the generalizability of the results obtained from the research should be evaluated by considering these conditions. In future studies, conducting similar studies on young people and other consumer groups in different cities, different brand categories and consumption contexts can provide useful results. In this way, different homogeneous groups for different brand categories and consumption contexts can be compared within and between different groups. This effort can provide more effective results for market segmentation related marketing functions. Although the brand experiences and brand passion represented in the scales created on the basis of the literature are compatible with the theoretical models, it should be taken into consideration that some subjective situations, which are not included in both scales, may exist. In this respect, it is thought that especially qualitative researches can produce important results.

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11

INVESTIGATION OF UNIVERSITY STUDENTS' URBAN EXPERIENCES WITH PHOTOGRAPHY-BASED NARRATIVES

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Abstract

Nowadays, physical and social urban design which makes it is possible for urban residents to experience the city experiences they desire is the ultimate and most important goal of city decision makers. Considering the impacts in the city, university students are considered long-term temporary residing elements of the city in which they are located and constitutes a significant part of the urban population are among the most accepted groups for most cities. The main purpose of this research is to determine the experiences of university students related to this city through photography-based narrative technique, a new and integrated approach to understanding the nature of consumption experiences. In the study, based on the qualitative research approach and on voluntary participation, data were collected through photography-based narrative technique from 23 university students, approximately half of which are female, half of which are male, who were continuing their education in Aksaray, according to the nature of the qualitative research and to the purposive sampling method and data saturation. The data were analyzed by induction method. Findings shows that university students' experiences in Aksaray city were collected in two main categories: social environment experiences and physical environment experiences. In terms of their experience in the social environment, it is determined that interaction experiences towards third places with emotional content and experience of the people's tolerant, helpful behavior, experience of living in a large and developed city, experience of being a living city and experience of the sense of security with rational content are prominent. As for experience in terms of physical environmental conditions, they are aesthetic experience with emotional content, experience for the existence of third places with both emotional and rational content and dimensions of transport experience with rational content. It is thought that these results, besides the conceptual literature, can provide important clues to the city decision makers in the application of integrated experiences in accordance with the expectations of the university students living in the city and they can provide important clues about the quality of the city experiences.

Key Words*: Urban Experiences, Urban Marketing, University Students in terms of City*

1. Introduction

Today, the cities stand out as the places where residents can live temporarily with a fixed and a wide variety of experiences and city marketing has become an area of increasing interest. Cities, in general, compete for shaping the city brand with their characteristics and behaviors and serving as communication ambassadors (Freire, 2009, p.1) and as a vital part of the city in terms of the permanence of the residents (Insch & Florek, 2008, p.138; in particular, for skilled individuals who called creative class (Zenker, 2009, p.23) or for key groups (such as tourists, investors, business, university students) (Zenker & Beckmann, 2013, p.6) with high added value. Therefore, it is

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widely accepted that they should be actively managed to guarantee the sustainability of cities, such as private places at micro level (Coca-Stefaniak et al., 2009, p.74) and the way to achieve this is to understand the values, desires, needs, preferences, behaviors and most importantly the city experiences they desire to live in (Uygun et al., 2016, p.130). Just like other consumers, citizens, who are consumers of a city, are also becoming increasingly complex; they, especially relations and interactions established in some ways in society, may wish to live many experiences in the urban place or in various areas and places of the city as a whole (Whyatt, 2004, p.349).

Cities are dependent on urban residents in terms of economic, social, cultural, environmental vitality and development. Therefore, it is observed that there is an increasing emphasis on this issue achieving the conditions that allow urban residents to live the city experiences they desire should be the ultimate and most important goal of city managers or decision makers (Insch & Florek, 2008, pp.138-139; Uygun et al., 2016, p.130). Before the city's decision-makers, first of all, have designed the city as a pleasant place to visit the city for travelers, it is stated that the city should focus on building as a good place to live for the residents in the city (Zenker et al., 2013, p.156).

Considering the impacts in the city, university students who are considered to be temporary residents of the city and which constitute an important part of the city population (Allinson, 2006, p.80; Hubbard, 2009, p.1903) are among the most accepted groups for most cities. University students can bring cultural and social mobility, other than major economic gains, to the cities, especially during the academic period and they can play an important role in strengthening and enriching cultural life, especially by influencing the increase in the number of artistic and social activities of recreation places. Some of these students can continue to stay in the city after their education, the cities can continue to benefit from the highly educated and young population, and these students can even influence potential students with their suggestions and complaints (Insch & Sun, 2013, pp.179-181). The cities, which are aware of the importance of this, are increasingly beginning to strive to integrate the brand identity of the city and student culture (Cubillo et al., 2006, p.102; Petruzzellis & Romanazzi, 2010, p.140) and each day it becomes more noteworthy with an increasing number of examples.

The city experiences, which are considered as vital in the adaptation of university students who can be explained by the long-term tourist phenomenon from different cities, can be a determinant of sustainable city development by increasing the attractiveness of the city. In other words, the memorable city experiences that the students lived during their education periods can play an important role in encouraging positive emotions and enabling cities to differentiate themselves and to provide competitive advantage (Uygun et al., 2016, p.131). So determining which elements or experiences related to the city are the most appropriate and desirable in terms of this key group or target group is the first and important step of urban design efforts that will make them permanent by attracting them to the city. In view of the need to address this aspect of the cities, which have now become an important place of experience, in this study, the subjective experiences of university students, who are considered as a key group in terms of the city, are examined.

1.1. Experience Concept and Urban Experiences

The concept of experience refers to all special events and lives including pleasure and high levels of emotional intensity, which will enable the consumer to benefit from a variety of emotions through rational lives and the staging of social interaction (Uygun, 2016, p.15). As experience gains meaning and importance in context, it is a key concept for understanding the experiences of individuals. Today, the context of experience in any structure is seen as a subject that includes situations such as feelings and expectations of the person. So this naturally

affects what types of experiences are stimulated or maintained. To be able to define the exact term of experience becomes difficult because of the experience of people living with the existing environment and other people. Experiences, which are a result of participation in physical, emotional and cognitive activities, arise from the interaction between personal, mental and events, and thus not the same for all persons, varying from person to person, showing uniqueness and variability (Arhippainen, 2009, pp.1-6). All actions and processes such as physical actions, perceptual and cognitive processes (perception, research, use, recall, comparison, understanding) contribute to experience (Desmet & Hekkert, 2007, p.58).

The demands and needs of citizens in an urban context are many and varied. Citizens, on the one hand, want to use the settings and facilities of a number of public and private sectors in the city comfortably and safely and to benefit from the services provided by them, on the other hand, these citizens can search for place that provides a wide range of social experience such as community activities, entertainment, acquiring friends, interacting with them, and spending time. When the residents of the present day do not have a connection with the local community, they can avoid it (Whyatt, 2004, p.352) and they can lead to alternative searches. Therefore, it is vital that the decision makers responsible for urban management adopt the needs and demands of the residents as an important objective.

As a common place where people live, cities offer opportunities to residents in all areas, from social lives to business opportunities. In other words, cities are a phenomenon, which has a wide range of complex places, services and relationships for its residants and carries subjective and cultural meanings for each individual. Nowadays, the cities are constantly redesigned and transformed, and accordingly, the life forms of the residents of the city (Tunca, 2013, p.12), the experiences they desire to live in are changing, transforming and diversifying.

The economic, social and environmental interactions of the temporary and permanent citizens living in the city shape their urban experiences (Insch & Florek, 2008, p.139). These experiences of the residents of the city can determine the feelings, thoughts, attitudes and behaviors they have towards it. Experience is a dynamic, complex and subjective phenomenon, as its nature is influenced by changes in multiple contextual factors, it can vary according to time and person (Mulder et al., 2004, p.23). So, the evaluations of the citizens on the characteristics, attractiveness and facilities of the city (Insch & Sun, 2013, p.180) and the city experiences can vary. Similarly to services, the city often has the characteristics of the lack of ownership of a city's residents or the inability to stockpile (Lee & Sirgy, 2004, p.45). Although it is not entirely possible to develop a detailed inventory of such urban assets, different aspects can be determined to evaluate the experience of urban residents for these characteristics (Insch, 2010, p.166). In some researches in the literature, it is pointed out that various urban characteristics that allow to evaluate urban residents' city experiences. Santos and his colleagues (2007, p.56), who presented various thematic areas, have included the environmental features of the city environment, urbanization, mobility, culture, sports, entertainment and recreation, education, health, social services, trade and services, housing and renting, house quality and condition, urban security, poverty, social and civic behavior. In a study that examines the relationships between urban residents living in New Zealand and their perceptions of the importance of urban life and their general satisfaction, Insch (2010, pp.168-170) revealed ten key features as natural environment, personal and public security, effective public transportation, social assets of the city, sports fields and facilities, culture, art and creative scenes, work / life balance, the vitality and energy of the city, the openness of the residents to new people, ideas and differences and relative location and accessibility to other cities according to other destinations. Kahana and colleagues (2003, p.443) argue that six environmental features that stand out in terms of city satisfaction.

Four of them are related to the physical characteristics of the urban environment and the other two are related to the social characteristics of the environment. Physical aesthetics or facilities include physical aesthetics, greening, well-designed houses and good air quality. Access to resources refers to proximity to and access to services and facilities. In this sense, the availability of retail places and recreational services and easy access to them are important. Environmental safety, which is another dimension, can also be an important determinant of urban satisfaction. Peace can be defined by the complexity of the environment that arises from a stimulating environment, sound, smell and mobility. Calmness has the opposite meaning. This can be an important experience in terms of satisfaction. Cultural homogeneity or heterogeneity is another important feature in terms of city satisfaction. Some residents may want to share an environment with people of a similar lifestyle and socio-economic status. The size of interaction and isolation refers to the social interaction levels of the environment. In this sense, living in a familiar environment as well as the opportunities to participate in local environmental activities may be related to city satisfaction. In another study, Zenker et al. (2013, p.159) argue that urban satisfaction can be explained based on four distinctive fundamental factors, which they call urbanization and diversity, nature and recreation, job opportunities and cost-effectiveness. While urbanization and diversity are related to a city's openness and tolerance, having many different cultures and subcultures, urban energy, urban image, various shopping opportunities, a wide range of cultural activities (theater, nightlife, etc.), nature and recreation indicate a wide range of parks and open areas, peace in the city, access to water resources, low pollution, and a wide range of outdoor activities. While job opportunities are associated with professionals in the city, the general economic growth of a particular region, good business and promotion opportunities, and general salary/wage level; cost effectiveness includes the general price level in the city, living costs, housing market, existing apartments and houses. The researchers determined that these four factors explained 50% of the total variance of their satisfaction with a city. In all these studies, while the emphasis is on urban features that are important for citizens, it is noteworthy that citizens' perceptions of the city or their subjective urban experiences have been largely neglected. Therefore, this study is thought to be important due to its efforts to put forward with all the details of the holistic city experiences.

1.2. Problem

Cities are areas that have a wide range of complex places, services and relationships for citizens and have subjective and cultural meanings for each individual. When the literature is analyzed, it is noteworthy that city management has emerged as a sub-discipline in business administration and marketing literature in recent years (Insch & Florek, 2008, p.138). The focal point of the majority of the studies on the urban is the fact that the urban qualities or characteristics that stand out in the increase of the quality of life of the residents and their satisfaction with the city they live in. In these studies, based on the quantitative research approach, it is understood that the physical features of the city are discussed and the measurement tools are developed by striving to determine the characteristics of the city (Insch, 2010; Insch & Sun, 2013; Kahana et al., 2003; Santos et al., 2007; Zenker et al., 2013). In Turkey, in the field of business administration and marketing, it is seen that researchers started to work towards urban phenomenon after 2000's. Similar to the tendency in the field, it is understood that the urban features in creating a good city brand and image are examined on the basis of quantitative research approach and studies (Insch, 2010; Insch &Sun, 2013; Kahana et al., 2003; Santos et al., 2007; Zenker et al., 2013) are generally based on a tourist perspective. In other words, it is observed that the perceptions of the tourists who visited the city for a short time or spending a short time were examined for the city brand and image rather than the perceptions, thoughts, attitudes and experiences of city residents. In a few studies conducted with urban residents (Aşlama, 2015; Aydınlıoğlu, 2014; Bişkin, 2013; Çalışkan, 2016), it is seen that it is examined which elements are prior in the formation of a city brand and its image in order to attract the desired people to the city. In these studies, it is

understood that emotional and social factors are neglected and the holistic city experience of the residents of the city does not handled because of focusing on more physical elements for a city. Therefore, it is noteworthy that there is a need for detailed studies in the field of urban studies (especially in Turkey) on what kind of experiences the city residents live or desire to live in the city with a holistic perspective. Some important field experts (Insch, 2010, p.165; Insch & Florek, 2008, p.138; Zenker & Rütter, 2014, p.11) emphasize that much more research is needed on urban experience which sufficient information is not owned despite its importance. From this point of view, the problem of this research can be expressed as determining the subjective urban experiences of the residents and the details of these experiences.

1.3. Purpose and Significance

The main purpose of this study is to determine the experiences, related to the city, of university students residing in a city to understanding the nature of consumption experiences thorugh photography-based narrative technique that is a new and integrated approach. In other words, by means of photography-based narrative technique, the meanings of a city for individuals are tried to be determined in detail. The research question addressing this objective can be expressed as follows:

Research Question: What are the urban experiences (subjective meanings they attribute) and the details of the participants who are university students?

The results obtained from this study can provide city decision makers and policy makers with important clues about designing integrated experiences that are compatible with the expectations of university students living in the city and to improve the quality of their urban experiences. Therefore, it can be said that the results of this research can create an important input for a successful city management in terms of providing ideas for current and future project openings, plans and policies.

2. Method

Due to the inability to observe the consumer experiences directly (Caru & Cova, 2008; Chronis & Hampton, 2002), contrary to consumer behavior, it is difficult to understand the details of the experiences of individuals and to determine the details of these experiences, and there is a need for alternative ways that reflect the internal status of consumers. In this context, new and effective expansions brought by qualitative research methods, which are increasingly becoming the focus of interest and debate to identify the details of subjective consumer experiences, are considered important. Qualitative research is based on developing a perspective on social life and exploring how people create meaning in their natural environment (Ambard, 2004, p.38, Neuman, 2000, p.71). In this way, it helps to present what people think, what they do and what meanings they have to the objects, events and people in their lives (Krauss, 2005, p.765). So, qualitative research approach was used in this study.

The design of this interpretative research, which is based on the qualitative research approach, is determined as the phenomenology. The phenomenology research design focuses on the facts that we are aware of but do not have in-depth and detailed understanding. The phenomen can be seen in various forms such as events, experiences, perceptions, trends, concepts and situations in the world we live in (Yıldırım & Şimşek, 2006, p.72). For the important point in the phenomenology is that it is a description of the subjective meaning of a few individuals who have experienced of phenomen (Marques & McCall, 2005, p.444), this design meet the purpose of this research.

