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THE RELATIONSHIP BETWEEN GENDER DISCRIMINATION PERCEPTION AND MOBBING FROM THE PERSPECTIVE OF EUROPEAN UNION AND TURKEY

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ABSTRACT

Purpose - Discrimination is an individual's exposure to unfair behaviors due to some factors such as gender, age, race, income and social status. The perception of gender-based discrimination was evaluated from the perspective of European Union and Turkey and it was aimed to explain the relationship between the perception of gender-based discrimination and mobbing in this study.

Methodology - In this study, a survey was conducted to the academicians working at Afyon Kocatepe University. For the validity and reliability of the survey Structural Equation Model was tested with SPSS 16 and AMOS 19 programmes and the hypotheses were tested by AMOS 19 programme. In the study analyzed whether the perception of gender discrimination increased the emotional violence in workplaces or not, in other words its relation with mobbing.

Findings- According to the outputs of Structural Equation Model, the presence of the effect of the perception of hostile gender discrimination was identified; however, it was revealed that the perception of benevolent gender discrimination had no effect on mobbing.

Conclusion- In the studies to decrease the perception of gender discrimination in society should be conducted in order to prevent the incidence of mobbing. The most important step to take for EU countries and Turkey about mobbing is to legislate in this field. Legal practices and sanctions to prevent mobbing should be implemented. It is also important to create awareness in the society in this issue. This awareness should be supported by mass media to enhance the awareness.

Keywords: Gender discrimination, mobbing, structural equation model, European Union countries, Turkey.

JEL Codes: J16, M50, M54

1. INTRODUCTION

Gender discrimination includes all types of gender-based discriminations, exclusions and restrictions, which aim to prevent and restrict the use of human rights and freedoms for women based on the equality of women and men in political, economic, social, cultural, personal or other fields. Women are exposed to gender-based discrimination in both business and social life and they need to fight against to overcome it. In fact, there is a need to focus on gender discrimination within the scope of Constitution based on providing equal rights and freedoms to all humanbeings and prevent it. Discrimination is all types of behaviors intending to prevent rights and freedoms to be benefited equally by all humanbeings. Gender discrimination is one of the discrimination types and it is a phenomenon that needs to be eliminated due to its various negative effects on both social and business life. It is a situation preventing a person from certain powers and responsibilities due to the gender despite being the competent of the work, in other words depriving someone from some rights due to the gender and some examples can be seen in both European countries and Turkey.

The rest of this paper contains five sections. Section 2 provides literature review on gender discrimination and mobbing. Section 3 includes the relationship between the perception of gender discrimination and mobbing in European Union countries and Turkey. Section 4 describes our data and analyses that consist of sample selections, data, and variables

measurement. Section 4 reports the findings of this study including descriptive statistics, correlation analysis, and Structural Equation Model for hypothesis testing. Section 5 recommendation and concludes.

2. CONCEPTUAL FRAMEWORK

Discrimination is defined as behaving someone in an undeserved way and in a manner different from others due to various reasons. Discrimination may happen in various ways. There may be discrimination for many reasons such as language, religion, race and physical appearance, place of birth, financial status, and social status of a person. In the study gender discrimination was evaluated.

Mobbing is a concept defined as emotional violence as well as it is cruel treatments and behaviours on people in workplaces. Mobbing is a social phenomenon that is analyzed in the whole world and needs to be prohibited and prevented.

2.1. Gender Discrimination

When we look at the literature, we can see lots of studies on gender discrimination and its reasons. Stainback et al. (2011) researched the reasons of social gender discrimination. Öztan (2004) in his study researched the regulations needed to be done in order to create and develop discrimination policies to ensure social gender equality. Sarı (2017) researched the role of gender-based discrimination in business and political life of women in Turkey. Şen (2018) in his study evaluated the gender-based wages equality within the scope of European Union and Turkey. Konuk (2014) researched the gender discrimination from the perspective of European Union Law. Çiftçi (2010) in his study concluded that income difference between men and women affected the tendency for labour force participation through the econometrics practice in 15 European countries and Turkey. Sipe et al. (2016) in their studies tried to determine the perception of gender discrimination in the research conducted between 2006 and 2013. Khan et al. (2018) measured the gender discrimination perceptions of university students. In the survey study with 150 students from different countries they concluded that the gender factor made a significant difference in the perception of gender discrimination; however, education and age factors did not. Skewes et al. (2018) researched the relationship between the perception of gender equality and the gender role in the surveys and they conducted the study in two different countries. Snizek and Neil (1992) in their study analyzed the underlying processes of gender discrimination. In the survey in Australia with 625 female and 512 male participants they concluded that 37% of the women and 41% of the men experienced the discrimination everyday. Sipe et al. (2009) tried to determine the expected gender discrimination perception of students. In the survey that they conducted with 1373 university students they argued that the perception of female students would be higher. Zeher (2011) focused on the importance of gender inequality and gender discrimination. He stated that organizational factors and stereotyped prejudices about gender may cause the discrimination. After analyzing 209 court files about gender discrimination, he emphasized the effects of cultural, structural and interactional processes on gender discrimination.

What makes Ambivalent Gender Discrimination Theory remarkable in the field of discrimination is the perception of benevolent and hostile gender discrimination. A patriarchal understanding regards women as weak and powerless; and therefore, they need to be protected by men who are stronger than women and suggests that women need to be helped and supported economically, and it is dominant in benevolent gender discrimination. There are more negative attitudes which argue that women are not sufficiently grateful for what men do for them in hostile gender discrimination in which a dominant patriarchy is effective. Patriarchy serves to men's dominance in the society no matter how gender discrimination occurs in the society either in a hostile or benevolent manner. This relationship in a hostile gender discrimination works as intersexual competitive differentiation; however, it works in benevolent gender discrimination as intersexual complementary differentiation. Establishing the superiority of men to women by comparing them and satisfying personal emotions by exaggerating this superiority include intersexual competitive differentiation. The differences between men and women are presented in order to trivialize women. However, intersexual complementary differentiation regards women and men as two parts complementing each other. It presents the traditional sexual differences by accepting the idea that women and men need each other. With the thought that men have to work outside, but women have to work inside it legalizes the traditional gender roles and the distribution of these roles under the cover of doing a favour for women. Finally, heterosexuality is one of the important resources of gender discrimination. The most effective way that heterosexuality uses in order to be a resource of gender discrimination is that a romantic relationship to be established with the opposite sex is the primary condition for the happiness in life (Glick and Fiske, 1996: 493).

2.2. Mobbing

When the word mobbing is etymologically analyzed, "mob" comes from the word "mobile vulgus" which means "the fickle crowd" in Latin. The concept of mobbing was used for the first time by Konrad Lorenz in 1960's in order to define the behaviors of animals to throw away a foreign person or a hunting enemy. In 1970, Swedish Dr. Peter-Paul Heinemann studied on the bullying and tyranny behaviors among children and used the word mobbing. (Davenport, et al., 2003: 3). It is known that the word mobbing in business life was used for the first time by Swedish industrial psychologist Heinz Leymann. We can see that Leyman used this concept as a result of the findings obtained from his studies among the employees. This kind of behaviors in business life has not been recognized and defined by anybody else before Leymann. Therefore, Leymann's views and studies have formed a basis for the studies on mobbing behaviors in workplace around the world. Leymann has not only indicated the presence of mobbing behavior in workplaces, but also emphasized the specific qualities of the behavior, its incidence, mostly affected people from the violence and potential psychological consequences (Tınaz, 2006: 14).

Leymann (1990) who had the most important studies on mobbing in literature revealed the presence of mobbing in Sweden and in other countries in his study. Leymann (1996) studied on mobbing in Sweden and analyzed the factors that would be related with mobbing. Koonin and Green (2007) have identified the causes of mobbing in the workplace and suggested solutions to eliminate it. Gül et al. (2011) studied mobbing and burnout syndrome on academicians. Stefanovic (2012) in his study examined the role of trade unions in the prevention process of mobbing. Sobre-Denton (2012) analyzed mobbing in terms of race, class and gender. Tomic (2012) tried to determine the level of mobbing in his study on 369 participants. They determined that 80, 87% of the survey participants were exposed to mobbing at least once. Jenkins et al. (2012) in their study questioned the reasons of mobbing by focusing on the perspectives of mobbed people. Escartin et al. (2013) analyzed the bullying at work in their study on 494 employees in 19 different organizations.

Mulder et al. (2017) identified the concept of gender as an important factor affecting the mobbing process. Nielsen and Einarsen (2018) analyzed the reasons and consequences of mobbing. Şenol et al. (2015) tried to determine the level of exposure to mobbing in the academic environment. Çögenli and Döner (2015) focused on mobbing to the academics in Turkey. Sarıçam (2016) investigated the relationship between the meaning of work and the concept of mobbing and social trust and satisfaction. Baillien et al. (2018) investigated the relationship between organizational change process and mobbing. McCormack et al. (2018) analyzed the relationship between gender and emotional violence. In their study in Uganda on 125 teachers they determined the relationship between gender and bullying at work. Yanık (2018) evaluated the underlying reasons of reactive and unreactive behaviours of individuals exposed to emotional violence at work against intimidation. Aşkın and Aşkın (2018) researched the incidence, direction, frequency and reasons of sexist mobbing to women in business life. Halaç and Güloğlu (2019) analyzed the effects of mobbing behaviour called as psychological intimidation on employees' efficiency. They carried out fieldwork on administrative staff in SMEs manufacturing in Manisa Organized Industrial Zone and determined that efficiency level of the employees exposed to mobbing increased unlike the expectations. Kement and Batga (2016) analyzed the effect of mobbing on organizational commitment.

Mobbing is characterised as the systematic psychological abuse or humiliation of a person by an individual or a group in workplaces in order to damage his/her reputation, honour, human dignity and integrity, and ultimately drive him/her to quit the job (www.eurofound.europa.eu, 2007). According to Leymann, mobbing is not just about every day quarrels, disputes, frictions, ironic remarks, sarcasm, mocking and so on. But it is about doing these over and over, repeatedly, so that they will have a result, eventually, it will become disturbing, painful and even destructive (Dragomir, 2018: 410). Mobbing is also called as emotional violence in literature and there will be its reflections in all workplaces. Mobbing in workplaces is the most severe form of the violations of labor rights, social, economic and fundamental human rights in general. It gives serious and permanent psychological and health damages to its victims and also causes economic damage to companies or institutions and the countries' economies in general (Stefanovic, 2012:401). Mobbing as emotional violence in workplaces takes place in three different categories on social, organizational and individual levels (McCormack et al., 2018:265). Swedish psychologist Leymann, who raised the topic of psychological abuse to be discussed the fields of industrial and organizational psychology, defined mobbing as "directing a systematic" hostile and unethical communication. Others by a person or more than one person and included the expression of "psychological terror" (Leymann, 1996: 165). Leymann stated that mobbing can be performed at work both by the managers and the colleagues (Leymann, 1990:119).

3. THE RELATIONSHIP BETWEEN THE PERCEPTION OF GENDER DISCRIMINATION AND MOBING IN EUROPEAN UNION COUNTRIES AND TURKEY

In the literature, many studies have been conducted to reveal mobbing and gender discrimination in many countries. For example; Carnero et al. (2010) investigated the reasons of mobbing in Spain and emphasized the importance of gender in

mobbing. Poussard et al. (2018) found that the main reason for mobbing was discriminatory elements such as differences in political and religious views. Kovacic et al. (2017) analyzed whether mobbing depended on gender, age and status. Buttigieg et al. (2011) investigated the relationship between discrimination and bullying and mobbing. In their study they identified the presence of common determiners between discrimination and bullying. Kara et al. (2018) tried to determine the effects of mobbing on female employees. They studied on 373 women working in a five star hotel in Turkey. They concluded that the mobbing behaviour of the managers decreased the quality of life of the female employees. Salin (2003) evaluated the literature in the field of mobbing.

A number of regulations have been made by the EU Parliament on mobbing and gender discrimination in EU countries. Resolution A5-0283/2001 of the EU Parliament recommends the EU member states which modify their respective legislations to include the phenomena of mobbing and sexual abuse in the workplace. According to the resolution, harmonising the definition of the 'mobbing' term is the most successful approach in order to achieve this goal. The European Parliament Report on harassment in the workplace (2001/2339 INI) defines certain responsibilities for the Committee on Employment and Social Affairs. Additionally, the report includes a recommendation of the Committee for Women's Rights and Gender Equality, which addresses to the member states to impose on the public and private sectors, and the social partners the duty to define a policy in the prevention of mobbing (Stefanovic, 2012: 403).

Among the initiatives to legally regulate mobbing at EU level, the Directive of European Parliament and Council dated on 23rd September 2002 amending the directive on the implementation of the principle of equal treatment among women and men in employment, vocational education, promotion and working conditions related to equality. In this directive the member states are requested to take the necessary measures to prevent all types of abuses in workplaces. The statement that member countries will accept sexual abuse as a gender-based discrimination with the adoption of this directive is included in the directive (Ergin, 2013: 69).

When we analyze mobbing, according to study results conducted in UK, 53% of the employees were exposed to mobbing and 78% of them witnessed it. According to the findings of a statistical study conducted in Sweden, mobbing was the reason for 10-15% of suicides committed within one year. We can see in registries that hundred of thousands of mobbing victims in Sweden and Germany retired early and they were hospitalized and treated in psychiatry clinics. It is reported that there are more than one million mobbing victims in Italy. Various studies on the fight against mobbing have been carried out in European Union countries. Unions in European Union member countries conduct very strong lobbying activities so that the laws against mobbing can be implemented. In Scadinavian countries mobbing is included in laws as a direct crime. Among these countries the greatest development about mobbing is in Sweden. Mobbing is defined as a crime in Sweden with Business Safety and Worker's Health Law issued in 1994. The articles indicating that mobbing was the violation of collective agreement were included in collective labour agreements. In Germany mobbing victims may offer early retirement. There are civil centres that mobbing victims would request help from around the country. Mobbing is a legal crime in France and it is provided for one-year imprisonment and 15000 Euros fine. In France "victimologie" professorship was established about mobbing victims in university in 1994. In Italy laws against mobbing were legally issued and the problems occurring as a result of mobbing were included in the scope of work accidents (Tınaz, 2006: 15).

Countries such as the UK resisted introducing specific legislation against bullying despite pressure from anti-bullying advocacy groups, leaving the legal situation somewhat ambiguous. With no particular legislation addressing the issue, when a victim of bullying pursues a course of legal action, one or more general legal provisions could form the basis of the case, including among others (Policy Department for Citizens Rights' and Constitutional Affairs, 2018: 49).

The European Working Conditions Survey (EWCS) by the European Foundation is the most comprehensive survey of the prevalence of bullying at work across the EU based on interviews with about 1,000 respondents in each country. According to the 6th EWCS in 2015, 5% of the respondents reported being subjected to bullying/harassment over the last twelve months. The reported exposure was somewhat higher in Western and in Northern countries compared to Southern and Eastern countries. Exposure to bullying was common in France, Luxembourg, Ireland, Belgium and the Netherlands most. The lowest prevalence rates were found in Bulgaria, Portugal, Hungary and Greece (Policy Department for Citizens Rights' and Constitutional Affairs, 2018: 15).

Table 1: Prevalence of Bullying and Sexual Harassment at Work in EU Countries

Country	Bullying/Harassment			Sexual Harassment		
France	12.2 %	13.5 %	11.0 %	0.4 %	0.6 %	0.2 %
Ireland	8.1 %	9.2 %	7.2 %	0.7 %	1.3 %	0.1 %

Belgium	7.5 %	8.7 %	6.5 %	0.8 %	1.1 %	0.5 %
Netherlands	7.1 %	7.7 %	6.6 %	2.4 %	4.2 %	0.8 %
Austria	5.2 %	6.5 %	4.2 %	1.2 %	1.8 %	0.6 %
Finland	4.9 %	7.2 %	2.7 %	1.1 %	1.9 %	0.3 %
Germany	4.8 %	5.0 %	4.5 %	1.1 %	2.0 %	0.4 %
UK	4.6 %	5.3 %	4.1 %	0.8 %	1.5 %	0.3 %
Sweden	4.5 %	5.4 %	3.7 %	1.9 %	3.4 %	0.6 %
Denmark	4.0 %	5.1 %	3.0 %	1.0 %	1.5 %	0.6 %
Romania	4.0 %	5.1 %	3.0 %	0.1 %	0.0 %	0.2 %
Spain	3.3 %	3.1 %	3.4 %	0.5 %	0.6 %	0.3 %
Italy	2.9 %	2.9 %	3.0 %	0.1 %	0.1 %	0.1 %
Poland	1.0 %	1.1 %	0.8 %	0.3 %	0.5 %	0.0 %
Portugal	0.9 %	1.0 %	0.8 %	0.9 %	0.8 %	0.9 %

Source: (Policy Department for Citizens Rights' and Constitutional Affairs, 2018: 74).

All women and men were subjected to bullying and sexual harassment during the course of work over the last 12 months (%).

As shown in Table 1; in 2018, the highest exposure to mobbing rate occurred in France, Ireland, and Belgium; however, the lowest exposure rate was in Portugal.

The countries in European Union have regulations on gender discrimination and mobbing supported by laws. These regulations are as follows;

Germany - All people are equal before the law. Men and women have equal rights. The state encourages to actually ensuring men and women equality and making efforts to eliminate the disadvantages. Nobody can be mistreated and no privileges can be granted to anyone due to their gender, blood, race, language, homeland and origin, belief, religion or political views. Nobody can be mistreated due to handicaps and disabilities (Eroğlu, 2011: 3).

Belgium - Belgium is of interest as Belgian legislation developed in a somewhat different way from most other countries. The Welfare Act (or Welfare Law) was enacted in 1996, and it has been amended several times since then. In 2002 an amendment was enacted to combat 'undesirable behavior' in the workplace (bullying, harassment including sexual harassment, and violence). In 2014 the Prevention of All Psychosocial Risks at Work came into force. The new Act is not limited to bullying and sexual harassment but covers all psychosocial risks that could lead to occupational stress. The Act puts harassment in a more general framework of psychosocial risks and states that employers must recognise harassment like any other risk to employees' health (Policy Department for Citizens Rights' and Constitutional Affairs, 2018: 48).

Bulgaria - All citizens are equal before the law. No privileges or restrictions will be granted to anyone in rights on the grounds of race, nationality or social origin, ethnical identity, gender, education, opinion, political connections, personal or social status or property status (Eroğlu, 2011: 3).

Finland - Nobody will be discriminated from others because of gender, age, origin, language, religion, belief, opinion, health, handicap or another reasons related with a person without any acceptable reason (Eroğlu, 2011: 3).

Finland is a typical example of countries which primarily address bullying (and harassment) via occupational safety and health legislation. Thus, The Finnish Occupational Health and Safety Act of 2003 include a special section on harassment at work. It is reactive by nature and obliges the employers to take action after being aware of the matter. The section also covers inappropriate behaviour by third parties which means employers have a duty to take action also in those cases where the perpetrator is a third party. The Act also makes it clear that employees themselves have a duty to refrain from harassment. Moreover, it contains particular sections about prevention which is also applied to bullying and harassment, including risk assessment and the employer's general duty of care (Policy Department for Citizens Rights' and Constitutional Affairs, 2018: 48).

United Kingdom - In the UK, there is no specific legal framework for preventing and combating psychological harassment in workplaces. However, general legal regulations provide indirect protection against psychological harassment in workplaces. These are mainly; The Health and Safety At Work Act (1974), the Employment Rights Act (1996), the Protection From Harassment Act (1997) and the Equality Act (2010) (Çukur, 2016: 58).

France - According to French Social Modernization Law of 2002; "Mobbing is psychological violence that occurs while performing certain activities;" (Tomic, 2012: 244)

It was adopted for the first time by the law in 1992 as only limited with superior-subordinate relationship. French Social Modernization Law adopted in France on 19th December, 2001 was implemented on 17th January, 2002. With this law new articles were added to French Criminal Code and Labour Law. Therefore, mobbing in workplaces was specially regulated as sexual harassment in both Labour Law and Criminal Code. Therefore, France has become a country with the most comprehensive regulation on mobbing in workplaces. The conciliation method that would be carried out by a mediator out of the enterprise was foreseen in the law in case of moral harassment. The role of the mediator is to solve the problem between parties through conciliation (Kaya, 2015:378)

In France, workplace bullying, which is known as 'moral harassment', is regulated under both the Labour Law (2008, amended 2016) and the Criminal Code (2009). The Labour Law applies to both private and public employees, and addresses moral harassment, discrimination, and professional equality between men and women. The Criminal Code imposes a criminal sanction for bullying (Policy Department for Citizens Rights' and Constitutional Affairs, 2018: 48).

Ireland - Nobody would be excluded from Irish nationality and citizenship due to gender. The age of eighteen and are not regarded as noncompetent by the law and comply with the provisions of law regulating the election of the members of the House of Representatives have the right to vote in the elections of the members of the House of Representatives (Eroğlu, 2011).

Spain - The Spanish are equal before the law and can in no way be discriminated due to birth, race, gender, religion, opinion or any personal, social conditions or situations (Eroğlu, 2011).

Sixteen percent of workers in the European Union (EU) suffer psychological harassment or "mobbing" on the job, according to study by the University of Alcalá de Henares, in Spain (<http://www.ipsnews.net/2002/10/labour-rights-spain-fighting-bullying-in-the-workplace/>).

Sweden - No law or provision may include a negative treatment to anybody due to ethnical origin, colour or a concern with minority group because of other conditions or sexual orientation (Eroğlu, 2011).

Heinz Leyman has found the topic of mobbing in workplaces in this country. Mobbing occurs in Sweden especially among colleagues. It was determined in a study that mobbing occurred 44% of rate among the people with the same status, 37% from the top to down and 9% from down to top. It was observed that 55% of the women and 45% of the men were the victims of mobbing in Sweden. Sweden is the first country which has made special legislative regulations against mobbing (Kaya, 2015: 377).

Norway - Norway, which follows a similar way with Finland, is of interest for several reasons. First, the Norwegian Work Environment Act makes it explicit that it is the employer's responsibility to protect employees against exposure to adverse physical and mental strain'. Second, it implicitly grades possible offences by highlighting various forms of adverse effects including 'improper conduct', 'breach of employees' dignity and respect' and 'harassment'. Third, the dynamic aspects of the law are emphasized that 'standards shall be continuously developed and improved in accordance with developments in society'. (Policy Department for Citizens Rights' and Constitutional Affairs, 2018: 48).

Italy - All the citizens are equal before the law and socially equal without any discrimination in terms of gender, race, language, religion, political view, personal and social conditions (Eroğlu, 2011). There is no specific legislation related with mobbing or other forms of harassment. But a body of case law has been developed to clearly establish a definition for an unacceptable behaviour and present what steps an employer should take both to prevent such conduct and deal with problems when they occur. (www.fedee.com/kb/italy-discrimination/). In Italy, targeted research and studies on mobbing started in the 1990s. In 1998, the European Foundation for the Improvement of the Living and Working Conditions estimated that, in Italy, about 4.2% of workers were victims of mobbing. According to data compiled by national experts, at present, the proportion varies between 4% and 6% of the work force, i.e. between 1 million and 1.5 million workers (www.eurofound.europa.eu, 2007)

Poland - Mobbing was firstly regulated legally in Poland with the amendment in law which was implemented on 1st January, 2004. In accordance with the 1st paragraph of 94th article of Polish Labour Law, employers are responsible for preventing

mobbing. Although the definition of mobbing in Polish Labour Law is very broad, illegality of the behaviour of the perpetrator and the importance of health aspect of mobbing are not sufficiently emphasized (Kaya, 2015: 379). Poland’s Supreme Court rendered a decision on 3.08.2011 (case file no. I PK 35/11) in which it emphasised that preventing bullying at the workplace is an obligation to exercise due diligence. This decision is of significance for employers, as it means that when an employer proves that it undertook real action against bullying (rules, trainings), it may be absolved from liability (<https://www.schoenherr.eu/publications/publication-detail/poland-internal-employers-regulations/>).

Romania - Romania is the common and inseparable homeland of all citizens without any discrimination in terms of race, nationality, ethnical origin, language, religion, gender, opinion, political commitment, property and social origin (Eroglu, 2011).

Turkey - Everybody is equal before the law without any discrimination due to the reasons such as language, race, colour, gender, policial view, philosophical belief, religion, sect and so on.

When determining the position of women in Turkish society, three main periods as pre-Islamic and post-Islamic and Republican Turkey can be analyzed. In the pre-Islamic period, in Turks there is almost no social gender discrimination targeting women. Women are almost equal to men. They have the right to comment on the management of country with Hakan. They manage home. Physical violence to women by men cannot be observed in Turks. Children are highly valuable in old Turks. When a woman has a child, she becomes a beloved person in the family gradually. Communication and meeting between men and women are completely free in Altai people. During the conservation between young men and women, women do not think to cover her face. Women are not behind the men and isolated from the society in private, family and social life and even in political platform. They are within the life with men and visible in the eye of society (Bingöl, 2014:111). With the acceptance of Islam by Turks, Byzantine, Arabic and Iranian cultures had effects on Turkish culture. Different interpretation of Islam and Islamic ethics actually highly sensitive about women and bestow rights to them changed the position of women in society. This process led women to be behind men and even enabled men to have a chance to marry with four women. Foundation of Turkish Republic has enabled to establish the fundamentals of social gender equality. The republic period has brought rights for women through many legislative regulations (Bingöl, 2014:112). However, along with the components reflecting to the culture socially women have not obtained the equality they deserve even today.

Table 2: Gender discrimination and mobbing regulations of EU countries

Country	Gender Discrimination and Mobbing Regulation
Germany	All people are equal before the law. Nobody can be mistreated and no privileges can be granted to anyone due to their gender, blood, race, language, homeland and origin, belief, religion or political views.
Belgium	Belgian legislation developed in a somewhat different way from most other countries. In 2002 an amendment was enacted to combat ‘undesirable behaviour’ in the workplace (bullying, harassment including sexual harassment, and violence).
Bulgaria	All citizens are equal before the law. No privileges or restrictions will be granted to anyone in rights on the grounds of race, nationality or social origin, ethnical identity, gender, education, opinion, political connections, personal or social status or property status
Finland	Nobody will be discriminated from others because of gender, age, origin, language, religion, belief, opinion, health, handicap or another reasons related with a person without any acceptable reason. Finland is a typical example of countries which primarily address bullying (and harassment) via occupational safety and health legislation.
United Kingdom	There is no specific legal framework for preventing and combating psychological harassment in workplaces. However, general legal regulations provide indirect protection against psychological harassment in workplaces.

France	Workplace bullying, which is known as 'moral harassment', is regulated under both the Labour Law and the Criminal Code. The Labour Law applies to both private and public employees, and addresses moral harassment, discrimination, and professional equality between men and women. The Criminal Code imposes a criminal sanction for bullying.
Ireland	Nobody would be excluded from Irish nationality and citizenship due to gender. The age of eighteen and are not regarded as noncompetent by the law and comply with the provisions of law regulating the election of the members of the House of Representatives have the right to vote in the elections of the members of the House of Representatives.
Spain	The Spanish are equal before the law and can in no way be discriminated due to birth, race, gender, religion, opinion or any personal, social conditions or situations.
Sweden	No law or provision may include a negative treatment to anybody due to ethnical origin, colour or a concern with minority group because of other conditions or sexual orientation. Sweden is the first country which has made special legislative regulations against mobbing.
Norway	Norway, which follows a similar way with Finland, is of interest for several reasons. First, the Norwegian Work Environment Act makes it explicit that it is the employer's responsibility to protect employees against exposure to adverse physical and mental strain'. Second, it implicitly grades possible offences by highlighting various forms of adverse effects including 'improper conduct', 'breach of employees' dignity and respect' and 'harassment'. Third, the dynamic aspects of the law are emphasized that 'standards shall be continuously developed and improved in accordance with developments in society'.
Italy	All the citizens are equal before the law and socially equal without any discrimination in terms of gender, race, language, religion, political view, personal and social conditions. There is no specific legislation related with mobbing or other forms of harassment. But a body of case law has been developed to clearly establish a definition for an unacceptable behaviour and present what steps an employer should take both to prevent such conduct and deal with problems when they occur.
Poland	Mobbing was firstly regulated legally in Poland with the amendment in law which was implemented on 1st January, 2004. In accordance with the 1st paragraph of 94th article of Polish Labour Law, employers are responsible for preventing mobbing.
Romania	Romania is the common and inseperable homeland of all citizens without any discrimination in terms of race, nationality, ethnical origin, language, religion, gender, opinion, political commitment, property and social origin.
Turkey	Everybody is equal before the law without any discrimination due to the reasons such as language, race, colour, gender, policial view, philosophical belief, religion, sect and so on.

3. GENDER DISCRIMINATION AND MOBBING IN EUROPEAN UNION COUNTRIES AND TURKEY

Table 3 indicates the rank of EU countries which did not perform gender discrimination in general, economical, educational and political contexts covering the years of 2008-2018 as the data of the Global Gender Report. According to the table 3, Sweden, Ireland, France and Denmark were the countries with the lowest levels in gender discrimination in all years in general meaning.

Table 3: The Global Gender Report

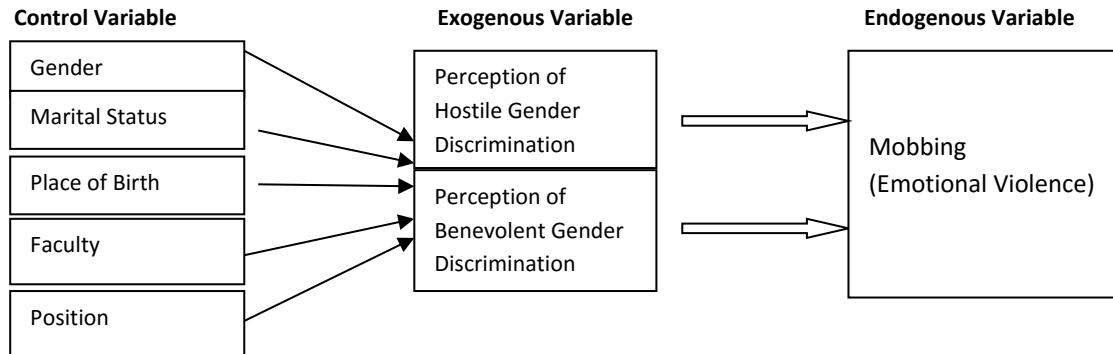
	2018				2017				2016				2015				2014				2013			
	General	Economical	Education	Political	General	Economical	Education	Political	General	Economical	Education	Political	General	Economical	Education	Political	General	Economical	Education	Political	General	Economical	Educational	Political
Sweden	3	9	52	7	5	12	37	8	4	11	36	6	4	4	54	5	4	15	43	5	4	14	38	4
Ireland	9	43	57	8	8	50	1	6	6	6	49	1	5	5	26	44	6	8	28	40	8	6	29	37
France	12	63	1	10	11	64	1	9	17	64	1	19	15	56	1	19	16	57	1	20	45	67	1	45
Denmark	13	38	1	15	14	36	1	16	19	34	1	29	14	20	1	29	5	12	1	7	8	25	1	45
Germany	14	36	97	12	12	43	96	10	13	57	10	10	11	38	88	11	12	34	34	11	14	46	86	15
UK	15	52	38	21	15	53	36	17	20	53	34	24	18	43	37	23	26	46	32	33	18	35	31	29
Holland	27	56	1	28	32	82	1	25	16	76	60	14	13	39	1	13	14	51	1	9	13	26	44	22
Spain	29	80	47	24	24	81	45	22	29	72	43	26	25	67	47	26	29	84	87	23	30	76	40	27
Belgium	32	49	34	39	31	46	1	37	24	37	1	35	19	34	1	35	10	27	73	13	11	34	67	14
Portugal	37	44	82	46	33	35	70	43	31	46	63	36	39	46	60	41	39	44	68	44	51	66	56	46
Poland	42	51	50	50	29	55	31	49	38	58	31	44	51	75	38	52	57	61	36	68	54	73	37	49
Italy	70	11	61	38	82	11	60	46	50	11	56	25	41	11	58	24	69	11	62	37	71	97	65	44
Turkey	13	13	10	11	13	12	10	11	13	12	10	11	13	13	10	10	12	13	10	11	12	12	10	10
	0	1	6	3	1	8	1	8	0	9	9	3	0	1	5	5	5	2	5	3	0	7	4	3
	2012				2011				2010				2009				2008							
Sweden	4	10	39	4	4	7	41	4	4	11	41	4	4	6	39	4	3	5	33	4				
Ireland	5	29	30	6	5	30	1	6	6	25	1	7	8	43	1	8	8	48	1	8				
France	57	62	1	63	48	61	1	46	46	60	1	47	18	61	1	9	15	53	1	18				
Denmark	7	16	1	11	7	13	1	10	7	23	1	10	7	20	1	11	7	28	1	10				
Germany	13	31	83	15	11	32	50	15	13	37	51	15	12	37	49	13	11	45	49	16				
UK	18	33	27	29	16	33	1	23	15	34	1	22	15	35	1	22	13	42	1	21				
Holland	11	24	1	16	15	27	32	26	17	31	39	25	11	49	51	10	9	51	59	12				
Spain	26	75	38	27	12	74	37	5	11	78	40	5	17	90	56	9	17	89	58	7				
Belgium	12	36	67	10	13	36	63	17	14	39	62	16	33	64	71	29	28	60	67	27				
Portugal	47	55	57	43	35	59	55	34	32	56	69	32	46	53	76	47	39	39	71	45				
Poland	53	72	34	46	42	65	28	40	43	63	29	87	50	71	33	40	49	73	30	39				
Italy	80	10	65	71	74	90	48	55	74	97	49	54	72	95	46	45	67	85	43	46				
Turkey	12	12	10	98	12	13	10	89	12	13	10	99	12	13	11	10	12	12	10	10	6	8	6	6
	4	9	8	2	2	2	6	6	1	1	9	9	9	0	0	7	3	4	8	6				

4. Methodology

4.1. Model and Hypotheses of the Study

Model of the study was established based on the variables in studies as a result of the literature review. As a result of the literature review, the model and hypotheses established in accordance with the purpose of the study are indicated as follows.

Figure 1: Model of the Study



Hypothesis 1: Perception of hostile gender discrimination affects the incidence of mobbing positively.

Hypothesis 2: Perception of benevolent gender discrimination affects the incidence of mobbing positively.

Hypothesis 3: Perception of gender discrimination in the incidence of mobbing varies according to gender.

Hypothesis 4: Perception of gender discrimination in the incidence of mobbing varies according to marital status.

Hypothesis 5: Perception of gender discrimination in the incidence of mobbing varies according to the place of birth.

Hypothesis 6: Perception of gender discrimination in the incidence of mobbing varies according to the faculty that academicians work for.

Hypothesis 7: Perception of gender discrimination in the incidence of mobbing varies according to position.

4.2. Variables of the Study

Glick, P., and Fiske, S.T.'s (1996) study was adapted in order to measure gender discrimination in the study. The second survey was about mobbing and it was obtained from Leymann, H.'s (1990) study. Gender discrimination scale consists of 22 statements and it has two dimensions as the perception of hostile gender discrimination and the perception of benevolent gender discrimination. The original form of mobbing scale consists of 45 statements. However, the questions in the survey were adapted for academicians and the number of statements was reduced to 20. A pilot study was conducted for the reliability of the scale and surveys began to be applied after the reliability level was measured.

The perception of hostile gender discrimination and the perception of benevolent gender discrimination were exogenous variables; however, mobbing was an endogenous variable in the study.

4.3. Data Collection Method

Surveys in the study were applied to the academic staff in Afyon Kocatepe University. A total of 400 survey papers were handed out and 285 available data were obtained. In the study the data including demographic properties were requested, but personal data were not.

The hypotheses of the study were tested through Structural Equation Model. The Structural Equation Model is basically a combination of factor analysis and regression analysis. It tests the convenience of the predicted covariance matrix established in accordance with the theoretical model with the observed covariance matrix (Hox and Bechger, 1995).

4.4. Data Evaluation Technique

Validity and reliability tests were performed in order to obtain the structural validity of the scale. After the data were entered to SPSS 16.0 package programme, reliability analysis and exploratory factor analysis were performed in SPSS programme and Structural Equation Modelling was performed in AMOS 19 programme to determine the effects of data on each other.

4.5. Testing the Scales in the Study

In order to test the validity of the used scales, by using AMOS19 programme single factorial confirmatory factor analysis was made for the perception of gender discrimination and mobbing scale. Since the fit values generated by scaling models created for testing the validity of scales was not at acceptable ranges, and the modifications recommended by the programme were made. The changes in scales as a result of modifications are indicated in Table 4 and the fit values generated by scaling models are indicated in Table 5.

Table 4: Changes in the Scales

Scales		Number of Statements	Number of Extracted Statements
Perception of Gender Discrimination Scale	Hostile	11	1
	Benevolent	11	2
Mobbing Scale		20	6

As can be seen in Table 4, the numbers of statements extracted from the scales are as follows; 1 statement from the perception of hostile gender discrimination scale, 2 statements from the perception of benevolent gender discrimination scale, and 6 statements from the mobbing scale.

Table 5: Fit Values of the Scales

		<i>x</i> ²	df	<i>x</i> ² / <i>df</i>	GFI	CFI	RMSEA
Perception of Gender Discrimination Scale	Perception of Hostile Gender Discrimination	64,437	34	1,89	0,96	0,97	0,05
	Perception of Benevolent Gender Discrimination	75,112	25	3,00	0,94	0,93	0,08
Mobbing Scale		219,80	72	3,05	0,90	0,95	0,085
Goodness of Fit Values				≤ 3	≥ 90	≥ 0,97	≤ 0,05
Acceptable Fit Values				≤ 5	0,89-0,85	≥ 95	0,06-0,08

p > .05, *x*² = Chi-Square; df = Degree of Freedom; GFI = Goodness of Fit Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation
 Resource: Meydan and Şeşen, 2015: 37.

*x*² tests the significance of the difference between the observed covariance matrix and the predicted covariance matrix. It is affected by sample size. Therefore, the larger the sample, the more significant *x*² values will be. For that reason, it is suggested that the value obtained by dividing *x*² value by the degree of freedom is taken as the basis when evaluating the model fit. Root Mean Square Error of Approximation (RMSEA) is the square root of the average of the prediction errors. RMSEA is a statistics that provides information about the compatibility of the unknown but optimally planned parameters with the covariance matrix of the main mass. GFI (Goodness of Fit Index) was created to eliminate the problem of increasing the chi-square statistics as the sample grows and is less sensitive to the sample size. The GFI statistic is between 0 and 1 and moves inversely proportional to the degree of freedom; therefore, it can be said that the ratio of sample size to degree of freedom tends to increase as it increases. CFI (Comparative Fit Index) is an improved version of the NFI statistic, which also takes into account the sample size and gives good results even in small samples, one of the most accepted and used statistics. NFI likewise results in a comparison of the zero models with the sample covariance matrix and takes a value between 0 and 1. Approaching 1 increases the suitability of the model (Yaşlıoğlu, 2017: 80-81) (Meydan and Şeşen, 2015: 32-35).

4.6. Findings

Cronbach Alpha and KMO values of the data obtained from the surveys of the study are given below.

Table 6: Cronbach Alpha Coefficient of the Scales

	Cronbach Alpha
Perception of Gender Discrimination Scale	,88
Mobbing Scale	,97

As Table 6 is analyzed, we can see that reliability of both Perception of Gender Discrimination Scale and Mobbing Scale are high.

- If $0,00 \leq \alpha < 0,40$, the scale is not reliable,
- If $0,40 \leq \alpha < 0,60$, reliability of the scale is low,
- If $0,60 \leq \alpha < 0,80$, the scale is highly reliable,
- If $0,80 \leq \alpha < 1, 0$, the scale is highly reliable.

Table 7: KMO Value of the Scale

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,910
Bartlett's Test of Sphericity	Approx. Chi-Square	11806,611
	Df	1431
	Sig.	,000

When the criteria are analyzed, result of KMO value of the study is excellent.

KMO: $1,00 \leq KMO < 0,90$ = Excellent

KMO: $0,90 \leq KMO < 0,80$ = Good

KMO: $0,80 \leq KMO < 0,70$ = Medium

KMO: $0,70 \leq KMO < 0,60$ = Poor

KMO: $0,60 \leq KMO < 0,50$ = Bad

Table 8: Demographic Properties of Participants

		Frequency	Percentage %
Gender	Male	186	65,3
	Female	99	34,7
Marital Status	Married	203	71,2
	Single	82	28,8
Place of Birth	Village	11	3,9
	Town/District	7	2,5
	County	56	19,6
	Province	134	47,0
	Metropolitan	77	27,0
Title	Research Assistant	96	33,7
	Lecturer	53	18,6
	Asst.Prof.	69	24,2
	Assoc.Prof	34	11,9
	Prof.Dr.	33	11,6
Faculty	School of Economics and Administrative Sciences	43	15,1
	Education And Technology	38	13,3
	Science And Letters	65	22,8
	Law	11	3,9

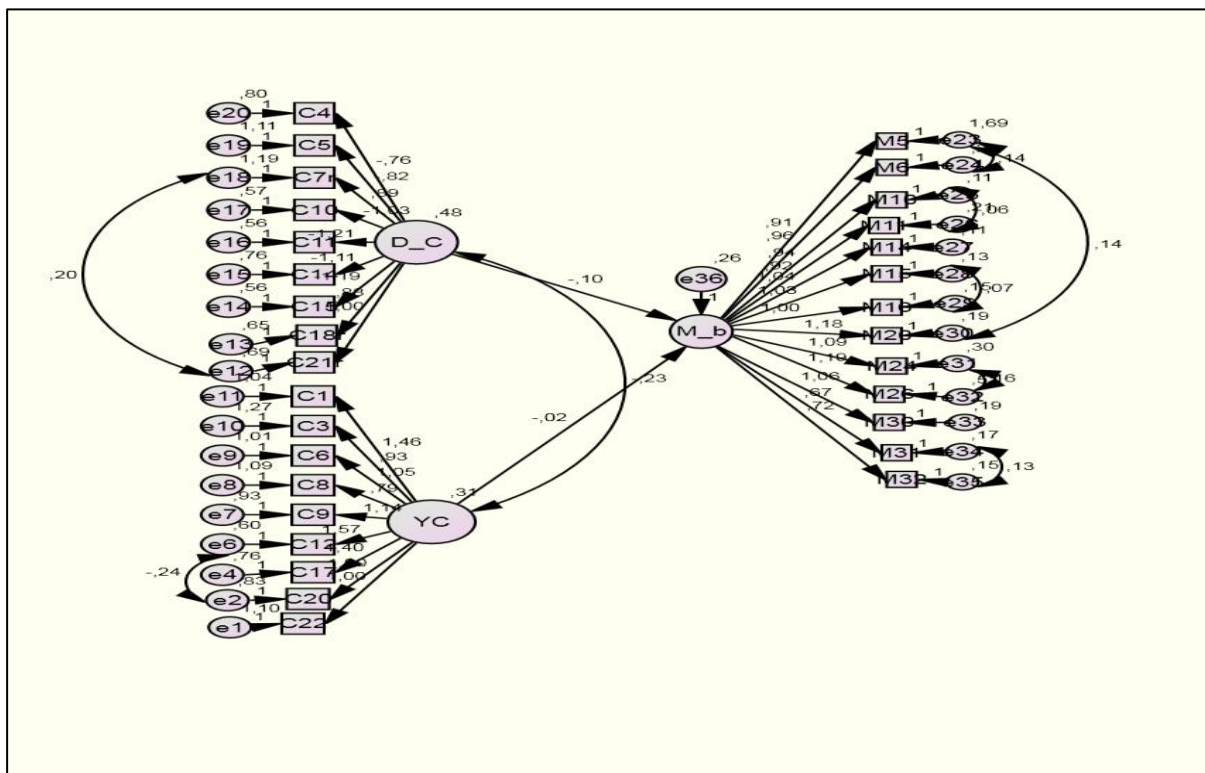
Veterinary	24	8,4
Fine Arts	27	9,5
Tourism	16	5,6
Theology	2	,7
Engineering	43	15,1
Vocational High School	5	1,8
Foreign Languages	8	2,8
Physical Education and Sports	3	1,1

According to the Table 8, 65,3% of the participants are male and 34,7% of them are female, 71,2% are married and 28,8% are single. In this grup, 3,8 % of the participants were born in villages, 2,5% were born in towns/districts, 19,6% were born in counties, 47,0% were born in provinces and 27,0% of the participants were born in metropolitans. When title is considered, we can see that 33,7% of the academicians are Research Assistants, 18,6% are Lectures, 24,2 % are Dr. Lecturers, 11,9 % are Associate Professors and 11,6 % is Professors. In terms of faculty status, 15,1% of the participants in School of Economics and Administrative Sciences. 13,3% in Education and Technology, 22,8% in Science and Letters, 3,9% in Law, 8,4% in Veterinary, 9,5 % in Fine Arts. 5,6% in Tourism, 0,7% in Theology, 15,1% in Engineering, 1,8% in Vocational High School. 1,8% in Foreign Language and 1,1% in Physical Education and Sports.

4.7. Structural Equation Model

Since the fit values of the model in Figure 2 were not at acceptable ranges, the numbers of statements extracted from the scales are as follows; 1 statement from the hostile gender discrimination scale, 1 statement from the benevolent gender discrimination scale, and 1 statement from the mobbing scale.

Figure 2: Structural Equation Model



As a result of the conducted modification, it was observed that fit values of the model were within the good fit value ranges and sufficient proofs indicating that model were structurally suitable were obtained. Fit values of the model are indicated in Table 9.

Table 9: Fit Values of Structural Equation

	x ²	df	x ² /df	GFI	CFI	RMSEA
Before the statements were extracted	1025,411	520	1,97	0,82	0,89	0,06
After the statements were extracted	740,828	424	1,74	0,86	0,93	0,05
Goodness Fit Values			≤ 3	≥ 90	≥ 0,97	≤ 0,05
Acceptable Fit Values			≤ 5	0,89- 0,85	≥ 95	0,06-0,08

β coefficients, standard error, p and x² values between variables according to the established model are indicated in Table 10.

Table 10: β Coefficients, Standard Error, p and x² Values between Variables

Variables		B	Standard error	P	x ²	CR	Hypothesis
Hypothesis 1: Perception of hostile gender discrimination affects the incidence of mobbing positively.		-0,115	0,06	0,05	0,03	-1,905	Accepted
Hypothesis 2: Perception of benevolent gender discrimination affects the incidence of mobbing positively.		-0,009	0,07	0,90	0,02	-0,117	Rejected
Hypothesis 3: Perception of gender discrimination in the incidence of mobbing varies according to gender.	Female	-0,015	0,10	0,88	0,02	-0,146	Accepted
	Male	-0,192	0,09	0,04	0,03	-2,030	
Hypothesis 4: Perception of gender discrimination in the incidence of mobbing varies according to marital status.	Single	-0,104	0,10	0,10	0,03	-1,03	Rejected
	Married	-0,124	0,07	0,09	0,02	-1,69	
Hypothesis 5: Perception of gender discrimination in the incidence of mobbing varies according to place of birth.	Town/District	-0,115	0,060	0,05	0,02	-1,905	Accepted
	County	-0,237	0,118	0,04	0,08	-2,004	
	Province	-0,06	0,101	0,52	0,02	-0,637	
	Metropolitan	0,067	0,090	0,46	0,01	0,740	
Hypothesis 6: Perception of gender discrimination in the incidence of mobbing varies according to the faculty that academicians work for.	School of Economics And Administrative Sciences, Tourism, Foreign Language	0,06	0,121	0,60	0,02	0,515	Accepted
	Education	-0,241	0,113	0,03	0,32	-2,13	
	Faculty of Sciences	0,06	0,114	0,55	0,07	0,58	
	Law, Theology, Fine Arts, Vocational High School	-0,488	0,267	0,06	0,20	-1,82	

	Veterinary, Engineering	-0,238	0,149	0,05	0,07	-1,92	
Hypothesis 7: Perception of gender discrimination in the incidence of mobbing varies according to position.	Research Asst.	0,100	0,090	0,265	0,05	1,115	Accepted
	Lecturers	-0,250	0,139	0,07	0,08	-1,795	
	Asst. Prof.	-0,08	0,119	0,45	0,02	-0,753	
	Assoc. Prof. and Prof.	0,332	0,170	0,05	0,10	-1,94	

When the obtained values are analyzed,

Hypothesis 1. Perception of hostile gender discrimination affects the incidence of mobbing positively. Since the value is $p < 0,05$ in the relationship between the perception of hostile gender discrimination and mobbing, there is a significant relationship and the hypothesis is accepted.

Hypothesis 2. Perception of benevolent gender discrimination affects the incidence of mobbing positively. Since the value of $p < 0,05$ is not obtained in the relationship between the perception of benevolent gender discrimination and the value is $p = 0,90$, the hypothesis is rejected.

Hypothesis 3. In the hypothesis of the perception of gender discrimination, in the incidence of mobbing varies according to gender, the value is $p = 0,88$ for females and it is $p < 0,04$ for males. So, it means that the perception of gender discrimination of females and males in the incidence of mobbing makes a difference; therefore the hypothesis is accepted.

Hypothesis 4. In the hypothesis of the perception of gender discrimination in the incidence of mobbing varies according to marital status the values are $p = 0,09$ for single academicians and $p = 0,10$ for married ones. It means that the perception of gender discrimination of single and married academicians in the incidence of mobbing makes no significant difference, therefore the hypothesis is rejected.

Hypothesis 5. In the hypothesis of the perception of gender discrimination, in the incidence of mobbing varies according to the place of birth the values are $p = 0,05$ for town/district, $p = 0,04$ for county, $p = 0,52$ for province and $p = 0,46$ for metropolitans. p values of the academicians grown in towns/districts and counties are $p < 0,05$. In other words, the perception of gender discrimination of the academicians grown in towns/districts and counties is high. Therefore the hypothesis is accepted.

Hypothesis 6. The perception of gender discrimination in the incidence of mobbing varies according to the faculty that academicians work for. The value is $p = 0,60$ for School of Economics And Administrative Sciences, Tourism, Foreign Languages and Faculty of Sciences. The value is $p = 0,03$ in Faculty of Education, $p = 0,55$ in Faculty of Science, $p = 0,06$ in Faculty of Law, Theology, Fine Arts and Vocational High School, and $p = 0,05$ in Faculty of Veterinary and Engineering. When we look at p value among the faculties, we can see that the perception of gender discrimination in the incidence of makes significant difference. $p = 0,03$ in the Faculty of Education and $p = 0,05$ in the Faculty of Veterinary and Engineering. Therefore, it shows that the perception of gender discrimination affects the formation of mobbing. But the other faculties p values are not obtained $p < 0,05$ values. Therefore the hypothesis is accepted.

Hypothesis 7. The perception of gender discrimination in the incidence of mobbing varies according to title. The obtained values are $p = 0,26$ in research assistants, $p = 0,07$ for lecturers, $p = 0,45$ for Assistant Professors, $p = 0,05$ for Associate Professors and Professors. The value of $p < 0,05$ is obtained for Associate Professors and Professors. Therefore the hypothesis is accepted.

5. CONCLUSION AND RECOMMENDATIONS

As well as discrimination is a social problem, we can see that the laws and regulations legitimizing the discrimination and also culture of the society have an important role in the incidence of gender discrimination. Supporting the search of equality is a prerequisite in social and cultural sense besides the legislative amendments and regulations. Otherwise, secondary position of women in society will continue as being exposed to exploitation, exclusion and oppression through their genders.

In this study, in which we aimed to present the perception of gender discrimination preventing the promotion of women employees to administrative positions in business life. They deserve and determine the effect of that perception on the incidence of mobbing it was observed that women employees exposed to many discriminations besides gender

discrimination. This study has indicated that individuals in the society and the cultural values of these individuals have a great effect on gender discrimination. It has been determined that this effect triggers the incidence of mobbing.

The results of the hypothesis are as follows:

Perception of hostile gender discrimination affects the incidence of mobbing positively. Since the value is $p < 0,05$ in the relationship between the perception of hostile gender discrimination and mobbing, there is a significant relationship and the hypothesis is accepted. Perception of benevolent gender discrimination affects the incidence of mobbing positively. Since the value of $p < 0,05$ is not obtained in the relationship between the perception of benevolent gender discrimination and the value is $p = 0,90$, the hypothesis is rejected. In the hypothesis of the perception of gender discrimination, in the incidence of mobbing varies according to gender, the value is $p = 0,88$ for females and it is $p < 0,04$ for males. So, it means that the perception of gender discrimination of females and males in the incidence of mobbing makes a difference; therefore the hypothesis is accepted. In the hypothesis of the perception of gender discrimination in the incidence of mobbing varies according to marital status the values are $p = 0,09$ for single academicians and $p = 0,10$ for married ones. It means that the perception of gender discrimination of single and married academicians in the incidence of mobbing makes no significant difference, therefore the hypothesis is rejected. In the hypothesis of the perception of gender discrimination, in the incidence of mobbing varies according to the place of birth the values are $p = 0,05$ for town/district, $p = 0,04$ for county, $p = 0,52$ for province and $p = 0,46$ for metropolitans. p values of the academicians grown in towns/districts and counties are $p < 0,05$. In other words, the perception of gender discrimination of the academicians grown in towns/districts and counties is high. Therefore the hypothesis is accepted. The perception of gender discrimination in the incidence of mobbing varies according to the faculty that academicians work for. The value is $p = 0,03$ in Faculty of Education, $p = 0,55$ in Faculty of Science, $p = 0,06$ in Faculty of Law, Theology, Fine Arts and Vocational High School, and $p = 0,05$ in Faculty of Veterinary and Engineering. When we look at p value among the faculties, we can see that the perception of gender discrimination in the incidence of mobbing makes significant difference. $p = 0,03$ in the Faculty of Education and $p = 0,05$ in the Faculty of Veterinary and Engineering. When we look at p value among the faculties, we can see that the perception of gender discrimination in the incidence of mobbing makes significant difference. When the p values were examined, a significant difference was found between gender discrimination and mobbing in Education, Veterinary and Engineering faculties. In other faculties, there is no difference. Therefore the hypothesis is accepted. The perception of gender discrimination in the incidence of mobbing varies according to title. The obtained values are $p = 0,26$ in research assistants, $p = 0,07$ for lecturers, $p = 0,45$ for Assistant Professors, $p = 0,05$ for Associate Professors and Professors. The value of $p < 0,05$ is obtained for Associate Professors and Professors. Therefore the hypothesis is accepted.

When the results of the hypotheses are analyzed, it can be seen that the perception of social gender is an important factor for the incidence of mobbing. It has been determined that the demographic factors such as gender, place of birth, marital status, the faculty that academicians work for and title affect the attitudes about discrimination and lead to the incidence of mobbing. The hypothesis that marital status leads to the incidence of mobbing affecting the attitudes about gender discrimination has been rejected.

The incidence of mobbing creates negative individual, social and organizational consequences. It is important to eliminate these negative consequences. While individual consequences affect the mental health and life quality of an individual, social effects of mobbing are more serious. It has been determined that mobbing has a performance decreasing effect for a business in terms of organizational aspect. In this concept mobbing is a phenomenon that measures should be taken for eliminate. It can be seen in the literature that the mobbers are usually males and this triggers the incidence of gender discrimination-based mobbing. It has also been identified in our study that the perception of gender discrimination is important in the incidence of mobbing. For that reason, studies to decrease the perception of gender discrimination in society should be conducted in order to prevent the incidence of mobbing. The most important step to take for EU countries and Turkey about mobbing is to legislate in this field. Legal practices and sanctions to prevent mobbing should be implemented. It is also important to create awareness in the society in this issue. This awareness should be supported by mass media to enhance the awareness.

REFERENCES

- Aşkın, E.Ö., Aşkın, U., (2018), Çalışma Yaşamında Kadına Yönelik Mobbing: Bankacılık Sektöründe Bir Araştırma, *Gümüşhane Üniversitesi Sosyal Bilimler Enstitüsü Elektronik Dergisi* Cilt: 9, Sayı: 24.
- Baillien, E., Griep, Y., Elst, T.V. And Witte, H. (2018), The Relationship Between Organisational Change And Being A Perpetrator Of Workplace Bullying: A Three-Wave Longitudinal Study, *Work & Stress*, <https://doi.org/10.1080/02678373.2018.1496161>.
- Bingöl, O. (2014), "Toplumsal Cinsiyet Olgusu ve Türkiye'de Kadınlık", *KMÜ Sosyal ve Ekonomik Araştırmalar Dergisi* 16 (Özel Sayı 1): 108-114, ISSN: 2147 - 7833, www.kmu.edu.tr.
- Buttigieg, D.M., Bryant, M., Hanley, J., Liu, J. (2011), The Causes And Consequences Of Workplace Bullying And Discrimination: Results From An Exploratory Study, *Labour And Industry* 22:1/2 August/December, Pp. 117-142.
- Carnero, M.A., Martinez, B., and Sanchez-Mangas, R. (2010), Mobbing and its determinants: the case of Spain, *Applied Economics*, 42, 3777–3787.
- Çiftçi, M., (2010), AB-15 ülkelerinde kadın emeğinin gelir elastikiyeti ve Türkiye: değerlendirmeler-ekonometrik uygulamalar, *Uluslararası İnsan Bilimleri Dergisi* [Bağlantıda]. 7:1. Erişim: <http://www.insanbilimleri.com>.
- Çögenli, M.Z. and Döner E., (2015), Türkiye'de Akademisyenler Üzerine Gerçekleştirilen Mobbing Konulu Lisansüstü Çalışmaların İncelenmesi, *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 19 (3): 27-46.
- Çukur, C., (2016), *Türk Hukuku ve Karşılaştırmalı Hukukta İşyerinde Psikolojik Taciz*, TBMM Basımevi, ekitap.
- Davenport, N., Schwartz, R. D. Ve Elliott, G. P. (2003), *Mobbing İşyerinde Duygusal Taciz*, (Çev.) Osman Cem ÖnerToy, İstanbul: Sistem Yayıncılık.
- Dragomir, O.M. (2018), A New Milestone Of Human Resource Management– Mobbing In A Continuously Changing Work Environment, *Economics, Management, and Financial Markets* 13(3), pp. 409–414, ISSN 1842-3191, eISSN 1938-212X.
- Ergin, H., (2013), *Avrupa Hukukunda İşyerinde Psikolojik Taciz*, 61-81, Çalışma Hayatında Psikolojik Taciz Panel ve Çalıştayı Bildiri Kitabı, Ankara.
- Eroğlu, F., (2011), *Avrupa Ülkeleri Anayasalarında Toplumsal Cinsiyet ve Kadın-Erkek Eşitliği ile İlgili Düzenlemeler*, TBMM Araştırma Merkezi.
- Escartin, J., Ullrich, J., Zapf, D., Schlüter, E., Dick, R., (2013), Individual- and group-level effects of social identification on workplace bullying, *European Journal of Work and Organizational Psychology*, Vol. 22, No. 2, 1 193, <http://dx.doi.org/10.1080/1359432X.2011.647407>
- Glick, P., Fiske, S.T., (1996), The Ambivalent Sexism Inventory: Differentiating Hostile and Benevolent Sexism, *Journal of Personality and Social Psychology*, Vol. 70, No. 3, 491-512.
- Gül, H., İnce, M. and Özcan, N. (2011), The Relationship between Workplace Mobbing and Burnout among Academics at a Turkish University, *Research Journal of International Studies - Issue 18*.
- Halaç, D.S. and Güloğlu, C., (2019), İşyerinde Psikolojik Yıldıрма Olgusunun Çalışan Verimliliği Üzerine Etkisi: MOSB'de Bir Saha Araştırması, *Yönetim ve Ekonomi: Celal Bayar Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, Cilt 26, Sayı 1, <https://doi.org/10.18657/yonveek.321727>.
- Hox, J.J. ve T.M. Bechger (1995), "An Introduction to Structural Equation Modeling" *Family Science Review*, 11.
- <http://www.eurofound.europa.eu>, (2007).
- <http://www.fedee.com/kb/italy-discrimination/> (01.08.2019).
- <http://www.ipsnews.net/2002/10/labour-rights-spain-fighting-bullying-in-the-workplace/> (01.08.2019).
- [https://www.schoenherr.eu/publications/publication-detail/poland-internal-employers-regulations/\(01.08.2019\)](https://www.schoenherr.eu/publications/publication-detail/poland-internal-employers-regulations/(01.08.2019)).
- Jenkins, M. F., Zapf, D., Winefield, H., Sarris, A., (2012), Bullying Allegations from the Accused Bully's Perspective, *British Journal of Management*, Vol. 23, 489–501, DOI: 10.1111/j.1467-8551.2011.00778.x.
- Kara, D., Kim, H. L., and Uysal, M., (2018) The Effect of Manager Mobbing Behaviour on Female Employees' Quality of Life, *Current Issues in Tourism*, 21:13, 1453-1467, DOI: 10.1080/13683500.2015.1078298.
- Kaya, R., (2015), İşçilerin Maruz Kaldığı Mobbing ve Ülkelerin Karşılaştırmalı Analizi, *Akademik Sosyal Araştırmalar Dergisi*, Yıl: 3, Sayı: 20, Aralık 2015, s. 369-381.
- Kement, Ü., Batga, B., (2016), Mobbing'in Örgütsel Bağlılığa Etkisi: Eğlence ve İkrım Amaçlı Hizmet Veren Rekreasyon İşletmelerinde Bir Araştırma, *İşletme Araştırmaları Dergisi*, DOI: 10.20491/isarder.2016.225.

- Khan, M. J., Kehkashan, A., Hafsah, A., Noreen, N., and Mehwash, N. (2018), Attitude of Male and Female University Students Towards Gender Discrimination, *Pakistan Journal of Psychological Research*, Vol. 33, No. 2, 429-436.
- Konuk, B., (2014), Avrupa Birliği Hukukunda Cinsiyet Ayrımcılığına İlişkin Temel Kavramların Değerlendirilmesi, *JOY*, 1725-1752.
- Koonin, M. And Green T.M., (2007), The Emotionally Abusive Workplace, *Journal of Emotional Abuse*, 4:3-4, 71-79, DOI: 10.1300/J135v04n03 05.
- Kovacic, A., Podgornik, N., Pristov, Z., and Raspor, A., (2017), Mobbing in a Non-Profit Organization, *Organizacija*, Vol. 50, No.2, DOI: 10.1515/orga-2017-0012.
- Leymann, H. (1990), Mobbing and Psychological Terror at Workplaces, *Violence and Victims*, Vol. 5, No. 2.
- Leymann, H. (1996), "The Content And Development Of Mobbing At Work", *European Journal Of Work And Organizational Psychology*, Vol: 5, No:2, 165-184.
- McCormack, D., Djurkovic, N., Nsubuga-Kyobe, A., Casimir, G., (2018), *Workplace Bullying, Employee Relations*, Vol. 40 No. 2, pp. 264-280, DOI 10.1108/ER-07-2016-0147.
- Meydan, C.H. & Şeşen, H. (2015), *Yapısal Eşitlik Modellemesi Amos Uygulamaları*, Detay yayıncılık, Ankara.
- Mulder, R., Bos, A.E.R., Pouwelse, M. And Dam, K. (2017), Workplace Mobbing: How the victim's coping behavior influences bystander responses, *The Journal Of Social Psychology* 2017, Vol. 157, No. 1, 16–29, <http://dx.doi.org/10.1080/00224545.2016.1152213>.
- Nielsen, M.B. and Einarsen, S.V. (2018), what we know, what we do not know, and what we should and could have known about workplace bullying: An overview of the literature and agenda for future research, *Aggression and Violent Behavior* 42, 71–83, <https://doi.org/10.1016/j.avb.2018.06.007>.
- Öztan, E., (2004), Toplumsal Cinsiyet Eşitliği Politikaları ve Olumlu Ayrımcılık, *Ankara Üniversitesi SBF Dergisi*, 59-1.
- Policy Department for Citizens Rights' and Constitutional Affairs, (2018), [http://www.europarl.europa.eu/RegData/etudes/STUD/2018/604949/IPOL_STU\(2018\)604949_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2018/604949/IPOL_STU(2018)604949_EN.pdf).
- Poussard, J.M., Çelik, T.S. and Bingöl, H.B., (2018), Mobbing in Higher Education: Descriptive and Inductive Case Narrative Analyses of Mobber Behavior, Mobber Responses, and Witness Support, *Educational Sciences: Theory & Practice*, 18, 471–494. <http://dx.doi.org/10.12738/estp.2018.2.0018>.
- Salin, D. (2003), *Ways of Explaining Workplace Bullying: A Review of Enabling, Motivating, and Precipitating Structures and Processes in the Work Environment*, [https://helda.helsinki.fi/bitstream/.../283/salin_HR_2003.pdf\(01.08.2019\)](https://helda.helsinki.fi/bitstream/.../283/salin_HR_2003.pdf(01.08.2019)).
- Sarı, M., (2017), Türkiye'de Cinsiyete Dayalı Ayrımcılığın Kadının Çalışma ve Siyasal Yaşamındaki Yerine Etkisi, *İnsan ve Toplum Bilimleri Araştırmaları Dergisi*, C.6, S.2.
- Sarıçam, H., (2016), The Mediator Role of Social Safeness and Pleasure in Relation between Mobbing and Meaning of Work in Academicians, *Education and Science*, Vo. 41, No.184, 349-361, DOI. 10.15390/EB.2016,6201.
- Sipe, S., Johnson, C.D., Fisher, D., (2009), University Students' Perceptions of Gender Discrimination in the Workplace: Reality Versus Fiction, *Journal of Education for Business*, 339-349.
- Sipe, S.R., Larson, L., McKay, B.A., Moss, J., (2016), Taking off the Blinders: A Comparative Study of University Students' Changing Perceptions of Gender Discrimination in the Workplace From 2006 to 2013, *Academy of Management Learning & Education*, 2016, Vol. 15, No. 2, 232–249. <http://dx.doi.org/10.5465/amle.2014.0139>.
- Skewes, L., Fine, C., Haslam, N. (2018), Beyond Mars and Venus: The role of gender essentialism in support for gender inequality and backlash, *Plos One*, <https://doi.org/10.1371/journal.pone.0200921>.
- Snizek, W. E., & Neil, C. C. (1992). Job characteristics, gender stereotypes and perceived gender discrimination in the workplace, *Organization Studies*, 13(3), 403-427, <http://dx.doi.org/10.1177/017084069201300305>.
- Sobre-Denton, M.S. (2012), Stories From The Cage: Autoethnographic Sensemaking Of Workplace Bullying, Gender Discrimination, And White Privilege, *Journal Of Contemporary Ethnography* 41(2) 220–250, Doi: 10.1177/0891241611429301.
- Stainback, K., Ratliff, T.N., Roscigno, V.J., (2011), the Context of Workplace Sex Discrimination: Sex Composition, *Workplace Culture and Relative Power*, *Social Forces* 891411166-1188.
- Stefanovic, G. (2012), "Role of Trade Unions in the Prevention of Mobbing", *SEER Journal for Labour and Social Affairs in Eastern Europe*.
- Şen, M., (2018), Cinsiyete Dayalı Ücret Eşitsizliğinin Avrupa Birliği ve Türkiye Kapsamında Değerlendirilmesi, *Sosyal Politika Çalışmaları Dergisi*, Yıl.18, Sayı.41.