2.1. Sampling Strategy, Data Collection, Data Analysis and Interpretation Process

In the research, data were collected by taking advantage of photographic narrative technique. In recent years, although it has been increasingly used in social sciences, photography-based narrative technique, which is one of the relatively new projective methods especially in the field of marketing, stands out as a technique that can meet the function of obtaining rich and effective data in determining subjective consumer experiences, especially in consumer research. This technique can be used as an eclectic technique aiming at integrating the photographic and narrative techniques in research and integrating the superior aspects of both techniques (Uygun, 2011, pp.30-36). In this sense, the participants were asked to provide the photographs which represent the city of Aksaray best for themselves and semi-structured interviews were conducted on these photographs.

The research was conducted in Aksaray province. In the study, volunteer participants were selected among the students enrolled in the faculties and vocational schools in Aksaray University based on purposive sampling in accordance with the qualitative research approach. The number of participants was determined according to data saturation and data were collected voluntarily basis from 23 participants, approximately half of which were female and half of them male. The characteristics of the participants are summarized in Table 1.

Table 1. *Personal Characteristics of Research Participants*

Name	Gender	Age	Geographical Region
Aylin	Female	24	Southeastern Anatolia
Tarık	Male	24	Mediterranean
İlknur	Female	22	Mediterranean
Aslı	Female	21	Central Anatolia
Demet	Female	22	Mediterranean
Mert	Male	24	Central Anatolia
Yasin	Male	19	Marmara
Kemal	Male	23	Iraq
Zuhal	Female	20	Central Anatolia
Serap	Female	20	Aegean
Songül	Female	20	Mediterranean
Betül	Female	20	Mediterranean
Berna	Female	20	Central Anatolia
Can	Male	26	Central Anatolia
Burak	Male	24	Southeastern Anatolia
Nazlı	Female	18	Mediterranean
Ersin	Male	24	Mediterranean
Alper	Male	22	Central Anatolia
Zeynep	Female	22	Black Sea
Mustafa	Male	23	Southeastern Anatolia
Esra	Female	20	Marmara
Ali	Male	22	Southeastern Anatolia
Yeşim	Female	20	Southeastern Anatolia

During the first stage of this two-step process, students were contacted, information about the study was given and necessary written permissions were provided. Moreover, the participants were asked to bring 5 photographs that represent the best of the city experience phenomenon through the theme of "the meaning of the city of Aksaray". In the second stage, the participants were reconvened and an interview was conducted through these photos. These photographs, which were provided by each participant, are listed in order of priority in terms of subjective importance. During the interviews, audio was recorded to prevent data loss.

The data were analyzed from the inductive analysis. Inductive analysis is the detection of the underlying concepts of data and the relationships between these concepts through coding (Yıldırım & Şimşek, 2006, p.227). In the inductive analysis, it is aimed to develop a general viewpoint and code list of data and then to reveal the descriptions of the phenomenon and themes of interest (Creswell, 2005, p.231). In this sense, data analysis started with the recording of the records of the interviews by writing them one by one. Written data is organized to create meaningful codes. The common characteristics of the obtained codes have been found and made into themes that can be grouped under certain categories. Within the framework of the related literature, these themes were evaluated and these themes are reported and then data analysis ended. All these processes were carried out in cooperation with a field expert.

2.2. Validity and Reliability (Trustworthiness)

In qualitative research, trustworthiness concept is taken into consideration instead of the validity and reliability that can have different meanings (Wallendorf & Belk, 1989, p.69). The trustworthiness criteria expressed by Brantlinger and colleagues (2005, p.201) were taken into account in all processes of this study. In this sense:

"In the research, photography and storytelling techniques were used together. The researcher diary was kept for all processes. In the analysis stage of the data, in the creation of the code list and in the interpretation of the findings an eclectic point of view was reflected in the literature. All voice recordings and written records in data collection and analysis processes are kept regularly. In the design of data collection tool, data analysis and verification of data it is cooperated with other experts and field experts. Quotations have been made from all data sources. The frequencies of the photographs and the stories are determined and the ones with high frequencies and the striking characteristics of the subject are mentioned. Data collection and data analysis processes have been reported in detail to the extent that space limitation allows, and the reader's method transferability has been facilitated."

3. Findings

The findings show that the experiences of university students in Aksaray city are collected in two main categories as *social environment experiences* and *physical environment experiences*. In this part of the study, the experiences of the city as a result of the analysis of the data and their details are given.

3.1. Experiences for Social Environmental Conditions

The findings indicate that the experience of the city's social environment has an important place for the participants and all (23 participants) pointed out the various aspects of this experience. These experiences that emerged in the context of Aksaray city were collected in five dimensions: interaction experiences for third places in the city with

emotional content, experiences of tolerant and helpful behavior of the people, experience of being a vibrant and living city, experience of living in a large and developed city and experience a sense of security with rational content.

In terms of students studying at Aksaray University, the interaction experiences of third places in the city constitute a very important social environment experience dimension. The participants highlighted the city's café streets, the city square, the Kılıçaslan Park and the shopping centers in terms of the third places and highlighted the interaction experience, emphasizing that these places contributed to their meeting with their families and friends and spending time together. Almost all of the participants (20 participants) emphasized this dimension, of which fifteen provided visual for this experience. In Visual 1, representative participant photographs related to this experience are presented.

| Aslı- Third Visual | Ersin- First Visual | Mustafa- Third Visual |

Visual 1: Participants' Visuals Related to Interaction Experiences for Third Places in the City

Aslı says that she brings a visual about the moments and memories she has with her friends and family in café streets and in a sense pointing out the third place qualities of these places, she highlighted the experience of social interaction consisting of dimensions of social vitality and warmth, in particular conversation as basic activity.

"I chose this photo as one of the places I spent most time in Aksaray. Cafes street. I have many memories on this street and the day I took this photo was a rainy day. I was really wet, but I thought that when I said what could be reminding Aksaray, I took this photo when it was so wet in a rainy day. When I looked at that, I said, what I have experienced in this street, that is with my family, I have memories of my friends in many places. So I wanted to choose this picture. This is one of the places that can really come to mind when Aksaray is called. There must be many people in the photo, but because there is rainy weather, there are no people, only me in taht street. I think that cafes, places where people are full, and chats, how long chats can be established." (Photo-Based Interview Data)

Mustafa, as a social place especially for students, what Aksaray square make them feel and in essence includes dimensions of travel, time-wasting, hanging out, sitting, and meeting place and where it also carries traces of the third place experience, emphasized his experiences in the social environment by:

"In Aksaray, there are no other places where students or a person can sit, stand, and go, and all the central areas are intertwined because the city is small. The only place we can go when you leave the house is Aksaray Republic Square. O! Aksaray consists of Republic Square. Either you can go outside or you can hang out, you can travel and sit there is no place in Aksaray. The best way to understand all Aksaray is passing through the Republic square. Because I can say the only place where all people meet from seven to seventy." (Photo-Based Interview Data)

Ersin said that each city has its own unique shopping center where the people living there will spend their time and that this image can be found to be suitable for people to represent a place in Aksaray where people can visit and by highlighting another third placee for the city he referred to the experiences of social interaction with these spaces:

"In our city, it is desired that every city will spend a certain time or spend some time in its own place, and there will be a cafe-style place where a shopping center will spend its time. I also took a photo of a shopping center. Efor Shopping Mall. There are various clothing stores, a cafe at downstairs, but also in the grocery stores. I found it convenient to photograph the shopping center where people will come and visit." (Photo-Based Interview Data)

Nowadays, it is often stated that the places of consumption in a city are one of the most important areas of experience in human life which called as third places (Oldenburg, 1989, 1999, 2003) and people can access except their homes and workplace all day long and experience various social experiences. Because the speed of life in the cities is faster than in the past, people who go between their homes and their jobs need a third place that balances the other two areas of their lives (home and work / school), where allow meeting the social needs and relaxing and getting lots of interaction experience with the qualities they carry (Juzkiw, 2007, p.7; Oldenburg, 1989, p.14). We can talk about many examples of third places: restaurants, bars, parks, bookstores, beauty salons, cafes, sports halls, public libraries (Aldosemani, 2014), shopping centers (Uygun, 2015, 2016), coffeehouses and various outdoor urban areas. The existence of such places may be the source of significant saturation of social life, and its deficiencies may cause weaknesses in the human relations that constitute the essence of the social life of the city (Oldenburg, 1989, p.v) and can cause people to become more isolated in crowds (Juzkiw, 2007, p.9).

Third places are those where people spend most of their time except their homes and work and live many subjective experiences. Oldenburg (1989, p.16) points out that they need public places where people can come together, put their interest in work and home aside, can escape stress and have the opportunity to relax and sometimes unofficial where they can conversation. Oldenburg (1989, p.16) views the first place as the home and the second place as the workplace. Oldenburg (1999, p.14) states that in societies, people should find a balance between these three areas of experience. Third places enable people to establish a world of their own through interactions with other people in the community; offer psychological comfort and individual support to people (Juzkiw, 2007, p.9; Pajouh et al., 2014, p.302); create social participation opportunities as public spaces or places. According to Oldenburg (1999, p.16), the third places where in a sense serving as collection area are a number of public places that host individuals during the day, or at certain times of the day, where individuals hope to meet regularly, voluntarily, informally, and happily. For this reason, the third places stand out in terms of the ability of a place to interact with people in the society or to establish a relationship (Oldenburg, 1999, p.16), and these places are the social port where the conversation is transformed into the basic activity and festivity (Oldenburg, 2003, p). .1373). One of the most important personal benefits of the third places is that these places strengthen social relations and the feeling of belonging or self-identification by eliminating social difference and hierarchy, and they can increase knowledge about the local community (Aldosemani, 2014, p.23). Third places are neutral places where people can easily access, participate, and leave, and that one does not have to pretend the host role. In these places which serve equally to everyone in the society, conversation is one of the main activities. A person can go there alone at any time of the day, experience a sense of hospitality and find someone familiar. Oldenburg (1989, p.34; 1999, p.33) states that the experiences that attract regular visitors to a third place are mostly provided by friends or peers rather than by the management; in other words, it refers to the "person-person" interaction. Oldenburg (1999,

p.38) states that third places are also an integral part of our daily lives and that they have the comfort of a home outside the house, that most things are received naturally.

In most societies, it can easily be said that the majority of the population visited these places. Considering that most of the population visited these places in most societies and they started to spend most of their time outside the home and work/school, it can easily be said that these places are a very important part of the city life. Those who visit these places can use these places as a convention place, a resting area or just for visiting the place and for monitoring people, and these places can also be seen as an important meeting place and a place for participation in many special events. Third places can provide benefits such as moving away from the routines and stress of daily life, having fun, providing emotional gains, participating in social experiences outside the home, and so on (Uygun, 2016, p.123). Therefore, it seems much more likely to create places that are compatible with the needs and expectations of urban residents by better understanding the dynamics of interaction between the human and environment occurring in the third places in the cities.

The findings show that the tolerant and helpful behaviors of the people constitute the experience dimension towards another important social environment in terms of students studying at Aksaray University. This dimension, in essence, is the lack of tolerant, hospitable and understanding attitudes and behaviors of the local people aimed at students from different cities of the local people. In this sense, more than half of the respondents (16 participants) focused on the negative attitudes of the public and eight of them referred to this dimension of experience with the visuals they provided. In Visual 2, representative images related to this experience is presented.

| Mert- Fourth Visual | İlknur- Second Visual | Aylin- Third Visual |

Visual 2: Participants' Visuals Related to Experiences of Tolerant and Helpful Behavior of the People

Mert pointed out the fact that the people of Aksaray are more moderate towards the student and they are expected to be open to communication and interaction; pointed to the experiences of tolerant, helpful behaviors of the people, which constitute another important dimension of experience towards the social environment; he also supported his views with the visual:

"The residents of the city were very rude. They do not listen at all, do not say hello, it is very difficult to talk to them, this is reflected in the people working in the transportation industry. We can see more because we are students. When we get on the bus, we naturally want to communicate, and we've even witnessed that bus drivers don't be geniality enough, they can even exaggerate and argue, they can fight, they can hurt people". (Photo-Based Interview Data)

İlknur stated that she wanted Aksaray to be like the city of Adana which is her hometown and in her dream that she was studying in a city which is more liberal and a city that will not see a reaction and she also highlighted

the dimension of this social environment experience in which the phenomenon of freedom is shared with the visual that it shared:

"O! in the years when I first came, maybe this year is not much, but in my first years when I asked questions to someone in the street they did not answer. Because I've heard that they're reactive to university students. We have a relative, his wife is hail from Aksaray, I heard her too much. Their point of view to the university and university students is different. They think we demoralise the city. But I think their young people are more." (Photo-Based Interview Data)

Aylin, about the visual she shared, put forwards that Aksaray people argued that students' perceptions of disrupting their culture, disrupting their morality and prejudices against differences are not good in terms of both developing and taking foreign students and in their interactions with local people she expresses her desire for freedom and social acceptance to social environment experience dimension with the following remarks:

"There are many different people, different origins, in Aksaray, I said different things. But there is still a society that does not like differences. There is a society that is prejudiced against difference. You know, but there is definitely development on this yes development can be mentioned. But that doesn't mean don't have a problem about this issue. For four years, we were studying here, so I was living in a dorm. There had been biased attitude againts students for four years. As a result, we are not the students who come with the thought of studying for the purpose of luxury. We all came here for certain purposes. It is a bad thing that the residents of Aksaray cannot be seen it or the residents perceive that the students are damaging their culture and disrupts their morality, in a word it is hard to both in terms of development and the ability to take students from outside. I see bias when I look at the photo. Just prejudice, not wanting differences, prejudice. But I can match only it with anti-difference, a little prejudice." (Photo-Based Interview Data)

It has been determined that another important dimension of experience related to the social environment conditions associated with the city of Aksaray emerged in the form of the experience of being a living city. Approximately half of the participants (11 participants) pointed out the city experience, the small size of the city, the calmness and the inaction of social life, and they made indirect references. Six of them reinforce this experience with the images they bring. Representative images of this experience dimension are presented in Visual 3.