Şenol, V., Avsar, E., Akca, R.P., Argun, M., Avsaroğulları, L., and Kelestimur, F. (2015), Assessment of Mobbing Behaviors Exposed by the Academic Personnel Working in a University, in Turkey, *Journal of Psychiatry*, Volume 18 • Issue 1 • Psychiatry-14131.

The Global Gender Report 2006-2018, World Economic Forum Geneva, Switzerland.

Tınaz, P. (2006), İşyerinde Psikolojik Taciz (Mobbing), *Çalışma ve Toplum*, 2006/4, pp. 13-28.

Tomic, M.A. (2012), Mobbing: The Incidence of Mobbing Activities and Difference Regarding Workplace and Gender, *Original scientific paper* UDC 658.310.42:364.635; 005.962:364.634.4, Vol. 9 (1) 2012: Pp. 243-252.

Yanık, O. (2018), Mağdurların Yıldırma Karşı Agresif Açıdan Tepki Göstermesi ile Tepkisiz Kalmasının Altında Yatan Bireysel ve Çalışma Hayatına İlişkin Faktörler, *Business and Economics Research Journal* Vol. 9, No. 2, pp. 395-411 doi: 10.20409/berj.2018.112.

Yaşloğlu, M.M.(2017), Sosyal Bilimlerde Faktör Analizi ve Geçerlilik: Keşfedici ve Doğrulamalı Faktör Analizlerinin Kullanılması, *İstanbul Üniversitesi İşletme Fakültesi Dergisi*, Vol/Cilt: 46, Special Issue/Özel Sayı, 74-85 ISSN: 1303-1732 – <http://dergipark.ulakbim.gov.tr/iuisletme>.

Zeher, D.B., (2011), Gender Discrimination at Work: Connecting Gender Stereotypes, Institutional Policies, and Gender Composition of Workplace, *Gender and Society*, Volume: 25 issues: 6, page(s): 764-786, <https://doi.org/10.1177/0891243211424741>.



GUANXI VS TALENT ACQUISITION: EVALUATING THE EFFECTS OF GUANXI REFERRALS IN SINO-FOREIGN COLLEGES

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ABSTRACT

Purpose- The objective of the research is to investigate how teaching quality, courses delivered and their learning outcomes, student and staff satisfaction are affected when *guanxi* and non-*guanxi* based staffs share the same class cohort and subject levels in the selected colleges for this study. The aim of the research is to show the implications, using a primary data inspected, thematically analysed findings of how these differences in quality control, lack of transparency in hiring and pay packages of *guanxi* and non-*guanxi* based recruited staff members affect Chinese and non-Chinese staff expectations and also overall image of foreign Universities who partner with colleges in mainland China.

Methodology- The primary data is collected from interviews with a) candidates who have been hired through *guanxi* referrals, b) candidates who have been recruited in conventional ways with no social-ties benefitting their hiring or position, c) learners from three foreign University-partnered colleges in China. Considering the aim, the research strategy was adopted within a qualitative study research design that has applied a thematic analysis.

Findings- The investigation compares faculties who were hired on Guanxi-basis and those who were not, and elucidates on a) A mismatch of staff expertise, courses delivered and learning outcomes, b) Absence of platform to share 'best practices', c) Lack of multi-cultural learning ecosystems in staff rooms, d) Missed learning objectives and teacher-student office hours, and e) Varying financial and moral incentives

Conclusion- There are clear challenges coming from *guanxi*-led hired staff not working closely with non-*guanxi* counterparts (even when they are teaching on the same course), the lack of access of staff profiles and inability of non-*guanxi* staff to communicate with *guanxi*-based staffs. The effects on the wider scale falls on student learning, image of foreign Universities, very high staff attrition rate, quality control measures and falling reputation of these colleges nationally within mainland China.

Keywords: Guanxi, China, higher education, academic recruitment, university partnerships, learning outcomes, Sino-Foreign collaboration institutions

JEL Codes: M00, M10, M50

1. INTRODUCTION

Guanxi hails from a Confucian culture that rules social behaviours between people. The core value of Confucianism is *Ren*, meaning 'treat others well' and 'love others' with a wider goal of the society becoming more tolerant, stable and accommodating. Unlike the strong individualism noted in Western countries, every Chinese is a subordinate to his or her own family and is responsible to the family; in China, the family relationship always takes priority over other social relationships tied through *contracts* (Alston, 1989). Fundamentally, *guanxi* is derived from two Chinese words, *guan* (gate or barrier) and *xi* (connection or link) – so the word suggests 'go through the gate and get a connection'. Chinese Authority's dictionary defines it as 'certain properties of contacts or relations among people'. Simply put, for the lack of an accurate English word, *Guanxi* can be commonly understood as 'personal relationship' or 'social connection'. This research looks at how *guanxi* can be the basis of academic recruitment in selected foreign University-partnered colleges in mainland China and the consequent impact on learners and staff satisfaction.

The objective of the research is to investigate how teaching quality, courses delivered and their learning outcomes, student and staff satisfaction are affected when *guanxi* and non-*guanxi* based staffs share the same class cohort and subject levels in

the selected colleges for this study. The aim of the research is to show the implications, using a primary data inspected, thematically analysed findings of how these differences in quality control, lack of transparency in hiring and pay packages of *guanxi* and non-*guanxi* based recruited staff members affect Chinese and non-Chinese staff expectations and also overall image of foreign Universities who partner with colleges in mainland China. The structure of this paper initiates by delving into the literature of the traditionally rooted concept of *guanxi* followed by explaining the methodology and nature of thematic analysis applied for this research, thereafter discusses a mix of broad and specific themes before concluding with research implications.

2. BACKGROUND

In the interest of this research as well as how *guanxi* is better understood in business context, it is pertinent to note that before 90s, the concept was clearly referred to as a 'special' relationship' or 'particular' ties and can be seen differently from other personal relationships (Alston, 1989). Further modern understanding of the concept as China was more accessible after mid 90s, *guanxi* is a social connection based on mutual interests and benefits, which is usually achieved by exchanging favours and giving social status between *guanxi* partners (Yang, 1994). Studies have perceived this social concept as an interpersonal utilitarian relationship for reciprocal exchange which is applicable at individual levels (Davies et al., 1995) and equally at the organizational level (Cai, Jun & Yang, 2010; Gu, Huang, & Tse, 2008). In contexts where *guanxi* also helps in shaping the governance and institutional structure, however, it is a means and also social capital in itself which then would lead to advantages in terms of financial performance, marketing access, recruitment sources and favouring of internal candidates (therefore cannot be necessarily termed as 'talent pool') while serving essentially as relationship marketing in Chinese markets (Davies et al., 1995). As an instance however, to clarify further on the individual or group nature of *guanxi*, it is not always in the form of B2B or C2C, but also can take the shape of B2B2C. Since *guanxi* is primarily favour, reciprocity in benefits-based, i.e. when one party expects favours from another party, if one party cannot always deliver from their end, he or she will ask others (in their network) to fulfil a favour through his or her *guanxi* networks. This social capital, under a code or a set of social norms as understood by Chinese users of the concept, is a utilitarian relationship based on exchanging favours. Typically, *guanxi* starts from inside the network or family, then ventures (rather slowly) to outside acquaintances so Chinese people choose to believe insiders (people with whom they share *guanxi*) over outsiders (outside the range of *guanxi*, per se). Similarities of kinship being a key resource can be noted in other cultures that have also been significantly influenced and structured by Confucianism: *Kankei* in Japan and *Kywankye* in Korea, and these correspond to similar meaning of *blat* in Russia.

Moreover, modern contexts and literature investigating various social, economic and anthropological issues would suggest that China is a relationship society in which people rely more on personal relationships than rational laws (Yang, 1994). Educational institutions, alike financial or other business and service sectors, are guided by regulations, frameworks and guidelines – and are no different in China than in rest of the world. However, the need to find *guanxi* or to establish a *guanxi* base contain a set of activities that follow Chinese social norms. In the reality of inefficiency and ineffectiveness of Chinese business infrastructure and related institutions, Chinese people depend more on personal *guanxi* for commercial protection, legal assurance and risk avoidance specifically. While this may give a sense of security and smoothening of business performance curve (due to information sharing, resource acquirement, cost saving, negotiation), the fall out within *guanxi* network is a major threat that organisations are aware of in practice. On the other hand, to secure a less risky operational scenario recruitment is also done only within the networks of *guanxi* who are then entitled to special privileges that would seem discriminatory in organisations that are specification, enforcement and rule based rather than social norm based. *Guanxi* may bring benefits to individuals as well as the organisations they represent but these benefits are obtained at the expense of other individuals or firms and is thus detrimental to society.

Information management and faster access to emerging policies and market trends along with newer business opportunities are some of the added benefits of having *guanxi* with government authorities. (Davies, et al, 1995). In many ways thus, *guanxi* is viewed to be the basis of sustainable competitive advantage (Tsang, 1998; Fock and Shing, 1998); and more conveniently relationship marketing (Ambler,1994; Simmons and Munch, 1996). In China, while *guanxi* may seemingly be an effective and convenient option for personal networks to play and achieve goals, the Hong Kong Independent Commission Against Corruption in a report holds *guanxi* accounting for up to 5% of total costs in doing business in China (ICAC, 1993).

Empirical understanding of *guanxi* and the use of the same in modern contexts have different realities in application since the element of 'mobility' has changed in societies. Historically, when *hukou* (living placement and registration of individuals and communities) and *danwei* (work unit) factors determined job allocation given very few choices available then, this therefore heavily relied on *guanxi* within limited social circle and reachability in terms of trust based 'who knows who'. This component of localised culture may have barred individuals and communities to reach out beyond their known circles. Clearly with time, reforms and also less political reliance on command economy, the social scenario and communication reachability

have changed. There may be better and higher options available outside one's *guanxi* zone, this would have significant impact on any work where such alternatives are available. The sole reliance on one's *guanxi* network would potentially limit better performance, output and business results in general. In the context of this article, when the higher education sector is investigated the matter becomes more important given the variety of emerging courses in subject areas that are replacing older ones with changing times. In this period, in an Economy that was shut to the world Economy until the 90s, the sole reliance on *guanxi* to be used as a method of academic job recruitment (mainly internal, therefore) would not improve the sector nor would add to organisational knowledge building over time.

Besides the utilitarian and reciprocity aspects of *guanxi*, the other components tied with the concept would be transferable and long-term intangible elements of it (Danning & Kim, 2007). While it has been discussed that *guanxi* creation and maintenance need time and resources, it also holds high risk. Similar to growth of speed in the quality of *guanxi*, the fall can be faster as well if one relationship in the chain is negatively affected and consequently affected all connected *guanxi* in the chain. In terms of the long-term personal intangibility of *guanxi*, it becomes harder to formalise these relationships in paper when major decisions including financial, recruitment, promotion are based on the same. In regards to the context based on this research, *guanxi* based recruitment could pose a significant risk to scrutiny when staff members are higher without the right background, qualification and experience in the role that would otherwise require specific criterion from staff applying from 'out of *guanxi*' range. When such recruitment processes bring in candidates from both *guanxi*, and non-*guanxi* referred staffs, the quality control management becomes significantly challenging as the parameters used to judge and appraise employees are not consistent or some may say, even unfair.

Guanxi, Work Performance and Attrition Rate

Guanxi, worker satisfaction and employee attrition tendency hold a relationship in several forms. Research conducted by Zhai, Lindorff & Cooper (2012) shows that a supervisor-subordinate Guanxi can have a causal effect on job satisfaction. On the other hand, a negative effect of Guanxi on job satisfaction where a section of employees feels discontented due to the management favouring some individuals, may result in a high turnover intention (Nguyen, Simkin & Canhoto, 2015). It is important to note that satisfaction and job satisfaction are dependent on job security; insecure employees are both discontented in their employment and may intend to leave for other jobs (Cheung, Wu & Wong, 2013). Organizational justice that explains the employees' perception of the firm being equitable and fair, can determine the relationship between job security, satisfaction, and turnover intention. Wong, Y., Wong, S., and Wong, Y (2010) argue that Guanxi has a direct relationship with job security from their research in Chinese formal job sector. This research also suggests that an employee would feel more secured at job due to the fact that they were hired on the basis of *guanxi* and the chances of getting dismissed or missing an opportunity to other (non-*guanxi*) employees are significantly lower. However, they also suggest that the relationship between the Guanxi and job security is dependent on the performance of the employee; irrespective of a favourable relationship, an underperforming employee may lack job security. The figure below represents the conceptual model that the study will adopt.

Knowledge building exercises get a boost when employees create networks outside their immediate professional relationships, these networks enable access to sensitive information related to jobs and organisations that people work for (Chen et al, 2011). Consequently, professionals become more aware of the treatment and working conditions that organisations are expected to maintain and offer employees, this may be contrary to their personal experiences in firms. Further, employees get dissatisfied with their employees and workplaces when the management is not willing to improve or note the required issues or changes. As things become clearer through communication, employees may get to know how *guanxi* for example served as the recruitment criterion for some of their colleagues which benefitted them unfairly over others. This dissatisfaction ultimately does affect staff motivation at workplace and subsequently increases willingness to switch over and leave their current workplace. The matter is not always entirely in favour of *guanxi* referred employees, as there may come a point when employees may get very satisfied in their current roles and would like to experience self-actualisation where the *guanxi* does not work in favour any longer (Abosag & Naudé, 2014). However, organisational culture and individual performance and performance relationship circumstances may also lead to increase in turnover intention overtime (Scott et al., 2014). Nevertheless, *guanxi* connected employees may have higher job satisfaction in general due to the fact that they would usually get the employer support necessary for satisfying group and individual goals in the initial (at the very least) years of employment. Conclusively, Guanxi has an almost similar impact on job satisfaction and the turnover intention. As an exception however, and this is where literature falls short of a scenario of low morale and lack of significant achievement of group goals when the work environment hosts both *guanxi* based and non-*guanxi* based staffs working together in the same team and towards common shared goals.

3. METHODOLOGY

The core purpose of this research is to investigate the effects of *guanxi*-based (or ‘favoured’) recruitment of academic staff on quality assurance and effective delivering of learning outcomes in sino-foreign joint educational institutes in mainland China. The primary data is collected from a) candidates who have been hired through *guanxi* referrals, b) candidates who have been recruited in conventional ways with no social-ties benefitting their hiring or position, c) learners from three sino-foreign joint colleges in China. Considering this aim, the research strategy was adopted within a qualitative study research design. This is in line with important recommendations in the literature (Dana & Dana, 2005, Dana & Dumez, 2015) pointing out the need for expanding research methodologies beyond quantitative studies with a wider inductive and holistic perspectives.

The chosen qualitative approach for the paper has used a thematic analysis. Thematic analysis is a search for themes that emerge as being important to the description of the phenomenon (Daly et al, 1997). Braun and Clarke (2006) views thematic analysis as a method used for ‘*identifying, analysing, and reporting patterns (themes) within the data*’ (2006: 79). Generally, thematic analysis is the most widely used qualitative approach to analysing interviews. The process involves the identification of themes through ‘*careful reading and re-reading the data*’ (Rice & Ezzy, 1999: 258). It is a form of pattern recognition within the data, where emerging themes become the categories for analysis.

The primary data collected from 34 Lecturers grade A and grade B faculties, please note table 1 below for more details. Investigating interviewees at the same position or title (i.e. Lecturer) would facilitate the research with a standardised and focused understanding of how *guanxi* may play a role in candidate profile and also performance related aspects. The contracts are primarily teaching and service heavy with minimal or no research expectations (i.e. with no workload hours or research support grants provided), based on pre-agreements with candidates, with a total 16 full-time and 18 part-time contracts looked at.

Table 1: Respondent Details

Number of respondents	Male	Female	Chinese	Foreign	Online profile
34	13	21	23	11	8 (foreigners only)

3.1. Codes and Themes

A ‘*good code*’ is one that captures the qualitative richness of the phenomenon, and the coding process involved recognising an important moment and encoding prior to a process of interpretation (Boyatzis, 1998:1). Encoding the information organises the data to identify and develop themes from them. Boyatzis (1998:1) defined a theme as ‘*a pattern in the information that at minimum describes and organises the possible observations and at maximum interprets aspects of the phenomenon*’. Coding is the process of organising and sorting data since it serves as a way to label, compile and organize data. In linking data collection and interpreting the data, coding becomes the basis for developing the analysis.

Table 2: Modified and Adapted from Crabtree & Miller (1999)

Stage	Action taken	Description
1	Developing a template of codes	the semi structured interview questionnaire had a set of codes embedded in the questions that were drawn both from literature as well as the conceptual framework
2	Testing the reliability of codes	Drawing the codes from elements identified from the interviews were further categorised in themes. Some codes were ignored because of the purpose of this research.
3	Summarising data and identifying initial themes	Following reviewing interview data, the responses were collated and the raw data was systematically summarised. Interview transcripts were summarised separately by outlining the key points made by participants in response to the questions asked.
4	Connecting the codes and identifying themes	the codes identified from both ‘a priori’ ones and also ‘emerging codes’ contributed to a better list of responses that would provide a higher understanding. Connecting codes is the process of discovering themes and patterns in the data
5	Corroborating and legitimising themes	The final stage illustrates the process of further clustering the themes that were previously identified from the coded text.

Data analysis followed several stages. First, each interview transcription was scrutinised and themes were generated. Each response provided was examined with respect to the type of staff (Chinese national and non-Chinese national) and the institution they were working for. This helped in creating first order codes. Second order codes were identified and grouped together in what emerged across the interview responses to specific question sets (collected from both primary interviews and questionnaire responses via email) to carry out an analysis systematically. Eisenhardt (1989) viewed that it is important that the data analysis process is based on both *'within' story and 'cross' story analysis*. Since most of the themes were generated from collating responses that were pointing towards a common fact or a phenomenon, from a range of interview findings, the analysis shifted from the individual level to collective analyses. This enabled in drawing general conclusion and meaning to a given question if there were common themes generating due to repeat or similar responses.

4. FINDINGS

4.1. A Mismatch of Staff Expertise, Courses Delivered and Learning Outcomes

'My role is primarily about staff administration and overseeing foreign partner recruitment numbers...in addition, liaising with student parents and teaching assistants for smooth running of classes and heading the management of annual automotive-show that is hosted on campus... The international office takes care of on-rolling recruitment and staff requirements round the year'

The role of Academic Dean, a Chinese national, for one of the selected sino-foreign colleges includes being the programme director for all undergraduate programmes in business, engineering, media and IGCSE exams, monitoring quality assurance and arranging peer reviews, employee appraisal and staff reviews, liaising with local industries to host job fair and career support for students. The position has been held by the same person for over 15 years with strong connection/ *guanxi* with local government authorities, and three vice presidents along with one executive president above him who owns the college financially. None of the role above, however, associated with title of the role has accessible paperwork as an evidence. In many circumstances, some of these above roles are delegated to early career teaching assistants whose responsibilities are largely undefined but includes foreign teacher support as well as school admin work like managing course portfolios and student accommodation management roles. No job descriptions are listed in their contract nor available in detail when contacted. In addition, these staff members don't have any online profile alike other teaching staff so more information regarding their job suitability monitoring, equally an understanding of their work overload is missing due to lack of clarity of communication and transparency of information.

"The syllabus for IGCSE Mathematics is almost same as it is in Philippines (teacher origin), no teaching license is required to teach IGCSE in this college... The teaching assistant gives us the course portfolio from last year which is enough to get on with. The students have their learning portfolio which they can learn from, in addition to the classes filled with exercises handed down from my predecessor of the course... I do not have to invent any resources."

The criterion for recruiting certain staff members, including non-Chinese, is also not clear and defined in any paperwork. It is difficult to assess aspects such as teaching pedagogy and therefore strict requirements set by higher education frameworks are hard to monitor and evaluate whether they are delivered in the classroom. There is almost no involvement of foreign partner Universities in recruitment decisions in these three colleges studied, and also no contact is made with staff (both new and old) from these partners institutions. Quality assurance rounds and visits have no regional branch staff participation; therefore, no involvement of faculties is taken on board or best practice shared platform is enabled.

4.2. Absence of a Platform to Share 'Best Practices'

There is a need for foreign staff to work closely with local staff which becomes all the more important when they are sharing the same students across courses based on specialisation, besides many other student monitoring and development benefits. Data suggests that there is limited or no communication throughout the semester, and the platform where they put their queries forward is via teaching assistants. This may jeopardise the learning setting since students can feel the lack of consistency and connectivity in courses that they have during a semester. The importance of having a common staff room could be emphasised here as also noted by the staffs working in one of the colleges before.

"The readings for listening and other English language courses could better benefit my kids [students] if there is an opportunity to work or meet with their English teachers... This never happens, and the variation noticeable in the standard of reading material in their English classes significantly differs from case study readings that I present for my lessons... Students who score higher grades in their English language assignments are sometimes at a lower rung for my business courses. They can't understand how this is possible... When asked for English reading materials, the teaching assistant was unable to provide it"

and emails/ WeChat were ignored... it would be useful to have a staff meeting or a common staff room where these can be openly discussed perhaps?"

The above quote from a non-Chinese business Lecturer, elucidates the gap in learning and also inability of students to comprehend nature and outcome of their performances due to a) lack of feedback, b) lack of synchronisation between staffs teaching the same student cohort with similar course level learning objectives.

"My teaching assistant for 2nd year Marketing course is a Chinese staff who also teaches a similar strategy course for the third years, however she feels that she doesn't always feel very confident in delivering the ppt coming from the publishers since she doesn't have a Master's degree yet [that I have as a requirement for this post]. It is difficult to build a new assignment, for example, without anybody in the teaching team to discuss and develop ideas with. I don't see why it is sometimes challenging to work closely with local staffs who are seemingly less qualified and feel shy to come forward for a sound discussion benefitting our students. I have previously shared ideas a few times over with the academic director on this campus, but no action was taken..."

The above quote from another Business Lecturer from the selected college in north-east China shows a different scenario where there is little or no communication between local and non-local staff, but more importantly the fact that they teach similar subject areas of their expertise. From the learners' viewpoint, however, it is a loss in terms of new input being delivered as opposed to repeat content. The content shared in a second-year course is delivered again during a similar course in third year.

"The assignment is very similar to what we did last year, however the instructor is different. The content is the same but it's easier to follow this year because the instructor is Chinese and she speaks in Chinese as when needed. Though the content was the same last year, it was difficult to follow the foreigner teachers' accent and vocabulary as our English levels were not that high"

"...the learning outcomes on the ppt are different to questions in quiz and group presentations...we don't think the teacher always know what the course level expectations are for us..."

These two above quotes are from a third year International Business student and a second year Marketing student who shares his view on repeat content delivered over two years on similarly named courses, but also how benefits from a Chinese teaching delivery. A peer-review or teaching content monitoring could potentially address issues such as the above.

4.3. Lack of Multi-Cultural Learning Ecosystem in Staff Rooms

"Foreign teachers live their expat life and mostly spent their time on their own, we don't communicate much on a daily basis unless we are contacted for any support. It is great to have them for our students but we don't need many communications... Language and culture barrier is a problem when talking at a length... My line manager is the Dean who I also serve as an assistant with occasional visits to our other campuses in China..."

The above quote from a Chinese staff at one of the colleges where she teaches English to first year students. While she expresses understandable reasons for lack of regular communication with non-Chinese staff, the college is designed to be multi-cultural and the culture is aimed at inclusivity and participation of different cultures.

"When I first came, I was told that X would be my contact person and also someone I could contact if I needed any support setting myself up in this foreign land... I didn't however reach out much to her as I can arrange things for myself and it's not hard...everything is available within a mile's distance... a semester later, she was allocated to me as my teaching assistant and I don't know where her office room is or what her subject areas are... it would be beneficial for the college if local and non-local staff could work together more closely..."

A non-Chinese Lecturer expresses his interest in collaborating with local Chinese staff members. While culture is a strong element in this aspect, it remains much with the higher education institution to foster and emphasise a particular culture to facilitate such collaboration of local and non-local staff for a wider inclusive experience for everyone involved.

"When I joined the college, the Dean (Chinese) confirmed that share of marking exams for large courses and student cohorts will be split in half between me and my teaching assistant (Chinese), however shortly after an assessment was due for one of my 2nd and 4th year courses I had to mark around 650 papers all by myself... the turnaround time was about a week... so there was no sensible way to provide a good quality feedback to the students, simply due to sheer scale of marking....The Dean and also the teaching assistant didn't respond to their earlier statement of confirmation when asked... There was no one else to report this to... I had asked details of the vice-president of the college who sits directly above the Dean but he was not contactable... it's in a way explains why the attrition rate is so high here..."

A foreigner Business Lecturer reports this from his experience in working with one of the selected colleges in Jilin province. Given the low staff morale and lack of clarity provided in job description, the attrition rate has been historically high in the college. As with the college in Sichuan province, this college mentioned above don't provide staff details online or have any HR policy.

4.4. Missed Learning Objectives and Teacher-Student Office Hours

"I am building on the course resources provided to me in the teaching portfolio from previous years. I did not teach microeconomics last year; the previous teacher left these resources for me. From my experiences, the course outlines are set by the partner institutions that are running the courses on their campus in parallel to ours. There is, however, much space and flexibility in delivering our courses delivered here... There is no standardisation mechanism in place, in both delivery and assignment design aspects... This allows teachers to focus on aspects they think is important in a Chinese classroom and remove sections from the curriculum that cannot be covered... Duration of the semester and student capacity are two key important factors to keep in mind when you teach in China."

Following what this Economics Lecturer, working for this college in Sichuan province, has to say here demonstrates the degree of flexibility in course design and delivery while at the same time illustrates the wide gap or even lack of monitoring or quality assurance mechanism in place. Since there are no staff meetings or regular line manager meetings in place, which happens to be a likeable element amongst the staffs working in the college, there is also zero quality assurance in the courses delivered to colleges. Universities that go through accreditation reviews would at the very least pinpoint at the importance of achieving the learning objectives as defined and shared in the course outlines. However, how much of that is equally delivered by partner colleges abroad also needs significant effort, attention and time.

While most Chinese students are not encouraged to actively participate in classroom from their early years, the same is continued in their years in higher education unless a different class culture is introduced and reinforced through continuity. It is apparent from the teaching pedagogy from the foreign (non-Chinese) lecturers that they try different ways to involve the Chinese students in the classroom, many have struggled to make this happen with little or no support from the college in general. In the context of assignments and its design, an area where a lot of students come forward for clarification, the workload given in office hours is almost negligible. Only 6 of the total interviewed staff members offers a monthly one to two hours of office hours to students, particularly if this is about assignment clarification outside classroom hours and also feedback based language learning sessions. For subject Lecturers, there is almost no provision of office hours where students could connect with their class Tutors outside classroom hours. This leads to significant distress and helplessness amongst students who often complain weighing the amount of fees and support received in exchange.

4.5. Varying Financial and Moral Incentives

Due to the fact that some staff members are either paid in cash or via e-transfer on WeChat, detailed evidence of role-based payments are missing, however interviews suggested that the pay structure is pretty dispersed and uneven. While some foreign staffs are paid according to their highest qualification and other attributes, others (mainly locals) are paid as per agreement and seniority at the institution (not in the sector, in general). On recruitment site, there is a range provided for subject level lecturers, however for local recruits the pay structure varies significantly. In addition, the mismatch of qualification and teaching areas are vastly overlooked which significantly affects the learning objectives of courses that a large cohort of students take as a part of their degree programme. The lack of monitoring in this scenario doesn't benefit or stabilize the pay gap. One of the three colleges studied, with partners in North America and the US did not have an allocated HR division where any such related information could be further researched. They have Finance and International offices as a part of their outreach division, responsible for staff recruitment, pay, administration and student registration/fee management. The lack of HR and paperwork makes it very difficult to monitor and identify these discrepancies. Most staff members working in these international offices and HR divisions in the three colleges, are local and support the *guanxi* induced job security model discussed earlier in the literature, leading to their long-term employment with their respective employers.

"I applied directly from my job site and was interviewed in line with the competencies set out for the role... I shared my teaching and research interests and also had enquired of support available for conferences and paper submissions... The Dean responded positively to the questions, however after I had started working here then I realised the job is mainly teaching based and no workload hours or pay for research activities are encouraged or available... My qualifications are much higher than my junior Chinese colleagues but their job description and pay is almost the same... This explains why I was unable to read staff profiles online before I arrived... and Chinese staff stay close to the management, we don't get to talk to know much about them..."

Comments from a foreigner staff member when asked about how he got his job and experiences from her first few months on the new campus.

“My experience with the college has mostly been good... I was a student here myself six years ago and then had went abroad for my Master’s degree, when I came back my family connection at the department and local council helped me quickly secure this job without wasting much time on job hunting in a highly competitive modern China... I get to work closely with the Dean and though I support foreign teachers with their teaching, my job is mainly administrative and operational... My goal is to work here for a few more years since I live with my family close to campus and don’t want to move to another company without knowing anybody or referrals”

This *guanxi* based recruitment offered the candidate the same position and compensation package when appointed, as the college did to a senior foreigner staff with much higher qualification and HE experience abroad.

Table 3: Identification of Themes

First order codes	Second order codes	Themes
Undefined staff qualification and misleading entry point conditions	Lack of clarity in roles and faculty requirements during and post - appointment stages	Mismatch between profile and output – affecting learning outcomes
Separated staff circles within similar subject group interests	Missed opportunity on team work and staff meetings	Best practices (not) shared
Chinese and non-Chinese staff dynamics	Need based communication, much collegiality missing though mentioned at college goal and mission statements	Need to foster a multi-cultural learning ecosystem in staff room
Missed learning objectives and teacher-student office hours	A mix of formative assessment details and preparation all in limited class hours, lack of feedback in detail	Course learning objectives need revisiting (before release of final grades)
Mismatch of curriculum content and staff delivery	Peer-monitoring and teaching reviews could benefit both staff and learners	Lack of monitoring and quality assurance practices
Varied incentives and pay packages	Missing information from HR and details of pay entitlements could lead to scrutiny and questionable reputation of college	Need for foreign university partners to formalise the processes and get involved in the recruitment loop to avoid corruption

5. DISCUSSION

5.1. Improving Transparency and Collegiality for Sharing ‘Best Practices’

The findings evidences that there is a clear discrepancy in regards to staff qualifications and pay packages when they are compared between Chinese and non-Chinese staff members recruited at the selected colleges studied, and there are deeper implications of these in the long run that can be further discussed and debated. One of the foremost considerations made by the incoming students of these colleges are based on their *gao kao* (high school, A-level equivalent in China) results are significantly lower than students who would go on to leading and other central Universities in China. The entry requirements for the selected colleges looked at are much lower, however the college fees are almost as high as a foreign university would take in some countries. The typical range of student fees paid to these foreign University-partnered colleges are between 45000-65000 RMB every year, which is substantially higher than what students would pay in a Chinese University. Despite the high fees, the students most often do not get to find out details of their courses and subjects offered during an academic year until the very last minute, this can be two-three days before the semester commences.

As evident from what the data suggests, the staff recruited for teaching subject level and English language courses have significant variation in their qualification, background experience and teaching pedagogy. In addition to these, the dynamics between Chinese and non-Chinese staffs are not found at a level where it would be expected at a foreign University-partnered college environment. Besides the lack of monitoring mechanism and also empirical ignorance of fostering the culture to embed local, non-local staff collaborative learning environment, the student misses out significantly in regards to their overall learning outcomes and course expectations. Teachers without the required right qualifications, reading out from PowerPoint provided either by the publisher or previous year portfolio base are not able to deliver a systematic, participatory and industry-tailored high-quality course. However, some of the staff who are at the right level are found to be neither

encouraged nor supported to deliver a high-quality lesson with all necessary recognition and more importantly, sharing the best practise with other staffs on campus.

5.2. Aligning Staff Recruitment, Quality Assurance and Teaching Evaluation Needs

Since there is only 8 staffs whose profile are visible online with limited information (qualifications, current role and contact details), it is almost difficult to monitor or compare staff recruitment standards, or to see course allocation of individual staff matching their experience and background. It can be observed from the data that lack of monitoring of teaching via peer review of staff meeting practices adversely affects the delivery and quality of teaching in the classroom. While rising student dissatisfaction is an issue, interviews with learners also shows that compliance with the school practices is something that is also a reality amongst students. This allows regular continuation of the same practice year after year on the college campus without any changes. It is however interesting to see how several staff sometimes share the same class cohort while teaching on different modules, a very common reality in Universities, but have no contact with each other. This can be attributed to several causes as understood from the findings a) local and non-local staff do not communicate due to personal fears, dissimilar qualifications (even when teaching at the same level), culture and language barrier, b) the absence of regular (or at least once a term) school meetings and also the lack of a shared staff room, c) the access challenge of reading the course outlines online or when documentation is requested from teaching assistants (mainly *guanxi* recruited) which would facilitate one staff from another after understanding what content is reviewed and shared with the same learners, d) inability and lack of interest amongst students to go and report to the management to express their dissatisfaction in qualitative differences in lessons.

“We had struggled with over-assessment for an academic skills course last year, and being the student monitor I reported against a particular teacher to the management... no action was taken, no changes were made and the following year we were given the same teacher again... we cannot see eye to eye after that...”

A final (fourth) year international business student shares from this experience in the college. Deviation from the course learning objectives, as discussed earlier in the paper stands as a major challenge as that is something would require monitoring from the partner University abroad. Due to the fact that no such QAA (Quality Assurance Agency for higher education) format reviews are carried out annually, and such inspection is expected from internal management of the college – no revalidation or quality control board/staff meeting takes place. As can be noted above, the quality assurance is another one of the many roles that the Academic Dean is entrusted with but no such reports are available.

“Our teachers have a lot of autonomy with their courses. We do not interfere in the process and provide a lot of admin support as required. When students or their parents complain, we remind them that finishing assignments is their responsibility... We have to maintain the standard set by our partner US school... We do not compromise on that”

The above quote from the Academic Dean from one of the colleges in Jilin province does not cover the grey area of teaching quality assurance and also admin support. The staff from this same college had reported regarding the discrepancy in marking allocation for large student cohorts and lack of moderation or standardisation process. In the overall understanding of this and the clear lack of quality maintenance, it is imperative that the foreign partner University need to exercise some level of control when it comes to course and teaching quality and not simply settle with annual student-intake and financial agreements as it so happens.

5.3. The Degree of Involvement and Association by Foreign Partner Institutions

Following from the previous case in point, the need for foreign partner Universities are paramount and imperative from the findings of the research. While there is an increasing evidence of pressure coming in to these colleges in China from their partner institutions abroad in regards to students who would finish one length of their degree abroad after spending the first 2-3 years in China, little is being done in terms of quality control and staff recruitment. Guanxi based staffs in the colleges do not have an online profile and very often paid in an envelope every month, so a transparent record of transactions, staff numbers, and role-based pay information are all largely missing in paper. Earlier evidence shows that guanxi based teachers are also delivering courses at second- and third-year levels without their right subject background or the right qualification which would otherwise be held mandatory for other/ non-*guanxi*/ foreign/ other Chinese staff members. There is some evidence from other foreign partner institutions who have branches on china campus, where all the recruitment is done centrally from US or Canada main office. These hired staffs are then allocated to their foreign campuses. Whether or not these processes have favouritism embedded in them, may well be a subject topic for another research, but the control in terms of ensuring consistent pattern of staff hiring based on the right criterion is present.

5. CONCLUSION AND IMPLICATIONS

Further research could address the candidate homogeneity aspect of this research in terms of studying staff at a particular position level (i.e. Lecturer grade A and B) used for data and analytical consistency benefitting this research. Larger data sets across positions and local/ non-local staffs may generate more themes with varied implications. Additionally, studying more such colleges across the mainland territory, similar in scale and operations, would bring in different or similar conclusions. Also, research in other sectors where *guanxi* is still a criterion of recruitment, that involves triple helix connection could be looked at with higher focus on organisational goals and teaching quality. Finally, similar studies can be conducted in western societies where potentially similar results could be found. A similarity in responses between the two may suggest one of two things: that *guanxi* has become more of a non-unique sense of social networking and social capital, howsoever defined and perceived culturally.

This research is based on the findings from three comparable foreign University-partnered colleges in China where the senior management is solely composed of Chinese nationals. It shows that there are several areas of discrepancy and lack of transparency when staffs are hired and paid on *guanxi* basis; challenges coming from *guanxi*-based staff not working closely with non-*guanxi* counterparts (even when they are teaching on the same course), the lack of access of staff profiles and inability of non-*guanxi* staff to communicate with *guanxi*-based staffs. The effects on the wider scale falls on student learning, image of foreign Universities, very high staff attrition rate, quality control measures and falling reputation of these colleges nationally within mainland China.

The importance of achieving the learning outcomes, high quality teaching and student support, being recognised for student excellence and also graduate recruitment are essential components defining the very foundation and basic success factors of a higher education sector that faces a stiff competition globally. Throughout the past decade in particular, the Chinese higher education sector has opened up to the wider world more than ever before and successful claims in academic research and excellence in teaching offered in mainland colleges and Universities have been loudly marketed. However, the challenges and realities from the inner worlds of sino-foreign colleges, as presented in the paper shows that they could be vulnerable to significant challenges when thoroughly scrutinised under strict academic governance. It is also worth noting that several Sino-British partnership colleges as well as US/ Canada/ Australia/ New Zealand HE institution-partnered colleges are exponentially growing in China and staff recruitment, with reduced dependency on *guanxi*, is a key area of quality control for world-class teaching delivery as their advertisements usually tend to claim. There is also increasing number of British and Australian Universities who have Chinese campuses and there may be quite a handful to learn when it comes to how recruitment is managed in terms of a) transparency of application procedure for potential faculties b) clear guideline of application and required/essential/desired selection criterion c) suitably providing an online profile of staff members, d) clear and easy access to study portfolio and course handbooks online available for both students and staffs, f) a dedicated HR team organising the basics of benefits and compensation packages. Additionally, colleges can internally manage student evaluation surveys that are actually actionable and not simply for records sake. On a concluding observation, as higher education institutions in China start building on their expansion (operational as well as ambitious student-intake goals) plans coupled with foreign-University partnerships, they would find that potential labour-pool (and the degree and extent of expertise that comes with it) drawn solely through relationship networks will be miniscule and risky, also perhaps too local and interconnected to be able to fulfil any acceptable level and quality of function.

REFERENCES

- Abosag, I., & Naudé, P. (2014). Development of special forms of B2B relationships: Examining the role of interpersonal liking in developing Guanxi and Et-Moone relationships. *Industrial Marketing Management*, 43 (6): 887-896
- Alston, J.P (1989). Wa, guanxi, and inhwa: Managerial principles in Japan, China and Korea. *Business Horizons*. 32(2): 26-31
- Ambler, T. Styles, C., & Xiucun, W. (1999). The effect of channel relationships and guanxi on the performance of inter-province export ventures in the People's Republic of China. *International Journal of Research in Marketing*, 16(1): 75-87
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2): 77-101.
- Boyatzis R. (1998). Transforming Qualitative Information: Thematic and Code Development. Thousand Oaks, CA: Sage Publications; 1998
- Cai, S., Jun, M., & Yang, X. (2010). Implementing supply chain information integration in China: The role of institutional forces and trust. *Journal of Operations Management*, 28(3): 257-268
- Chen, Y., Friedman, R., Yu, E., & Sun, F. (2011). Examining the Positive and Negative Effects of Guanxi Practices. *SSRN Electronic Journal*, (28): 715- 735.

- Cheung, M., Wu, W., & Wong, M. (2013). Supervisor-subordinate *kankei*, job satisfaction and work outcomes in Japanese firms. *International Journal of Cross-Cultural Management*, 13(3): 265-278
- Crabtree. B., Miller, W. (1999). *Doing Qualitative Research*. 2. Newbury Park, CA: Sage Publications
- Dana, L. P., & Dana, T. E. (2005). Expanding the scope of methodologies used in entrepreneurship research. *International Journal of Entrepreneurship & Small Business*, 2(1): 79-88.
- Dana, L. P., & Dumez, H. (2015). Qualitative research revisited: epistemology of a comprehensive approach. *International Journal of Entrepreneurship and Small Business*, 26(2): 154-170.
- Davies, H., Leung, T.K., Luk, S.T., & Wong, Y.H. (1995). The benefits of 'Guanxi': The value of relationships in developing the Chinese market. *Industrial Marketing Management*, 24 (3): 207-214.
- Daly, J., Kellehear, A. & Gliksman, M. (1997). *The Public Health Researcher: A Methodological Approach*. Australia: Oxford University Press.
- Dunning, John H. and Changsu Kim. "The Cultural Roots of Guanxi: An Exploratory Study." *The World Economy*. Vol 30 no. 2. Oxford, 2007
- Eisenhardt, K.M. (1989). Building Theories from Case Study Research *The Academy of Management Review*; 14 (4)
- Fock, H. K. Y., & Shing, W. (2003). The China Market: strategic implications of guanxi. *Business Strategy Review* 9(3): 33-43
- Gu, Flora F., Hung, Kineta H., Tse, David K. (2008). When Does Guanxi Matter? Issues of capitalization and its dark sides. *Journal of Marketing* 72(4):12-28
- ICAC (1993), *Hong Kong investors rely on guanxi to do business in China*. Oriental Daily News
- Nguyen, B., Simkin, L., & Canhoto, A. (2015). *The dark side of CRM*. London: Routledge.
- Rice, P., & Ezzy, D. (1999). *Qualitative research methods: A health focus*. Melbourne: Oxford University Press.
- Simmons, L.C. and Munch, J. (1996). Is relationship marketing culturally bound: a look at guanxi in China. *Advances in Consumer Research* 23: 92-96
- Scott, J., Harrison, R., Hussain, J., & Millman, C. (2014). The role of Guanxi networks in the performance of women-led firms in China. *International Journal of Gender And Entrepreneurship*, 6(1): 68-82.
- Tsang, E. (1998). Can guanxi be a source of sustained competitive advantage for doing business in China? *The Academy of Management Executive*, 12 (2): 64-73
- Wong, Y., Wong, S., & Wong, Y. (2010). A study of subordinate-supervisor Guanxi in Chinese joint ventures. *The International Journal Of Human Resource Management*, 21(12): 2142-2155.
- Yang, M. M. H. (1994). *Gifts, favors and banquets: The art of social relationships in China*. Cornell, NY: Cornell University Press
- Zhai, Q., Lindorff, M., Copper, B. (2013). Workplace Guanxi: Its dispositional antecedents and mediating role in the affectivity-job satisfaction relationship. *Journal of Business Ethics* 117: 541-551



THE EFFECT OF DEPARTMENTAL PRODUCTIVITY ON PERFORMANCE-BASED ADDITIONAL PAYMENT IN UNIVERSITY HOSPITALS: A MODEL PROPOSAL

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ABSTRACT

Purpose- In the research, for the additional payment system applied in university hospitals; It is aimed to create a department-based model that reduces costs, creates an income-expense balance, and will win not only the hard workers but also the efficient and quality employees.

Methodology- In the first stage, incomes and expenses of thirty departments of Pamukkale University Hospitals which constitute the universe of the research were detected and financial productivity values were extracted. Since only financial outputs are not considered sufficient, in the second stage, the resource utilization efficiency of the departments were measured by data envelopment analysis.

Findings- According to the results, the ratio of the income obtained from the provision of health services to the expense is 85%. Only one department was found financially productive and only two departments were efficient. These two results, with a high correlation value such as 0.995 are supported each other. The results may be reflected separately or equally on the additional payment.

Conclusion- As a result, public health care revenues are unable to cover costs and this state the continuity of the service difficult. The personal rights of staff paid from the revolving fund budget must be paid from the university budget with a legal arrangement. In addition, application of performance based on departmental productivity can be added to the existing system.

Keywords: Pay for performance, university hospitals, cost analysis, data envelopment analysis, department productivity

JEL Codes: H83, I18, D24

ÜNİVERSİTE HASTANELERİNDE BÖLÜM VERİMLİLİĞİNİN PERFORMANSA DAYALI EK ÖDEMEEYE ETKİSİ: BİR MODEL ÖNERİSİ

ÖZET

Amaç- Araştırmada üniversite hastanelerinde uygulanan ek ödeme sistemi için maliyetleri azaltan, gelir - gider dengesini kuran, sadece çok çalışanın değil verimli ve kaliteli çalışanın kazanacağı bölüm bazlı bir model oluşturulması amaçlanmıştır.

Yöntem- İlk aşamada araştırmanın evrenini oluşturan Pamukkale Üniversitesi Hastaneleri otuz anabilim dalının, gelir- giderleri tespit edilerek mali verimlilik değerleri çıkarılmıştır. Sadece finansal çıktılar yeterli görülmediğinden, ikinci aşamada veri zarflama analiziyle bölümlerin kaynak kullanım etkinlikleri ölçülmüştür.

Bulgular- Sağlık hizmeti sunumundan elde edilen gelirin, gidere oranı % 85' dir. Sadece bir bölüm verimli ve sadece iki bölüm etkin bulunmuştur. Aralarında 0,995 gibi yüksek bir korelasyon değeri bulunan bu iki sonuç birbirini desteklemektedir. Ek ödemeye Kalite Verimlilik Katsayısı olarak eşit olarak veya ayrı ayrı yansıtılabilir.

Sonuç- Sonuç olarak kamu sağlık hizmeti gelirleri, maliyetleri karşılayamamakta ve bu durum hizmetin sürekliliğini zora sokmaktadır. Çözüm personel özlük haklarının, yasal bir düzenlemeyle döner sermaye yerine üniversite bütçesinden karşılanmasıdır. Performansın bölüm verimliliğine dayalı uygulanması ayrıca katkı sağlayabilir.

Anahtar Kelimeler: Performansa dayalı ek ödeme, üniversite hastaneleri, maliyet analizi, veri zarflama analizi, bölüm verimliliği

JEL Kodları: H83, I18, D24

* Bu makale "Üniversite hastanelerindeki bölüm verimliliğinin performansa dayalı ek ödemeye etkisi" başlıklı doktora tezinden üretilmiştir.

1. GİRİŞ

Günümüzde, Türkiye kamu hastaneleri yöneticileri, kaynakların etkin bir şekilde kullanılmaması ve gelir gider dengesinin sağlanamamasından kaynaklanan sorunlara yoğun mesai harcamaktadırlar. Yüksek ilaç-malzeme harcamaları, personellerin etkin bir şekilde kullanılmaması, yeterli muayene sayısı ve yatak doluluk oranına ulaşılamaması, kamu hastanelerinin en önemli problemleri arasındadır. Bu konuda yapılan literatür taramalarında da çok sayıda çalışmaya rastlanmaktadır. Kar ve zarar ettiren sağlık hizmetlerinin maliyet analiziyle ortaya çıkarılması, hastaneler arası verimlilik ve etkinlik ölçümleri bu konuya ışık tutmak amacıyla yapılmış çalışmalardır.

Sağlık harcamalarını kontrol altına almak amacıyla devletin uyguladığı SUT - Medikal Ulak (Medula) - Global bütçe uygulamaları, özel sağlık kuruluşlarıyla girilen rekabet, maliyetlerin döviz değişimlerinden etkilenecek sürekli artması gibi etkenler kamu hastanelerini olumsuz yönde etkilemektedir. Bu durumda eskiden olduğu gibi sadece hatalı ve eksik kodlama sonucu oluşabilecek gelir kayıplarının denetlenmesi yeterli olmamaktadır. Artık yöneticiler bölümlerin etkinlik ve maliyet hesaplamalarına da yoğun mesai harcamaktadır. Bu süreçte bölümlerde elde edilen gelirin maliyetleri karşıladıktan sonra kara katkısını ortaya çıkarmak, kaynakların etkin ve ihtiyaç ölçüsünde kullanılıp kullanılmadığını belirlemek, kritik bir yönetsel bilgi haline gelmiştir (Kısakürek, 2010).

Ancak sadece yöneticilerin çabası her zaman yeterli olamayabilir. Genelde tüm çalışanların, özelden ise her bölüm (Ortopedi, Üroloji, İç Hastalıkları, Enfeksiyon vb.) çalışanın kendi ürettiği sağlık hizmetinde maliyet unsurlarına dikkat etmesi ve verimliliğin sağlanması için azami çaba göstermesi, kamu hastanelerinde sürdürülebilir sağlık hizmetinin sunulabilmesini kolaylaştıracaktır. Çok fonksiyonlu ve ileri teknolojik özelliklere sahip tıbbi cihaz isteği, yüksek kalite malzeme ve pahalı ilaç kullanımı, ihtiyaç olandan fazla yardımcı personel talebi gibi konular maliyeti olumsuz etkilemektedir. Ayrıca, hasta randevuları, yatış süreleri ve yatak dolulukları gibi önemli parametreleri düzenli takip etmemek, ihtiyaç duyulan kapasite artırıcı düzenlemeleri yapmamak, çalışanların bağlı oldukları bölüme olumsuz etkileri olarak sayılabilir.

İhtiyaç duyulan verimli ve kaliteli çalışma seviyesinin sağlanması amacıyla Sağlık Bakanlığı tarafından 2004 yılından itibaren sağlık çalışanları üzerinde otokontrolü sağlayacak, sağlık yönetimini kolaylaştıracak, istenen standartlarda ve çok çalışmayı özendirerek bir ücretlendirme yapısı olarak tasarlanan "performansa göre döner sermaye katkı payı ödemesi" uygulanmaya başlanmıştır (Kızılkan, Gültekin ve Yıldırım, 2012). Benzer bir performans değerlendirmesi de Yükseköğretim Kurulu (YÖK) tarafından 2011 yılı itibarıyla üniversite hastanelerinde uygulanmaya alınmıştır.

Oluşturulan sistemin başarısı, çalışanların ve hizmet alanların doğruluğunu kabul etmesine ve mali açıdan devamlılığın sağlanabilmesine bağlıdır. Üniversite hastanelerinde uygulanan performans sisteminin mevcut hali birçok çalışmada incelenmiştir. Bu çalışmalarda, uygulanan sistemin adaletsizlik oluşturduğu, motivasyonu sağlayamadığı, kamu kaynaklarının verimli ve etkin bir şekilde kullanımına hizmet etmediği, etik ilkeleri zayıflattığı gibi olumsuz yönlerin ön plana çıktığı görülmektedir (Ceylan, 2009; Kart, 2013; Üstüner ve İdrisoğlu Kalav, 2014). Bu noktadan yola çıkılarak çalışmada, yönetmelik sınırları çerçevesinde yeni bir model geliştirilmesi amaçlanmıştır.

Makalenin birinci kısmında, araştırmanın problemi, amacı, materyali ve metodu ile önemi açıklanmıştır. İkinci kısımda bölüm bazlı mali verimliliğin tespiti için önce gelirler, daha sonra tam maliyet analizi yapılarak giderler çıkarılmıştır. Böylece mali açıdan getirisi fazla veya az olan bölümler belirlenmiştir. Üçüncü kısımda, mali verimliliğin tek başına başarı kriteri olmayacağından yola çıkılarak, bölümlerin kaynak kullanım ve hizmet üretim etkinlikleri, Veri Zarflama Analizi (VZA) yöntemiyle ölçülmüştür. Dördüncü kısımda, elde edilen sonuçların ek ödemeye nasıl yansıtılabileceği değerlendirilmiştir. Son kısımda ise sonuç ve öneriler paylaşılmıştır.

1.1. Araştırmanın Problemi

Tıp fakültesi ile sağlık araştırma uygulama merkezi çalışanlarının faydalandığı bu ek ödemenin dağıtım şekli, 18 Şubat 2011 tarihinde 27850 sayılı Resmî Gazetede yayınlanan "Yükseköğretim Kurumlarında Döner Sermaye Gelirlerinden Yapılacak Ek Ödemenin Dağıtılmasında uygulanacak Usul ve Esaslara İlişkin Yönetmelik" (Yükseköğretim Kurulu, 2011) ile açıklanmaktadır. Yönetmeliğe göre ek ödeme hesaplamaları puanlama yöntemiyle yapılmaktadır. Puanlama farklı kriterleri ölçen çeşitli parametrelerden (A – Kurum aidiyet, B – Faaliyet, C – Eğitim, D – Bilimsel araştırma, E – İdari sorumluluklar ve risk katsayıları, Laboratuvar rutin işlem puanı) oluşmaktadır. Performansa dayalı ek ödeme sisteminin temelini oluşturan B puanları, YÖK tarafından belirlenen ve öğretim üyelerinin hastalara verdiği her bir sağlık hizmetinin puanlandığı "Girişimsel İşlemler Puan Cetveli (GİP)" nden elde edilmektedir (Yükseköğretim Kurulu, 2011).

Ancak oluşturulan bu performans sistemi, birçok öğretim üyesi tarafından, üretilen puanların dolayısıyla dağıtılan paranın büyük bir kısmını etkileyen GİP' ten dolayı adil bulunmamaktadır. Daha çok emek ve zaman harcanan sağlık hizmetlerine çoğu kez daha az puan verilerek performansın bazı bölümlerin lehine olarak değerlendirildiği, farklı branşlardaki hekimlerin aldıkları ek ödemeler arasında ciddi farklılıklar olduğu ifade edilmektedir. Bazı bölümlerin daha az çalışarak iyi bir ek ödeme aldığı, bazılarının ise ne kadar çok çalışırsa çalışsın kayda değer bir ek ödeme alamadığı bir çok çalışmada belirtilmektedir (Ceylan, 2009; Kart, 2013; Üstüner ve İdrisoğlu Kalav, 2014). Sağlık hizmeti üreticilerinin motivasyonunu düşürerek "ne yaparsam yapayım alacağım ücret belli" düşüncesine yol açan bu durum, performans değerlendirme sisteminin motive edici özelliğinden uzak bir kısır döngü oluşturmaktadır.

Asıl olarak *hizmete katkı* unsurlarının dikkate alındığı bu yönetmelikte, belirtilen bu kısır döngüyü kırarak ve performans sisteminin etkin bir şekilde uygulanmasına olanak verecek verimlilik ve kalite kriterlerinin değerlendirilmesine yönelik maddeler de bulunmaktadır. Yönetmeliğin 4 üncü maddesinin 6 ıncı fıkrasında, üniversite yönetim kurullarınca uygun görülmesi halinde öğretim elemanlarının ek ödeme hesaplamalarında, *verimlilik unsurları* ile *kâra katkılarının* göz önünde bulundurulabileceği belirtilmiştir (Yükseköğretim Kurulu, 2011).

Giriş kısmında da belirtildiği üzere çalışanların; iyi performans göstermesi, verimlilik unsurlarına azami dikkat etmesi ve gelir gider dengesinin sağlıklı bir şekilde kurulmasında etkin rol alması, hastane yönetimi için çok önemlidir. Bu noktada hem hastane yönetiminin işinin kolaylaştırılması hem de daha adil bir ek ödeme dağılımı için performans sistemindeki mevcut puan tabanlı değerlendirmenin yanı sıra bölüm verimliliğinin ve hizmet kalitesinin ölçülerek ek ödeme hesaplamalarına yansıtılması gerekmektedir.

1.2. Araştırmanın Amacı

Araştırmada üniversite hastanelerinde uygulanan ek ödeme sisteminde; maliyetleri azaltan, gelir - gider dengesini kuran, sadece çok çalışan değil verimli ve kaliteli çalışanın kazanacağı bir model oluşturulması öngörülmüştür. Bu kapsamda çalışmada, aşağıda belirtilen amaçlara ulaşılmaya çalışılmıştır:

- Yapılan maliyet analizi ve verimlilik çalışması sonucunda, getirisi yüksek olan bölüm çalışanlarının ödüllendirilmesi ve motive edilmesi, düşük olanlarda ise farkındalık oluşturulmasının sağlanması adına ek ödemelerin getiriye uygun olarak belirlenen Kalite verimlilik Katsayısı (KVK) ile çarpılması veya B puanlarının yönetmeliğe uygun olarak artırılıp azaltılması noktasında yönetime karar destek verisi sağlanması,
- Yeni kaynak (personel, tıbbi cihaz, yatak, oda, malzeme vb.) tahsis edilmesine yönelik istek yapılması durumunda veya mevcut durum değerlendirilmesinde, verimli ve getirisi yüksek / düşük çalıştığı ortaya konan bölümlerin daha fazla / az pay almasının sağlanması.

Yapılan çalışma neticesinde elde edilen sonuçlar, ek ödeme hesaplamalarının ileriye dönük simülasyonlarının yapılmasında ve yeni kaynak tahsisi için alınacak yönetsel kararlarda kullanılabilir. Sonuçlar aynı zamanda var olan GİP' in bölümler açısından değerlendirilmesi amacıyla da kullanılabilir. Çalışma sonucunda, bölümlerde verilen sağlık hizmetlerinin niteliği, SUT tutarları, işlemlerin gerçekleştirilmesi için ayrılması gereken kaynaklar bir bütün olarak ele alınacağı için, bölüm puanlarının düşük ya da yüksek belirlenip belirlenmediği tespit edilebilecektir.

1.3. Araştırmanın Materyali ve Metodu

Günümüzde sağlık hizmetleri sektöründe artan rekabet; hastane işletmeleri açısından maliyet analizinin önemini arttırmaktadır. İşletmelerinin genel finansal durumunu ortaya koymak isteyen hastane yönetimleri, yaptıkları maliyet analizleri sayesinde hem hastanenin iç dinamikleri açısından hem de rakipleri yönünden geleceğe dönük önemli stratejik kararlar alabilmektedirler. Bu yüzden hastaneler maliyet muhasebesi üzerine çok iyi odaklanmalı ve sağlık hizmeti maliyetlerini doğru ve eksiksiz hazırlamalıdır (Yeginboy ve Yüksel, 2015).

Uğurtay ve diğerleri (2012) hastanelerin yapılanmalarının ve sundukları hizmetlerin standartlaşmaya çok uygun olmaması veya standartların tıp alanındaki hızlı değişimi izleyecek şekilde güncellenmesi gerektiğinden, hastanelerin kendi maliyet analizlerini yapmalarının gerekliliğini belirtmiştir. Bu sayede hastane yönetiminin, birim hizmet maliyetlerini hesaplama, performans yönetimi, stratejik karar alma, fiyatlama gibi konularda sağlam bir altyapıya sahip olacağını da ifade etmiştir.

Yapılan alıntılardan da anlaşıldığı üzere maliyet analizi çalışması yapılmadan ve bölümlerin kara katkısı ortaya koyulmadan oluşturulacak ek ödeme dağıtım modelinin üniversite hastaneleri, bölümleri, öğretim üyeleri, sağlık ve idari çalışanları arasında inandırıcılığı olmayacaktır.

Literatürde sadece gelir - gider bilgisine, maliyet analizine bağlı olarak oluşturulan ek ödeme modelinin eksik kalacağı, hastanelerde, ilgili finansal göstergelerin yanı sıra; yatakların etkili kullanımı, doktor ve hemşire etkinliği, poliklinik sayısının artması, hasta devir hızının yüksekliği vb. parametrelerin önemli performans kriterleri olarak kabul edildiği görülmektedir (Tengillimoğlu ve diğerleri, 2012). Meseleyi başka bir açıdan değerlendirecek olursak, normal işletmelerin etkinlik ölçümü için ciro yapmak ya da daha fazla mal / hizmet üretmek yeterli olabilir. Ancak özellikle kamu sağlık hizmetleri etkinliğinin daha çok hasta muayene etmek, ameliyat sayısını artırmak ve daha fazla ciro üretmek gibi hedeflerle ölçülmesi, kamu sağlık harcamalarının bilinçsizce artmasına yol açacağı için nihai başarı kriteri olarak kabul edilemez. Ayrıca başarı oranına bakılmaksızın hasta sayısının ve cironun artması, ülke sağlık politikasının ve insan sağlığı değişiminin sorgulanmasını gerektirir. Bu yüzden kamu hastanelerinde uygulanan performans sisteminin temel aldığı daha fazla hizmet üretme anlayışı geliştirilmelidir (Aytekin, 2011).

Yukarıda verilen açıklamalar dikkate alınarak çalışmanın ikinci aşamasında, bölümlerimin girdi ve çıktı etkinlikleri VZA yöntemiyle ölçülecektir. Girdi olarak metrekaşe, personel sayısı, yatak sayısı, internetten alınan randevu oranı gibi parametreler ve çıktı olarak ise ayaktan hasta sayısı, ameliyat sayısı, ciro, yatılan gün sayısı, hasta memnuniyet oranı gibi parametreler kullanılacaktır.

Charnes, Cooper ve Rhodes tarafından geliştirilmiş bir performans ölçme tekniği olan VZA, özellikle sağlık sektörü karar verme birimlerinin (KVB) etkinliğinin değerlendirilmesinde sıkça kullanılan yöntemlerden biridir. Birden çok girdi ve birden çok çıktıyı işleyebilmekte olan VZA, her KVB' deki (benzer girdiler ile benzer çıktılar üreten işletme, bölüm gibi organizasyonel birimler) etkisizlik miktarını ve kaynaklarını tanımlayabilir. KVB' ler, tam etkinliğe sahip olanlarıyla karşılaştırılarak etkinliği düşük olanlar belirlenir ve bunların etkinliğinin nasıl artırılabilmesine dair stratejiler, etkin birimler referans verilerek önerilir. VZA, çok girdili ve çok çıktılı üretim ortamlarının verimlilik ölçümünde ve özellikle hizmet sektöründeki performans ölçümünde oldukça iyi sonuçlar vermektedir. (Ayanoğlu, Atan ve Beylik, 2010).

Araştırmanın evrenini Pamukkale Üniversitesi Tıp Fakültesi bünyesinde faaliyet gösteren Sağlık Araştırma ve Uygulama Merkezinin (Pamukkale Üniversitesi Hastaneleri), bundan sonra hastane şeklinde anılacaktır, hastalara sağlık hizmeti veren Anabilim Dalları oluşturmaktadır. Girişimsel faaliyet puanı veya doğrudan geliri (fatura üretimi) olmayan bölümler (Biyokimya, Mikrobiyoloji vb.) araştırmanın dışında bırakılmıştır. İhtiyaç duyulan verilere ulaşmak için Hastane Bilgi Yönetim Sistemi (HBYS) modülleri araç olarak kullanılmıştır. Bu noktada HBYS ve evrak üzerindeki ihtiyaç duyulan verilerin toplanması, incelenmesi ve değerlendirilmesi için hastane görevlileri ile gerekli çalışmalar yapılmıştır. Kesitsel ve retrospektif olarak 2018 yılı ilk 9 ayına ait veriler analiz edilmiştir.

Çalışmanın ilk aşamasında hastanenin 30 Anabilim dalını da kapsıyacak şekilde maliyet analizi işlemi gerçekleştirilmiş ve gelir gider dengesi çıkarılmıştır. HBYS' den istenen verilerin sağlanamaması durumunda konu ile ilgili evraklar incelenmiş ve yetkililerle görüşülerek eksiklikler tamamlanmıştır. Böylece gerekli veriler elde edildiğinde gerçekleştirilebilecek bir model oluşturmakla yetinilmemiş, ilgili verilerin elde edilmesi için atılması gerekli adımlarda ortaya konmuştur. Amaç modelin üniversite hastaneleri genelinde uygulanabilir olmasıdır.

1.4. Araştırmanın Önemi

Konu ile ilgili sağlıkta dönüşüm programı ve performans sistemi uygulamaları, hastane bölümlerinde maliyet analizi çalışmaları, hastanelerde VZA yöntemi kullanarak yapılan verimlilik karşılaştırmalarına dair literatür taraması yapılmıştır. Sağlıkta dönüşüm programı ve performans sistemi uygulamalarına dair yapılan literatür araştırmalarında, maliyet ve verimlilik eksenli hesaplamalardan ziyade sistemin olumlu ve olumsuz yönlerinin incelendiği çalışmaların ağırlıkta olduğu görülmektedir. Sağlık hizmeti üretiminin ve hasta memnuniyetinin artması, verimlilik ve karlılığın sağlanması, çalışanlarda motivasyon artışı, işgücünün artması ve işe devamsızlığın azalması belirtilen olumlu yönlerdir. Çalışanların tükenişi, hastaların müşteri gibi görülmesi, eğitim ve araştırma çalışmalarının önemsizleşmesi, dayanışma yerine rekabetin artması, sağlık hizmetinde niteliğin değil niceliğin önemli hale gelmesi, sağlık harcamalarının artması ve koruyucu sağlık hizmetlerinin öneminin azalması ise sıklıkla değinilen olumsuz etkilerdir (Ceylan, 2009; Erkan, 2011; Kart, 2013; Kızılkın ve diğerleri, 2012; Üstüner ve İdrisoğlu Kalav, 2014).

Sağlık alanında yapılan maliyet analizi çalışmaları ikiye ayrılmaktadır. Hastaneyi bölüm bazında inceleyen maliyet analizi çalışmalarında ilk madde ve malzeme giderleri, personel giderleri, genel üretim giderleri gibi kalemlere göre elde edilen sonuçlar var olan çalışmaların sonuçlarıyla karşılaştırılmaktadır (Ataç, 2009; Esatoğlu ve diğerleri, 2010; Kısakürek, 2010; Mut ve Ağırbaş, 2017). Literatürde sıklıkla yer alan diğer çalışmalar ise yoğun bakım, acil, anjiyo gibi herhangi bir bölüm veya ünite maliyetini gider kalemlerine göre incelemiştir. Bu çalışmalarda yatış günü maliyeti, ayaktan hasta maliyeti gibi maliyetler çıkarılmış veya ameliyat, ultrason, tomografi gibi sağlık hizmetlerinin işlem bazında maliyetleri belirlenmiştir. (Erol ve

Ağırbaş, 2011; Kara ve diğerleri, 2015; Kısakürek, Yılmaz ve Kılıç, 2011; Özkan ve Ağırbaş, 2015; Özsarı ve diğerleri, 2015; Yanık, Ekinci, Kavuncubaşı ve Çaşkurlu, 2012; Yeginboy ve Yüksel, 2015; Zengin ve diğerleri, 2013). Maliyet analizi araştırmaları, hizmet sunumunda maliyet etkinliğinin sağlanması, performans hesaplamalarında kullanılması, stratejik konularda karar desteği sağlanması veya uygun kaynak tahsisi yapılması gibi konularda yardımcı olabileceği öngörülerek bitirilmiş, elde edilen sonuçların uygulandığı verimlilik ve performans hesaplamalarına dair bir uygulama yapılmamıştır.