Berna- Fourth Visual   Mustafa- Second Visual   Aslı- Third Visual

Visual 3: Participants' Visuals Related to Experience of Being a Vibrant and Living City

In her statements comparing Aksaray with her hometown, Berna mentions that Aksaray is a quiet place in the evenings after 7 pm and states that there are not enough places in the city in terms of social activity. In addition to seeking a third place experience, it also supported the expectation of a vibrant and living urban experience with the visual:

"Aksaray is a quiet place in the evening. It's not where I come from, but in the evening, it's really crowded. Life does not stop, does not stop. But here after seven o'clock the square is very calm, although the bazaar. So I chose this photo. When I looked at the photo, I thought that the people who were here were spending more time in their homes, there were no night-life, or it was not suitable for Aksaray. I know the people of Aksaray as far as I know, within two years, during my stay there is no very vigorous people. So it's suitable for people living here. It's a small city. When I think about people, city or the environment, it is not too crowded, there is not places in the sense of social activity. Let me express this way." (Photo-Based Interview Data)

Mustafa, when he came to Aksaray to study at university because he did not have any social life in his own country, he expressed his disappointment with the visual and expressed this disappointment to the dimension of experience of social environment in which he desired to live:

"I had seen this picture when I was researching Aksaray, so there was a considerable difference between my expectations before coming here and my expectations after arriving. I brought it to reflect in particular. When I saw this picture, I had come to think that there should be a place where social life is intense and that Mardin is not as active place, it is not a social life. I saw that there was nothing changing in the hope that I could have a social life, so I especially left it here." (Photo-Based Interview Data)

Aslı, unlike the other participants, stated that Aksaray is a living and living city and similar to Berna, in addition to the experience of the third placee experiences of the city, witnessing a growing and developing city, Aslı has also emphasized this experience dimension. In particular, the various place opened in the city with Aksaray University as a third place in the form of social revival of the city has also supported the visual:

"There was actually no place to go in Aksaray. Maybe a few years ago, when I was in high school, I thought that this street was very quiet. Later, with the arrival of the university, this street was revived with the formation of the university. Many business managers started to open cafes in this street and started to open places. Shopping malls, such as clothing, places began to open. People, for example, started looking for a house in this street. Even if the students have a good financial situation, have started to look for houses in this Street and this street have already become a famous street. I think the university has had a big impact in terms of revival Aksaray and opening cafes places where students can go has affected the public. People can go to many places now. So there are at least ten shops there, clothing, food, drink, places to visit increased." (Photo-Based Interview Data)

Another sub-dimension that stands out in terms of urban experiences towards the social environment is the experience of living in a large and developed city, which also includes traces of physical environment experience in places; this experience is based on the city's potential for growth and development and the fact that when this potential is used, the city will be socially better. Ten of the participants drew attention to this type of experience, six of which provided visuals for this dimension. In Visual 4, participant visuals about this experience dimension are given.

| Aylin- Fourth Visual | Tarık- First. Visual | Zuhal- Second Visual |

Visual 4: Participants' Visuals Related to Experience of Living in a Large and Ddeveloped City

Aylin stated that Aksaray started to develop later but that it did not complete its development, especially in terms of urbanization and she supported by the visualization. Tarık also explained that Aksaray has a high potential in terms of development but not enough investment and he emphasizes the desire to live in a big and developed city. Zuhal stated that the view of the mountain that she brought from a more positive point of view than the other participants represented the peak point and stated that Aksaray city was a big city. The statements of these participants are as follows:

"I can match the city of Aksaray as a city that is developing not yet fully development. I know this by thinking very indirectly, but I think this can definitely create something in terms of social conflict. It's not for the elderly, but it can create something for children. You know, if I were you, this issue would have created something, yes. It also has the meaning of urbanization. In this sense, the buildings can not fully complete their development or in the square, for example, it can be done because there are too many, such as an apartment is a very luxurious and there is earth house next to its. If you don't live there people know that something can done. This bazaar is a place to introduce Aksaray a little more. A little more editable actually." (Aylin, Photo-Based Interview Data)

"As I said at the beginning, Aksaray is a place where the transportation network is. You know, there's a lot of potential in terms of development. It's a place to invest. But I don't think that's enough. I do not believe that this is done enough. You know it's a little bit more to work on. I believe that some things should be done in cooperation, whether by municipality or university." (Tarık, Photo-Based Interview Data)

"I see a beautiful mountain in the photo. So it's a peak. Maybe it shows that Aksaray is at the peak, meaning it is a big city. It shows that it can progress, shows that it can evolve maybe this mountain representation as I think." (Zuhal, Photo-Based Interview Data)

As a result of the findings, the experience of security sense has been another prominent dimension in terms of urban experience towards the social environment. As a result of the findings, the experience of security sense has been another prominent dimension in terms of urban experience towards the social environment. Five of the respondents pointed to this dimension, and three of them supported the dimension of this experience through the visuals they brought. The representative images provided by the participants are presented in Visual 5 for the experience of trust:
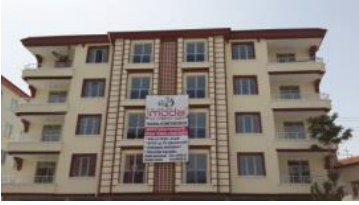
Serap- Fourth Visual   Can- Third Visual   Zuhal- Fifth Visual
                                    Zuhal- Fourth Visual

Visual 5: Participants' Visuals Related to Experience a Sense of Security

Serap has brought a visual of her dormitory in Aksaray and stated that her parents placed her in dormitory because of the high crime rate of Aksaray. She also mentioned the fact that after she won Aksaray University, she realized that she had paid more attention to the news about the city and that the crime rate had increased and she highlighted the security sense dimension:

"I really look at the news, I normally do not watch much of Aksaray news. I have been looking at the news since I won Aksaray Universtiy and I see how much Aksaray has progressed in the crime rate. And a few months ago in one of the statistics in our lecture, Aksaray stated how many crime rates increased. And you know, it really is okay, you don't consider equal Istanbul and Aksaray. Because Istanbul's population rate is high. When the crime rate in the population of Aksaray to a certain point, Aksaray'a crime rate is more out of Istanbul. When it comes to Istanbul, it sounds like a lot of crime, but when we look at the statistics, Aksaray seems to be even more advanced than them." (Photo-Based Interview Data)

Can said that there is a positive change in Aksaray city in terms of security and some places in Aksaray in the past are not safe but this situation is changing now and he supported this with his visual, as follows:

"This is also the Aksaray Kılıçaslan park. More precisely, it was a forest area which could not be entered until three or five years ago, at most five or six years ago. But it was really embarrassing to be told, that is, it was a place people drunk alcohol, They've completely fixed it, cleared it. the man was murdered, man wounding or every bad thing. The last of the five or six or seven years ago. The purpose of bringing this in the first place is I think that the empty lands in the road of Aksaray University should be evaluated with such things or similar activities. As a matter of fact, this place was really a bad place. But now it's a place where you can go alone." (Photo-Based Interview Data)

Zuhal also mentioned similar expressions of Can and emphasized the following in terms of the visual statement she brought to her experience of security:

"An environment that can come together again. In other words, the family environment is the most important place where everyone can go safely. So it's not an environment where I can come up with something that might happen to me. Family atmosphere. In other words, it shows that we attach importance to the concept of family because there is nothing bad here. I think the necessary measures are being taken there as well as at first. Because we see security or something, we notice that." (Photo-Based Interview Data)

3.2. Urban Experiences for Physical Environmental Conditions

The findings, which is accepted as the key for the city and emerged towards the city of Aksaray in terms of university students, show that they were collected in three dimensions: aesthetic experience with more emotional content of experience of physical environmental conditions, experience for the existence of third places with both emotional and rational content and rational content transportation experience. Almost all participants (22 participants) emphasized the various dimensions of this experience with the help of visuals.

The sub-dimension of the urban experience for the most important physical environmental conditions in terms of participants was aesthetic experience. In terms of its aesthetic experience pointing to visual pleasure, especially the historical structure of the city and the presence of green and natural areas have come to the forefront. The vast majority of respondents (19 participants) emphasized this experience dimension in their statements. Furthermore, 16 of them strengthened their statements through the visuals they provide. Representative participant images are presented in Visual 6.

Mert- Second Visual Yasin- Second Visual Ersin- Third Visual	Tarık- Fourth Visual	Songül- Second Visual	Alper- Fourth Visual
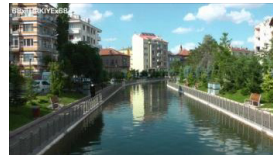
Visual 6: Participants' Visuals Related to Aesthetic Experience

From the important historical buildings in the city of Aksaray through the visual image of "Eğri Minare", Mert, especially emphasized the city's appearance and mentioned that the structure in question was a beauty that should be on postcards and he referred to his aesthetic experience as follows:

"I think we have a similar structure to the Tower of Pissa (Pissa Tower). This should be recognized. How to say with the city of Aksaray, so again if I give examples from the Pizza Tower in remarkable photographs, postcards should be a beauty, a difference. I can say that." (Photo-Based Interview Data)

Tarık emphasized the view that Aksaray is a historical city through the image he brings and stated that the mosque dating from the Seljuks did not change and that it could also smell the history and in essence, he pointed to the aesthetic experience of authenticity. Tarık also stated that this mosque was used as a living and recreation area by the old people of the mosque and that this historical building also showed a place that could be visited or relaxed and pointed to the dimension of social experience:

"Because this is a historic place. It's from the Seljuks. And one of the biggest mosques. When we enter into that history that thing is still unchanged, the phenomenon of history continues. That's why I chose this. There's benches around here. Usually, such elderly people are sitting there or people come to rest there. Prayer time and they go to prayer. That makes me feel like that. "I see the culture of Aksaray's history, and it makes me feel like you have so much history. Dating from the Seljuks and it has been preserved and still suitable for use today. Still a protected place. It comes to the historical culture that comes to my mind. As I said in the city of Aksaray, the historical fragrance, that culture of history, gives me the culture that reflects me. It now reflects its past culture." (Photo-Based Interview Data)

Songül highlighted the green areas in terms of aesthetic experience, and implied that the image she brought was not reflecting Aksaray, however, during her lifetime in Aksaray, she stated that she did not come across a place like paradise, which is beautiful, and green and indirectly referred to the aesthetic experience of the green spaces she wished to live:

"I brought this photo on the basis of a criticism. Because there is such a place in Aksaray. Okay, there is. It name is Ulu River. Well, they thought it was fine, but they don't have any water. I haven't seen water in two years. It is shown as an idyllic place in the photos. That's what's in the photo. You know, heaven is beautiful, green, beautiful water or something. But in reality, there's nothing to do. It is a river bed with trash. In fact, I cannot match in any way at the moment. Because I think it's an image that has nothing to do with Aksaray. You know, maybe it was once, but now I've been here for two years, I've never seen an image like that. Because in the photo or in this photo there are all right buildings, there is green and clear water. But in reality, you can go and look, but there is not much, and here we look at a dirty riverbed we see. I can't see such immaculate water. There's nothing to do with it." (Photo-Based Interview Data)

Alper mentioned about Hasan Mount for the visual art he brought, which is a natural structure of without human intervention, with the following statements:

"Of course, the reason for bringing this photo is Hasan Mountain. When I look at Hasan Mountain from Aksaray I can say how it feels as if it is part of it as if it was an organism, so I say it from my point of view. Because sometimes when the weather is foggy or when we get out of school or when we can't see it in the city center, I feel like Aksaray has no organ. I can say that. So the Hasan Mountain has a lot of influence. One of the most important mountain in Turkey already. I'll tell you what I saw in the photo. As we saw at first, there is a small plot, we can say that the villagers own business. Then we can talk about naturalness in the same way. There is no point that the human hand touches. Everything is organic. The view of Hasan Mountain is enormous." (Photo-Based Interview Data)

The findings show that another important aspect of urban experience for physical environmental conditions is experience of the existence of third places and more than half of the participants (13 participants) emphasized this type of experience and five of them support their expressions through the visuals they bring. Representative images of this experience are included in Visual 7.

| Betül- Second Visual | Tarık- Fifth Visual | Zuhal- Fifth Visual |

Visual 7: Participants' Visuals Related to Experience for the Existence of Third Places

Betül pointed out that Aksaray is identified with the square and that the city square is the only point in Aksaray in terms of eating and drinking, entertainment and shopping regarding the visual representation of the city square,

and she also referred to the existence of third-place places that allow social experiences in addition to the shopping areas where they can meet their needs,

"We're students, and we haven't filled in two more years. We have no business in the village of Aksaray rather than the square or remote areas. We can handle all our business here, we can handle it on the square. ATM, bank is here, all we can do is shop here or there are places where we can feed our stomach. We can handle all our business here. There is no place to visit in Aksaray already. When someone comes in, come on, there's no place I can walk you around. So we don't need to roam. This is the only place we call it, the girls, let's go out. You're coming square, you get a meal, maybe you can take a look at some clothes, that's all. There's nothing else. That's why Aksaray is synonymous with the square. The square is not ahead, because as I said because we are students, we have nothing to do with the village, villages or other towns. We don't have to go far. There is no place to go to go let's get up right now, let's go today. Square. We can do all our work on the square. The mosque, the places where we can shop, everything we can feed our stomach, there is everything. So we don't have to go further. In Aksaray, we stay the dorm on thehighway. Come on, girls, let's go out, nobody says where. We're coming square. Like I said, no matter what we do, we can handle it there already." (Photo-Based Interview Data)

For the participants, one of the city experiences for the physical environment revealed by the findings is the experience of rational content transportation (5 participants). Three of the participants supported their statements about the dimension of this experience with the images they shared. In Visual 8, representative images provided by these participants are presented.

İlknur- Second Visual   Tarık- Sixth Visual

Visual 8: Participants' Visuals Related to Transportation Experience

İlknur, together with his mother, shared her negative memory for the first time in Aksaray on the day, she came to attend university and the buses were packed and explained their opinions on the transportation experience. During her university education, she also supported the images she brought to his experience and gave the following statements:

"When I first came to Aksaray, we came to the registration. After registration, we will go to the terminal. But first, we said to have a tour with my mother in bazaar. Then we got on the bus. they told us to transfer in college. I've witnessed something like this, transfer for the first time. In Adana, yes, it is a very large area but there is no transfer in anywhere. My mother is the first to tell me that this place is famous about transfer. when I say Aksaray comes the thought of transfer. What is famous here, famous for the transfer. One of the occupancy rates of the bus. When I saw the bus in the photo, we waited in front of our first faculty to go to the bazaar with my mother. First I see it. Second I see full occupations

in this photo. And you know, always going to get in and out in, so trasnfer. Especially the first four years I stayed in a different dormitory. It was on the way to Konya. Before going to the bazaar, we were force to the transfer to go to Konya. We were riding the Aratol buses. So I see always going up and down." (Photo-Based Interview Data)

Similar to İlknur, Tarık also put forward the difficulties of transportation and expressed the lack of a bus in Aksaray, especially, the buses going to the university were constantly crowded and they had to wait for a long time to get on the bus, and he supported these with the visual:

"Something like this is I can not understand, in Aksaray, the number of buses is insufficient, rather than transportation or the number of buses is insufficient in bus route which we use. Because there's something like that there is no such a huge crowd on the other sides but the universtiy route is constantly busy and constantly crowded. And since I stayed in Aratol, KYK (Credit Dormitories Institution) is also against the police vocational school. The bus already comes the fifteen minutes. But I don't believe anybody fits that. Twenty minutes to twenty-five minutes the bus come. You know, it's a little bit more comfortable, there is no order yet. I'm coming over there, and I'm transferring at a vocational school. I am waiting ten or fifteen minutes at least. Because the car from campus is full. I can't ride the bus. Transportation is distress. There's a constant intensity. But this is usually on the university route. Maybe they can drive more cars here, or they can reduce the number of minutes. You know, they can take five minutes to be fifteen minutes. It can reach the solution." (Photo-Based Interview Data)

4. Conclusion, Discussion and Suggestions

The results show that the experience of university students in Aksaray city is divided into two main categories: social environment experiences and physical environment experiences. In terms of experiences towards the social environment, it was determined that the social interaction experiences for the third places in the city stand out with emotional contents where cafes, shopping venues, urban squares, parks and picnic areas, shopping centers, and social activities such as socialization, freedom, especially conversation, entertainment, travel, timewating, hanging, sitting and meeting, social activities and interactions; and experience of the people's tolerant, helpful behavior with emotional content and openness to communication and interaction, freedom and social acceptance; the experience of being a vibrant and living city with emotional content and social life and activities, social vitality and being a living city at any time of the day; experience of living in a large and developed city; experience of security sense with rational content. In terms of urban experience for physical environmental conditions, the aesthetic experience of visual beauty, authenticity and naturalness in the essence of the natural structures and the historical structures, which point to the visual pleasure and pleasure of emotion; experience of the existence of third places with both emotional and rational content, in essence the physical presence and accessibility of eating and drinking, entertainment and shopping venues; transport experience with rational content and lack of transport facilities and crowding in public transport. The results indicate that, besides physical factors, social environment conditions are vital in terms of urban design and management, which will enable the residents to live the experiences they desire.

Satisfaction, loyalty and word of mouth communication (WOM) tendency are frequently analyzed in the marketing literature in terms of the results of the consumer experiences. The results obtained from some studies in the literature indicate that the experiences of social life experiences and physical environment conditions are prioritized and determinant in terms of city satisfaction (Bilgin Turna, 2015; Insch, 2010; Insch, 2011; Insch & Sun, 2013; Ng, 2005), city loyalty (Scannell & Gifford, 2010; Uygun et al., 2016) and word of mouth (Uygun et al., 2016). Insch (2010) determined that social assets and natural environment contributed more to

the satisfaction of city residents. Insch and Sun (2013) found that the dimensions that most contributed to the city satisfaction of Otago University students were the experiences of social life (experiences of socialization and community) and experiences related to physical environmental conditions (natural environmental experiences). Researchers (2013, p.187) state that these results can be interpreted to be largely perceived as a entertainment and social place of the city where the students read in terms of university students studying away from home. In a study conducted in Rize, which is largely inspired by this research, Bilgin Turna (2015) determined that one of the most important characteristics of the city by university students was social life experiences. The results of the research conducted by Ng (2005) with university students in Hong Kong have largely overlapping results with this research even though the order of importance varies. The researcher (2005) found that the prior experiences that contribute to city satisfaction of university students are experiences (such as environmental quality and aesthetics, recreation spaces, use of space and greening) and that it was followed by social life experiences. Uygun vd. (2016) in terms of city satisfaction and commitment, Scannell and Gifford (2010) in terms of urban commitment have obtained the results that the social and physical experiences towards the city are prioritized and decisive. Moreover, Uygunvd. (2016) determined that the most important urban experiences, which are determinative of the positive WOM behavior of city residents who are university students, are respectively, social life experiences, experiences of the city's physical environment and experiences towards the negative view of the people. Researchers (2016) also found that subjective urban experiences of university students differ according to various demographic and personal characteristics such as gender, age, family income, individual spending amount, the place of residence in the city, the characteristics of the homeland. Ng (2005) determined that the urban experiences and satisfaction of university students differed as gender, family characteristics (such as the city of residence), the type of residence in the city where he/she is studying, depending on the university year of studying (class). The conceptual model developed based on the results of this study and the results of the research in the literature discussed in relation to these results is given in Figure 1:

Figure 1. *Proposed Conceptual Model for Urban Experiences and Related Phenomena Related to a City*

*This study focused on the experience of the young participants studying a public university in a city, particularly for the city they study, and their contextual details.

As shown in Figure 1, the proposed conceptual model is included. A high level of city satisfaction and commitment based on urban experiences will make people feel closer to that city and there will be persistent behavior or, more generally, they will show more useful behavior towards the city (Zenker & Rütter, 2014, p.12) or it may cause some important positive results such as high level of life satisfaction. One of the most important indicators of positive citizen behavior is the positive word-to-mouth communication behavior towards the city (Stedman, 2002, p.577). As satisfaction is a criterion of commitment, a city resident who is satisfied with the experience of the

city in which he lives can influence the participation of others in this process (Petruzzellis & Romanazzi, 2010, p.150). In addition, the importance of these urban experiences which are desired memorable can be overlooked at the macro level in terms of social satisfaction as well as individual satisfaction in micro level. However, it should be kept in mind that, considering the nature of the uniqueness and subjectivity of urban experiences, the city administration is not a single solution with only certain truths. In this sense, it is important that each city be treated with a separate approach in each key group. The findings of this study can be an important reference point for university students, which are a significant key group of urban decision-makers, especially in Aksaray, to form a city strategy for the future.

This research is limited to the descriptive analysis of the qualitative data obtained. As the detailed study of the subject is aimed, this research, in which the number of participants is limited, is a diagnostic start-up study. Although a large amount of data to be worked with and provided a rich way of life associated with the subject, the nature of qualitative research, with descriptive results can not be generalized to all university students in Turkey. Although it is not possible to generalize, it is important to present important details and themes related to the subject and to show exemplary experiences. It is possible to talk about an analytic generalization within the research itself. This research is limited to university students participating in the research and their cultural and socio-economic conditions. In addition, this research was conducted in a single city. In further research, repetition of this study in other cities may have beneficial consequences. In addition, it is clear that testing the conceptual dimensions achieved in this study with quantitative research designs to be carried out in the context of one or more cities and key participant groups will provide useful and comparable results.

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12

DATA MINING AND ITS CONSEQUENCES FOR THE WORLD OF ENTREPRENEURSHIP

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Abstract

Rapid developments in technological world sped up digital transformation as well. Along with this transformation, a new era began in which everything creates data. Machines with special algorithms and software and humans constantly communicate with each other and this, in turn, creates a huge amount of data. Emerging data contains very valuable information for businesses. Competition in business life increasingly becomes data-oriented. At this point, data mining applications gain a high level of importance in correct interpretation of data. Data mining involves mining and reporting important and useful data among a huge amount of data. Data mining is an absolute must for many sectors today. Data mining is observed to be used in many fields, notably marketing, tourism, e-commerce, banking, insurance, stock exchange, genetics, health care, engineering, and industry. Widespread areas of usage of data mining led to important developments in entrepreneurship as well. Number of enterprises established in order to serve in the field of data mining is increasing rapidly, as is the number of experts writing software in the field. Present aims to put forth the consequences of data mining for the world of entrepreneurship in conceptual terms, as a part of the new generation, digital technology-based entrepreneurship.

Keywords: *Data Mining, Digital Technology, Entrepreneurship*

1.Introduction

Dizzying developments in information and communication technologies have brought with themselves big opportunities that would effect business world as well. Thanks to these technologies, concepts such as digitalization, big data, internet of things, smart systems, artificial intelligence etc. come to the fore and point to a newly emerging order. Basic motto of this new order may be summarized as "information is power."

Information may become power only if access to the sources that create information is possible, and if data gathered from these sources could be processed and transformed into something that could be used (information/knowledge).

Each transaction made online within the digital world leave a trace behind and each of these traces is a piece of data at the same time. There are more than 4 billion internet users and 3 billion social media users across the world, approx. 20 billion devices connect to the web, and interpersonal and inter-device communications continue at any given moment (dijitalreport.com). Huge amount of data emerging from this situation has been attracting attention from many different sectors in recent years. Studies are conducted to answer the question of whether meaningful results can be obtained from this huge amount of data. Conceptual equivalent of these studies are to be found in the concept of data mining.

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Data mining applications have increasingly become popular in recent years and number of companies working in this field is increasing as well. This situation creates significant developments, especially on the side of entrepreneurship. An increasing number of companies start working in this field everyday and provide consultancy for other companies in the field of data mining.

The aim of the present study is, first of all, to analyze data mining at a conceptual level, and then to put forth what kind of developments it leads to in the business world as well as what could be in the future of these enterprises.

1. What is Data Mining?

1.1. Historical Perspective

From past to present, there were always attempts to interpret data and to acquire knowledge. Equipments were built for this purpose and knowledge became transferable from past to present. In 1950s, people started to use first computers to compute data, and later in 1960s, database and data storage concepts had already found their place in technological world. At the end of 1960s, scientists had been able to develop computers with simple learning. In 1970s, Relational Data Base Management Systems were beginning to be used. 1980s saw popularization of data base management systems and these were being used in scientific fields, engineering, etc. Companies were creating data bases consisting of data related to their costumers, competition and products in these years (Savaş et al., 2012:4).

In a workshop titled "Knowledge Discovery in Data Bases" organized in 1989 to emphasize "knowledge" as the end product of an exploration based on data, data mining concept was analyzed for the first time. In this period, gathering useful information from data was designated with various names in literature, such as data mining, knowledge extraction, knowledge discovery, knowledge gathering, data archeology, and data model. The concept of data mining was discussed as a step in the process of "Knowledge Discovery in Data Bases" in this period. Steps in this process consisted of data gathering, data selection, data preparation, data grouping, data mining, classification of outcomes, and interpretation of the gathered information, respectively (Jianhua and Deyi, 1998:349).

When 1990s arrived, it was time to think about how to find useful information within data bases which were continuously growing. Studies were conducted and papers were published. In 1992, first software for data mining was written. At this time, organization's storing their data in computers in readable format and using desktop machines to process big volumes of data were taken as a realistic approach.

Data mining started to become a technique that is used by companies after customer loyalty cards were introduced by the end of 1990s. This opened a door for the companies to store their customer order records and data as well as to extract customer buying models from the gathered data and the popularity of data mining continued to gain steam (Coenen, 2004:1).

In 2000s, data mining continued to develop and become a commonly used concept in almost all fields following its relatively narrow usage by only statisticians, data analysts and management information systems communities. The interest in this field increased when benefits of the results were beginning to be seen.

1.2. Concept of Data Mining

The definition of data mining has been made in various sources to date. Some of these were as follows:

Data mining is the application of special algorithms in order to extract a pattern from data (Fayyad et al. 1996:39). Data mining is the process of analyzing data in order to extract information which is not provided by raw data by itself (Jacobs, 1999:8).

Data mining is analyzing big data groups in order to transform them into understandable and intelligible knowledge (Hand et al., 2001:1).

Data mining is the procedure of discovery and analysis conducted in big amounts of data in order to bring out useful patterns in the data through the use of automatic or semi-automatic tools (Pirinçciler and Şen, 2012:72).

Data mining is the process of extraction of knowledge from data that is big, deficient, noisy, vague and random (Chongwen and Scholten, 2016:398). Data mining is to reveal the information hidden in the collected big data through the use of proven reliable statistical techniques (Doğan and Arslantekin, 2016:27).

Big data mining is the ability to extract useful information from these big data groups or data flows. Volume data require new mining techniques due to variability and speed data. Big data challenge is becoming one of the most exciting opportunities for the coming years (Peral et al., 2017:77).

Data mining is an entire body of methodologies, enabling the extraction of hidden, significant and potentially valuable pattterns from within data (Yıldırım and Birant, 2018:337; Gürsoy, 2012:4).

1.3. Processes of Data Mining

Data mining has emerged as a step in the process of "Knowledge Discovery in Data Bases" at first. Steps in this process consisted of data gathering, data selection, data preparation, data grouping, data mining, classification of outcomes, and interpretation of the gathered information, respectively (Fayyad et al., 1996, 84). This process was, in a sense, the realization process of data mining as well.

Later, new models were created related to data mining processes. CRISP-DM project, as one of these models, separates data mining process in six main phases. CRISP-DM data mining process model consists of six steps, namely Identification of the Problem, Understanding Data, Preparing Data, Modeling, Evaluation and Selection of the Model, and Application of the Model (Shearer, 2000:14).

2. What are the consequences of data mining in the world of entrepreneurship?

Thanks to the developed information and communication technologies, internet technologies such as web pages, blogs, social media apps, sensors etc. and many other data collection devices have started to collect every kind of data. Together with the huge increase in data in terms of speed, variety, capacity (volume) and new solutions with the supporting technology in this increase, the concept of "Big Data" has emerged.

Big data designates data groups in sizes that exceed the ability of typical data base software tools to catch, store, manage and analyze them (McKinsey, 2011:1). However, big data, when interpreted through the correct analysis methods, enable companies to take strategic decisions, to better manage their risks and to innovate (EBSO, 2015:19).

From this perspective, data mining applications have a critical role in companies' ability to gather useful information from big data masses and to create competitive strategies.

2.1 Data Mining Application Fields

It is possible to use data mining wherever big volumes of data are found. Today, data mining applications are commonly used in many areas that require decision-making processes. Notable areas are as follows:

Applications in Banking, Finance and Stock Exchange

Banking, finance and stock exchange are a few of the fields that data mining is used most commonly. Data mining is used to extract hidden correlations between financial indications, in customer credit risk studies, in determining customer groups according to their credit card expenses, in evaluation of credit requests, in identification of credit card fraud, in risk management, in estimating stock prices, in modeling investments (Özkan and Boran, 2014:63; Savaş et al. 2012:5; Baykal, 2006:97)

Applications in Health Care

One of the most important fields where data mining is used is health care. These applications include creation of electronic patient files, estimation of patient test results, determination of early warning signals for chronic diseases, identification of error and abuse in laboratory tests, development of clinical decision support systems, improvement of quality through patient-oriented health care offers, and risk analyses to optimize service offerings. Along with these, data mining is also used in fields such as development of pharmaceuticals, identification of pharmaceutical effects, identification of patient and pharmaceutical usage profiles, and mapping pharmaceutical usage (Haldurai et al, 2016:145; Koyuncugil and Özgülbaş, 2009:28-31).

Applications in Marketing

Data mining has a wide field of application in marketing. Many applications use data mining for estimation of sales, identification of buying behaviors, finding connections between customers' demographical characteristics, management of customer relations, customer analysis, and increasing rate of return (Kadiyala and Srivastava, 2011:63; Gürsoy, 2012:8; Baykal, 2006:97).

Applications in Science and Engineering

Data mining helps in solving scientific and technical problems by creating models on empirical data (Albayrak, 2017:755).

Applications in Industry

In industrial fields, data mining methods are used in interpretation of data from computer media, checking production processes, quality control analyses, and identification of factors and rules that effect system performances.

Improvements of processes in production and service sectors may be added to these (Özbay, 2015:265; Pirinççiler and Şen, 2012:75)

Applications in Public Sector

Data mining enables public institutions to understand citizens' needs and behaviors, forecasting probable events, and making optimum use of their budgets and existing human resources. Aside from these, public institutions may also use data mining applications in subjects such as identification and prevention of fraud, identification of improper payments, waste of resources, income and collection of taxes, public security, law and order, and country's security (Köseoğlu and Demirci, 2017:2217; Terzi, 2012:55)

Applications in Education

Data mining is used in education for purposes such as analysis of student data, identification of student success and failure reasons, increasing student success levels, analysis of syllabuses, identification of problems in education, and creation of more effective education environments (Silva and Fonseca, 2017:90; Özbay, 2015:265).