VZA ile sağlık sektöründe yapılan çalışmalar incelendiğinde ise bölüm verimliliğinin karşılaştırılmasından çok, sıklıkla birden fazla hastanenin verimlilik karşılaştırmasını yapan çalışmalar olduğu görülmüştür (Aytekin, 2011; Çakmak, Öktem ve Ömürgönülşen, 2009; Gülsevin ve Türkan, 2012; Pakdil, Akgül, Doruk ve Keçeci, 2010; Sülkü, 2011). VZA ile sağlık sektörü bölüm verimliliğinin araştırılmasıyla ilgili çalışmalarda ise, değerlendirmeye alınan bölümlerin verimsizliğinin nedenleri ortaya konmaya çalışılmıştır. Ek olarak etkin olmayan bölümlerin tam etkin olabilmeleri için azaltılması veya artırımları gereken kaynaklar tespit edilmiştir (Gülcü, Coşkun, Yeşilyurt, Coşkun ve Esener, 2004; Sarı, 2015). Yapılan VZA çalışmalarında olması gereken iyileştirme önerilerinin ortaya konması hedeflenmiş, bu durumun iyileştirmesi amacıyla herhangi bir yönetsel modelle (performansa bağlı ek ödeme) ilgili bir uygulama yapılmamıştır.

Yeşilyurt' un (2007b) eğitim hastanelerini sahipliğine göre sınıflandırdığı VZA çalışmasında elde edilen sonuçlar ise makalenin amacını desteklemektedir. Sağlık bakanlığı eğitim hastaneleri, kamu üniversite hastaneleri, vakıf, özel ve SSK eğitim hastanelerinin değerlendirildiği çalışmada, etkinliği en düşük eğitim hastaneleri kamuya bağlı üniversite hastaneleri olarak bulunmuştur. Bu açıdan üniversite hastanelerinde diğerlerine göre kaynakların düşük bir etkinlikle kullanıldığı, iyileştirme için kaynak kullanımı ve üretim miktarını değerlendiren bir performans sistemine ihtiyaç duyulduğu görülmektedir. Literatürde yer alan bir çalışma olmamakla birlikte, performans hesaplamalarında gelir gider analizini kullanan az sayıda üniversite hastanesinin "Döner Sermaye Gelirlerinden Yapılacak Ek Ödemenin Dağıtılmasında Uyulacak Usul Ve Esasları" arasından ulaşılanlar incelenmiştir. Bu usul ve esaslarda, bölümlerin tam bir maliyet analizinin yapılmadığı, ihtiyaç duyulan tüm gider ve verimlilik parametrelerinin incelenmediği gözlenmiştir. Daha çok kısıtlama ve nicelik artışı istenen noktaların kontrolüne yönelik literatürde yer almayan subjektif önlemler belirlendiği görülmüştür (Erciyes Üniversitesi, 2018; Eskişehir Osmangazi Üniversitesi, 2012; Hacettepe Üniversitesi, 2017; İnönü Üniversitesi, 2012; Ondokuz Mayıs Üniversitesi, 2016).

Konu ile ilgili incelenen sağlık bakanlığı performans uygulamasında bölümlerden ziyade, bireysel ve kurumsal uygulamaların ağırlıkta olduğu görülmektedir (Aydın ve Demir, 2007; Erkan, 2011; T.C. Sağlık Bakanlığı, 2013; Türkiye Kamu Hastaneleri Kurumu Verimlilik Daire Başkanlığı, 2012). Yapılan literatür araştırmaları sonucunda, üniversite hastanelerinde bölümlerin karlılığına ve verimliliğine göre performans değerlendirilmesi yapılması konusunda bir eksiklik olduğu belirlenmiştir.

Çalışma için ilgili hastaneden alınan izin, elde edilen maliyet, verimlilik bilgilerinin ek ödeme hesaplamalarına yansıtılması yönünde simülasyon yapılması ile sınırlıdır. Bu noktada, elde edilen sonuçların ek ödeme hesaplamalarına gerçek zamanlı yansıtılması konusunda izin alınabilecek ayrı bir çalışmada, yeni ek ödeme sisteminin çalışanlarda daha adil ve doğru bir model algısı oluşturup oluşturmadığı ölçülebilir. Aynı zamanda gelir gider dengesi olumsuz yönde gelişen üniversite hastaneleri çalışanlarının ürettiği sağlık hizmetini en az giderle gerçekleştirme konusunda farkındalığının ve bölüm aidiyet duygusunun gelişip gelişmediği ölçülebilir. Farkındalığın gelişmesi ise yönetimle çalışanlar arasında daha kolay iletişim kurulmasına ve devamında yönetimin koyduğu kurumsal hedeflere daha hızlı ulaşılmasına yol açabilir. Örneğin yeni modelin gelir gider dengesinin olumlu yönde gelişmesine ve borç ödeme vadesinin kısılmasına yol açıp açmadığı ölçülebilir.

2. MALİ VERİMLİLİĞİN TESPİTİ

Çalışmanın birinci aşamasında Pamukkale Üniversitesi Hastaneleri döner sermaye ek ödemesinden yararlanan bölümlerin gelir gider dengesi çıkarılarak kara katkılarına göre verimlilik katsayısı belirlenecektir. Çalışmanın yapılacağı Pamukkale Üniversitesi Sağlık Araştırma ve Uygulama Merkezi Denizli' de 1994 yılında kurulmuştur. 2017 yılı sonu itibarıyla toplam 100.423 metrekare kapalı alanda, 11 farklı blokta, 831 yatakla hizmet vermektedir. Hastanede 599 hekim, 699 idari ve 1034 tane hizmet alımı personeli çalışmaktadır. Toplam 21 ameliyathane de yıllık 25.000 ameliyat yapılmaktadır.

2.1. Gelirlerin Dağılımı

Çalışmanın amacı bölümlerin hastane gelir giderine katkı oranını belirleyip ek ödemeyi buna uygun olarak dağıtılması yönünde bir model oluşturulmasını sağlamaktır. Bu amacı sağlamak için öncelikle ek ödmeden yararlanan Esas Üretim Gider Merkezleri (EÜGM)' nin gelirleri belirlenmiştir. EÜGM' ler, işletmenin asıl faaliyet alanındaki mal veya hizmetlerin üretildiği yerlerdir. Bu kapsamdaki bölümlerin 2018 yılı ilk 9 ayı için fatura ve Mesai Saatleri Dışında Öğretim Üyeleri Tarafından Bizzat Verilen Sağlık Hizmeti (Mesai dışı ödeme - MDÖ) ücreti toplamları HBYS' den çıkarılmıştır. Her ne kadar YÖK ün yönetmeliğine göre B puanı olan ve bunun karşılığında ek ödeme alan bölümlerin içinde yer alsın da Radyoloji, Nükleer Tıp ve Patoloji

bölmelerinin kendi üzerinden faturalanan geliri bulunmamaktadır. Klinisyenlere tanı ve tedavilerinde yardımcı olacak ileri derecede görüntüleme ve laboratuvar hizmetleri sunan bu bölümlerin ürettikleri hizmetler Medula sistemi gereği, istemi yapan bölümün üzerine gelir olarak kaydedilmektedir. Benzer şekilde Anestezi ve Genetik bölümleri, ürettikleri sağlık hizmetinin çoğunu kendi üzerinden faturalasa da, modelin değerlendirmesini saptıracak bir miktarda diğer bölümler üzerinden faturalanan hizmet vermekte ve gelir kaybı yaşamaktadırlar.

Çalışmada bu konuya açıklık getirmek için verimlilik kriterleri kullanan üniversite hastanelerindeki gelir belirleme örneklerinden yola çıkılarak bir düzenleme yapılmıştır. İlgili bölümlerde verilen sağlık hizmetlerinin kendi faturalarında yer almayan kısmının SUT toplam tutarı hesaplanarak, belirlenen yüzdelik oranda (% 75) ilgili bölüme sanal gelir olarak yansıtılmıştır (Erciyes Üniversitesi, 2018; Eskişehir Osmangazi Üniversitesi, 2012; Hacettepe Üniversitesi, 2017; İnönü Üniversitesi, 2012; Ondokuz Mayıs Üniversitesi, 2016). Gelirin tamamının değil % 75 'inin gelir olarak yansıtılmasının sebebi; işlem öncesinde istemi yapan bölüm tarafından gerçekleştirilen tetkik, tanı ve tedavi gibi süreçlerin istemi yapılan sağlık hizmetiyle bağımlı olmasındandır. Mali verimlilik katsayılarının düzgün bir şekilde belirlenebilmesi için oluşturulan sanal gelire eşit büyüklükte belirlenen sanal gider, istem yapma oranına göre hizmeti alan bölümlere yansıtılmıştır. Sonuç olarak istemi yapan bölüm, ilgili işlem gelirinin % 100 ünün fatura karşılığını alsa da % 75 ini gider olarak servis veren bölüme aktarmış olmaktadır. Gelirler belirlenirken Alınan bağışlar ve yardımlar, Faiz gelirleri gibi mizan hesaplarında yer alan ancak bölümlere dağıtılamayan kalemler kapsam dışı bırakılmıştır.

2.2. Maliyet Analizi

Maliyet bir işletmenin hedefine ulaşmak için katlandığı esirgemezliklerin parasal toplamıdır. Maliyet analizi ise oluşturulan maliyet sisteminden elde edilen bilgilerin yanı sıra dış kaynaklardan elde edilen bilgilerin değerlendirilmesi ve yorumlanması çalışmalarıdır (Büyükmirza, 2008: 44, 82). Bir diğer tanımlama da, maliyet işletmenin mal ve hizmeti üretmesi ve alıcılara ulaştırması için yaptığı fedakârlıkların parasal ölçüsü iken, maliyet analizi ise üretilen mal veya hizmeti oluşturan ilk madde ve malzeme, işçilik ve genel yönetim gibi giderlerin maliyet metodolojisine uygun olarak hesaplanmasıdır (Özgülbaş ve Tarcan, 2013: 3, 5). Konuyla ilgili yapılan çalışmalar incelendiğinde, maliyet analizinin beş aşamada gerçekleştirildiği görülmektedir (Ağırbaş, 1993; Büyükmirza, 2008; Erkol ve Ağırbaş, 2011; Kısakürek, 2010; Özgülbaş ve Tarcan, 2013). İlk aşama maliyet analizi amacının belirlenmesidir. Çalışmadaki amaç, ek ödemenin hastane bölüm verimliliğine göre dağıtılması olduğu için gelire doğrudan katkıda bulunan ya da performans puanı olan bölümler EÜGM olarak belirlenmiştir. İkinci aşama hastane genelindeki gider çeşitlerinin belirlenmesidir. Üçüncü aşama işletme giderlerinin olduğu gider merkezlerinin belirlenmesidir. Sonraki aşama giderlerin ilgili gider merkezlerine dağıtılmasıdır. Son olarak EÜGM' de toplanan giderler, o merkezlerde üretilen mal veya hizmetlere birim başına düşecek şekilde bölüştürülür. Çalışmada bu aşamaya ihtiyaç duyulmamaktadır.

Giderlerin kalemlerinin belirlenmesi: Gider kalemlerinin belirlenmesi, üretim maliyetinin nelerden kaynaklandığının bilinmesini sağlar. Hastanelere yönelik maliyet analizi çalışmalarında giderlerin genellikle üç kısımda ele alındığı görülmektedir (Ataç, 2009; Kısakürek, 2010; Mut ve Ağırbaş, 2017; Özgülbaş ve Tarcan, 2013). Bunlar işçilik, ilk madde ve malzeme ve genel üretim giderleridir. Maliyet analizi yapma amacının bölümlerin döner sermaye bütçesinden kullandığı kaynakların belirlenmesi olduğu için işçilik giderlerinde de döner sermayeden ödenen personel ücretleri dikkate alınmıştır. Hastaneler için ilk madde ve malzeme giderleri kapsamında değerlendirilebilecek en büyük gider kalemleri ilaçlar ve tıbbi malzemelerdir. Bunlar genellikle hasta bazlı kullanıldığı ve aynı şekilde faturalandığı için HBYS' lerden sağlıklı bir şekilde raporlanabilir ve bölümlere doğrudan yansıtılabilir. Son gider kalemi olan genel üretim giderlerinin kapsamına ise elektrik, su, ısınma, tamir, bakım, bilimsel araştırma payı (BAP), hizmet alımları, vergiler, amortisman payları gibi giderler girmektedir (Ağırbaş, 1993; Büyükmirza, 2008; Esatoğlu ve diğerleri, 2010; Özgülbaş ve Tarcan, 2013).

Dağıtım anahtarları: Dağıtım anahtarları, doğrudan dağıtılamayan maliyetlerin maliyet merkezlerine dağıtılmasına yardımcı olan kriterlerdir. Örneğin her bölümün temizlik giderlerinin doğru bir şekilde ayrı ayrı ölçülmesi için, kullanılan personel ve malzemelerin bölüm bazında sıkı bir şekilde takip edilmesi gerekir. Bu işlem yerine temizlik giderleri metrekare bazında bölümlere dağıtılabılır (Çil Koçyiğit, 2006). Dağıtım anahtarlarının belirlenmesinde dikkat edilmesi gereken husus; anahtarın gider niteliğine uygun, maliyeti en yakın ve en doğru şekliyle yansıtılabilen, pratik kullanıma sahip ve uygulanabilir olmasıdır. Aynı zamanda maliyetteki değişimleri de en iyi şekilde takip etmelidir.

Gider merkezleri: Gider yerleri sağlık kurumlarının yapısı ve literatürdeki çalışmalar göz önüne bulundurulduğunda dört kısımda toplanmıştır: (Kısakürek, 2010; Mut ve Ağırbaş, 2017; Özgülbaş ve Tarcan, 2013: 128). Bunlar EÜGM, yardımcı üretim gider merkezleri (YÜGM), yardımcı hizmet gider merkezleri (YHGM) ve genel yönetim gider merkezleri (GYGM)' dir. Daha önce belirtildiği üzere EÜGM' ler işletmenin asıl faaliyet alanındaki mal veya hizmetlerin üretildiği yerlerdir. Hastaneler için buralar hastaların başvurduğu poliklinikler ve kliniklerdir. Çalışmada EÜGM olarak fatura ya da B (girişimsel faaliyet) puanı üreten

bölmeler dikkate alınmıştır. YÜGM' ler ise asıl faaliyet kapsamında üretilen mal veya hizmete yardımcı olacak mal veya hizmetin üretildiği merkezlerdir. Bunlar hastanelerde görüntüleme, laboratuvar, ameliyathane, sterilizasyon, kan bankası gibi hizmetlerin verildiği yerlerdir. Ancak çalışmanın amacı ek ödmeden yararlanılan bölümlerin verimliliğini ölçmek olduğu için Radyoloji, Patoloji, Nükleer Tıp gibi fatura üretmeyen ancak B puanı olan bölümlerde EÜGM sayılmıştır. YHGM' ler yemek, çamaşır, temizlik, ısıtma, teknik servis gibi sağlık hizmetinin verilmesi için gerekli müşterek destek hizmetlerini veren birimlerdir. GYGM' ler ise faturalama, satın alma, ayniyat gibi genel yönetsel işlevlerin yürütüldüğü birimlerdir. Hastane genelinde yapılan incelemelerde 30 EÜGM, 7 YÜGM, 6 YHGM ve 6 GYGM belirlenmiştir. Gider merkezlerinin belirlenmesinde organizasyon şemasına, giderlerinin yüksek olmasına ve dağıtım anahtarlarının ortak olup olmadığına dikkat edilmiştir.

Gider merkezlerine dağıtım: Giderlerin dağıtımında üç aşama bulunmaktadır. Birinci dağıtım aşamasında, doğrudan gider merkezinde oluşan ve gider toplamının büyük bir kısmını oluşturan personel, ilaç ve malzeme gibi giderler ve bunun gibi herhangi bir gider merkezine doğrudan yansıtılabilen giderler (doğalgaz gideri – ısı merkezi) dağıtılır. Devamında elektrik, su gibi ölçüm zorluğundan veya maliyetinden dolayı herhangi bir yönetim ve destek birimine doğrudan yüklenemeyen genel üretim giderleri, dağıtım anahtarları yardımıyla gider merkezlerine dağıtılır. İkinci dağıtım aşamasında birinci dağıtım sonunda YÜGM, YHGM ve GYGM' ye dağıtılan giderler, EÜGM' de toplanıncaya kadar tekrar dağıtıma tabi tutulur. Bu aşamada giderlerin dağıtımı için beş farklı yöntem izlenmektedir. Hastane maliyet analizi çalışmalarında en sık kullanılan uygulama ve anlaşılma kolaylığı bakımından kademeli dağıtım yöntemidir (Özgülbaş ve Tarcan, 2013: 135; Çil Koçyiğit, 2006; Yüksel, 2013). İkinci dağıtım aşamasında, belirlenen dağıtım anahtarlarına göre önce YHGM ve GYGM' nin, son olarakta YÜGM'nin giderleri EÜGM' ye dağıtılır.

2.3. Birinci Dağıtım Aşaması

Personel giderleri: Çalışmada bölümlere göre gelir verileri belirlendikten sonra gider belirleme kısmına geçilmiştir. Sağlık hizmeti veren hastanelerin en büyük gider kalemi uzman personel ihtiyacı ve çok çeşitli yardımcı hizmet görevi olduğundan dolayı personel giderleridir (Esatoğlu ve diğerleri, 2010; Kısakürek, 2010). Hastanede kullanılan insan kaynakları modülü incelendiğinde personellerin ilk başladığı bölümlerin kayda alındığı, sonraki görev değişikliklerinin düzenli bir şekilde takip edilmediği anlaşılmıştır. Bu amaçla personel görev yeri değişikliğinin sağlıklı bir şekilde takibi, personel giderlerinin doğru bir şekilde yansıtılabilmesi amacıyla ilgili birim amirleriyle görüşülmüştür. Bu görüşmelerin yapılmasının bir diğer amacı, birden fazla bölüme doğrudan katkı veren çalışanların, hangi bölüme ne kadar katkı yaptığının yüzde olarak kayıt altına alınmasıdır. Bu süreçte maaş, sabit ödeme, ek ödeme, nöbet ve MDÖ gibi farklı birimlerde, farklı formatlarda hesaplanan ve raporlanan personel giderleri, belirlenen gider merkezlerine dağıtılmıştır. Bu işlem için öncelikle Yardımcı Sağlık, Sekreterlik ve Temizlik müdürlüklerine bağlı olarak 657 sayılı kanunun 4 üncü maddesinin d bendine göre kamu işçisi olarak çalışan personellerin işçilik giderleri incelenmiştir. İlgili personeller 2018 yılı ilk üç ayında hizmet alımı statüsünde taşeron işçi olarak çalışmakta olduğu için elde edilen işçilik giderlerine, bu döneme ait hak ediş dosyaları incelenerek, ilk üç ayın işçilik giderleri eklenmiştir. Hastanede çalışan kamu işçilerine ait giderlerden sonra akademik ve idari kadroda görev yapan çalışanlara ödenen ek ödeme, sabit, nöbet, MDÖ ücretleri incelenmiştir. Bu veriler HBYS' den elde edilmiş, birden fazla bölüme ortak bakanların katkıları ve o bölümdaki çalışma yükleri göz önünde bulundurularak ilgili bölümlere dağıtılmıştır. Çalışmada döner sermayeden yapılan tüm ödemelerin bölümlere dağıtılması amaçlandığından kadrosu döner sermayede olan personelin maaşları da gider olarak yansıtılmak zorundadır. Ancak bu konuda görevlendirilen personelin döner sermayeden ya da merkez müdürlüğü bünyesinden olması idari kararı bölümlere sunulamayacağı için maaşlar yönetsel giderlerin toplandığı Başhekimlik gider merkezine yansıtılmıştır. Benzer şekilde yönetici payları ve üniversitenin diğer birimlerinden hastaneye görevlendirilen personellerin ek ödemeleri de Başhekimlik gider merkezine yansıtılmıştır. Tüm personel giderleri dağıtıldıktan sonra elde edilen maliyet rakamı 93.327.128 ₺ dir. Bu rakam 2018 yılı ilk 9 aylık yardımcı mizada yer alan toplam 198 milyonluk gider göz önünde bulundurulduğunda toplam giderin yaklaşık yüzde 47' sine denk gelmektedir.

İlaç ve tıbbi malzeme giderleri: Personel giderleri dışında hastanelerdeki en ciddi gider kalemlerinden biri de ilaç ve tıbbi malzeme giderleridir (Kısakürek, 2010). Bu giderler de personel giderleri gibi herhangi bir dağıtım anahtarı kullanılmadan direkt ilgili gider merkezine yüklenebilmektedir. Bunun en temel sebebi de ilaç ve tıbbi malzemelerin faturada kayıp yaşanmaması adına hasta üzerine istem ve çıkışının yapılmasıdır. Bu süreç ilaçlarda doktor ve hemşire tarafından sistem üzerinden yapılan istemlerin eczane birimi önüne düşmesi ve eczanenin onayladığı istemlerin ise hasta hesabına işlenmesi ile gerçekleşmektedir. Tıbbi malzemelerde de benzer bir istem onay süreci ile malzemeler, malzeme ara depolarından bölümlere teslim edilmekte ve hasta hesabına işlenmektedir. Bu kapsamda ele alınan tıbbi malzemeler Sosyal Güvenlik Kurumu (SGK) tarafından geri ödemesi olan hasta adına faturalanabilen malzemelerdir. Hastaya faturalanamayan sarf malzemelerin ve laboratuvar kitlerinin ambar deposundan ara depoya çıkışlarına göre kullanım raporu alınabilmektedir. HBYS' den hasta adına çekilen ilaç ve tıbbi malzeme verilerinin satın alım fiyatlarına göre dokuz aylık raporlanması ve gider merkezlerine dağıtılması sonucu

toplam 45.307.491 ₺' dir. Bu rakam toplam giderin yaklaşık % 26' sıdır. En yüksek ilaç kullanımı on beş buçuk milyon ₺ ile pahalı ithal kanser ilaçlarını sıklıkla kullanan İç Hastalıkları bölümüne aittir. Tıbbi malzemelerde ise Ortopedi bölümü üç buçuk milyon ₺ ile en çok kullanımı olan bölümdür. Bunu sebebi de 4734 sayılı ihale kanununun 22/f bendine göre temin edilen ve uygulama esnasında hastaya özgü olarak belirlenen ortez, protez gibi malzemelerin kullanımının fazla olmasındandır.

Sağlık hizmet alımı giderleri: Türkiye'deki kamu sağlık kurumları gerek ileri teknoloji tıbbi cihaz satın alımında gerekse de alımdan sonra işletilmesi noktasında yetişmiş personel ayrılması ve gereken sarf malzeme alımları gibi konularda yeterli kaynak tahsisi yapamadığı için sağlık hizmeti alımı yoluna gidebilmektedir. Gammaknife, Tomoterapi gibi genellikle tek bir bölümün kontrolünde olan bu hizmetlere ait giderler, firma hak edişlerinden ve HBYS verilerinden elde edilerek ilgili bölümlere gider olarak yansıtılmıştır. Sağlık hizmet alımı giderleri toplamı 10.825.813 ₺' dir. Bu gider toplam giderin ise yaklaşık % 5,5' dir.

Laboratuvar kiti alım giderleri: Laboratuvar kitleri daha çok Merkez Laboratuvarı, Genetik, Patoloji, Kan Bankası gibi bölümlerde kullanılmaktadır. İlgili hastanede de 2018 yılı ilk 9 ayında yaklaşık 10 milyon ₺ lik kit kullanım gideri olduğu görülmektedir. Bunlardan en yoğun kullanım yedi milyonu ₺ yi geçen gider tutarla Merkez Laboratuvarına aittir. Patoloji bölümü yedi yüz elli bin ₺ yi aşan gidere sahip iken, Genetik bölümünün ise bir buçuk milyon ₺ ye yakın laboratuvar kiti gideri bulunmaktadır.

BAP ve hazine payı giderleri: Üniversite bünyesinde kurulan Sağlık Araştırma ve Uygulama Merkezleri 2547 sayılı kanuna göre elde ettikleri gelirin % 5 ini üniversite genelindeki bilimsel araştırma projelerine aktarmaktadır. Ayrıca yüzde bir hazine payı ayrılmaktadır. Yani her bölüm elde ettiği gelirin yüzde altısını hiçbir harcama yapmadan kaybetmektedir.

Yemek hizmet alımı giderleri: Hastaneler genel itibarıyla yemekhane, bulaşıkhanesi için yer ve personel tahsisi ile ham madde ve diğer araç gereçlerin temini gibi detaylarla ilgilenmek yerine asıl fonksiyonu olan sağlık hizmetine ağırlık vermek amacıyla hastalara ve personeline vereceği yemek hizmetini dışarıdan satın almaktadır. Çalışmada yemek hizmeti alım giderlerinin gider merkezlerine dağıtılması amacıyla ilgili hastanenin Beslenme ve Diyetetik biriminden bilgi alınmıştır. Buradan elde edilen bilgiler ve hak ediş bilgileri ışığında öğünlerin ağırlıklı olarak Normal (R3), Diyet, Kahvaltı ve Ara Öğün olarak sınıflandırılabilirliği görülmüştür. Yemek hizmet alımından yararlananlar ise hasta, refakatçi ve personel olarak üç grupta incelenmiştir. Hastalar için R3, Diyet, Ara Öğün ve Kahvaltı öğünlerinin birim fiyatları öncelikle hak edişlerde yer alan bölümlere ayrılmamış haldeki toplam öğün sayısı ile çarpılmış çıkan rakama yine hak edişlerdeki işçilik giderleri öğünlerdeki ağırlıklarına göre dağıtılmıştır. Aynı şekilde refakatçi ve personel grupları için de R3 ve Kahvaltı toplam ücretleri çıkarılmış ve bunlara işçilik ücretleri eklenmiştir. Tüm bu işlemlerin sonunda toplam hasta, refakatçi ve personel yemek giderleri belirlenmiştir. Hasta ve refakatçi ücretleri toplam giderlerini dağıtmak için HBYS' den bölümlerin yatılan gün sayıları çekilmiş ve bunların arasından yoğun bakım hastaları çıkarılmıştır. Personel ücretlerinin dağıtımı için ise bölümlerin personel sayıları kullanılmıştır.

Elektrik ve doğalgaz giderleri: Hastanelerde gerek verilen hizmetin 7 gün 24 saat süreklilik arz etmesinden gerekse de geniş alanlarda faaliyet göstermesinden dolayı ısınma ve elektrik giderleri yüksek rakamlara ulaşmaktadır. Çalışmada yardımcı mizandan elde edilen elektrik ve ısınma giderlerinin bölümlerin metrekarelerine göre dağıtılmasına karar verilmiştir. Bu amaçla hastane teknik servisi tarafından yapılan ölçüm çalışmaları neticesinde toplam 99.308 metrekarenin 14.310 metrekaresi teras, koridor, ortak alanlar ve kantin benzeri olarak toplam rakamdan çıkarılmıştır. Ek olarak elektrik ve ısınma giderleri hastane tarafından karşılanmayan Organize Sanayi Bölgesi Poliklinik ve Dekanlık gider merkezleri kapsam dışı bırakılmıştır. Kalan alanlar gider merkezlerine göre sınıflandırılmıştır. Elde edilen gider rakamları toplam metrekareye bölünerek birim katsayılar belirlenmiştir. Elektrikteki metrekareye düşen birim tutar 71.62 ₺, doğalgazda ise 18,62 ₺' dir. Daha sonra birim katsayılar bölüm metrekareleri ile çarpılarak giderler dağıtılmıştır.

Tıbbi cihaz amortisman giderleri: Ayniyat biriminin geriye dönük on senelik demirbaş kayıtları alınarak hastane müdürlüğünün kullandığı Ambulans, bilgi işlemin kullandığı Sunucu gibi tıbbi cihaz harici kayıtlar çıkarılmıştır. Cihazların, Gelir İdaresi Başkanlığı tarafından yayınlanan amortisman ömürleri belgesi ve biyomedikal birim sorumlusu uzman görüşü yardımıyla amortisman ömürleri belirlenmiştir (Gelir İdaresi Başkanlığı, 2009). Vergi usul kanunu yeniden değerlendirme oranları kullanılarak eski yıllarda alınmış tıbbi cihazların güncel değerleri bulunmuştur. Amortisman yöntemi olarak yıllara göre eşit dağılım yapılan normal amortisman yöntemi seçilmiştir (Vergi Usul Kanunu, 1961: 98). Güncel değerler ve amortisman ömürleri yardımıyla 9 aylık amortisman bedelleri belirlenmiştir.

Tamir bakım giderleri: Hastaneler hem yüksek tamir bedeli ödememek hem de yatan hastaların tedavilerini yarım bırakmamak adına çoğu zaman Manyetik Rezonans (MR), Anjiyo, Tomografi gibi cihazlarının yetkili firmalarıyla bakım anlaşmaları yapmaktadır. Ayrıca yedek parçalarının çoğu ithal ve pahalı olan tıbbi cihazların tamirleri de yüksek rakamlara

yapılmaktadır. Benzer şekilde Teknik Servis ve Bilgi İşlem birimleri de tamir ve bakım işlemleri gerçekleştirebilmektedir. Bu tamir ve bakım ücretleri, döner sermayeden ödenen sürekli bir gider kaleminin oluşmasına yol açmaktadır. Bu giderlerden 2018 yılı ilk 9 ayında gerçekleşenler Gider Tahakkuk biriminden fatura detayları ile elde edilerek gider merkezlerine dağıtılmıştır. Veriler incelendiğinde en yüksek tamir bakım giderinin Teknik Servisten sonra MR, Anjiyo, Tomografi, Röntgen gibi büyük tıbbi cihazları bulunan Radyoloji bölümünde olduğu görülmektedir. Gelire oranlandığında en yüksek tamir bakım gideri olan bölüm ise Anjiyo, Ekokardiyografi gibi cihazlara sahip Kardiyoloji' dir.

Genel sarf malzeme giderleri: Hastane genelinde kullanılan çeşitli sarf malzemelerin (temizlik ürünleri, tekstil ürünleri, kırtasiye malzemeleri, yedek parçalar vb.) tüketimi ambardan ara depolara çıkış yapılarak sağlanır. Her deponun malzeme başına tanımlanmış kotası bulunur ve bu kotaya uygun olarak yeni malzeme istemi ara depodan yapılır, ambardan yapılan uygunluk kontrolü sonrası istem onaylanır veya reddedilir. Tam olarak kullanım detaylarına bilinemesi de belli aralıklarla yapılan ara depo sayımları ile kontrol sağlanır. Çalışmada da 2018 yılı ilk 9 aylık genel sarf malzemesi kullanımına ulaşmak için ambardan ara depolara çıkışlar temel alınmıştır. Servis ve ünitelerdeki ara depolara yapılan çıkışlar gider merkezlerine göre sınıflandırılmış ve sarf malzemeler temizlik, tekstil, kırtasiye, teknik ve sterilizasyon adları altında birleştirilmiştir.

Tıbbi atık giderleri: Hastane genelinde üretilen tıbbi atıkların imhası için hizmet alımı yöntemi kullanılmaktadır. Öncelikle temizlik şefliği ile birlikte çalışılarak tıbbi atıkların birimlerden çıkış miktarı ortalama kilo bilgisi elde edilmiştir. Daha sonra ilgili hizmetin alım bedeli kilo bilgilerine göre gider merkezlerine dağıtılmıştır. Buna göre en çok tıbbi atık yoğun bakım ve ameliyathanelerde oluşmaktadır. Ameliyathane iki yüz elli bin ₺ lik gidere sahipken, yoğun bakımlarından dolayı Anestezi, Çocuk hastalıkları ve yatan hasta sayısı fazlalığından dolayı İç Hastalıkları bölümleri yüksek gidere sahip diğer merkezlerdir.

2.4. Birinci Dağıtımın Özeti

Giderlerin tüm gider merkezlerine dağıtılması sonucunda birinci dağıtım aşaması tamamlanmıştır. Yardımcı mizanda yasal giderler başlığı altında olanlar gibi küçük kalemler haricindeki tüm giderler, oluştuğu merkezlerde ele alınıp tüketilme durumlarına göre merkezlere yansıtılmıştır. Bedeli döner sermaye bütçesinden ödenmediği için bina amortisman giderleri kapsam dışında bırakılmıştır.

Birinci dağıtım sonucunda elde edilen veriler gider merkezlerine göre değerlendirildiğinde en yüksek gider yaklaşık 33 milyon ₺ ile İç Hastalıkları gider merkezine aittir. İç Hastalıkları gider merkezi ürettiği gelirin yaklaşık % 70 ini gider olarak tüketerek gelir gider dengesi en iyi olan bölüm olmuştur. Gelir gider oranı artı yönde olan diğer bölümler Acil, Beyin Cerrahi, Çocuk Hastalıkları, Dermatoloji, Fizik Tedavi, Genel Cerrahi, Genetik, Göğüs Cerrahisi, Göğüs Hastalıkları, Göz Hastalıkları, Kadın Doğum, Kalp Damar Cerrahi, Kulak Burun Boğaz, Nöroloji, Ortopedi, Plastik Cerrahi ve Üroloji bölümleridir. Radyasyon Onkolojisi ve Radyoloji bölümlerinde ikinci dağıtım öncesi gelir gider oranı 1' e çok yakındır. Gelir gider oranı eksi yönde olan bölümler ise Anestezi, Aile hekimliği, Adli Tıp, Çocuk Cerrahisi, Çocuk Psikiyatrisi, Enfeksiyon, Kardiyoloji, Nükleer Tıp, Patoloji ve Psikiyatri bölümleridir. İkinci dağıtım aşaması ile bu oranların daha da düşmesi beklenmektedir. Birinci dağıtım sonunda giderlerin EÜGM dağılımı aşağıda verilmiştir.