Applications in Cloud Computing

Cloud computing concept may be defined in general as sharing information or source in such a way that would make it accessible from everywhere through the web. The sources in question are structures that require administrative efforts such as apps, data bases, services, servers, computer networks, etc. Cloud computing also enables analyses on high volume of data with its properties such as storage volume, scalability and simultaneous operation. Therefore, it is possible to use cloud computing systems in the process of knowledge discovery from huge amounts of data. Data mining is used in many different fields on cloud platform, such as education, health care, industry, transportation, social networks, etc. (Yıldırım and Birant, 2018:336).

Spatial Data Mining Applications

Spatial data mining is the application of data mining techniques on spatial (geographical) data. Spatial data mining discovers hidden properties and interesting relations that may be present in spatial data bases.

Spatial data mining has many application fields. These include yield assessment for farmers, water quality analysis, goods storage distribution, crime or disease control, cancer point groupings for environmental health risks analyses, identification of hot crime points for police patrol rotations, and identification of regions where global warming effects weather conditions. In addition, spatial data mining helps with identification of similar land usage areas from a land observance data bases, house types in city planning, identification of house groups according to their values and geographical locations (Uyan and Çay, 2008:535).

2.2 Enterprises in Data Mining

Interest in data mining is increasing due to its common usage in many fields today and this, in turn, results with important developments, especially in entrepreneurship area. Rapid transformation process witnessed in the world causes many occupations to become irrelevant while making many other occupations and business fields prominent. Entrepreneur is a personality who searches constantly for new business ideas, researching opportunities

and showing effort for new investments. Data mining comes forth as a center of new enterprise opportunities for entrepreneurs. This is reflected in similar investments in the world and in our country.

In the recent years, entrepreneurship trends are observed to be directed towards technology companies and especially enterprises providing services directed towards digital platforms are seen to become prominent. Environment is such that enterprises in this field are encouraged and a huge amount of support is provided for these companies from public and private sectors. For example, information technologies (IT) sector is seen to rank second after energy sector in the investment ranking of entrepreneurs in the annual Global Entrepreneur Report. This has been the unchanging situation for many years now (Global Entrepreneur Report, 2018:54).

According to a study conducted in 2012, data mining was a market worth $156 billion, with 2,5 billion internet users. When 4 billion internet users of today are considered, this figure is estimated to have doubled at the very least (İbrişim, 2015).

Enterprises in the field of data mining are showing important developments across the world. In USA, for example, a company specializing in data mining and big data analysis was ranked 3rd in the biggest 100 new enterprises list with its value of $20 billion (Hartmans, 2017).

Ventures in data mining field are among the most important investments in Turkey as well. Two different ventures (start up) in the field were accepted among 100 most successful ventures in Turkey and these companies are continuing their operations by growing beyond the country's borders (Startjobs, 2017; Start Up, 2018)

Data mining is a field populated by not only new ventures but also big corporations. General Electric, for example, carried out data mining applications on industrial data through Predix cloud platform which was developed in the software center focused on industrial web and this enables software writing for a wide range of applications, from MR scanners to jet engines, including offshore platforms and factories (Hürriyet, 2017). Companies such as Google and IBM are developing new projects in the medical data mining field (DeepMind Health, 2018; Lally et al. 2014).

Data mining ventures are prominent among innovative ideas emerging in recent years and they are receiving innovation awards (Webrazzi, 2015; Big Shot, 2018). This is quite indicative in emphasizing the importance of data mining.

Data mining ventures also attract attention from angel investors with their promising appearances. A venture working in the field of data mining in image processing technologies, for example, has received a total of $750 thousand angel investment in 2016, and later increased its value to $12 million after receiving $1.2 million from a big venture capital company (Timetürk, 2018).

When all of this is considered, data mining entrepreneurship may be said to be developing in the world as well as in Turkey and it offers significant opportunities for the entrepreneurs.

Conclusion

Amount of produced and processed data is increasing every day along with the change and transformation in working processes due to information technologies which have become widespread and accessible to anyone. A

huge amount of data is in question, coming from web server logs, internet statistics, social media posts, blogs, microblogs, climate sensors, GSM operators, company records, etc. Data mining becomes important in creating meaningful knowledge from big data that would guide decision-makers at every level.

Data mining applications are used in nearly every field of public and private sectors. This makes data mining entrepreneurship increasingly important. Developments and implementations in the world and in Turkey also support this situation. Data mining applications developed for organizations at all levels are highly in demand.

Business potential of data mining makes it come to the fore as a profitable investment field, especially when market growth rate is taken into account, and offers big opportunities for entrepreneurs.

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13

EVALUATION OF AUGMENTED REALITY MOBILE APPLICATIONS IN TURKEY MARKET: A DATA MINING APPROACH TO CONSUMER REVIEWS

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Abstract

A recent development in mobile technology leads to new types of experiences for consumers. Augmented reality applications are one of the examples of this type of experiences which have potential for market. A key issue in development of new experiences for marketing is addressing how these new changes perceived in market, therefore this study examines augmented reality mobile applications by consumer side. The purpose of this study is twofold. Firstly, examining augmented reality mobile applications in other categories in application store to have a holistic perspective. Secondly, investigating augmented reality mobile applications rating and reviews in detail. Consistent to purposes of study, data mining approach is employed for fetching and examining reviews and ratings of mobile applications. For the first part of the study, consumer reviews for 45 applications from 9 mobile application categories were fetched. After that, the comparison of augmented reality category with other categories is presented. In second part of the study, firstly descriptive statistics about augmented reality applications are presented and relationship between review length and rating score is examined. Finally, 2-grams and 3-grams are included. The finding can contribute to current understanding of augmented reality mobile applications in Turkey market.

***Keywords:** Augmented Reality, Mobile Applications, Data Mining*

1.Introduction

Augmented reality is one of recent technologies for mobile industry which has implications for marketing practices. Industries like medical, education and gaming have different practices employing augmented reality and consumers are facing new applications day after day. With the new advancements for mobile operating system and devices, augmented reality is gaining popularity. This study aims to investigate augmented reality mobile applications in context of Turkey market. The main goal of study involves integrated approach which have descriptive findings and linguistic approach.

Determination of how new technologies such as Augmented reality are valued in different markets is one of the important issues. Adoption of new technologies by consumers and their interaction with these technologies are important research topics for marketing. The data mining approach is used as a methodology in this study where augmented reality applications are examined. Firstly, the applications in various categories in the iTunes store have been determined, and then the latest comments for applications are fetched. 8 categories were compared with the augmented reality category related to mean rating scores.

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Second stage of research has data mining method with linguistic approach which contains hints about consumers 'expressions. The words people use can hint about what they feel and experience. Technically word cloud graphical representation and n-gram method are used for what people use for expressions. Most used words, 2-grams and 3-grams are included in research section.

The structure of this study begins with theoretical parts which includes augmented reality, consumer reviews and data mining parts. Research section including descriptive and data mining approach follows first section. The study contains a conclusion part following other sections.

2. Theoretical Background

2.1. Augmented Reality and Mobile Applications

Augmented reality was defined by Azuma (1997, pp.2) as systems that have three characteristics i) combining real and virtual, ii) interactive in real time, and iii) registered in 3-d. For mobile application context, it is important to distinguish virtual reality and augmented reality. Milgram and Kishino (1994) expressed a "virtuality continuum" concept which had variables real environment, augmented reality, augmented virtuality and virtual environment. In this concept real environment was on one side, while virtual environment was other side. As Azuma (1997, pp.2) stated augmented reality does not replace real world, it supplements reality.

There are many implementation areas for augmented reality technologies. Medical, manufacturing and repair, annotation and visualization, robot path planning, entertainment and military aircraft are some of implementation areas (Azuma, 1997). Augmented reality topic was also studied by different contexts academic literature which include construction (Wang et al., 2014), education (Di Serio et al., 2013; Chend and Tsai, 2013), consumer engagement (Scholz & Smith, 2016), tourism (Han et al., 2013) etc.

This study focuses on mobile usage of augmented reality and mostly on mobile applications which contain augmented reality technology. According to (Cheney and Thompson, 2018; Statista,2018) 178.1 billion mobile applications were downloaded in 2017 and this number is estimated to reach to 258 billion in 2022. As the numbers indicated mobile applications are important for marketers. For example, repeated usage of brand's mobile application increases future spending (Kim et al., 2015).

Augmented reality for mobile technology is one of recent topics for marketing management. e-Bay company had AR tool for helping sellers to find box for their items (Perez, 2018), Amazon added AR shopping feature to iOS application (Perez, 2017). These examples would increase in next years due to technological advancements.

Beyond the technology side of Augmented Reality, consumer and business sides also matter for marketing research. The ability of overlaying real environment with virtual elements interacting in real time creates news ways for delivering content to consumers (Javornik, 2016, pp. 252). For the business side of AR marketing, Scholz and Smith (2016) proposed eight recommendations for designing immersive AR experiences to maximize consumer engagement. These recommendations (expressed as ENTANGLE) included thinking about; experiences, nourishing engagement, target audiences, aligning AR with the marketing program, neutralizing threats, goals, leveraging brand meanings and enticing consumers. For the consumer side of AR marketing technology acceptance model is important for research. Huang and Liao (2015) studied augmented-reality interactive technology with technology acceptance model and focused on cognitive innovativeness' moderating role. According to results, consumers' level of cognitive innovativeness affected consumers' sustainable relationship behaviors toward using augmented-reality

interactive technology. Consumers with higher cognitive innovativeness level emphasized on usefulness, aesthetics and service excellence which augmented-reality interactive technology presented. Consumers with lower cognitive innovativeness level emphasized on playfulness and ease of use which augmented-reality interactive technology presented. Therefore, designing experience and consumers' reactions are important for marketing AR concept. In next section, consumer review topic will be used for consumers' reaction part of marketing AR concept.

2.2. Online Consumer Reviews

Consumer reviews have a communication role between consumers related to product/services. They reflect the experience which consumers have related to consumption. Consumers post to websites or social media platforms and transfer their feelings/opinions to other people. Online reviews subject was studied on different contexts; including helpfulness (Mudambi&Schuff, 2010; Baek et al., 2012; Li et al., 2013; Racherla & Friske, 2012; Schindler & Bickard, 2012), purchasing intention (Park et al, 2007; Lin et al., 2011; Jiménez & Mendoza, 2013), sales (Öğüt & OnurTaş, 2012; Chevalier & Mayzlin, 2006).

On the other hand, capturing the meaning of reviews has a key role for companies/brands. As the internet and social media have large audiences, thousands of reviews can be sent for product and services. Companies can use both their own reviews and their competitors' reviews for benchmarking. Park et al. (2007) examined consumer reviews with purchase intention in their study. They concluded that purchasing intention was positively affected by quality of online reviews, the number of reviews had positive correlation with purchasing intention. Xie et al. (2014) used online consumer reviews with management responses for hospitality context. They found that hotel performance was associated to variables; overall rating, variation and volume of consumer reviews, number of management responses, attribute ratings of purchase value, location and cleanliness.

Quantity of data produced by consumers online is increasing, therefore using technological tools for investigating consumer reviews makes sense for companies today. The next section will focus on data mining concept which is related to examine data to make meaning of them.

2.3. Data Mining

Data mining was defined as a process related to discovering patterns in data (Witten et al., 2016, pp. 6). As the amount of data increasing in recent years, the process of finding patterns in big data becoming important. Data mining methods used in many studies about online reviews. Singh et al. (2017) studied models based on machine learning to predict helpfulness of reviews. This model used textual features like subjectivity, polarity, entropy, reading ease. Salehan and Kim (2016) used sentiment mining approach for big data which consisted of reviews. They found that reviews with positive sentiment title had more readerships, reviews with neutral sentiment in the text were perceived more helpful.

Besides the general usage of data mining methods for review, evaluating what consumers mostly say for products and services in reviews is important. The linguistic which consumers use give information about what they feel. Guo et al. (2017) used latent dirichlet allocation method in their study to examine 266.544 reviews for 25.670 hotels located in 16 countries. The linguistic approach and this method were used to uncover dimensions of customer satisfaction. Beyond the big amount of data which hotel reviews include, augmented reality is a new concept that has few reviews. Augmented reality as a new type of application may cause different reactions to consumer side. So which words or word phrases reviewers use mostly is the focus of this study.

N-gram technique was employed in this study as a data mining method. Cavnar and Trenkle (1994, pp. 162) defined n-gram as n-character slice of a long string and n-gram in literature includes the meaning of co-occurrence of set of characters in a string.

3.Research

This exploratory study has preliminary characteristic which aims to investigate augmented reality mobile applications in Turkey market. As consumer have differences across cultures, online reviews are affected by cultural differences (Koh et al., 2010; Fant et al., 2013). This study aims to investigate AR applications in Turkey context.

As data source, applications for iOS platform were selected for this study and reviews were fetched using R programming language, RStudio software (RStudio Team, 2016) and itunesr package (AbdulMajedRaja, 2018). 8 categories and Augmented Reality category were used from "App Store" app in iOS. For 8 categories, most popular free applications were selected, for augmented reality category, the apps with more reviews were selected. The fetching process was implemented on 20 August 2018. The limitation of this study relies on the last 500 comments availability (technically iTunes store allows last 500 reviews) and sample size (5 applications for each category). KNIME Software was used for n-gram methods and SPSS software was used for correlation test.

First research question is related to evaluate augmented reality category with other 8 categories in application store. This process aims to have an integrated perspective which give chances to evaluate the state of mobile applications.

RQ1: What is the state of augmented reality applications comparing to other categories?

The means of rating scores of 45 mobile applications (5 apps for 9 categories) were calculated for this research question. Figure 1 has the means for categories, in addition to means of applications.
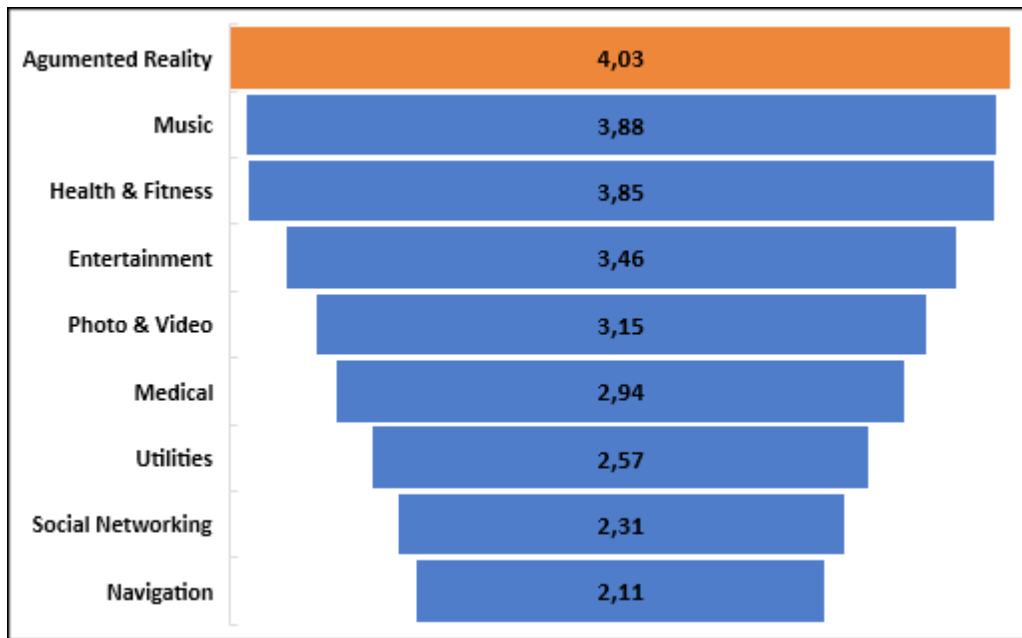

Figure 1. Mean Rating Scores for Categories

Figure 1 shows that Augmented Reality category is ranked 1ᵗʰ with 4.03 mean ranking score. Music- Health & Fitness, Entertainment the following categories. Navigation, Social Networking and Utilities are the last three categories which have minimum mean scores of all reviews.

RQ2: What is the state of rating scores for augmented reality applications? Does correlation exist between review length and rating scores?

First part of research question is descriptive nature consists to exploratory approach of this study. Applications chosen regarding to review numbers and chosen applications are NightSky, MeasureKit- AR Ruler Type, SketchAR: how to draw with AR, magicplan and Housecraft. Mean rating scores of each applications and all reviews are listed in Figure 2.
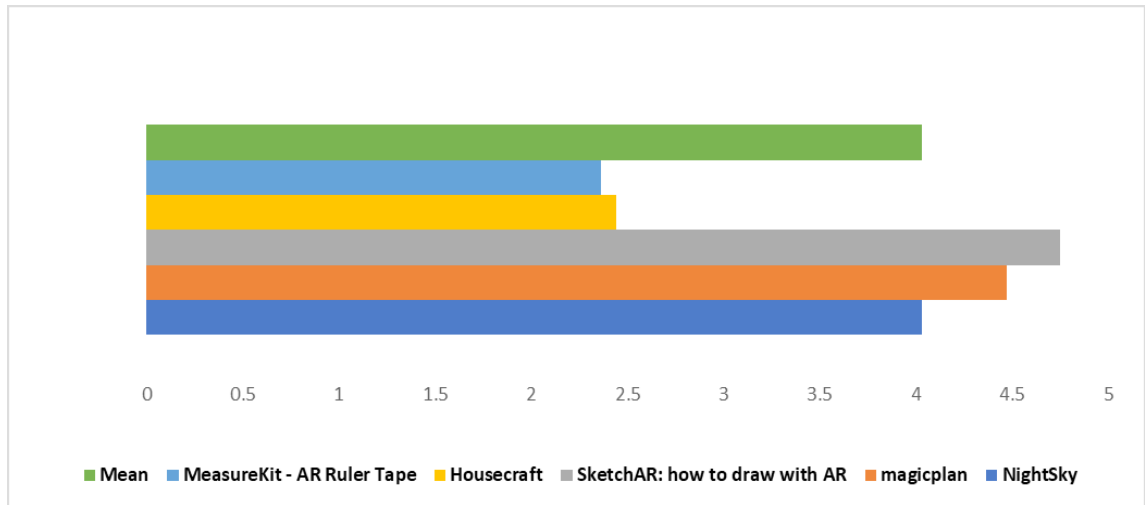

Figure 2. Mean Rating Scores of Augmented Reality Applications

According to Figure 2, mean rating scores of three apps (SketchAR: how to draw with AR, magicplan and NightSky) are higher than mean rating score of categories. Frequency of rating scores are presented in Table 2 and Figure 3.

Table 2. Frequency of Rating Scores

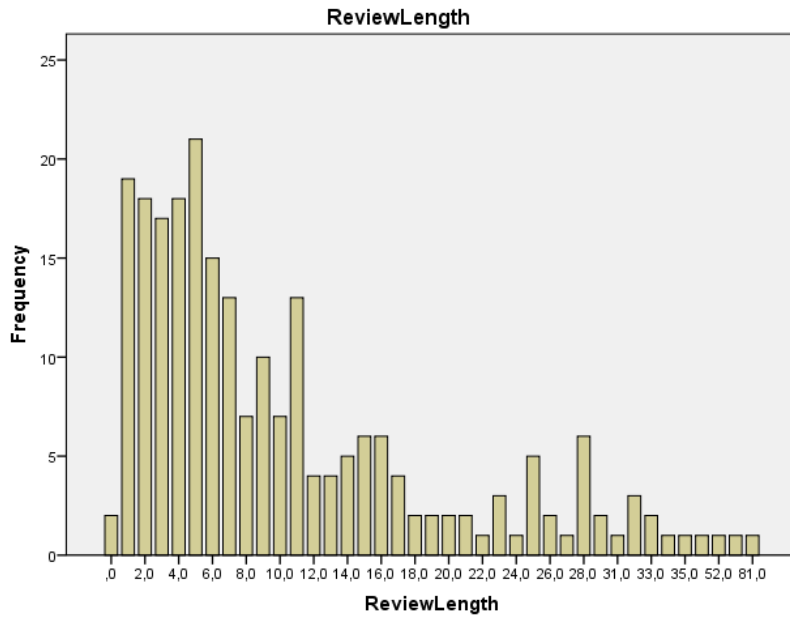|		Frequency	Percent
Valid	1,0	39	17,0
	2,0	6	2,6
	3,0	14	6,1
	4,0	20	8,7
	5,0	151	65,7
	Total	230	100,0

Figure 3. Frequency of Review Lengths

Augmented reality applications have mean rating score of 4.035 and 151 of 230 reviews are 5-point ratings. Review lengths are mostly below 20 words the mean review length is 10.64.

Second part of research question is related to length of review and rating score of reviews. A correlation test was used to examine relationship between length of review and score of review. Review length can be used to evaluate reviews. For example, Eslami et al. (2018) examined online reviews with helpfulness context and found that most helpful online consumer reviews had medium length, negative/neutral argument frame and lower review scores. Following the approach from literature, the correlation between rating score and review length was tested. Firstly, normal distribution of variables were checked regarding to the type of correlation test. As the variables were not distributed normally (Rating Score Kolmogorov-Smirnov p = 0.000, Review Length Kolmogorov-Smirnov p = 0.000), Spearman Correlation test was chosen. According to Spearman Correlation test, low correlation was found significantly (r= -0.183, p=0.005)

RQ3: Starting from linguistic approach this study has, what is the state of review contents of augmented reality applications?

First finding is related to graphical representation, word cloud of all the reviews. Word cloud contains the most used words in reviews.
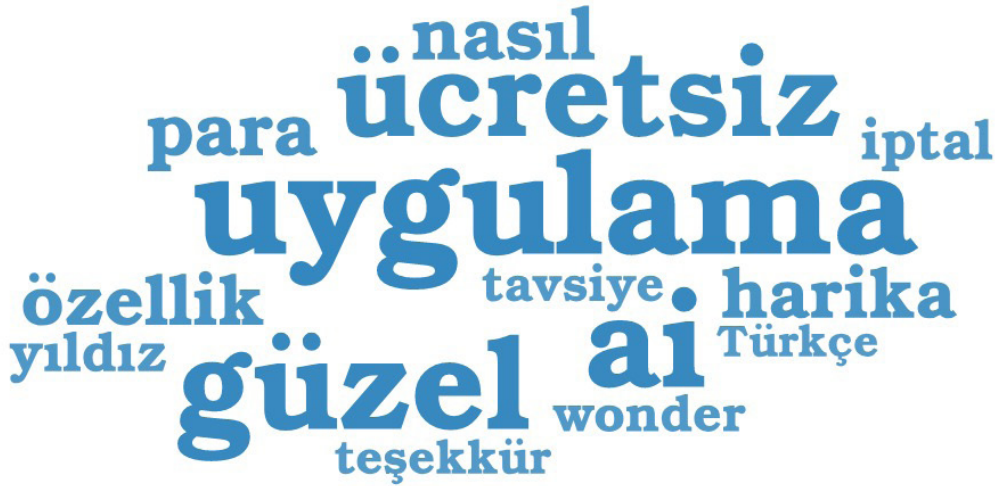
Figure 4. Word Cloud for All Reviews.

Figure 4 shows that most used words in all reviews are; uygulama (79), güzel (56), ücretsiz (40), ai (22), özellik (17), harika (12), teşekkür (11), nasıl (11), para (10). Translations for these words are application, good, free, ai, attribute, wonderful, thanks, how, money.

Second part of research question uses linguistic approach for detecting most used 2-grams and 3-grams in reviews.

Figure 5. 2-Grams for All Reviews

Figure 5 shows 2-grams from all reviews, these are; çok güzel (10), güzel uygulama (9), harika bir (6), tavsiye ederim (5), ai ücretsiz (3), the best (3), this perfect (3), haksız kazanç (3). Translations for these words; very good, good application, a wonderful, I suggest, ai free, the best, this perfect, unlawful profit.

Figure 6. 3-Grams for All Reviews

Figure 6 shows 3-grams from all reviews, these are; güzel bir uygulama (7), harika bir uygulama (5), gerçekten çok harika (3), it's wonder app (3), kullanışlı bir uygulama (3). Translations for these words are; a good application, a wonderful application, really great, it's wonder app, a useful application.

Conclusion

This study has two-fold aims, first one is related to evaluate the overall state of augmented reality applications in application store. Comparison to other 8 categories, means of categories and applications were presented. According to results, augmented reality applications have highest average score comparing to other categories. The rank of AR application rating score means was 1th. Augmented reality applications are mostly liked by consumers who written reviews. This conclusion has limitation with sample size because applications were chosen according to review numbers.

Second aim is related to evaluate augmented reality applications with 5 AR applications. Firstly, descriptive statistics about rating score and review length were presented. Mean score rating score for Augmented Reality is 4.03 and mean review length is 10.64. According to findings, consumers write short reviews, but they like AR applications. Correlation with rating score and review length was calculated. According to results 18% negative correlation was detected with rating scores and review length. This is a low degree correlation but statistically significant. It would be better with more reviews with more applications for future research.

Following descriptive statistics and correlation approach was employed, word-cloud about most frequently used words and n-grams were presented. Most frequently used words mostly related to positive expressions consistent to rating scores. Ücretsiz (free) and para (money) refer to financial side of applications. 2-grams are mostly related to positive statements, but one of 2-grams is "unlawful profit" is interesting. 3-grams have positive expressions but there is a functional statement "kullanışlı bir uygulama" (a useful application). Marketing managers can use the 2-grams and 3-grams about what consumers express about their experiences. In this study, we conclude that consumers mostly like AR applications, but some expression include financial and functional ones.

For the future research, linguistic approach was used in this study and n-gram method was employed. This method has limited characteristic consistent to limited amount of review data for augmented reality applications. For future researches, collecting more data for longer time period and employing extra linguistic approach is suggested. Sentiment analysis can be used for detecting sentiment in reviews and possible changes or polarity of reviews can be studied in a longer data frame.

The scope of this study was limited to Turkey country. But as previous studies stated cultural differences can impact the perception of applications. Comparing studies which include different cultures can contribute the augmented reality application literature.

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14

THE RELATIONSHIP BETWEEN NOMOPHOBIA AND CYBERCHONDRIA: A RESEARCH ON THE PATIENTS APPLYING TO THE UNIVERSITY HOSPITAL

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Abstract

The widespread use of smartphones, on the one hand, facilitates the daily lives of individuals while on the other side it causes many socio-psychological problems. One of these problems is nomophobia, which is defined as the fear of being deprived of the smartphone. As individuals spend more time on the smartphone, they are beginning to spend more time in the virtual environment, and as a result, individuals are able to learn different information in the virtual environment and search for their own diseases from the internet and go on their way to diagnosis (cyberchondria). In this study, it was aimed to investigate whether there is a relationship between fear of deprivation of smartphone (nomophobia) and sickness search behaviors on the internet (cyberchondria). For this purpose, 388 people who applied to the university hospital were easily sampled. The Nomophobia scale was used by Yildirim and Correira (2015) as a means of data collection by Yildirim et al. (2015) and the Cyberchondria Violence Scale was used by Selvi et al. (2018) in Turkish for validity and reliability studies. used. As a result, there was a positive and moderate correlation between the nomophobia and cyberchondria levels of the patients admitted to the university hospital. It was also found that participants who participated in the study were above the average of nomophobia and cyberkondria levels.

***Keywords:** Nomophobia, Cyberchondria, Patients.*

1. Introduction

Globalization, with the development of technology, dependence on smartphones entering our lives increases day by day. In the past, only the mobile phones found in mothers and fathers are seen in the hands of our children in every moment of life. Mobile technology has become a part of our age. While individuals are going to the sink, they want to keep their smart phones away even while they are a sleep. The disease of our age is defined as a modern disease and the fear of getting out of online communication. This increase in the number of smart phones brings with it the incidence of this disease. In today's world, it can be said that this fear increases with one-click doing all the works on smart phones and using social media tools all day long. Many applications in the phone make individuals dependent on the phone. The fact that smartphones constitute a large part of our lives and the ability to easily access everything from the internet pushes individuals to this disease.

With the use of the Internet and the increase of smart phones, cybercrystal, which is another disease of our age, has emerged. Another disease of our age is that individuals seek health information from the internet and diagnose the patient and think that the information they get from the internet is reliable. Smart phones that we

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have so easily accessible to the internet can be thought of as a tool to trigger cybercrystalline disease. The fact that access to the Internet is so easy and that health information is accessible also leads individuals to answer their questions on the internet when there is a health problem. In this disease, individuals use the Internet to diagnose any discomfort in themselves and self-diagnose. From this point of view, individuals who reach the internet easily with the smartphones that are under our hand diagnose themselves on the internet in any discomfort. There is a relationship between fear of separation from smartphone and disease search from internet and it was decided that this study is considered to be high in individuals with high levels of nomophobia. The main aim of this study is to find out whether there is a significant relationship between the nomophobia levels of the patients who applied to the health institution and the levels of siberkondri.

There are many studies investigating the nomophobia levels of individuals in the literatüre (Türen vd., 2017; Hoşgör vd., 2017; Bahl ve Deluliis, 2015; Sharma, 2015; Adnan ve Gezgin, 2016; Pourrazavi, 2014; Güzeller ve Coşguner, 2012; Takao vd., 2009; Yen vd., 2009; Lepp vd., 2014; Burucuoğlu 2017; Öz ve Tortop 2018; Polat 2017; Öztürk 2015; Aşık, 2018; Talan vd., 2017). Mostly determining the nomophobia levels of the students studies on the relationship between nomophobia and belonging there is no study examining the relationship between nomophobia and cyberchondri. Therefore, it is thought that the research will contribute to the elimination of a significant deficiency in the related literature and the findings may be the basis of reducing the nomophobia and cybernetic levels of the individuals.