Tablo 1: Birinci Dağıtım Sonu - EÜGM

Gider merkezi	Personel	İlaç	Tıbbi malzeme	Diğer Giderler	Genel toplam
EÜGM	68.926.579	28.266.669	17.040.823	43.876.580	158.110.651
Acil Tıp	3.779.595	479.566	194.622	692.370	5.146.153
Adli Tıp	408.810	1	394	56.240	465.445
Aile Hekimliği	648.561	1.589	564	50.872	701.585
Anestezi	6.605.883	2.149.637	1.401.093	2.394.009	12.550.621
Beyin Cerrahi	1.994.479	416.983	1.160.179	2.663.188	6.234.829
Çocuk Cerrahisi	686.802	143.760	78.994	241.161	1.150.718
Çocuk Psikiyatrisi	960.809	4.229	230	214.286	1.179.554
Çocuk Sağlığı ve Hast.	6.267.330	1.855.340	487.677	2.570.405	11.180.752
Dermatoloji	768.229	517.540	7.767	502.368	1.795.904
Enfeksiyon Hast.	855.180	203.815	17.272	265.430	1.341.697
Fizik Tedavi	1.966.828	122.514	46.863	1.042.598	3.178.803
Genel Cerrahi	2.637.256	965.212	706.291	1.198.498	5.507.257
Genetik	1.119.725	0	0	1.683.888	2.803.613

Göğüs Cerrahi	515.829	208.426	302.490	394.308	1.421.053
Göğüs Hastalıkları	1.422.109	411.071	641.663	831.198	3.306.041
Göz Hastalıkları	1.950.421	160.666	412.386	993.864	3.517.338
İç Hastalıkları	9.069.069	15.469.589	1.212.113	7.267.701	33.018.471
Kadın Hast. Doğum	2.790.178	267.361	246.852	1.258.855	4.563.246
Kalp Damar Cerrahi	2.697.310	1.093.201	2.698.789	1.667.690	8.156.989
Kardiyoloji	3.099.457	254.697	2.601.453	1.501.982	7.457.589
Kulak Burun Boğaz	1.573.729	218.291	506.097	615.043	2.913.160
Nöroloji	1.935.046	2.106.944	68.495	1.019.418	5.129.902
Nükleer Tıp	846.310	8.039	791	4.301.438	5.156.578
Ortopedi	2.860.364	403.204	3.444.619	1.332.273	8.040.459
Patoloji	1.174.086	0	0	1.066.793	2.240.879
Plastik Cerrahi	1.001.598	221.009	225.906	383.513	1.832.026
Psikiyatri	3.263.943	175.503	8.958	1.663.071	5.111.475
Radyasyon Onkolojisi	322.876	1.303	58	2.980.759	3.304.996
Radyoloji	3.499.256	2.902	60.738	1.923.009	5.485.905
Üroloji	2.205.513	404.279	507.468	1.100.354	4.217.614

Birinci dağıtım sonuçları gider türlerine göre incelendiğinde en yüksek giderin toplam giderin % 47 ile personel gideri olduğu görülmektedir. Personel gideri hesaplanan toplam gelinde % 53 ünü oluşturmaktadır. Diğer önemli gider kalemleri ilaç ve Tıbbi malzeme giderleridir. İlaçlar toplam giderin yüzde 14 üne gelirin ise yüzde 16 sına tekabül etmektedir. Tıbbi malzemeler ise toplam giderin %8,5 i direk gelirin % 10 u kadardır.

Veriler gider merkezi türlerine göre değerlendirildiğinde ise en yüksek personel giderinin esas üretim merkezlerinden sonra 13 milyon ₺ yi aşan tutarla genel yönetim merkezlerinde olduğu görülmektedir. Yardımcı üretim merkezlerinin Personel ve Laboratuvar kit giderlerinin yüksek olduğu bir diğer dikkat çeken konudur. Toplam giderin yaklaşık % 79,5 i esas üretim, % 9 u yardımcı üretim, % 7 si genel yönetim, % 4,5 i ise yardımcı hizmet gider merkezlerinde oluşmuştur.

Tablo 2: Gider Merkezlerine Göre Birinci Dağıtım Aşaması

Gider merkezi	EÜGM	YÜGM	YHGM	GYGM
Gelir	176.626.118			
Personel	68.926.579	7.175.369	4.086.081	13.139.099
İlaç	28.266.669	216	0	0
Tıbbi malzeme	17.040.823	0	0	0
Sağlık hizmet alımı	10.561.172	264.641	0	0
Laboratuvar	2.423.593	7.437.953	0	0
BAP&HP	10.597.567	0	0	0
Yemek Giderleri	7.594.351	300.205	131.817	386.342
Elektrik& Doğalgaz	5.169.170	633.103	1.372.669	523.284
Amortisman	3.699.112	1.215.250	0	25.685
Tamir bakım giderleri	2.036.957	95.541	1.245.801	0
Genel sarf giderleri	577.344	593.445	1.674.346	305.951
Tıbbi atık giderleri	1.217.313	246.753	0	0
Gider toplam	158.110.651	17.962.475	8.510.714	14.380.360

2.5. İkinci Dağıtım Aşaması

Birinci dağıtım sonunda tüm gider türleri gider merkezlerine dağıtılmıştır. İkinci dağıtım aşamasında esas üretim gider merkezi haricindeki gider merkezlerinde biriken giderlerin dağıtılması gerekmektedir. Çalışmada bu işlem iki aşamada gerçekleştirilmiştir. Birinci aşamada sağlık hizmeti sunmayan genel yönetim ve yardımcı hizmet gider merkezleri en fazla giderden en az gidere göre sıralanarak kademeli dağıtım yöntemi ile esas üretim ve yardımcı üretim gider merkezlerine yüklenecektir. İkinci aşamada ise yardımcı üretim gider merkezlerinde biriken giderler yine kademeli dağıtım yöntemiyle esas üretim gider merkezlerine dağıtılacaktır (Ağırbaş, 2014: 439–446; Esatoğlu ve diğerleri, 2010). Bu amaçla öncelikle GYGM ve

YHGM ele alınarak gider tutarlarına göre büyükten küçüğe sıralanmıştır. En fazla gideri olan merkezden başlayarak belirlenen dağıtım anahtarlarına göre dağıtım işlemi gerçekleştirilmiştir.

Başhekimlik giderleri: İkinci dağıtım aşamasında giderleri ilk dağıtılan bölüm Başhekimlik gider merkezidir. Bu gider merkezindeki tutarlar daha çok yönetsel kararlarla alınan personel giderlerinden oluşmaktadır. Maaşı döner sermayeden ödenen sözleşmeli personeller, yönetici payları, üniversitenin hastane dışındaki birimlerinden hastaneye görevlendirilen personellerin ek ödemeleri bunlardan bazılarıdır. Başhekimlik giderlerinin dağıtılması için personel sayısı dağıtım anahtarı olarak kullanılmıştır. Bölümlerin personel sayısı ile orantılı olarak Başhekimlik yönetim fonksiyonundan faydalandığı düşüncesiyle bu dağıtım anahtarı seçilmiştir.

Başmüdürlük giderleri: Bu gider merkezine eğitim hemşireliği, insan kaynakları, işyeri sağlık ve güvenliği, kalite yönetimi, kanser kayıt, maaş tahakkuk, performans, rapor kalemi, ruhsatlandırma ve tescil, santral, taşınır kayıt, arşiv, sosyal hizmetler, yazı işleri, beslenme ve diyetetik, çevre düzenleme, destek hizmetleri gibi hastane müdürlüğünün kontrolünde idari işler yapan birimler eklenmiştir. Birinci dağıtıma ek olarak Başhekimlik gider merkezinden eklenen giderlerle birlikte toplam gideri yaklaşık üç milyon sekiz yüz elli bin ₺ dir. Dağıtım anahtarı olarak mevcut gider oranlarının kullanılmasına karar verilmiştir.

Teknik atölye giderleri: Teknik atölye, genel yönetim ve yardımcı hizmet gider merkezleri arasında en çok üçüncü gidere sahip gider merkezidir. Birinci dağıtım giderlerine ek olarak başhekimlik ve başmüdürlük giderlerinin dağıtımından aldığı paylarla birlikte toplam gideri yaklaşık üç milyon yüz elli bin ₺ dir. Bu giderlerin dağıtılması için 2018 yılı ilk 9 aylık iş emri sayısı HBYS' den çekilerek gider merkezlerine göre gruplanmıştır.

Ev idaresi & çamaşırhane giderleri: Ağırlıklı olarak ortak alanların temizliğinde kullanılan personelin ve herhangi bir bölüme dağıtılamayan temizlik sarf malzemelerinin biriktiği bu gider merkezinde, son dağıtımlarla birlikte yaklaşık üç milyon ₺ gider bulunmaktadır. Burada kullanılacak en uygun dağıtım anahtarı metrekare olarak belirlenmiştir.

Temel tıp & dekanlık giderleri: Üniversite hastaneleri sadece sağlık hizmeti sunmakla değil aynı zamanda eğitim ve bilimsel araştırma faaliyetlerinde bulunmakla da yükümlüdür. 2547 sayılı kanunun 58 inci maddesinin c fıkrasında, sağlık uygulama ve araştırma merkezlerine ek olarak tıp fakültelerine de döner sermayeden ek ödeme dağıtımı yapılabileceği belirtilmiştir. Yönetmelikte ise öğretim elemanlarının alması gereken en az ek ödeme miktarı, dekan - başhekim yönetici payına oranlı olarak belirtilmiştir. Bu durumda tıp fakültesinin temel tıp bilimlerinde görevli öğretim elemanlarına da sabit ödemeye ek olarak belli bir oranda A, C ve D puanlarından ödeme yapılması gerekmektedir. Her ne kadar hastane içinde yapılan sağlık hizmeti üretimi ile doğrudan bağlantısı olmasa da mevzuat gereği döner sermayeden yapılan bu ek ödemeler bütçeye ek yük getirerek giderleri arttırmaktadır. Oluşan bu personel giderlerinin EÜGM' ne dağıtılması amacıyla dağıtım anahtarı olarak bölümlerin ürettiği C (eğitim) ve D (bilimsel araştırma) puanlarının kullanılmasına karar verilmiştir. Bu şekilde C, D puanlarından daha yüksek ek ödeme alan bölümler ilgili gider merkezinden de yüksek gider alacaktır.

Gelir tahakkuk sekreterlik hizmetleri giderleri: Bu birimin hastane genelinde üç yüzden fazla çalışanı vardır. Kapsam alanı, gelirin tahakkuk ettirilmesi için çalışan fatura, vevne, dosya inceleme gibi birimlerin yanı sıra hastane genelindeki tüm sekreterlerdir. Personel gideri çalışmaları yapılırken tüm sekreter giderleri ilgili bölümlerine dağıtılmıştır. Ancak yukarıda bahsedilen birim çalışanlarının personel giderlerine ek olarak yine buralardan kaynaklanan elektrik, doğalgaz, yemek ve genel sarf malzeme kullanımı gibi giderler Gelir tahakkuk sekreterlik hizmetleri gider merkezinde birikmiştir. Bir milyon yedi yüz elli bin ₺ gidere sahip bu merkezin EÜGM' ne dağıtımı için direk gelir oranlarının kullanılmasına karar verilmiştir. Bu tercih gelir gerçekleştirmelerine olan katkılarına oranla işgücü kullandıkları düşüncesiyle yapılmıştır.

Satın alma gider tahakkuk giderleri: Yaklaşık bir milyon iki yüz elli bin ₺ gidere sahip bu merkez, Gelir tahakkuk sekreterlik merkezinin tam tersi olarak gider tahakkuklarının oluştuğu satın alma, planlama, ön mali kontrol, gider tahakkuk gibi birimleri içermektedir. Hastaneye yapılacak her türlü ilaç, malzeme, demirbaş ve benzerlerinin planlama, alım, kontrol ve ödeme işlemleri bu merkezin kapsam alanı içindeki birimlerde gerçekleşir. İlgili merkezin giderlerinin dağıtılması için satın alma birimi ile çalışma yapılarak satın alım iş emri sayıları ve tutarları çıkarılmıştır. Her iki bilgi ışığında satın alma birim sorumlusunun uzman görüşüne başvurulmuş ve toplam giderin iş yüküne göre hangi oranlarda bölümlere dağıtılacağına karar verilmiştir.

Bilgi İşlem giderleri: Birinci dağıtım aşamasında dağıtılamayan bilgi işlem personeli giderleri ve kullanılan bilgisayar sarf giderleri bu gider merkezine yansıtılmıştır. Bilgi işlem biriminin verdiği en kapsamlı hizmet HBYS olduğu için burada dağıtım anahtarı olarak toplam HBYS giriş sayısının kullanılmasına karar verilmiştir. Bilgi işlem birimi log kayıtlarından elde edilen bilgilerden genel yönetim birimlerinde görev yapan kullanıcılar kapsam dışında bırakılarak gider dağıtımları yapılmıştır.

Isı merkezinin giderleri: Isı merkezi deposu hastane binasından ayrı bir binada bulunduğu ve geniş bir alan kapladığı için metrekareye bağlı olarak yapılan elektrik ve ev idaresi gibi dağıtımlardan yüksek pay almıştır. Merkezin bulunma sebebi

hastanede 7/24 ısınmanın sağlanması olduğu için burada toplanan yaklaşık bir milyon yüz bin ₺ lik gider, daha önce gideri sıfırlanan merkezler haricindeki metrekaresine orantılı olarak dağıtılmıştır. Dağıtım sonucunda en yüksek gider payını % 11,82 ile Psikiyatri bölümü almıştır.

Merkez malzeme ana depo giderleri: Sağlık kurumlarında hastaya özel üretilen ve stoklanması ekonomik olmayan tıbbi malzemeler haricindeki her türlü sarf malzeme bir ana depodan ortalama tüketimlerine göre bölümlere dağıtılır. Bu merkezlerde firmadan kabul, raflara yerleştirme, miat kontrol, sayım, sevkiyat, dağıtım, taşınır işlem fişi kesme gibi çeşitli fonksiyonlar icra edilir. Bu fonksiyonların hakkıyla yerine getirilmesi durumunda ise belirli bir personel gideri oluşmaktadır. Ayrıca ana depolarda belli bir stok alanının olması gerekmektedir. Yani metrekareye göre aydınlatma ve temizlik giderleri de oluşmaktadır. Bu giderlerin paylaşılması için dağıtım anahtarı olarak HBYS' den elde edilen ambardan bölümlere toplam malzeme çıkış tutarı oranının kullanılmasına karar verilmiştir.

Tıbbi cihaz servis hizmetleri giderleri: İkinci dağıtımın bu aşamasına kadar ilgili merkezde büyük bir yüzdesi bu birimde çalışan uzman personelin giderlerinden oluşan toplam dört yüz atmış dokuz bin ₺ lik gider biriktirmiştir. Bu giderlerin dağıtılması için ilk dokuz ay içinde gelen ve sonlandırılan iş emri sayısının bölümlere göre gruplu raporu kullanılmıştır

Hemşirelik hizmetleri müdürlüğü giderleri: Hemşirelik hizmetleri müdürlüğü, hastane genelindeki hemşire, ebe, sağlık memuru gibi sağlık çalışanlarının çalışma saatleri, nöbet, yıllık izin, rapor ve benzeri idari işlerini yürüten başhemşire ve üç yardımcısından oluşan birimdir. Bu birim için dağıtım anahtarı olarak birinci dağıtım aşamasında belirlenen hemşirelik hizmetleri müdürlüğüne bağlı çalışan sayısı kullanılmıştır. Bu merkezle birlikte GYGM ve YHGM dağıtımları tamamlanmış olup YÜGM gider dağıtım işlemine geçilmiştir.

Merkez laboratuvar giderleri: Merkez laboratuvar giderlerinin dağıtılması için en uygun yöntemin dönüştürülmüş istem tutarlarının kullanılması olduğuna karar verilmiştir. Bu yöntem için öncelikle her bir bölümün laboratuvar istem sayısı tetkik gruplu olarak HBYS' den çekilir. Daha sonra en sık yapılan tetkik katsayısı 1 olarak kabul edilir. Çalışılan her tetkikin SUT tutarı, katsayısı 1 olanın SUT tutarına oranlanarak birim katsayılar bulunur. Katsayıların adetlerle çarpılması sonucunda bulunan toplam değer, Merkez laboratuvar gider toplamına bölünerek birim tetkik maliyeti bulunur. Bölüm bazında yapılan istem sayıları birim tetkik maliyetleri ile çarpılır ve bölüm toplam giderleri hesaplanarak dağıtım işlemi tamamlanır (Ağırbaş, 2014: 451,452; Ataç, 2009). Çalışmada anlatılan dönüştürme işlemi gerçekleştirilmek amacıyla Merkez laboratuvarı gider toplamı, hesaplanan katsayı toplamına bölünmüştür. En sık istenen ve katsayısı bir olan tetkik Bilirubin' dir. Bu tetkik maliyeti, yani laboratuvar birim tetkik maliyeti 0,6443 ₺ olarak bulunmuştur. Dönüştürme işlemi sonucunda bulunan birim tetkik maliyetleri, istenen tetkik sayıları ile çarpılarak bölüm bazında gider dağılımı elde edilmiştir.

Ameliyathane giderleri: Ameliyathane giderleri ameliyathaneyi kullanan cerrahi bölümler arasında dağıtılmıştır. Dağıtım anahtarı olarak kullanılmak üzere, Anestezi haricindeki tüm bölümlerin, ameliyathanede yaptığı cerrahi işlemlerin SUT tutar toplamı, HBYS' den 9 aylık olarak çekilmiştir. Anestezi bölümünün Ameliyathanede verdiği hizmetlerin toplam tutarını belirlemek için ise diğer cerrahi bölümlerden faturalanan anestezi işlemlerinin SUT toplam tutarı bulunmuştur. Buradaki amaç ilgili gider merkezinin hangi bölüm tarafından daha fazla kullanıldığını ortaya koymaktır.

Sterilizasyon giderleri: Sterilizasyon giderlerinin esas üretim merkezlerine dağıtılması için sorumlu hemşiresinin uzman görüşüne başvurulmuştur. Burada verilen hizmetin yoğunluğu ameliyatlarda kullanılan setlere göre değişmektedir. Bunun için bölümlere göre HBYS' den 9 aylık ameliyat sayıları çekilerek, her ameliyat başına kullanılan set sayısını belirlemek için sorumlu hemşiresinin bilgisine başvurulmuştur. Kullanılan set sayısı ile bölümlerin ameliyat sayıları çarpılarak, ilgili dönem içinde kaç tane set kullanımı olduğu tespit edilmiştir. Çıkan set sayısı toplamı, Sterilizasyon gider toplamına bölünerek birim set sterilizasyon maliyeti bulunmuştur. Birim set maliyeti bilgisi giderlerin bölümlere dağıtılması için kullanılmıştır.

Kan bankası giderleri: Bu giderlerin dağıtılması amacıyla Kan bankası birim sorumlusunun uzman görüşüne de başvurularak SUT birim fiyatlarının kullanılmasına karar verilmiştir. Merkez laboratuvar giderlerinin dağıtılması bölümünde anlatılan dönüştürülmüş SUT tutarları kullanılarak birim işlem maliyeti bulunmuştur. Kan bankası birim işlem maliyeti 5,45 ₺ dir. Her bir işlemin maliyeti birim işlem maliyetine oranlanıp, bölüm istem sayısına göre işlem maliyetleri çıkarılmıştır.

Eczane giderleri: Eczane, yatan hasta ilaçlarının alım öncesi planlanması, alım sonrası stoklanması ve servislerden gelen isteklere göre dağıtımını sağlayan 7/24 açık olan bir birimdir. Bu birimde 1 baş eczacı, 6 eczacı, 9 sekreter ve kalfa, 3 temizlik görevlisi olmak üzere toplam 19 personel görev yapmaktadır. Buradaki biriken giderlerin dağıtılması için birinci dağıtım aşamasında elde edilen bölüm ilaç tüketim tutarlarının kullanılmasına karar verilmiştir. Yatan hasta kullanımı dışında kalanlar çok küçük bir oran oluşturduğu için kapsam dışında bırakılmıştır.

Kan alma giderleri: Kan alma giderlerinin dağıtılması için ayaktan hastaların laboratuvar tetkik sayısı kullanılmıştır. Polikliniklerden yapılan 9 aylık laboratuvar tetkiki istem sayılarına göre kan alma giderlerinin % 64 üne denk gelen yaklaşık üç yüz bin ₺ lik kısmı İç Hastalıkları bölümüne yansıtılmıştır.

Organize sanayi bölgesi poliklinikleri giderleri: Organize sanayi bölgesinde hizmet veren bu polikliniklerin elektrik, ısınma gibi birçok genel gideri bölge müdürlüğü tarafından karşılanmaktadır. Kalan personel giderleri ise bölümlerin burada baktığı hasta sayısına göre dağıtılmıştır.

2.6. İkinci Dağıtımın Özeti

İkinci dağıtımın sonunda en yüksek gider paylarını, on milyon yüz elli bin ₺ ile İç Hastalıkları, yaklaşık üçer milyon ₺ ile Çocuk Hastalıkları ve Anestezi bölümleri almıştır. Öte yandan gider payları birinci dağıtımdaki rakamlara oranlandığında, en yüksek gider payını % 44 ile Enfeksiyon almıştır. Üroloji, Aile Hekimliği, Plastik Cerrahi bölümlerinin giderleri de yaklaşık % 40 artmıştır. İkinci dağıtım işleminin sonunda en yüksek gider yaklaşık kırk üç milyon ₺ ile İç Hastalıkları gider merkezine aittir. En düşük gider üreten bölüm ise yaklaşık altı yüz bin ₺ ile Adli Tıp' ır. Çalışmada gelir gider dengesine bakılacağı için birinci dağıtımın sonunda artıda olan bölümlerden sadece Göğüs Hastalıkları, İç Hastalıkları ve Üroloji' nin gelirlerinin, yine giderlerinden fazla olduğu görülmektedir. Nöroloji, Ortopedi, Radyasyon Onkoloji ve Kalp Damar Cerrahi bölümlerinin geliri ve gider oranı 1'e yakın iken geri kalan bölümler, ikinci dağıtımın sonunda eksi değerlerdedir.

Tablo 3: İkinci Dağıtım Sonu Gider Tablosu

Gider merkezi	Gelir	1. Dağıtım Toplamı	2. Dağıtım GYGM YHGM	2. Dağıtım YÜGM	Genel Gider Toplamı
Acil Tıp	5.486.274	5.146.153	779.078	813.077	6.738.308
Adli Tıp	267.324	465.445	120.695	402	586.541
Aile Hekimliği	245.593	701.585	159.566	146.395	1.007.546
Anestezi ve Reanimasyon	10.449.704	12.550.621	1.337.466	1.520.662	15.408.750
Beyin Cerrahi	6.696.312	6.234.829	672.660	721.607	7.629.096
Çocuk Cerrahisi	990.683	1.150.718	177.800	88.584	1.417.103
Çocuk Psikiyatrisi	1.000.440	1.179.554	255.396	24.593	1.459.543
Çocuk Sağlığı ve Hast.	12.163.767	11.180.752	1.727.220	1.189.953	14.097.926
Dermatoloji	2.042.533	1.795.904	318.126	184.515	2.298.545
Enfeksiyon Hastalıkları	1.037.115	1.341.697	325.245	261.285	1.928.226
Fizik Tedavi	3.422.430	3.178.803	741.095	137.643	4.057.540
Genel Cerrahi	6.746.408	5.507.257	752.549	1.036.292	7.296.098
Genetik	2.859.658	2.803.613	381.573	99	3.185.285
Göğüs Cerrahi	1.676.585	1.421.053	206.452	222.456	1.849.960
Göğüs Hastalıkları	4.200.501	3.306.041	513.606	268.014	4.087.661
Göz Hastalıkları	3.665.567	3.517.338	626.237	599.161	4.742.736
İç Hastalıkları	46.824.443	33.018.471	3.162.054	7.015.538	43.196.063
Kadın Hast. ve Doğum	4.695.107	4.563.246	771.160	800.466	6.134.872
Kalp Damar Cerrahi	9.462.612	8.156.989	722.511	1.070.287	9.949.787
Kardiyoloji	6.694.457	7.457.589	834.911	406.554	8.699.054
Kulak Burun Boğaz	3.460.059	2.913.160	471.038	419.169	3.803.367
Nöroloji	6.062.781	5.129.902	630.045	472.528	6.232.475
Nükleer Tıp	4.155.290	5.156.578	348.970	62.285	5.567.833
Ortopedi ve Travmatoloji	9.833.985	8.040.459	863.751	1.275.893	10.180.103
Patoloji	1.355.603	2.240.879	329.371	0	2.570.250
Plastik Cerrahi	2.114.674	1.832.026	286.488	422.691	2.541.205
Psikiyatri	4.024.240	5.111.475	1.344.564	190.703	6.646.742
Radyasyon Onkolojisi	3.336.777	3.304.996	155.140	21.690	3.481.827
Radyoloji	5.462.527	5.485.905	762.309	1.094	6.249.308

Üroloji	6.192.669	4.217.614	602.625	1.100.211	5.920.451
EÜGM toplamı	176.626.118	158.110.651	20.379.701	20.473.848	198.964.200
YÜGM toplamı		17.962.475	2.511.373		
GYGM ve YHGM toplamı		22.891.074			

2.7. İstem Giderleri

Ürettiği sağlık hizmeti gelirinin bir kısmı diğer bölüm faturalarında yer alan Radyoloji, Patoloji, Nükleer Tıp gibi bölüm mali verimlilik katsayılarının, doğru bir şekilde tespit edilebilmesi için verimlilik kriterleri kullanan üniversite hastanelerindeki gelir belirleme örneklerinden yararlanıldığı, çalışmanın gelir dağılımı kısmında belirtilmişti. Bu kapsamda istemi yapılan sağlık hizmetinin, işlem öncesinde istemi yapan bölümde gerçekleştirilen tetkik, tanı ve tedavi gibi süreçlerle bağlantısından dolayı, servis veren bölüme, SUT hizmet tutarının tamamı değil % 75 i gelir olarak yansıtılmıştı. Ayrıca oluşturulan bu ek gelire karşılık gelen giderin ise bu bölümlerden istem yaparak ara girdi sağlayan bölümlere, istemleri oranında yansıtılacağı aynı kısımda ifade edilmişti. Yansıtılan bu ek gelire karşılık gelen ve diğer bölüm fatura bedelleri içerisinde yer alan bu % 75 lik tutar, gider dağılımının son aşamasında istem yapan bölümlerin giderlerine yansıtılmıştır. Çıkan sonuçlara göre en yüksek istem gideri yaklaşık üç milyon beş yüz bin ₺ ile İç Hastalıklarına aittir. Bu bölümün Radyoloji ve Nükleer Tıp istemleri ayrı ayrı bir milyonun üzerindedir. Üroloji bölümünün beş yüz bin ₺ si Nükleer tıp istemi olmak üzere toplamda bir milyon istem gideri vardır. Aynı şekilde Acil bölümü büyük bir çoğunluğunu Radyoloji işlemleri istemlerinden kaynaklanan toplamda bir milyon istem giderine sahiptir. Adli Tıp, Aile Hekimliği, Psikiyatri, Çocuk Psikiyatri, Genetik ve Patoloji ise istemleri en az olan bölümlerdir.

2.8. Sonuçların Literatürdeki Çalışmalarla Karşılaştırılması

Ağırbaş (1993) hastanelerde maliyet ve performans analizi üzerine yaptığı çalışmada, personel ücretlerinin toplam harcamaya oranını yaklaşık % 66 olarak bulmuştur. Diğer harcamaları kalemleri ise genel üretim gideri (elektrik, su, ısınma, tamir- bakım vb. - % 26) ve ilaç - malzeme gideridir (% 8). Ataç (2009), bir kamu hastanesinde departmantal maliyet analizi konulu çalışmasında ilk madde ve malzeme giderlerini % 38, personel giderlerini % 26, dışarıdan sağlanan fayda ve hizmetleri ise % 22 olarak bulmuştur. Personel giderlerinin diğer çalışmalara göre düşüklüğünü ise ücretlerin sadece hazine finansmanı ile karşılanması ve performansa dayalı ek ücret uygulamasının olmamasına bağlamıştır. Ek olarak dışarıdan sağlanan fayda ve hizmetler kaleminde gösterilen temizlik personeli ücretinin personel giderine eklenmemesi sayılabilir. Hastane'nin gider yerlerinin oransal dağılımında en büyük pay % 58 ile esas üretim gider merkezlerine aittir. İkinci sırada % 21 ile yardımcı üretim, üçüncü sırada % 13 ile yardımcı hizmet, son olarak ta %8 ile genel yönetim gider merkezleri gelmektedir. Ancak burada da %9 luk paya sahip Radyoloji bölümünün, YÜGM olarak alındığı göze çarpmaktadır. Radyoloji ile birlikte EÜGM % 67 olmakta, YÜGM ise % 12' ye düşmektedir.

"Sağlık uygulama tebliği' nin poliklinik birim maliyetleri açısından değerlendirilmesi" adlı bir diğer çalışmanın birinci dağıtım toplamı sonucu ortaya çıkan işçilik giderleri incelendiğinde, polikliniklerin çoğunda personel ücret ve gider oranlarının %72-94 arasında olduğu görülmüştür (Durukan Köse, 2014). Esatoğlu ve diğerleri (2010) tarafından Ankara Üniversitesi Tıp Fakültesine ait üç farklı yerleşkede yapılan maliyet analizi çalışmalarında, birinci dağıtım sonunda İbni Sina Hastanesi' nin giderlerinin % 54' ü işçilik, % 26'sı ilk madde ve malzeme, % 20' si ise genel üretim giderlerinden oluşmaktadır. İkinci yerleşke olan Cebeci Hastanesinin toplam giderinin % 52' sini işçilik, % 19' unu ilk madde ve malzeme, % 29' unu ise genel yönetim giderleri oluşturmaktadır. Son olarak Morfoloji yerleşkesi toplam giderinin % 69' unu işçilik, % 8' ini ilk madde ve malzeme ve % 23' ünü ise genel üretim gideri oluşturmaktadır. Yine aynı çalışmada, İbni Sina Hastanesi'nin giderlerinin % 65' i EÜGM, % 25' i YÜGM, % 6' sı YHGM ve % 4' ü GYGM' de toplanmıştır. Cebeci Hastanesi' nin toplam giderlerinin % 80' i EÜGM, % 13' ü YÜGM, % 5' i YHGM ve % 2' si GYGM' ye aittir. Morfoloji giderlerinin ise % 78' i EÜGM, % 14' ü YHGM, % 8' i ise GYGM' ye aittir.

Kısakürek (2010) tarafından Cumhuriyet Üniversitesi Tıp fakültesi Hastanesinde yapılan maliyet analizi çalışmasında, maliyetlerin % 52 personel, % 30 ilaç – malzeme ve % 18 genel işletme maliyeti olacak şekilde dağıldığı tespit edilmiştir. Mut ve Ağırbaş' ın (2017) Ankara' da bulunan ikinci basamak bir kamu hastanesinde yaptığı çalışmada, toplam hastane giderlerinin % 78' i personel giderlerinden, % 19' u genel üretim giderlerinden ve % 3' ü ilk madde ve malzeme giderlerinden oluştuğu saptanmıştır. İlaç ve malzeme giderlerinin az olmasının nedeni, hastanede yeterli donanım olmamasından kompleks vakaların kabul edilmemesine bağlanmıştır. Aynı çalışmada toplam giderler gider merkezlerine göre incelendiğinde ise %52' sinin EÜGM, % 22' sinin YÜGM, % 11' inin YHGM ve % 15' inin ise GYGM' ye ait olduğu görülmektedir. Yanık ve diğerlerinin (2012) yaptığı çalışmaya göre, hastane ve yoğun bakım ünitesi maliyetlerinin en önemli bölümünü personel maliyetleri oluşturmaktadır. Bu çalışmanın sonuçları hastane geneline göre incelendiğinde, personel maliyetleri toplam maliyetten %64, ilaç – malzeme ve genel üretim giderleri ise % 18' er pay almaktadır. Ankara' da kamu hastanesinde yapılan bir diğer

çalışmada, giderlerin yaklaşık % 26' sı ilk madde ve malzeme giderlerinden, % 47' si personel giderlerinden ve % 27' si de genel üretim giderlerinden oluşmaktadır. Ancak ilgili hastanede radyoloji ve laboratuvar hizmetleri hizmet alımı yoluyla temin edildiğinden genel üretim giderleri yüksek çıkmaktadır. Gider merkezlerine göre incelendiğinde toplama giderin yaklaşık % 55' i EÜGM, % 31' i YÜGM, % 4' ü YHGM ve % 10' u GYGM' ye aittir (Özkan, Kutlu, Aydın, Aydemir ve Ağırbaş, 2014).