2. Conceptual Framework

2.1. Concept of Nomophobia

The rapid change in information communication technology has influenced the lifestyles of individuals and many technological devices such as smart phones, tablets, notebooks, music players and e-book readers have become a necessity (Gezgin et al., 2017: Hoşgör et al., 2017: 575). Smartphones are the fastest change and development in this communication technology. While the mobile phone can be easily accessed, it is used to describe mobile devices that can download some applications that can connect to the internet (Gezgin et al., 2017:4). Especially the smartphones that are not in the hands of young people offer many opportunities. Individuals connected to the Internet easily with smart phones can download various programs, can connect to social networks such as facebook, twitter, surf the search engines, can control their e-mail, listen to music or even watch movies (Hoşgör et al., 2017: 575). Similar facilities like this make individuals connected to the smartphone and every day the young people who increase their loyalty to the phone face the fear and worry of being away from smartphones. The problem of overuse of the internet is brought to the low level of the use of smart phones. Individuals who did not take a step without a smart phone have become unable to handle any business without internet. The term ia no mobilephone phobia olan in English the most inclusive form of "fear of staying smart phone is defined as (Fadzil et al. 2016: 617). According to Yıldırım, "Nomofobi" the fear of a modern era caused by inability to communicate over the mobile phone or the internet.

The mobility of mobile phones (smartphones, shopping, health, sports, communication, social media, which provide awareness of everything) and the fact that they are accustomed to these opportunities are the reasons for fear. (Türen et al., 2017: 3; King et al., 2014: 28; King et al., 2010: 53). Increasing technology continues to make smart phones that are important in social life become indispensable. If individuals have access to the Internet almost everywhere, they can handle many jobs from their smart phones with just one click. Lack of these opportunities

creates a separate psychological disturbance in people (Öz ve Tortop, 2018:147). İndividuals who closely follow technology in our age and they tend to use the more smart phone "hello" to shoot video pictures outside to be able to say, to check the weather, use a map, perform batch transmission, in many aspects, such as business and trade shows that helped us. Smart phones settled in our lives have started to become addictive for individuals. Nomophobia is a state of stress and panic when away from smartphones. If the individual does not perceive the events in the environment and feels constantly controlling his / her smartphone, the disease is still in the first phase (Polat, 2017: 168). Nomophobia is a serious danger, especially for the younger generation. It has been revealed that young people are negatively affected physically and mentally and lead to negative situations such as sleep disorder, attention deficit, stress, alienation, distortion of finger structure, fatigue and anxiety (Pavithra and Madhukumar, 2015; Gezgin et al., 2017, Kaur and Sharma, 2015; Broughton, 2015).

Nomophobic individuals;

• Using the phone regularly,

• Constantly looking at the screen,

• Check if there are any messages,

• Not to take the phone,

• An increase in anxiety and anxiety occurs when he leaves the phone (Bragazzi and Puente, 2014).

The term nomophobia was first introduced in a UK study in 2008. According to the results of the survey, 53% of the participants found that when they lost their smart phones, they felt uneasy when their batteries were finished (Bahi and Deluliis, 2015: 745). Dixit et al. (2010) found that 39.5% of the participants were nomophobic in a study conducted in India to reveal the mobile phone dependencies of the students.

2.2. The Concept of Cyberchondria

In the 21st century, the widespread use of social media networks and computer internet smart phones cause many social and mental problems. It has been observed that the types of diseases such as cyberchondria, which can be expressed as e-disease, have effects on society. In this respect, direct health sociology is important because it is a condition that is related to the field of health psychology and the disease of our age. Easy and instant access to every information we want and the ease of access to such information under our hand constantly pushes individuals to laziness. The information we look for on the internet, from cooking to the repair of a technological tool, provides convenience in every aspect of our lives. It is thought that this situation is triggered by siberkondrinin, which is called as the disease of our age and which means that individuals should diagnose themselves by searching for health information from the internet.

Cyberchondri is the use of the Internet in accessing medical information instead of traditional methods such as research in libraries or medical journals (Hart and Bjorgvinsson, 2010). White and Horvitz (2009: 23), reviewing search results on the web and raising concerns about common symptoms, Mcelroy and Shevlin, (2014: 259), describe the use of the Internet to investigate health and medical information as an increase in health fears. Bouwman et al. (2010), the internet has many benefits in the diagnosis of rare diseases. Having smart phones under the hands of individuals is clear proof that they can access any kind of information from the internet at any time. When this happens, the individual who reaches the internet at all times will try to diagnose himself by searching for more health information. Many mobile health apps can be installed on smartphones. Mobile health

applications, as well as some sites for the diagnosis of disease, provides the convenience of individuals to reach the information they always want. The fact that smartphones enter this level of life and our smartphones are more accessible make us more dependent on phones.

The dependent individual is faced with a nomophobia phenomenon. Thanks to the internet on smart phones, many individuals now have the health information they want, so they can diagnose themselves by writing the symptoms on the internet. It can be said that the fear of losing their health before people's fear of being away from the phone outweighs. Since health cannot be substituted, individuals live in fear of losing their health. The spread of the Internet and the fact that the smartphones are below our hands set the stage for the individual to apply to the internet when he/she sees any signs or symptoms in his / her health. The person who accesses the Internet easily is investigating the disease whose symptoms are seen on the internet instead of going to hospital. From this point of view, it is thought that there is a relationship between nomophobia and cyberchondri.

3. Methodology

3.1. Aim of the Study

The study aims to investigate a relationship between the fear of deprivation of the smartphone (nomophobia) and the disease seeking behavior (cyberchondria).

3.2. Population and Sample

The population of this study consists of all patients admitted to a university hospital. The sample of study was determined as 95% confidence interval and 5% error margin was 388. In the study, 388 participants were reached using the easy sampling method.

3.3. Data Collection Tool

In the study, the Nomophobia scale which is validated by Turkish society for its validity and reliability by Yildirim et al. (2015) and the Cyberchondria Severity scale which is validated for Turkish by Selvi et al. (2018) was used.

3.3.1. Scales

Nomophobia scale, which is used as data collection tool in the study, is composed of 20 items. Nomophobia scale consists of "Not Online, Loss of Communication, Inability to Access Information Lack of devices dimensions. If the level of participation of the respondents in the statements is not attended at all, the scale is scaled as "1" and "5". Reliability values of the sub-dimensions of the scale; the dimension loss of communication was found to be 0.84, the non-online dimension was 0.84.

The study was conducted by Selvi et al. (2018) and the Turkish version of Cyberchondria Severity was used. Cyberchondria scale consists of 33 items with 5-point Likert type. The Siberkondri scale consists of "Distress," Necessity "," Assurance ", and" Excessiveness ". If the level of participation of the respondents in the statements is not attended at all, the scale is scaled as "1" and "5". Reliability values of the sub-dimensions of the scale; The size of the distress was 0.75, the necessity dimension was 0.81, the assurance dimension was 0.64 and the excesssiveness dimension was 0.75.

4. Findings

In table 1, Demographic findings of the participants included in the study.

Table 1. Demographical Attributes of Participants to the Research

Gender	f	%
Male	203	55,9
Female	160	44,1
Age	**f**	**%**
0-35	198	55,2
36<	161	44,8
Marital Status	**f**	**%**
Single	168	48,7
Married	176	51,3
Time to Start Using Smartphone	**f**	**%**
Less than 1 year	25	7,3
1-2 year	51	14,9
3-4 year	115	33,6
Over 4 years	151	44,2
Daily Use Smartphone Using Time	**f**	**%**
1-5 hours	82	23,6
06.Eki	110	31,7
Kas.14	99	28,5
Over and 15 hours	56	16,1
Gender	**f**	**%**
Male	203	55,9
Female	160	44,1
Age	**f**	**%**
0-35	198	55,2
36<	161	44,8
Marital Status	**f**	**%**
Single	168	48,7

Gender	f	%
Married	176	51,3
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Over 4 years	151	44,2
Daily Use Smartphone Using Time	**f**	**%**
1-5 hours	82	23,6
06.Eki	110	31,7
Kas.14	99	28,5
Over and 15 hours	56	16,1

Table 1 shows the distribution of patients admitted to the university hospital according to various independent variables. 55.9% of the participants were male and 44.1% were female. When the marital status is examined, it is seen that 51.3% of them are married. 55.2% of the participants were aged between 0-35 years and 44.8% were older than 36 years of age. It is seen that more than half of the participants were using smart phones for 3 years or more. 31.7% of the participants use 6-10 hours, 28.5% 11-14 hours, 23.6% 1-5 hours and 16.1% 15 hours and more daily smartphones.

Table 2: Psychometric Properties of Nomophobia Dimensions

Dimensions	Number of statement	Max/Min	Cronbach Alpha	$\bar{X}$	Ss	Normality Test	
						Kurtotis	Skewness
Loss of communication	6	1-5	0,84	4,45	1,30	-0,35	-0,09
Be not Online	4	1-5	0,84	3,76	3,76	-0,58	0,25
Inability to Access Information	4	1-5	0,79	4,02	1,45	-0,30	0,09
Lack of Device	2	1-7	0,65	4,15	1,57	-0,55	-0,13

In Table 2, nomophobia scale consists of 20 questions, 4 dimension, loss of communication dimension 6, be non-online dimension 4, inability to access information dimension 4 and lack of device dimension 2. When the reliability values of the nomophobia dimensions are examined; loss of communication was found to be 0,84, non-online 0,84, inability of access of information 0,79 and lack of device dimension of 0,65. These values confirm that the scale is reliable. When the data are tested for normality, it is seen that the data is normally distributed.

Table 3. Psychometric Properties of Cyberchondri Dimensions

Dimensions	Number of statement	Max/Min	Cronbach Alpha	X̄	Ss	Normality Test	
						Kurtotis	Skewness
Distress	7	1-5	0,75	3,76	1,14	0,12	-0,05
Necessity	8	1-5	0,81	3,36	1,19	0,55	-0,02
Assurance	6	1-5	0,64	4,03	1,07	0,10	0,03
Excessiveness	7	1-7	0,75	4,26	1,05	-0,14	0,12

In Table 3, the cyberchondri scale consists of 28 questions in 4 dimensions, 7 of which are the dimension of the distress, the dimension of the necessity 8, the dimension of the assurance 6 and the dimension of the excessiveness of dimension 7. After factor analysis, 5 items were removed from the scale. When the reliability values of cyberchondri dimensions are examined; It was found that the distress dimension was 0.75, the dimension of the necessity was 0.81, the assurances dimension was 0.64 and the excessiveness dimension was 0.75. These values confirm that the scale is reliable. When the data are tested for normality, it is seen that the data is normally distributed.

Table 4. Correlation Table of Nomophobia and Cyberchondri Scale Dimensions

Dimensions*	1	2	3	4	5	6	7	8
(1) Loss of Communication	1							
(2) Be not Online	0,59**	1						
(3) Inability to Access Information	0,55**	0,57**	1					
(4) Lack of Device	0,58**	0,54**	0,54**	1				
(5) Necessity	0,46**	0,64**	0,49**	0,44**	1			
(6) Distress	0,51**	0,58**	0,46**	0,44**	0,68**	1		
(7) Excessiveness	0,58**	0,53**	0,51**	0,46**	0,53**	0,59**	1	
(8) Assurance	0,50**	0,52**	0,47**	0,49**	0,56**	0,62**	,647**	1

* 0.05 level is significant.

In Table 4, the main problem of the study is the relationship between nomophobia and cyberchondri correlation analysis is examined; there was a moderatetly positive correlation between loss of communication and necessity, moderately positive correlation loss of communication and distress, moderately positive correlation between loss of communication and excessiveness, and a moderately positive correlation between loss of communication and assurance

A moderately positive relationship was found between the sub-dimension of the nomophobia scale, the inability to be online and the necessity to be positively moderate level between inability to be online and distress positively moderate level between excessiveness and inability to be online positively moderate level between inability to be online and assurance. There was a moderate positive correlation between the dimension of the inability to access

information and the dimensions of necessity, distress, excessiveness and assurance. Findings similar to the inability to access information were obtained in the size of the device which is the sub-dimension of the nomophobia scale.

5. Discussion and Conclusion

In this study, the relationship between the nomophobia levels of the patients and the level of cyberchondri was investigated. According to the findings; there was a significant positive correlation between nomophobia and cybercondria. A young and old child can now access the internet via smartphones. According to the results of the research, there is a significant relationship between nomophobia and cyberchondri disease, which is known as the disease of seraching in the Internet.

Matoza-Báez, C.M. and Carballo-Ramírez (2016) conducted a study to determine the nomophobia levels of 234 medical students. According to the results of the study, there is a negative relationship between nomophobia levels and academic performance. In addition, 15% of these students were found to be nomophobic. Similarly, in another study conducted by Nikhita et al. (2015), 31.3% of the students were found to be nomophobic. As a result of the study conducted by Gezgin et al. (2017), a significant difference was found between the number of times students checked their smart phones in a day and their nomophobia levels.

In the study of Pavithra and Madhukumar (2015), it was found that 49% of respondents checked their phones 2-3 times an hour to check for new incoming messages, e-mails or calls. Bianchi and Phillips (2005) stated that gender had an effect on mobile phone usage and women had more technological devices than women. Again, according to the results of the research conducted by Shar and Civan (2015), the average of female mobile phone usage is higher in female students. Although it is considered that women may be the reason for this difference because of communication, it is thought that this issue needs to be investigated in detail.

Tavolacci and his associates (2015) found that one of three students was nomophobic in another study that determined the nomophobia levels of French students. According to the results of Sharma et al. (2015), 73% of medical students in India were nomophobic. Cheever and his colleagues (2014) found that students who were separated from the smartphone had higher levels of anxiety and that the need for withdrawal for smartphones was higher than those using low levels.

Randler et al. (2016: 465) concluded that depression and physical disorders may be seen in individuals due to nomophobia. Kanmani et al. (2017: 6), in their study on 1500 smart phone users, the participants were separated from the phone when the panic attack, shortness of breath and joint pain have determined that side effects such as. Traveler and Cakir (2016: 2506) found that nomophobic individuals showed the same symptoms as individuals with psychosocial disorders. Tao et al. (2017: 2) stated that the use of excess mobile phones posed a threat to the physical and mental health of students.

In another study by Starcevic and Belle (2013), it was found that the internet was used in extremely health related searches and had a relationship with the level of anxiety. In a study by Lewis (2006), which aims to measure the impact of online health information on young adults, it has been concluded that the search for health information from the Internet has a significant impact on young people and that the Internet has prevented the monopolization of doctors about health information.

This study was conducted only on the patients who applied to health institutions and the results were limited within the framework of the participants. In order to make generalizations, it should be known that the same scale should be applied in different regions, in different sectors and on different scale enterprises.