Çalışmada elde edilen sonuçlar toplam gidere göre incelendiğinde, işçilik giderlerinin % 47, ilk madde ve malzeme giderlerinin (ilaç, tıbbi ve sarf malzeme, laboratuvar kitleri) % 29, genel üretim giderlerinin ise % 24 oranında olduğu görülmektedir. Sonuçlar literatürde örnekleri verilen gider türlerine göre dağılım bulgularıyla uyumaktadır. Çalışmadaki toplam giderin gider merkezlerine göre dağılımı incelendiğinde ise, EÜGM' nin % 79, YÜGM' nin % 9, YHGM' nin % 7 ve GYGM' nin ise % 5 oranında olduğu görülmüştür. EÜGM' de diğer çalışmalardan daha fazla pay çıkmasının nedeni, birinci dağıtımda gider türlerinden çoğunun uygun dağıtım anahtarları belirlenerek yardımcı gider merkezlerinden çok esas gider merkezlerine doğrudan dağıtılmasıdır. Örneğin temizlik giderleri direk ev idaresi gider merkezine yansıtılmamıştır. Temizlik işçileri çalıştığı bölümlere olan katkılarına göre ayrılmış, sadece esas üretim merkezleri haricinde kalan az bir miktar gider ev idaresi merkezine yansıtılmıştır. Tıbbi cihaz tamir/bakım – biyomedikal, doğalgaz – ısı merkezi, yemek gideri – yemekhane gibi benzer örnekler verilebilir. Ayrıca çalışma kapsamında ek ödemeden yararlandığı için EÜGM kapsamında değerlendirilen Radyoloji bölümü, diğer bazı çalışmalarda YÜGM kapsamında değerlendirilmiştir. Bu durum esas üretim giderlerinin olduğundan düşük çıkmasına yol açmıştır. Sonuç olarak çalışmanın gider merkezi bulguları da yukarıda verilen literatür örneklerinin çoğuna uygundur. Hastaneler buldukları bölgenin ihtiyaçlarına cevap verebilmek adına gelişme eğiliminde oldukları için her hastanede farklı bölümlerin gelir veya giderleri artmakta ya da azalmaktadır. Bu yüzden maliyet analizi çalışmaları arasında bölüm bazlı maliyet sonucu karşılaştırması yapılmamıştır.

2.9. Bölümlerin Gelir-Gider Dengesinin Ek Ödemeye Göre Değerlendirilmesi

Kamu hastanelerinin gelir gider dengesini kurmakta zorlanmaları aşağıda belirtilen etkenlere bağlıdır:

- SUT fiyatlarının maliyetleri karşılayamayacak seviyede olması,
- İlaç, tıbbi malzeme ve tıbbi cihazlarda yerli üretimin azlığına bağlı olarak döviz kurlarındaki negatif değişimlerin maliyetleri katlaması,
- İşçilerin maaşları, memurların sabit ödemesi gibi personel özlük haklarının döner sermayeden ödenmesi,
- Üniversite hastanelerinde temel tıp öğretim elemanlarına ek ödeme yapılması ve BAP gideri.

Kamu hastaneleri bu mali tabloyu, SGK kapsamı dışındaki hasta sayısını arttırarak, sağlık turizmi hizmeti vererek ve bağış, faiz gibi sağlık dışı gelirlerini arttırarak dengelemeye çalışmaktadırlar. Bu durumda her ne kadar çoğu bölümün gelir gider oranı eksi rakamlarda olsa da, hizmetin sürekliliği için motive edici bir performans sisteminin sağlanması amacıyla gelir gider dengesinin sıfır noktası olarak, hastane ortalama oranı seçilmiştir. Hastanenin toplam sağlık hizmeti gelirinin toplam gidere oranı ilgili dönem için yaklaşık % 85' dir.

Çalışmanın devamında yapılacak ek ödeme hesaplamalarında bu oranın üstünde olan bölümler artı yönde değerlendirilecektir. Bu bölümler İç Hastalıkları, Göğüs Hastalıkları, Kalp Damar Cerrahi, Nöroloji, Radyasyon Onkolojisi, Ortopedi, Genetik, Üroloji, Radyoloji, Dermatoloji, Genel Cerrahi ve Kulak Burun Boğaz' ır. Bununla birlikte gelir gider oranı hastane ortalamasına çok yakın olan Çocuk Hastalıkları, Göğüs Cerrahi, Beyin Cerrahi ve Fizik Tedavi bölümlerine herhangi bir artı ya da eksi yönde değerlendirme yapılmayacaktır. Gelir gider dengesi hastane ortalamasının altında olan Plastik Cerrahi, Göz, Kardiyoloji, Nükleer Tıp, Acil, Kadın Doğum, Çocuk Psikiyatrisi, Anestezi, Çocuk Cerrahi, Psikiyatri, Patoloji, Enfeksiyon, Adli Tıp ve Aile Hekimliği bölümlerine ise eksi yönde performans değerlendirmesi yapılacaktır.

Tablo 4: Bölümlere Göre Gelir- Gider Verimliliği

Gider merkezi	Mali verimlilik Gelir/Gider	Gider merkezi	Mali verimlilik Gelir/Gider
Acil Tıp	71,07%	Göz Hastalıkları	76,42%
Adli Tıp	45,36%	İç Hastalıkları	100,20%
Aile Hekimliği	24,31%	Kadın Hastalıkları ve Doğum	68,69%
Anestezi ve Reanimasyon	67,38%	Kalp Damar Cerrahi	92,66%
Beyin Cerrahi	82,32%	Kardiyoloji	76,35%
Çocuk Cerrahisi	66,69%	Kulak Burun Boğaz	84,30%

Çocuk Psikiyatrisi	68,49%	Nöroloji	92,19%
Çocuk Sağlığı ve Hastalıkları	84,02%	Nükleer Tıp	73,95%
Dermatoloji	85,86%	Ortopedi ve Travmatoloji	91,15%
Enfeksiyon Hastalıkları	52,70%	Patoloji	52,74%
Fiziksel Tıp ve Rehabilitasyon	81,29%	Plastik Cerrahi	79,27%
Genel Cerrahi	85,54%	Psikiyatri	60,37%
Genetik	89,75%	Radyasyon Onkolojisi	91,49%
Göğüs Cerrahi	83,60%	Radyoloji	86,93%
Göğüs Hastalıkları	93,15%	Üroloji	88,88%
Hastane ortalaması	84,20%		

3. KAYNAK KULLANIMI VE SAĞLIK HİZMETİ ÜRETİMİ ETKİNLİĞİ

Temel amacı kar olan bir işletmenin performans değerlendirmesi de kar ölçümü üzerine olması doğaldır. Ancak genel itibarıyla geniş bir bölgeye kamu hizmeti veren üniversite hastanelerinde, kar etmeyecek olsa bile bazı hizmetlerin zorunlu olarak verilmesi gerekmektedir. Doğal olarak performans ölçümleri de buna bağlı olarak farklılaşmakta ve ayrıntılı analizlerin yapılmasına yol açmaktadır (Şahin, 1999). Çalışmanın materyal ve metot kısmında da değinildiği üzere, kar amaçsız kamu hastanelerinde performansın sadece mali verimlilik ile ölçülmesi, kaynak israfına ve kamu kaynaklarının gereksiz yere tüketilmesine yol açacaktır (Aytekin, 2011; Tengilimoğlu ve diğerleri, 2012). Ayrıca salt kar odaklı hizmet verme anlayışının, hizmet çıktısı insan sağlığının korunması ve hastalandığında sağlığını tekrar kazanması olan hastanelerde, kalitenin düşmesine yol açabileceği, mevcut niceliksel (puan) ölçüme ağırlık veren ek ödeme sistemine getirilen eleştirilerden de görülmektedir (Ceylan, 2009; Kart, 2013; Üstüner ve İdrisoğlu Kalav, 2014). Örneğin daha çok kar etmek amaçlı ucuz malzemelere yönelmek ya da hastaya ayrılması gereken süreyi sınırlandırmak, hastanın iyileşmemesi veya asıl hastalığın gözden kaçması gibi olumsuz sonuçlar doğurabilir. Hasta belki de hastalığı ilerlemiş vaziyette sağlık kurumlarına tekrar başvurabilir. Bu durum hem bireyin sağlığı hem de kamu kaynaklarının kullanımı açısından olumsuz durumlara yol açabilir. Mali verimlilik ölçümünün tek başına yeterli olamayacağına dair bir diğer dayanak ise, kamu sağlık hizmet fiyatlarının ve uygulama şartlarının belirlendiği SUT' ta, ücretlerin maliyetlerin altında belirlendiğine yönelik çalışmalar (Durukan Köse, 2014; Erkol ve Ağırbaş, 2011; Kara ve diğerleri, 2015; Kısakürek ve diğerleri, 2011; Mut ve Ağırbaş, 2017; Özkan ve Ağırbaş, 2015; Özseri ve diğerleri, 2015; Yüksel, 2013; Zengin ve diğerleri, 2013). Bu çalışmaların sonuçlarında, Sağlık Hizmetleri Fiyatlandırma Komisyonunun belirlediği SUT fiyatları ve paket uygulamasının, özellikle dâhili bilimler aleyhine bir mali durum oluşturduğu görülmektedir. Hasta yoğunluğunun fazla olmasına rağmen gelirin az belirlenmesinden dolayı bazı bölümler mali verimlilik açısından başarısız gözükmektedir. Ne kadar özverili ve verimli çalışılırsa çalışılın bölümün nihai tabloda karlılığı düşük olmaktadır. Bahsedilen sebeplerle çalışmanın ikinci kısmında, sağlık kurumlarında sıklıkla kullanılan etkinlik ölçme yöntemi VZA ile kaynak kullanımının çıktıya uygun bir ölçekte olup olmadığına bakılmıştır.

Çalışmanın ilk bölümündeki verimlilik ve ikinci kısımdaki etkinlik tanımlarını açıklayacak olursak; verimlilik, genel olarak matematiksel ifadesiyle, çıktı bölü girdidir. İşletme açısından üretilen mal veya hizmet miktarının kullanılan girdilere oranı şeklinde ifade edilebilir. Yani minimum giderle maksimum gelirin elde edilmesidir (Şenol ve Gençtürk, 2017). Etkinlik ise benzer anlamda kullanılsa da verimlilikten farklı olarak elde edilen girdi ya da çıktının, hedeflenen girdi ya da çıktıya oranıdır. Etkinlik teknik, ölçek ve fiyat olarak üç kısımda incelenir. Teknik etkinlik, girdi ya da çıktı yönelimli olabilir. Girdi yönelimi, belirli bir çıktının en az girdi ile sağlanmasıdır. Çıktı yönelimi ise belirli bir girdi ile en büyük çıktının elde edilmesidir. Ölçek etkinliği en uygun ölçekte üretim yapılmasıdır. Üçe ayrılır. Ölçeğe göre sabit getiride, (Constant Returns to Scale - CRS) girdilerdeki artış oranı çıktılardaki artış oranı ile aynıdır. Ölçeğe göre azalan getiride (Decreasing Returns to Scale - DRS) girdilerdeki artış oranı çıktılardaki artış oranından daha fazladır. Ölçeğe göre artan getiride ise (Increasing Returns to Scale - IRS) girdilerdeki artış oranı çıktılardaki artış oranından daha küçüktür. Artan ve azalan getiriler, ölçeğe göre değişken getiri (Variable Returns to Scale - VRS) olarak ta bilinir. Fiyat etkinliği ise en az maliyetle yapılan en uygun üretimin mevcut durumla karşılaştırılmasıdır (Bal, 2010; Çelik, 2014).

3.1. Veri Zarflama Analizi

VZA, üretim bakımından birbirine benzer karar verme birimlerinin birden çok girdisiyle birden çok çıktısının görece karşılaştırmasını yapabilen, parametrik olmayan bir etkinlik ölçme yöntemidir. Birden fazla girdiyle birden fazla çıktıyı karşılaştırabilmesi, ortalama değeri değil en iyi gözlemi sınır olarak kabul etmesi ve bu sınırı etkin kabul edip diğer etkin olmayan karar birimlerinin bu sınıra olan uzaklıklarına göre etkinlik değerlendirmesi yapabilmesi VZA' yı öne çıkaran özellikleridir. İlk olarak Charnes, Cooper ve Rhodes tarafından geliştirilmiştir (Güçlü, 1999). Geleneksel oran analizi ve

regresyon gibi yöntemlerin sağlayamadığı ve özellikle sağlık hizmetlerinde etkinliğin ölçülmesi adına ihtiyaç duyulan, farklı ölçü birimlerine sahip birden çok girdi miktarının, birden çok çıktıyla karşılaştırılması yapabilen VZA, hastanelerin yanı sıra askeri, eğitim ve bankacılık gibi hizmet sektörü alanlarında da sıklıkla kullanılmaktadır (Şenol ve Gençtürk, 2017). İlk başlarda daha çok kar amacı gütmeyen hastane, postane, taşımacılık, karakol ve eğitim kurumları gibi kamu kurumlarının karşılaştırmalı etkinlik ölçüm işlemlerinde kullanılan VZA, daha sonra kar amacı güderek mal ve hizmet üreten işletmelerde de yaygın şekilde kullanılmaya başlanmıştır (Gülcü ve diğerleri, 2004).

Sadece etkin olmayışları değil kaynak kullanım yanlışlığı ve üretim eksikliği bilgisini de ortaya koyan VZA, bu haliyle yöneticilere kaynak azalımı ya da üretim artımı yapılması gereken yerler ve miktarı konusunda karar destek bilgisi sağlamış olur. VZA etkin olmayan birimler için etkin birimlerden referans kümesi sunarak performans artırımı için hedefler belirlenmesini sağlar (Ayanoğlu ve diğerleri, 2010). VZA hekim, yatak, yardımcı personel gibi farklı girdiler ve poliklinik, ameliyat, doğum hizmetleri gibi farklı çıktılar üreten hastanelerin etkinlik ölçümlerine kolaylıkla uyum sağlamaktadır. Bu noktada sadece etkinlik düzeyinin belirlenmesi ile sınırlı kalınmayarak aylık girdi ve girdi tıkanıklığı değerleri ölçülebilir ve gerekli önlemler alınması üzerinde çalışılabilir (Yeşilyurt, 2007a).

VZA' nın çalışmayı yapan yazar adlarının baş harflerine göre adlandırılması yapılan iki farklı yöntem bulunmaktadır. CCR (Charnes, Cooper ve Rhodes) ölçeğe göre sabit getiri (CRS) kabulüyle toplam etkinliği (teknik ve ölçek etkinliği çarpımı) ölçmektedir. BCC (Banker, Charnes ve Cooper) ise teknik etkinliği, ölçeğe göre değişken getiri (VRS) kabulüyle ölçmektedir. Bu ikisi arasındaki fark (CCR/BCC) ise ölçek etkinliğini vermektedir (Çelik, 2014). VZA uygulamasında ayrıca iki farklı yönelim kullanılır. Girdi yönlü olanı, belirli bir çıktı düzeyini ölçmek için etkinliği ölçülen karar birimine ait girdilerin ne kadar azaltılabileceğini araştırmaktadır. Çıktı yönlü yönelim ise, belirli bir girdi bileşimini kullanarak en fazla ne kadar çıktı bileşimi elde edilebileceğini araştırır (Sarı, 2015). Girdiye ve çıktıya yönelik hangi yönelimin kullanılacağı, hangisi üzerinde kontrolün daha fazla olduğuna bağlıdır. Sağlık yönetiminin daha çok girdiler üzerinde kontrol gücü olduğundan hastanede yapılan çalışmalarda genelde girdi yönlü yönelim kullanılmaktadır. Yöntem seçiminde eğer KVB' lerin etkisizlik sebepleriyle ilgili ayrıntılı bilgi alınmak istenirse, yani etkisizliğin nedeni teknik ya da ölçek olup olmadığı belirlenmek istenirse, toplam, teknik ve ölçek etkinlik hesaplamalarının tamamının yapılması önerilmektedir (Çelik, 2014).

Çalışmada tüm VZA yöntemleri kullanılsa da ek ödemeye kalite verimlilik katsayısı olarak girdi yönelimli CCR uygulanmıştır. Girdi yönelimi seçilmesinin nedeni, sağlık kurumlarında genel itibarıyla girdiler üzerindeki kontrolün çıktılar üzerindeki kontrolden daha fazla olmasındandır. CCR yöntemi ise ölçeğe göre sabit getiri varsayımı altında toplam etkinliği ölçmektedir. Ölçeğe göre değişken getiri varsayımı altında teknik etkinliği ölçen BCC' ye ve ölçek etkinliğine göre KVB ler arasında daha ayrıştıracı sonuçlar verdiği için tercih edilmiştir.

3.2. Sağlık Alanında VZA ile Yapılan Çalışmalar

Literatürde sıklıkla çok sayıda sağlık kurumunun özellikle kamu hastanelerinin girdi ve çıktılarının karşılaştırması mevcuttur. Nadir olmakla birlikte bir hastanede yapılan bölüm bazlı karşılaştırmalar da mevcuttur. Bütün bu çalışmalarda kullanılan girdi çıktı örnekleri ve kullanım sıklığı aşağıdaki tablodan görülmektedir. Hastanelerde yapılan etkinlik değerlendirmelerinde araştırmacılar, ayaktan (muayene) hasta, yatan hasta ve ameliyat sayılarının yanı sıra toplam gelir tutarını da sıklıkla çıktı olarak kullanmıştır. Girdi olarak sık kullanılan parametreler ise uzman ve pratisyen hekim, yardımcı sağlık personeli ve yatak sayıları ile toplam gider tutarıdır (Atmaca, Turan, Kartal ve Çiğdem, 2012; Ayanoğlu ve diğerleri, 2010; Aytekin, 2011; Bal, 2010; Bal ve Bilge, 2013; Çakmak ve diğerleri, 2009; Erdoğan ve Yıldız, 2015; Güçlü, 1999; Gülcü ve diğerleri, 2004; Gülsevin ve Türkan, 2012; Pakdil ve diğerleri, 2010; Sarı, 2015; Sülkü, 2011; Şahin, 1999; Şenol ve Gençtürk, 2017; Temür ve Bakırcı, 2008; Tunca ve Yesilyurt, 2016; Yeşilyurt, 2007a, 2007b; Yeşilyurt ve Yeşilyurt, 2006, 2007; Yiğit, 2016a, 2016b, 2017).

Tablo 5: VZA Çalışmaları (hastanelerde yapılan) Girdi ve Çıktı Örnekleri

Sıra	Ad	Sıklık	Sıra	Ad	Sıklık
0	Yatan hasta sayısı	Çok Sık	15	Yatak sayısı	Çok sık
1	Ayaktan hasta sayısı	Çok Sık	21	İlaç Malzeme alım giderleri	Nadir
2	Ameliyat sayısı	Çok Sık	22	Doğum sayısı	Nadir
3	Uzman hekim sayısı - Öğr.üyesi	Çok Sık	25	Ölen hasta sayısı	Nadir
4	Asistan sayısı	Çok Sık	26	Net kar	Nadir
5	Yardımcı sağlık personel sayısı	Sık	28	Ortalama kalış günü sayısı	Nadir
6	Bölüm ek ödeme tutarı	Nadir	31	Bireysel katkı puanı, B puanı	Nadir
7	Toplam gelir	Sık	32	Personel giderleri	Nadir

8	Toplam gider	Sık	33	İlk madde ve malzeme gid.	Nadir
9	Hasta memnuniyet oranları	Nadir	34	Dış. sağlanan fayda ve hizmetler	Nadir
10	Yatak doluluk oranları	Nadir	35	Amortisman payları	Nadir
11	Yatılan gün sayısı	Sık	36	Diğer çeşitli giderler	Nadir
12	İdari personel sayısı	Nadir	38	Tetkik sayısı	Nadir
13	Randevu süresi	Nadir	39	Sağlık kurul sayısı	Nadir
14	Metrekare	Nadir			

Bu girdi ve çıktıların hangi çalışmalarda kullanıldığı, kullanılan VZA programı, yöntem ve yönelimleri ise aşağıdaki tabloda belirtilmiştir. Tabloda belirtilen girdi ve çıktılar bir üst tabloda belirtilen sıra alanı ile eşleştirilmiştir. Tablo incelendiğinde hastanelerde yapılan çalışmalarda genellikle tüm VZA modellerinin uygulandığı, yönelim olarak ise daha çok girdi yöneliminin benimsendiği görülmektedir. VZA model ve yönelimleri kısmında da belirtildiği üzere çalışmada da bu yol izlenmiştir. Ancak ek ödemeye tek bir KVK uygulanabileceği için CCR yöntemi sonucu elde edilen katsayılar kullanılmıştır.

Tablo 6. VZA girdi, çıktı, program, yöntem ve yönelim (girdi-çıkıtı) örnekleri

Araştırmacı, yıl	Yayın türü	Program	Girdi	Çıkıtı	Yöntem	Yönelim
Atmaca ve diğerleri, 2012	Makale	EMS	1,4,15	2,10,28	Ccr	Girdi
Ayanoğlu ve diğerleri, 2010	Makale	EMS	32,33,34, 35,36	7	Ccr, Bcc, Ccr/Bcc	Girdi
Aytekin, 2011	Makale	Excel	3,4,5,15	7,1,28	Ccr	Çıkıtı
Bal, 2010	Doktora tezi	Banxia	3,4,8,15	1,2,7,11	Ccr, Bcc, Ccr/Bcc	Girdi
Bal ve Bilge,2013	Makale	Banxia	3,4,5,8,15	1,2,7,11	Ccr, Bcc, Ccr/Bcc	Girdi
Çakmak ve diğerleri, 2009	Makale	Banxia	15,21	1,2,7,22	Ccr	Çıkıtı
Erdoğan, 2015	Makale	Banxia	37	37	Ccr, Bcc	Girdi
Güçlü, 1999	Doktora tezi		3,4,5,15	0,1,2,38,39		
Gülcü ve diğerleri, 2004	Makale	EMS	3,5	1,26		
Gülsevin, 2012	Makale	EMS	3,5,15	0,1,2	Ccr	Girdi
Pakdil ve diğerleri, 2010	Makale		3,4,15	0,1,2,11,25		G,Ç
Sarı, 2015	Y.Lisans tezi	EMS	3,4,5,19	0,1	Ccr, Bcc	G, Ç
Sülkü, 2011	Makale	DEAP	3,4,15	0,1,2	Ccr, Bcc	Çıkıtı
Şahin, 1999	Makale	IDEAS	3,4,5,8,15	0,1,25	Ccr	Girdi
Şenol, 2017	Makale	EMS	3,5,15	0,2,20	Ccr	Çıkıtı
Temür, 2008	Makale		3,4,8,15	0,1,2,7,	Ccr, Bcc	G,Ç
Yeşilyurt 2007a, 2007b	Makale		3,4,5	1,2,22	Bcc	Girdi
Yiğit, 2016a	Makale	Banxia	3,4,15	0,1,2,10	Ccr, Bcc	Girdi
Yiğit, 2016b	Makale	Banxia	3,4,15,32	0,1,7,10	Ccr, Bcc	Girdi
Yiğit, 2017	Makale	Banxia	0,1,7,10,31	6	Ccr, Bcc	Girdi

3.3. VZA Modeli Girdi-Çıktılarının Belirlenmesi ve Korelasyon Analizi

Örneklerden ve uzman görüşlerinden yola çıkılarak çalışmada üzerinde çalışılacak 15 parametrenin (11 girdi – 4 çıktı) 2018 yılı ilk 9 ayına ait verileri sistemden çıkarılmıştır. Girdi ve çıktıların belirlenmesinde bölümlerin tümünde var olan parametrelerin kullanılmasına dikkat edilmiştir. Sadece cerrahi bölümlerde mevcut ameliyat sayısı, laboratuvar ve görüntüleme bölümlerinde ölçülemeyen hasta memnuniyet oranları, randevu süreleri gibi parametreler kullanılmamıştır. VZA’ da girdi ve çıktılar arasında pozitif yönlü bir korelasyon ilişkisinin olması yapılacak analizin güvenilirliğini arttırıcı bir faktördür. Bu nedenle çalışmada kullanılan girdi ve çıktılara ait değişkenler arasındaki ilişkileri belirleyebilmek için Spearman korelasyon analizi uygulanmıştır. Tüm korelasyon değerleri pozitif ve anlamlı ilişkiyi göstermektedir. Girdi ve çıktı değişkenlerinin tanımlayıcı istatistiklerine aşağıda yer verilmiştir.

Tablo 7: Tanımlayıcı İstatistikler

Değişkenler	Minimum	Maksimum	Ortalama	Standart sapma	Ortanca
Gelir	245.593	46.824.443	6.102.588	8.561.926	4.089.764
Gider	1.010.304	46.591.852	7.173.515	8.580.929	5.160.183
İstem	38.255	18.745.020	1.576.654	3.470.379	729.395
Personel giderleri	322.876	9.069.069	2.312.078	2.025.804	1.942.734
Ek ödeme	114.226	2.281.050	662.706	475.360	526.325
İlaç malzeme	250	16.681.702	1.594.050	3.200.372	519.760
Yardımcı sağlık per.	1	90	22	24	11
Ayaktan hasta	3.882	231.247	35.586	44.752	23.523
Yatılan gün	1	33.994	6.285	7.066	5.652
Öğretim üyesi	2	18	6	3	6
Metre kare	200	7.711	2.036	1.740	1.498
Yatak sayısı	1	133	28	30	20
Araştırma görevlisi	1	36	10	9	7
Akademik personel	3	51	17	12	13
Yatan hasta	1	5.365	1.324	1.366	996

3.4. VZA Modelinin Belirlenmesi (Senaryo 16)

Hastanede hizmet veren bölümlerin farklı hasta tiplerine hizmet verdiklerinden dolayı çalışma şekilleri, uyguladıkları tedaviler ve tedavi süreleri farklı olabilmektedir. Bu noktada etkinlik değerlendirmesi sonuçlarının doğru elde edilmesi için kullanılan girdi ve çıktılar dikkatli bir şekilde seçilmesi gerekmektedir. Çalışmada öncelikle kullanılabilir tüm girdi ve çıktılar literatür taranarak ve uzman görüşleri alınarak çıkarılmıştır. Daha sonra bu girdi ve çıktılar farklı kombinasyonları kullanılarak senaryolar oluşturulmuştur. Elde edilen etkinlik sonuçları uzmanlarla birlikte yorumlanmış ve mali verimlilik katsayıları ile karşılaştırması yapılmıştır. Ek ödemededen yararlanan tüm bölümlerin etkinlik değerlendirmesinin sağlıklı bir şekilde yapılabilmesi için üretim sürecinde etkin olan girdilerin yalnız bir şekilde seçilmesi gerekliliği göz önünde bulundurularak denemeler yapılmıştır. Aynı şekilde belirlenen bu etkin girdilerin hizmet üretimine dönüşümünü karşılayacak çıktılar belirlenmiştir.

Literatüre göre VZA uygulanırken seçilecek parametre sayısı karar birimlerinin üçte birinden az olmalıdır (Çelik, 2014; Sarı, 2015). Çalışma kapsamında 30 karar birimi bulunduğu için toplam 9 girdi ve çıktı seçilebilir. Ancak yapılan çalışmalarda daha az parametre kullanılmıştır. Bunun sebebi karar birimlerinin içinde Genetik, Patoloji, Nükleer Tıp, Radyoloji gibi laboratuvar ya da görüntüleme birimlerin yanı sıra Radyasyon Onkolojisi, Aile Hekimliği, Adli Tıp gibi yatan hastası olmayan kısıtlı parametrelere sahip bölümlerin olmasıdır. Bu durum VZA için gerekli olan karar birimlerinin homojen olması yani üretim ve teknoloji açısından benzer olması şartını zorlamakta ve özellikle kısıtlı çıktı belirlenebilmesine yol açmaktadır. Çıktı sayısı sabitken girdi sayısının artırılması ise karar birimlerinin etkinliklerinin artmasına ve istenen şekilde ölçüm yapılamamasına yol açmaktadır. Çalışmada bu sınırlamalar göz önünde bulundurularak farklı çıktı ve girdi kombinasyonları belirlenmiştir. Oluşturulan bu 18 farklı senaryo, 2 ayrı program üzerinde karşılaştırmalı çalıştırılarak etkinlik skorları çıkarılmıştır. VZA modelinin çalıştırılması için Deap ve Banxia Frontier Analyst programları kullanılmıştır.

Sınırlılıklar göz önünde bulundurularak yapılan çalışmalar neticesinde senaryolardan biri (senaryo 16) seçilmiştir. Buradaki girdileri inceleyecek olursak; akademik personel sayısı, bölümlerin ana girdilerinden biridir ve sağlık hizmetini doğrudan üreten uzman ve pratisyen hekim toplamını yani emek girdisini temsil etmektedir. Bir diğer girdi olarak literatürde (Bkz. Tablo 6. VZA girdi, çıktı, program, yöntem ve yönelim (girdi-çıkıtı) örnekleri sıklıkla kullanılan yatak sayısı alınmak istenmiş ancak hastanedeki her bölümün yatağı olmadığı, Acil gibi yatağı olan bazı bölümlerinde yatak kullanım şeklinin diğer bölümler ile örtüşmediği görülmüştür. Bu durum sağlıklı veri alınmasını zorlaştıracığı için yatak sayısı ile korelasyonu yüksek olan (0,800) ve her bölüm için homojen bir girdi olan metrekare, hesaplama yatak sayısı yerine dâhil edilmiştir. Son girdi olarak çalışmanın birinci aşamasında yapılan maliyet analizi sonucu ortaya çıkan bölüm toplam gideri harcanan sermaye girdisi olarak modele eklenmiştir. Çıktı olarak ise ayaktan hasta sayısı, yatılan gün sayısı gibi çıktılarının yanı sıra ayaktan hastalardan elde edilen gelir, yatan hastalardan elde edilen gelir parametreleri denlenmiştir. Ancak bazı bölümlerde yatan hasta ve buna bağlı olarak yatan hasta geliri yoktur. Bu durumda sonuçların homojen olarak ölçülmesini engelleyebileceği düşünüldükçe, üretilen toplam gelir tek çıktı olarak belirlenmiştir.

CCR sonuçlarına göre tam etkin olan bölümler İç hastalıkları ve Radyasyon onkolojisidir. Göğüs hastalıkları, Kalp damar, cerrahi, Nöroloji ve Ortopedi bölümlerinin ise etkinlik değeri 0,9 un üzerindedir. Değerleri düşük olsa da Beyin cerrahi, Çocuk hastalıkları, Dermatoloji, Fizik tedavi, Genel cerrahi, Genetik, Göğüs cerrahi, Kulak burun boğaz, Radyoloji ve Üroloji bölümlerinin etkinlik değeri, hastane ortalama etkinlik değerinden yüksektir. Etkinlik sınırından en uzak bölümler ise Aile hekimliği, Adli tıp gibi az sayıda belirli hastalara bakan iki bölümdür. Bu iki bölüm dışında Anestezi, Çocuk cerrahi, Psikiyatri ve Çocuk psikiyatri, Enfeksiyon, Patoloji, Kadın doğum bölümleri etkinlik değerleri en düşük olan bölümlerdir. Toplam etkinliğe (CCR) ek olarak teknik (BCC) ve ölçek etkinlik değerleri aşağıdaki tabloda ayrıntılı olarak görülmektedir. Tablo incelendiğinde toplam (CCR) ve ölçek etkin sadece iki bölüm olduğu, bu sayının teknik (BCC) etkinlikte ise altıya yükseldiği görülmektedir. Ortalamalar ise sırasıyla toplam etkinlik 0.77, teknik etkinlik 0.89, ölçek etkinlik 0.87 şeklindedir.

Tablo 8: Senaryo 16 Etkinlik Sonuçları

KVB	CRS	VRS	Scale	KVB	CRS	VRS	Scale
Acil Tıp	0,712	0,751	0,949	Göz Hastalıkları	0,760	0,823	0,924
Adli Tıp	0,451	1,000	0,451	İç Hastalıkları	1,000	1,000	1,000
Aile Hekimliği	0,242	1,000	0,242	Kadın Doğum	0,687	0,730	0,941
Anestezi	0,670	0,687	0,976	Kalp Damar Cerrahi	0,923	0,949	0,972
Beyin Cerrahi	0,822	0,858	0,958	Kardiyoloji	0,782	0,793	0,986
Çocuk Cerrahisi	0,665	1,000	0,665	Kulak Burun Boğaz	0,842	0,917	0,918
Çocuk Psikiyatrisi	0,681	0,899	0,758	Nöroloji	0,920	0,963	0,954
Çocuk Hastalıkları	0,837	0,853	0,980	Nükleer Tıp	0,765	0,805	0,950
Dermatoloji	0,856	0,989	0,865	Ortopedi	0,909	0,933	0,974
Enfeksiyon	0,525	0,710	0,739	Patoloji	0,528	0,781	0,676
Fizik Tedavi	0,810	0,882	0,919	Plastik Cerrahi	0,791	0,909	0,869
Genel Cerrahi	0,855	0,891	0,959	Psikiyatri	0,601	0,645	0,931
Genetik	0,892	0,989	0,902	Radyasyon Onkolojisi	1,000	1,000	1,000
Göğüs Cerrahi	0,835	1,000	0,835	Radyoloji	0,874	0,920	0,950
Göğüs Hastalıkları	0,931	0,997	0,934	Üroloji	0,892	0,934	0,954
				Ortalama	0,769	0,887	0,871

VZA'nın avantajları arasında sayılan KVB'lerin etkin olmayış miktarları da ayrı ayrı belirlenmiştir. Aynı zamanda tam etkinliğe sahip KVB'lerden referans verilmesi de sonuçlarda yer almaktadır. Örneğin Beyin cerrahi bölümü için gelir çıktısında herhangi bir değişiklik önerilmezken, girdilerden kapladığı alanın yaklaşık 1750 (%64,7) metrekare ve akademisyen sayısının yaklaşık 3 (%30,44) kişi, giderin ise 1 milyon 450 bin (%17,82) ₺ azaltılması önerilmektedir. Anestezi bölümünden ise kapladığı alanı 1000 (%40) metrekare, akademisyen sayısını 19 (%63) kişi, giderini ise beş milyon ₺ azaltması beklenmektedir. Aşağıdaki tabloda girdi ve çıktıların hâlihazırda sahip oldukları (reel) değerleri ve etkinlik hesaplaması sonucu olması gereken (hedef) değerleri verilmiştir. Çıktıyı oluşturan gelirlerde bölümlere herhangi bir artış önerilmezken, girdilerinin ise ne kadar azaltılması gerektiği verilen hedeflerle belirtilmiştir. Herhangi bir bölüm girdilerini azaltarak hedeflerde belirtilen değerlere ulaşırsa etkinlik değeri 1,000 olacaktır.