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15

ONLINE HEALTH CONCERN: CYBERCHONDRIA

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Abstract

The development of technology computer internet smart phone, excessive use of social media networks cause many social and psychological disturbances. Ego surfing, nomophobia, FOMO, enfornography, cybercondik, photolurking, hikikomori, cheesepodding etc which can be expressed as e-disease. It is observed that the disease types are the effects on the society. Cyberchondria is the process of researching the disease and self-diagnosis using the Internet instead of diagnosing diseases such as libraries and medical journals or medical examination. It appears that the cyberchondria was formed with five basic goals. Determining whether participants with high health anxiety use the Internet for health information more than those with low health anxiety, identifying the frequency and duration of online health information search for participants with low and high health concerns, determining the distress and concern differences that arise after searching for online health information, identifying the differences between species and resources, identifying participants' perceptions of accuracy towards online health information, and their relationship to health concerns. In this study, we focused on cyberhondria disease, a kind of e-disease, and used literature studies to search the literature, and some of the resources that cybercondrivers access online are addressed.

***Keyword**s: Cyberchondria, E-disease, Health Sociology*

1. Introduction

With the development of globalization and technology, the internet entering our homes provides us with plenty of access to information. Easy and immediate access to every information we want and the ease of access to such information under our hand pushes individuals to laziness at the least. The information we look for on the internet provides convenience in every aspect of our lives, from cooking to the repair of a technological tool. In fact, this convenience individuals to investigate their own health through the Internet to comment on the health is pushing. However, this situation requires us to accept the information we have found, as it is, without questioning how accurate the information we are looking for on the Internet. Individuals should accept the fact that not all information obtained from the Internet is correct.

Specifically, it is not relevant to individuals to determine the accuracy of the research data on health. However, cyberchondria disease, which emerged as the disease of our age and which requires individuals to diagnose the patient by looking for health information and trust in all kinds of health information they have acquired from the Internet, has emerged as a disease brought by access to technology and technology. The fact that access to the Internet is so easy and that health information is accessible also leads individuals to answer questions on the Internet when there is a health problem. It has become very common to access health information online

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worldwide. According to one survey, more than 75% of respondents in the nine countries (Russia, China, India, Mexico, Brazil, USA, Italy, Australia and Germany) use the Internet about health-related problems (McDaid, Park 2010; cited in. Starcevic and Berle, 2015: 106).

A study conducted by Harris (2010) in the United States found that almost 90% of adults search for health information at least once on the Internet. By searching through the web, individuals can reach misleading information about their health problems. Health-related information may cause many negative effects on the individual when the doctor applies, such as delaying the treatment process of acute or chronic diseases, endangering their own health by methods such as dieting, applying treatment methods according to their diagnosis. The era of developing technology shows us that the most popular source of health is Internet. Because the Internet is a valuable source of medical information and offers accessible services at any time and place. It encourages interaction by providing information access between professionals, caregivers, healthcare users and people interested in health information. With the Internet being a frequent condition to find information about symptoms and diseases, the term cyberchondria has started to gain importance.

2. Conceptual Frame of Cyberchondria

2.1 The Concept of Cyberchondria

Cyberchondria is one of the most common e-diseases. This disease has emerged in consumers who become addicted to health as a result of paying more attention to consumers' health (Loos, 2013: 439). According to Hart and Bjorgvinsson (2010: 439), cyberchondria was produced in order to identify the phenomenon of Internet use, which started with the popularization of medical information exchanges. Initially, in the popular media, especially the cyberchondria the word originated in England in the 2000s, it began to attract attention in the coming years following the Times newspaper. In the Times newspaper has published an article about the cyberchondria of individuals suffering from any illness beliefs on the Internet (Rogers 2000, cited in; Loos 2013: 440).

In 2001, both the BBC and The Independent newspaper published news about the cyberchondria (Vallely, 2001). Later on, with the development of the technology age and the ease of access to information, news about cyberchondria increased. In 2006, 2009, 2013, news about cyberchondria was more frequent; In 2017, there was an increase in the number of reports showing that cyberchondria was associated with anxiety (URL1, URL2, URL3).

There are many definitions in the literature about cyberchondria. Bellinger (2006: 385) "increased with exposure to Internet-based information health concerns," Harding et al (2008: 315), health concerns stemming from online health research, White and Horvitz (2009: 23), and reviewing the search results on the web and joint concerns about the symptoms, Recupero (2010: 26), the increase in fears of health of consumers using the Internet to investigate health and medical information, Aiken and Kirwan (2014: 158) health care, Mcelroy and Berle (2014: 259) excessive review of online health information and increased anxiety of one's own health status, Fergus (2013: 735) search for medical information on the Internet to exacerbate health anxiety and Starcevic and Berle (2013: 206), excessive or repeated search for health-related information on the Internet as defined.

Cyberchondria is also described as the search for information on excessive health related to the need to alleviate the problem of distress or anxiety that reflects health. The discovery of new information and pathologies online increases the concerns of the individual (Starcevic and Aboujaoude 2015: 98). In other words, as a result of research

done on the Internet health information and patient people feel uncomfortable and self-defined as an extreme form of treatment methods calls from the Internet. The concept of cyberchonria; It is used to express the individuals who are worried about health information obtained from Internet (White and Horvitz, 2009: 4). According to all these definitions, it can be defined as, panic process in which the individual starts to have a problem with his / her health and tries to diagnose the patient according to the data he/she researches on Internet.

2.2 An Overview of Online Determinants for Cyberchondria's Disease

Compared to the search for interpersonal trust, online searches are less reliable because health research over the Internet is not designed to provide non-contradictory, accurate information. Therefore, information obtained online may increase health uncertainties. In addition, individuals with cyberchondria may experience a contradiction in making a distinction between reliable and unreliable online sources of information. This contradiction varies depending on the education level of the individual, information processing capabilities and technological success (Starcevic and Berle 2015: 207).

In the United States, more than 110 million individuals have access to the Internet for health information. The quality of information in accessing online information varies. Cyberchondria, a term that defines everyone who wants health-related information on the Internet, brings with it the risk of obtaining unreliable information. For example, pharmaceutical companies constitute the pharmaceutical market with symptoms such as selling over-the-counter drugs or various psychological disorders on inexperienced adolescents (Smith et al., 2006: 209). The Internet facilitates individuals' access to information while posing doubts about the quality of online health information records (Powell et al., 2003: 75). The fact that the Internet is so easily accessible changes the way in which the patient is accessing information. Today's young people grow up on the Internet and call the information as the first port to see the Internet from the Internet to reach everything. Therefore, the disease is seen as the disease of our age.

One of the reasons for Cyberchondria is the spread of the fear of the individual. Cyberchondria's disease, which is defined by fear of disease symptoms over the years, increases with the economic problems experienced today. In addition, individuals think that self-diagnosis is more appropriate than the treatment of a doctor, and fewer doctors are consulted (Davidson, 2009; cited in Elciyar and Taşcı, 2017: 236). Individuals should pay attention to reliable sources, especially when using an online health information controller for symptoms. Access to online health information resources is facilitated by the growth of the technology age, but it should be kept in mind that most sources of information are suspicious. The following table addresses some of the sources of online health information:

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Table 1. Some Sites Determined from the Internet Diagnosis

No	Websites	Supervisory Institutions	Features
1.	https://familydoctor.org/diseases-and-conditions/	American Academy of Family Physicians	• The query is initiated by selecting a symptom from the limited symptom list. • The symptom checker then uses a flowchart with a series of questions that provide the number of diagnostics.
2.	https://symptoms.webmd.com/default.htm#introView	WebMD	• After entering gender and age, the body part of the disease symptoms is selected. • A citation at the bottom of each diagnostic page shows when and when the page was last reviewed and where the information was obtained. • Page entries are reviewed by doctors and content is obtained from sources such as MedlinePlus, FamilyDoctor.org and WebMD member Medscape.
3.	https://www.mayoclinic.org/symptom-checker/abdominal-pain-adult/related-factors/itt-20009075	MayoClinic.com	• This symptom checker starts by bringing a limited number of symptoms to the list of symptoms (ie, dizziness, wheezing, sore throat). After selecting the most relevant symptoms, users are given a series of questions to help reduce the likely causes of symptoms. • A list of possible diagnostics is displayed and users can click on each diagnosis to get additional information from Mayo Clinic's extensive online patient training materials. A list of A-Z symptoms is also available.
4.	https://www.healthychildren.org/english/health-issues/pages/default.aspx	American Academy of Pediatrics1	• Users are given the option of coming over the area in which the child suffers. • Certain symptoms are displayed here, and clicking on one of them leads users to a list of possible educational content as well as a list of possible causes.
5.	https://symptomchecker.isabelhealthcare.com/	Charity of Isabel Healthcare	• Approximately 6,000 patients, this symptom checker prompts the user to show their age, gender, pregnancy status and geographic area, and then allows the user to enter symptoms in a search box in the native language. • The individual results also show which medical specialty is a disease.

Preceded by Loos, 2013: 442

As seen in the table above, besides the numerous sources of information that will push individuals from the Internet to the disease, they are located on the sites that are audited. However, although individuals search on the internet for some symptoms, they need to apply to the health center to make a correct diagnosis. Searching online and quality health sites is less risky compared to other sites. Health literacy, personal status and risk factors for health problems affect the severity of cybercussion.

Search engines, diagnostic internet sites, health applications, media and health programs on television are encouraging individuals to be concerned about their health. In one study, 10% of the participants stated that they were afraid of the health information they had researched on the internet (Aiken et all, 2012). The presence of large amounts of medical information on the Internet makes some individuals mistaken about health problems. Many researchers have done research on the unreliability of web content. Eysenbach (1998) emphasizes that the quality of medical information is particularly important. Because misinformation about health can cost the lives of individuals. For this reason, the information on the internet must be of high quality and prepared by taking the Hippocratic oath in order to avoid any danger.

Jadad and Gagliardi (1998), in a study to rank the health information researched on the Internet, there are many advanced tools to evaluate health information, but they have insufficient and uncertain to measure health problems have been suggested. Berland et al., (2001) stated that some of the information available on their website is correct and valid, but not complete. In a study which evaluated the quality of health information for consumers made by Eysenbach et al. (2002), it was argued that the quality of health data researched on the internet for the world wide should be good. In a study conducted by Biermann et al. (1999), it was determined how many times the individuals received help from these sites and tried to diagnose them to determine if they had a disease called Ewing Sarcoma, which is a rare bone disease, especially in search engines like Yahoo, Altavista, Infoseek. In another study by Benigeri and Pluye (2003), because complex terminology and medical explanations were perceived differently by each individual, they emphasized the necessity of referring to health professionals when they were searching information from the internet because individuals were at risk of being harmed while treating themselves. In a study conducted by Baker et al. (2003) in order to measure the effects of internet and e-mail in obtaining health information, they concluded that users rarely communicate with doctors via e-mail and mostly seek health information via the Internet. Research shows that 8 out of 10 American adults are seeking health information from the internet (Fox, 2006; cited in. Elciyar and Taşçı 2017).

In a study by Lewis (2006), which aims to measure the impact of online health information on young adults, it has been concluded that the search for health information from the Internet has a significant impact on young people and that the Internet has prevented the monopolization of doctors about health information. In another study by White and Horvitz (2009), the ranking of the results by the search engines is that they affect the health diagnosis of the individuals themselves. In other words, the participants who participated in the study argued that the data that were in the first place in the search engine were more reliable and they diagnosed themselves. As a result of their research in Boot and Meijman (2010), they stated that search for health information provides motivation for individuals. They stated that health information was sought on the internet in order to validate the available information, to investigate information for entertainment, to perform self-fulfillment, to develop self-esteem.

Muse et all (2012) in a study examining the relationship between health anxiety and cyberchondria health care individuals with a high degree of health research to investigate more information, online health information in the Internet on the frequency of frequency of research, online health information after the investigation of the degree of anxiety affects the level of cyberchondria effects. In another study by Starcevic and Belle (2013), it was found that the Internet was used in health-related searches and had a relationship with the level of anxiety. In the study, which was conducted by Uzun (2016) and aimed to measure the level of cyberchondria in university employees, it was concluded that the cyberchondria levels of the individuals were moderate. In addition to this, it was concluded that the cyberchondria scores of the drug users were high. In other words, it can be said that

individuals who do not go to the doctor tend to be more Cyberchondrian. Elciyar and Taşçı (2017) aimed to measure the Cyberchondria levels of university students. In another study conducted by Altındiş et al. (2018), it was concluded that individuals trust in health related issues on the Internet and that they made research on the internet before they started the proposed treatment and that they were suggesting medicine to the physician.

3. Results

Instead of looking for medical health information on the Internet, individuals should go to health institutions which are the most reliable sources and decide on their illness after the necessary treatment procedures. Cyberchondria is a disease brought by the digital age. Individuals should keep in mind that these sites will not be reliable when accessing health-related online health records. Internet access from anywhere provides information to our feet. Providing the use of the Internet to find out the details of a diagnosed disease, the person will be prevented from producing his / her own illness only by informing and educating individuals. In addition, many pharmaceutical companies in the market, especially on adolescents because of psychological disorders, affect the psychology of adolescents and sells drugs. Therefore, pharmaceutical companies need to be people-oriented, not profit-oriented. Too many visits to medical websites damage your health. As it is not possible to reduce the number of web sites related to health, individuals need to act consciously. It is also necessary to take precautions for the determinants of online health. Inspections should be provided with the necessary mechanisms and further studies are needed for the detection of cibercondriacs.

Although it is easy to reach a lot of health related data, physicians should be consulted about the disease in order to prevent the wrong data and records from being taken by patients with a vulnerable mass and not to cause any possible effects. It should be kept in mind that every disease will not show the same symptoms in every individual and the community should be made aware of this. With the dissemination of health and medical information on the Internet, it can be concluded that the information obtained from each site is not of good quality, problems may be encountered in understanding the information considered to be high quality and the risk potential for some diseases can be high. In order to overcome such problems and dangers, it is important for health professionals to take part in the design of these sites. Considering that the Internet has a great impact on health beliefs and behaviors, it is necessary to act on the idea that health information on the Internet can be of vital importance and health information on the Internet should be of such quality. It is necessary to prove the trustworthiness of certain health sites by getting support from health professionals and by experts in the field of health informatics and to be announced to the public.

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CHANGING ORGANIZATIONS
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The motivation of this book is the need for understanding the new debates from the psychological and technological perspectives of business organizations. The first part includes topics related to organizational behavior that define some of the contemporary issues such as job satisfaction, leadership, procedural justice, conflictions and ambiguities. Part II deals with auditing and accounting topics indicating the selection of audit firms and gender in the accounting profession. Part III, discusses new methods and approaches in product management and marketing that gain importance parallel to development in commerce. Part IV is also on data mining which is one of the contemporary topics in operating systems in organizations. Finally, the last part of the book, related to the healthcare management which is about nomophobia and cyberchondria, two kinds of e-diseases.

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Hakan Kapucu
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