Tablo 9: Senaryo 16 Girdi-Çıktı, Reel-Hedef Değerleri

Senaryo 16 Bölümler	Gelir		Gider		Metrekare		Akademik	
	Reel	Hedef	Reel	Hedef	Reel	Hedef	Reel	Hedef
Acil Tıp	5.486.274	5.486.274	7.663.104	5.459.022	1.127	781	25	5,95
Adli Tıp	267.324	267.324	589.423	265.996	230	38	11	0,29
Aile Hekim.	245.593	245.593	1.010.304	244.373	200	35	21	0,27
Anestezi	10.449.891	10.449.891	15.512.220	10.397.983	2.483	1488	31	11,33
Beyin Cerrahi	6.696.312	6.696.312	8.108.193	6.663.049	2.702	954	10	7,26
Çocuk Cer.	990.683	990.683	1.482.057	985.762	572	141	6	1,07
Çocuk Psikiy.	1.000.440	1.000.440	1.461.308	995.470	994	142	21	1,09
Çocuk Sağlığı	12.163.767	12.163.767	14.464.772	12.103.345	4.287	1732	48	13,19
Dermatoloji	2.042.533	2.042.533	2.375.566	2.032.386	1.389	291	9	2,22

Enfeksiyon	1.037.115	1.037.115	1.966.726	1.031.962	822	148	10	1,13
Fizik Tedavi	3.422.430	3.422.430	4.203.647	3.405.429	3.035	487	22	3,71
Genel Cerrahi	6.746.408	6.746.408	7.855.334	6.712.896	1.891	961	13	7,32
Genetik	2.859.427	2.859.427	3.189.497	2.845.223	769	407	11	3,10
Göğüs Cer.	1.676.585	1.676.585	1.997.312	1.668.256	1.244	239	3	1,82
Göğüs Hast.	4.200.501	4.200.501	4.487.112	4.179.635	1.244	598	14	4,56
Göz Hast.	3.665.567	3.665.567	4.796.221	3.647.359	2.246	522	17	3,98
İç Hastalıkları	46.824.443	46.824.443	46.591.852	46.591.851	6.668	6668	51	50,78
Kadın Doğum	4.695.107	4.695.107	6.796.879	4.671.784	2.408	669	25	5,09
Kalp Damar	9.462.612	9.462.612	10.203.703	9.415.608	1.592	1348	12	10,26
Kardiyoloji	6.694.457	6.694.457	8.768.600	6.853.597	1.195	934	19	6,89
KBB	3.460.059	3.460.059	4.088.943	3.442.871	1.578	493	10	3,75
Nöroloji	6.062.781	6.062.781	6.560.187	6.032.665	2.387	863	13	6,58
Nükleer Tıp	4.155.289	4.155.289	5.524.145	4.224.974	762	582	6	4,33
Ortopedi	9.833.985	9.833.985	10.759.021	9.785.136	2.488	1400	20	10,67
Patoloji	1.355.603	1.355.603	2.555.410	1.348.868	418	193	9	1,47
Plastik Cer.	2.114.674	2.114.674	2.661.545	2.104.169	1.244	301	10	2,29
Psikiyatri	4.024.240	4.024.240	6.667.883	4.004.250	7.711	573	28	4,36
Radyasyon On	3.336.777	3.336.777	3.639.456	3.639.455	443	443	3	3,00
Radyoloji	5.462.527	5.462.527	6.221.717	5.435.392	1.417	778	19	5,92
Üroloji	6.192.669	6.192.669	6.908.801	6.161.908	2.828	882	9	6,72

3.5. Alternatif Senaryo (Senaryo 2)

Bu senaryoda diğerinden farklı olarak çıktılarda ayakta hasta sayısı ve yatılan gün sayısı eklenmiştir. Literatürdeki örneklerinden de görülebileceği üzere (Bkz. Tablo 6. VZA girdi, çıktı, program, yöntem ve yönelim (girdi-çıkıtı) örnekleri kar amaçsız kamu hastanelerinin en önemli çıktısı yatan ve ayakta hasta sayılarıdır. Ancak birden fazla hastane etkinlik karşılaştırması yerine bölüm bazlı yapılacak bir değerlendirmede, yatılan gün sayısı, yatan hastanın paralelinde ve daha doğru bir ölçüm parametresi olarak ortaya çıkmaktadır. Yatılan gün sayısı eklendiği için buna karşılık gelen girdi olarak metrekare yerine yatak sayısı alınmıştır.

Çalışmanın birinci kısmında çıkarılan toplam gider yerine bölümlerin diğer bölümlerden ya da dış merkezlerden elde ettiği ara girdilerin toplam tutarları olarak ifade edebileceğimiz istem eklenmiştir. Bu girdiyi biraz daha açıklamak gerekirse; bölümlerin diğer bölümlerden istemini yaptığı laboratuvar, görüntüleme gibi tetkik ve tahlil işlemlerine ek olarak dış merkezlerden çoğunlukla hizmet alımı yoluyla alınan sağlık hizmetlerinin SUT tutarları toplamı olarak ifade edilebilir. Laboratuvar, görüntüleme gibi istemlerde bulunmak, özellikle araştırma görevlisi pratisyen hekimler için tanı ve tedaviyi kolaylaştırmaktadır. Ancak bu durum bilinçsizce yoğun bir kullanım şeklinde olursa, kaynak israfına yol açmakta ve hasta memnuniyeti düşürmektedir. Bu yüzden literatürde (Bkz. Tablo 6. VZA girdi, çıktı, program, yöntem ve yönelim (girdi-çıkıtı) örnekleri kullanımı görülmesi de önemli bir girdi olarak senaryolarda kullanılmıştır. Bu şekilde bölümün bizzat kendi üretmediği ancak doğrudan ya da dolaylı bir şekilde gelir çıktısını yükselten girdilerin de maliyet analizi uygulaması karmaşasına girmeksizin yani bölüm bazlı gider hesabı yapmaksızın sisteme eklenmesi sağlanmıştır.

Senaryonun VZA modeli olarak uygulanması sonucu elde edilen etkinlik sonuçları ve çalışmanın birinci kısmında yapılan kapsamlı maliyet analizi sonucu elde edilen verimlilik değerleri pozitif anlamlı bir korelasyon göstermektedir (0,684). İki değer arasındaki sıra korelasyon değeri de 0,589 dur. Yani bu senaryoda alınan girdi, çıktı parametrelerinin etkinlik değerleri, çalışmanın birinci bölümünde elde edilen sonuçların paralelinde sonuçlar vermektedir. Senaryo 16 ile 2 arasındaki fark genel itibariyle istem girdisinin toplam gidere göre daha sınırlı bir girdi aralığını temsil etmesinden kaynaklanan sapmadır. Ayrıca Acil, Göz gibi bölümlerin hasta sirkülasyonunun yüksek olması ayakta hasta sayısı çıktısını artırmakta, benzer şekilde Enfeksiyon, Psikiyatri gibi bölümlerin yatak devir hızının düşük olması ise yatılan gün sayısı çıktısını artırarak etkinlik değerlerinin yüksek çıkmasına yol açmaktadır.

Alternatif senaryonun belirlenme sebebi, kamu hastanelerinin detaylı maliyet analizi yaparak bölüm bazlı toplam gideri çıkarmasının zor olmasındandır. Bu senaryoda belirlenen tüm girdi ve çıktılar ilk senaryoya oranla nispeten hızlı ve kolay bir şekilde HBYS' den çekilebilir. Etkinlik sonuçları aşağıdaki tabloda ayrıntılı olarak görülmektedir. Hastanenin CCR ortalaması

etkinlik değeri 0,84 tür. Senaryo 2' de senaryo 16' ya göre daha yüksek etkinlik değerleri elde edilmiştir. Toplamda 30 bölümün 13 tanesi tam etkin çıkarken 3 tanesi etkinlik sınırına çok yakın bulunmuştur. Ortalamalar sırasıyla toplam etkinlikte 0.84, teknik etkinlikte 0.93, ölçek etkinlikte ise 0.89' dur. Etkin olmayan bölümlerin ortalamaları ise toplam etkinlikte 0.72, teknik etkinlikte 0.88 ve ölçek etkinliğinde ise 0.81 olarak bulunmuştur. Diğer senaryoya göre senaryo 2' de etkin olmayan bölüm yüzdesi düşmüştür. Etkin olmayan bölüm yüzdeleri CCR ve ölçek etkinliğinde % 57, BCC' de ise %33' tür.

Tablo 10: Senaryo 2 Etkinlik Sonuçları

KVB	CRS	VRS	Scale	KVB	CRS	VRS	Scale
Acil Tıp	1,000	1,000	1,000	Göz Hastalıkları	1,000	1,000	1,000
Adli Tıp	0,477	1,000	0,477	İç Hastalıkları	1,000	1,000	1,000
Aile Hekimliği	0,121	0,468	0,257	Kadın Doğum	0,509	0,515	0,987
Anestezi	0,783	1,000	0,783	Kalp Damar Cerrahi	1,000	1,000	1,000
Beyin Cerrahi	0,839	0,843	0,994	Kardiyoloji	0,896	0,897	0,999
Çocuk Cerrahisi	0,658	1,000	0,658	Kulak Burun Boğaz	1,000	1,000	1,000
Çocuk Psikiyatrisi	0,703	0,779	0,902	Nöroloji	0,994	0,997	0,998
Çocuk Hastalıkları	0,713	1,000	0,713	Nükleer Tıp	1,000	1,000	1,000
Dermatoloji	0,993	1,000	0,993	Ortopedi	1,000	1,000	1,000
Enfeksiyon	1,000	1,000	1,000	Patoloji	0,538	1,000	0,538
Fizik Tedavi	0,870	1,000	0,870	Plastik Cerrahi	0,614	0,770	0,797
Genel Cerrahi	1,000	1,000	1,000	Psikiyatri	1,000	1,000	1,000
Genetik	0,697	0,876	0,796	Radyasyon Onkoloji	1,000	1,000	1,000
Göğüs Cerrahi	1,000	1,000	1,000	Radyoloji	1,000	1,000	1,000
Göğüs Hastalıkları	0,805	0,850	0,947	Üroloji	0,990	0,995	0,995

VZA'nın avantajları arasında sayılan KVB'lerin etkin olmayan miktarları alternatif senaryoya göre çıkarılmıştır. Elde edilen sonuçlara göre etkin olmayan bölümlerden örnek olarak Anestezi, akademik personel sayısını 6 kişi, istem tutarını üç yüz bin ₺, yatak sayısını ise 7 tane azaltarak hedefleri yakalamaktadır. Çıktılarda ise ayaktan hasta sayısını 44 bin artırması beklenirken gelir ve yatılan günde değişiklik önerilmemiştir. Anestezi'ye referans gösterilen bölümler Göz hastalıkları, Kalp damar cerrahi, Nükleer tıp ve Radyoloji bölümleridir. Yüzde 84 etkinliğe sahip Beyin cerrahi bölümünün akademik personel sayısını yaklaşık 2 kişi, yatak sayısını 12 adet, istem tutarını ise 400 bin ₺ azaltması önerilmektedir. Gelir ve yatılan gün çıktısında bir artış önerilmemekten ayaktan hasta sayısını 10 bin artırması önerilmektedir. Beyin cerrahisine referans gösterilen bölümler ise Göğüs cerrahisi, Kalp damar cerrahi ve iç hastalıklarıdır. Çocuk sağlığı ve hastalıkları bölümünün yatak sayısını %41 (33 adet), akademik personel sayısını 13 kişi ve istem tutarını 750 bin ₺ azaltması önerilmektedir. Çıktı parametrelerinde ise herhangi bir değişiklik önerilmemektedir. Bu bölüme referans gösterilen bölümler ise Göz hastalıkları, Kalp damar cerrahi, Kulak burun boğaz ve iç hastalıkları'dır.

Hastanenin tam etkin kaynak tüketimi yapması durumunda, girdiyi oluşturan parametrelerden istem tutarlarında toplamda yaklaşık dört milyon ₺ tasarruf sağlanabilir. Yatak sayısından toplamda 112 adet tasarruf edilerek, bu yatakların tam etkin bölümlerin kullanımına tahsis edilmesi sağlanabilir. Benzer şekilde sonuçlardan toplamda yüz akademik personelin ürettiği çıktıların yetersiz olduğu ve etkin çalışmadığı görülmektedir. Çıktıyı oluşturan parametrelerden gelirlerde, etkin çalışmaktan dolayı oluşan toplam kayıp yaklaşık bir milyon üç yüz elli bin ₺ dir. Ayaktan hasta sayısını artırması gereken toplam sekiz bölüm mevcuttur. Bu bölümlerde ek olarak toplam yüz yirmi bin ayaktan hastaya daha hizmet verilebilir. Yatılan gün sayısında ise herhangi bir artış önerilmemiştir.

3.6. VZA Sonuçlarının Literatürdeki Örnekleriyle Karşılaştırılması

Çalışmanın bölüm etkinliklerini belirleme kısmında 18 farklı senaryo çalışılmış olup bunlardan seçilen 2 tanesinin sonuçları paylaşılmıştır. Ek ödeme hesaplamalarına KVK olarak uygulanacak olan 16. senaryo CCR sonuçlarına göre toplam 30 bölümün yalnızca iki tanesi etkindir. Etkin olmayan bölümlerin oranı % 93, ortalamaları ise % 75' tir. Alternatif olarak belirlenen senaryo 2' nin CCR sonuçlarına göre ise toplam 30 bölümün 13 tanesi etkin olup etkinlik oranı % 43' tür. Etkin olmayan 17 bölümün ortalaması ise % 72' dir.

Ayanoğlu ve diğerlerinin (2010) finansal etkinlik ölçümüne dair yaptığı çalışmada ilk madde ve malzeme, personel ücretleri, dışarıdan sağlanan fayda ve hizmetler, amortisman ve diğer çeşitli giderler girdi, hizmet gelirleri ise çıktı olarak alınmıştır.

Çalışmanın sonucunda toplam 16 hastaneden beşi etkin olup oran % 31 olarak bulunmuştur. Karlı ve etkin olan hastanelerin oranı ise % 13 olarak bulunmuştur. Hem etkin olmayıp hemde zarar eden hastane oranı % 56' dır. Aytekin' in (2011) yatak işgal oranları düşük olan Sağlık Bakanlığı hastanelerini konu alan çalışmasında, girdi olarak yatak, oda, uzman ve pratisyen doktor ile yardımcı sağlık personeli sayılarını, çıktı olarak ise yatak işgal oranı, ortalama kalış günü, yatan hasta oranı ve medula cirusu parametrelerini kullanmıştır. Çıktı yönelimli CCR modeli kullanılan çalışmada etkinlik ortalaması 0,53 olarak bulunmuştur. Toplam 245 hastaneden sadece 21' i etkin çıkmış olup etkin olma oranı % 8,5' tir.

35 tane eğitim ve araştırma hastanesinde yapılan bir diğer çalışmada, girdi değişkenleri olarak uzman hekim, asistan hekim, hemşire ve yatak sayıları ile toplam gider alınmıştır. Çıktı değişkenleri olarak ise muayene, ameliyat, yatılan gün sayıları ile toplam gelir alınmıştır. Sonuçlara göre 35 eğitim ve araştırma hastanesinden 13' ünün toplam etkinliği 1 çıkmıştır. Yani hastanelerin % 37' si tam etkindir. Etkinlik değeri ortalaması ise 0,88' dir (Bal ve Bilge, 2013). Bayram (2006) tarafından bir üniversite hastanesinin 4 yıllık verileriyle gerçekleştirilen çalışmada, 5 girdi ve tek çıktı kullanılarak hizmet birimlerinin etkinliği hesaplanmıştır. Girdi olarak personel gideri, amortisman gideri, malzeme gideri, temizlik işçiliği gideri ve diğer çeşitli giderler kullanılırken, çıktı olarak ise döner sermaye gelirleri kullanılmıştır. 4 ayrı yılın sonuçları incelendiğinde sadece 3 bölüm tüm yıllarda etkin ve karlı çıkmıştır. 12 birimin etkinlik katsayıları bire yakın iken, 23 birimin hiçbir yılda etkin veya karlı olmadığı tespit edilmiştir. Toplam 55 birimin karşılaştırıldığı çalışmada etkinlik oranı % 5,5' tir. Çakmak ve diğerleri (2009) tarafından 41 kadın doğum ve çocuk hastanesi arasında yapılan etkinlik karşılaştırmasında 12 (% 29) hastanenin teknik olarak verimli olduğu sonucuna ulaşılmıştır. Araştırmada girdi değişkenleri olarak yatak sayısı ve tıbbi malzeme giderleri, çıktı olarak ise poliklinik sayısı, doğum sayısı, orta ve küçük ameliyat sayıları ile toplam gelir kullanılmıştır.

Devlet hastanelerinin özel hastanelerle karşılaştırıldığı bir diğer çalışmada (Erdoğan ve Yıldız, 2015), girdi yönelimli CCR ve BCC modelleri kullanılmıştır. Elde edilen sonuçlarda devlet hastanelerinin her iki grupta da etkinlik oranı % 36 iken özel hastanelerde ise % 50 ve % 25' tir. Pakdil ve diğerlerinin (2010) iki yüz ve üstü yatak kapasiteli üniversite hastanelerinde yaptığı çalışmada, girdiler yatak sayısı, uzman hekim sayısı ve pratisyen hekim sayısı olarak belirlenmiştir. Çıktılar ise poliklinik, yatan hasta, yatılan gün, ameliyat ve ölüm sayılarıdır. Sonuçlar 31 üniversite hastanesinden sadece ikisinin (% 6,5) etkin olduğunu göstermektedir. Şenol ve Gençtürk (2017) tarafından yapılan bir diğer çalışmada, girdi değişkenleri olarak yatak, hekim, hemşire ve ebe sayıları, çıktı değişkenleri olarak ise poliklinik, acil, ameliyat ve yatan hasta sayıları kullanılmıştır. 80 kamu hastanesinden CCR modeline göre 20 tanesi (% 25), BCC modeline göre ise 31 tanesi (% 38) etkin olarak tespit edilmiştir. Sarı (2015) Hacettepe hastanesinin yataklı servisi bulunan yirmi farklı bölümünün CCR ve BCC modelleri kullanarak karşılaştırmıştır. CCR sonuçlarına göre 5 (% 25), BCC sonuçlarına göre ise 7 (% 35) bölümün etkin olduğunu tespit etmiştir. Kullanılan girdi değişkenleri öğretim üyesi / görevlisi, öğretim yardımcıları, hemşire ve hasta bakıcı sayılarıdır. Çıktı değişkenleri ise yatan hasta ve ayaktan hasta sayılarıdır. Bir üniversite hastanesinin tıbbi bölümlerinin etkinlik karşılaştırmasını yapan Yiğit (2016a), uzman hekim, asistan, yatak sayıları ile personel ve nöbet giderlerinden oluşan girdi değişkenlerini kullanmıştır. Poliklinik ve yatan hasta sayıları, yatak doluluk oranı ve sağlık hizmeti gelirleri ise kullanılan çıktı değişkenleridir. Analiz sonuçlarına göre bölümlerin % 45' i etkin bulunmuştur. CCR modeline göre etkinlik ortalaması ise % 86' dır. Yiğit' in (2016b) Kamu Hastane Birlikleri (KHB) verilerini kullanarak yaptığı bir başka çalışmada kullanılan girdiler uzman hekim, pratisyen hekim ve yatak sayılarıdır. Çıktı değişkenleri ise muayene, yatan hasta, A-B-C grubu ameliyat sayıları ve yatak işgal oranıdır. Elde edilen sonuçlara göre KHB' lerin % 31' i etkindir. CCR etkinlik ortalaması ise % 91' dir.

Sonuç olarak, literatürdeki gerek hastaneler gerekse de bölümler arası çalışmaların neticesinde bulunan değerler ile bu çalışmada elde edilen etkinlik değerleri arasında benzerlikler görülmektedir. Özellikle Bayram' in (2006) finansal verilere dayalı hastane bölümlerinin etkinlik karşılaştırması ile çalışmanın gelir – gider değişkenlerinin ağırlıkta olduğu Senaryo 16 sonuçlarının örtüştüğü görülmektedir. Her iki çalışmanın etkin bölüm yüzdesi ve etkinlik ortalaması birbirine yakındır. Benzer bir durum, hastane bölümleri karşılaştırmasının yapıldığı diğer bir çalışmada (Yiğit, 2016a) görülmektedir. Burada da etkin olma oranları, girdiler ve çıktılar, çalışmada alternatif olarak belirlenen Senaryo 2 ile benzerlik göstermektedir.

4. DEĞERLENDİRME

Tabi ki çalışmanın her iki aşamasında elde edilen değerler, üniversite hastanelerinin sadece uygulama ayağının etkinliğini temsil etmektedir. Eğitim ve araştırma faaliyetlerinin ek ödeme içerisindeki payı çok az olduğu için ek ödemeye yansıtılması amaçlanan KVK' ların uygulama etkinliği üzerinden hesaplanması, yani girdi ve çıktılarının uygulama tarafını temsil edecek şekilde seçilmesi yöntemi benimsenmiştir. Anabilim dallarının eğitim ve araştırma etkinliğinin ölçülebilmesi için öğretim üyesi, derslik sayısı, uygulamalı ve teorik ders / vaka sayısı, öğrenci sayısı, araştırma görevlisi sayısı, science citation index (SCI) ve science citation index expanded (SCI-E) kapsamında taranan dergilerde yayınlanan bilimsel araştırma sayısı gibi girdi ve çıktılar seçilebilir.

Çalışmanın VZA ile bölümlerin etkinliklerinin ölçülmesi ve ek ödemeye KVK olarak yansıtılması amacı için, bölümler arasında homojen ölçüm yaptığı düşünülen, daha ayrıştırıcı değerler içeren ve birinci bölümdeki mali verimlilik değerleri ile de örtüşen senaryo 16 toplam etkinlik değerleri kullanılacaktır. Buna göre verimlilik ve etkinlik sonuçları karşılaştırıldığında 0,995 ile iki değer arasında pozitif anlamlı yüksek bir korelasyon değeri bulunduğu görülmektedir. İki sonucun hastane ortalamaları da sırasıyla 0,7682 ve 0,7686 olup birbirine çok yakın değerlerdir. Benzer şekilde sonuçlar arasındaki sıra korelasyon değerinin de 0,996 ile pozitif anlamlı yüksek bir korelasyon değeri olduğu tespit edilmiştir. Toplamda sadece dokuz bölüm sıralamada bir ya da iki sıra çıkmış ya da inmiştir. Verimlilik değerlerine göre en olumlu değişiklik Radyasyon onkolojisi bölümünde olmuştur. Sonuçlara göre yaklaşık 0,915 verimlilik değerine sahip olan bu bölüm, etkinlik değerlendirmesinde tam etkin yani 1,000 etkinlik değerine sahip olan iki bölümden biri olmuştur. Özetle çalışmanın birinci bölümünde yapılan maliyet analizi sonucu elde edilen mali verimlilik sonuçları ile ikinci bölümünde yapılan kaynak kullanım etkinliği çalışmaları sonucu elde edilen değerler birbirini desteklemektedir. Değerler ayrı ayrı ya da eşit ağırlıklı olarak ek ödemeye KVK olarak yansıtılabilir.

Tablo 11: Verimlilik Etkinlik Karşılaştırması - Senaryo 16, CCR

Gider merkezi – Karar verme birimi	Mali Verimlilik	Kaynak kullanım etkinliği	Gider merkezi – Karar verme birimi	Mali Verimlilik	Kaynak kullanım etkinliği
Acil Tıp	0,7159	0,7120	Göz Hastalıkları	0,7643	0,7600
Adli Tıp	0,4535	0,4510	İç Hastalıkları	1,0050	1,0000
Aile Hekimliği	0,2431	0,2420	Kadın Doğum	0,6908	0,6870
Anestezi	0,6736	0,6700	Kalp Damar Cerrahi	0,9274	0,9230
Beyin Cerrahi	0,8259	0,8220	Kardiyoloji	0,7635	0,7820
Çocuk Cerrahisi	0,6685	0,6650	Kulak Burun Boğaz	0,8462	0,8420
Çocuk Psikiyatrisi	0,6846	0,6810	Nöroloji	0,9242	0,9200
Çocuk Hastalıkları	0,8409	0,8370	Nükleer Tıp	0,7514	0,7650
Dermatoloji	0,8598	0,8560	Ortopedi	0,9140	0,9090
Enfeksiyon	0,5273	0,5250	Patoloji	0,5305	0,5280
Fizik Tedavi	0,8142	0,8100	Plastik Cerrahi	0,7945	0,7910
Genel Cerrahi	0,8588	0,8550	Psikiyatri	0,6035	0,6010
Genetik	0,8966	0,8920	Radyasyon	0,9168	1,0000
Göğüs Cerrahi	0,8394	0,8350	Radyoloji	0,8780	0,8740
Göğüs Hastalıkları	0,9361	0,9310	Üroloji	0,8963	0,8920
Korelasyon = 0,995)			Ortalama	0,7682	0,7686

Bulunan etkinlik değerleri mevcut SUT değerleri ile elde edilen gelir rakamları ile elde edildiği unutulmamalıdır. İkinci bölümün başında belirtilen, SUT fiyatlarının maliyeti karşılamadığı ve özellikle bazı bölümlerin aleyhine bir durum oluşturduğuna dair tespitler literatürde sıklıkla yer almaktadır (Durukan Köse, 2014; Erkol ve Ağırbaş, 2011; Kara ve diğerleri, 2015; Kısakürek ve diğerleri, 2011; Mut ve Ağırbaş, 2017; Özkan ve Ağırbaş, 2015; Özşarı ve diğerleri, 2015; Yüksel, 2013; Zengin ve diğerleri, 2013). Ancak mevcut piyasa şartlarına göre tüm bölümleri homojen bir şekilde değerlendirebilecek en uygun modelin geliri içermesi gerektiği düşünülmektedir. Bu noktada yapılacak SUT değişikliklerinin verimlilik ve/veya etkinlik değerlerini değiştirebileceği göz önünde bulundurulmalıdır. Benzer şekilde, gelirin belli bir yüzdesi ayrılarak oluşturulan ek ödeme havuzundan tüm bölümler yararlandığından, sadece cerrahi bölümlerin ürettiği ameliyat sayısı ve Radyoloji, Nükleer Tıp, Patoloji gibi birimlerde ölçülen raporlama süresi gibi önemli parametreler, etkinlik hesaplamalarında kapsam dışı bırakılmıştır. Örneğin sadece cerrahi bölümleri içerecek bir hesaplamada farklı parametreler kullanılmasıyla sonuçlar değişebilir.

5. SONUÇ VE ÖNERİLER

Çıkan sonuçlara göre açıkça görülmektedir ki mevcut piyasa koşullarına göre verilen kamu sağlık hizmetlerinden elde edilen gelir, maliyetleri karşılamamaktadır. Bu noktada literatürde de sıklıkla değinildiği gibi SUT tutarlarının düşüklüğü en başta gelen sorundur (Durukan Köse, 2014; Erkol ve Ağırbaş, 2011; Kara ve diğerleri, 2015; Kısakürek ve diğerleri, 2011; Mut ve Ağırbaş, 2017; Özkan ve Ağırbaş, 2015; Özşarı ve diğerleri, 2015; Yüksel, 2013; Zengin ve diğerleri, 2013).

Ancak gelir gider dengesinin bozuk olmasını sadece SUT' a bağlamak doğru bir yaklaşım değildir. Çalışmanın birinci kısım sonuçlarından açıkça görülmektedir ki, işçilik giderlerinin fazlalığı (reel gelirin % 56' sı) döner sermaye haricinde geliri olmayan

üniversite hastanelerinin en büyük problemidir. İşçilik giderlerinden en büyük pay, toplam işçilik giderinin yaklaşık % 40' ı ile 657 sayılı kanunun 4. Maddesi d bendine tabi olarak çalışan kamu işçilerine aittir. Personellerin çoğu asgari ücretli olduğu için bu tutar asgari ücret artışına paralel olarak her yıl artmaktadır. Bu noktada gelir gider dengesinin rahatlatılması, firma borçlarının vadesinde ödenmesi, sağlık hizmetlerinin etkin bir şekilde sunulmaya devam edilebilmesi için 4/d li işçilerin özlük haklarının (maaş, tedavi, ikramiye vb.) üniversite özel bütçesinden karşılanması gerekmektedir. Benzer bir durum 657 sayılı kanunun 4. Maddesinin a ve b bendine tabi personelin sabit ödemesinde de yaşanmaktadır. Üniversitenin diğer birimlerinde özel bütçeden karşılanan ve toplam işçilik giderlerinin % 15' ini oluşturan bu tutar da hastanelerde döner sermayeden ödenmektedir. Sağlık hizmeti üretimi ile alakası olmaksızın üniversite hastanelerinin döner sermayesinden karşılanan bir başka personel gideri, temel tıp öğretim üyelerine yapılan ek ödemedir. Gelir getiren sağlık hizmetlerine katkıları olmayan bu akademik personellere yapılan ödeme toplam işçilik ücretinin % 2,5' i kadardır. Tüm bu iyileştirmeler işçilik giderlerinin yaklaşık % 57, toplam giderin ise 53 milyon ₺ düşmesini sağlayacaktır.

Sonuç olarak üniversite hastanelerinin içinde bulunduğu gelirin gideri karşılamaması durumu, kurum borçlarının vadesini giderek uzatmakta, alacaklarını uzun bir zaman sonunda tahsil edebilen firmalarsa, sonraki alımlarda daha pahalı teklif vermektedir. Bu durum bir kısır döngü oluşturarak kurum gelir gider dengesinin sürekli gerilemesine yol açmaktadır. Diğer taraftan sağlık hizmetinin üretilmesinde aktif rol oynayan büyük ölçekli medikal cihaz tedarikçilerinin, ilaç ve tıbbi malzeme firmalarının ve destek hizmetlerini sağlayan küçük ölçekli işletmelerin alacaklarını geç tahsil etmesi, sağlık sektöründe ulusal ve bölgesel sorunlara yol açmakta, hizmetin sürekliliğini zora sokmaktadır.

Çözüm döner sermaye bütçesinden sadece özlük hakları haricindeki performans, nöbet ücreti, MDÖ gibi fazla ve / veya verimli çalışmaya yönelik personel ücretlerinin karşılanmasıdır. Geri kalan maaş, sabit ödeme gibi haklar üniversite özel bütçesinden karşılanmalıdır. Tabi ki bunun yapılabilmesi için yasal düzenlemeye ihtiyaç duyulmaktadır. Bu noktada 2547 sayılı kanunun 58 inci maddesinde düzenlenen ek ödeme dağıtım oranları, sağlık uygulama ve araştırma merkezleri için sınırlandırılarak azalan personel giderlerinin ek ödemeye aktarılması engellenebilir. Şu an % 59 olan ek ödeme tavan sınırı, % 40' a kadar çekilebilir. Üniversite hastanelerinin diğer sorunları gelirden direk BAP bütçesine aktarılan % 5 ve hazine hissesine aktarılan % 1' lik paydır. Sadece bu paylar bile gelir gider dengesinin ilgili hastane için yıllık on milyon ₺ den fazla iyileşmesini sağlayacaktır. Ayrıca MR, Tomografi, Röntgen, Anjiyo gibi ileri teknolojik pahalı tıbbi cihazların yenilenebilmesi için özel bütçe desteği sağlanabilir. Bütçe yetersizliğinden yenilenemeyen cihazların bakım ve tamir maliyetleri giderek daha da fazlalaşmaktadır.

Tabi ki bu dış etkenlere ek olarak üniversite hastaneleri tarafından da bazı önlemler alınması gerekmektedir. Çalışmanın da konusu olan bölüm verimliliğine dayalı ek ödeme, gelir - gider otokontrolünü sağlayan, motive eden, aidiyet duygusunu geliştiren, sağlık hizmetini üretenlerin aynı zamanda üretim şartlarını sorgulamasını sağlayan en etkili önlemlerden biridir.

KAYNAKLAR

- Ağırbaş, İ. (1993). Hastanelerde Maliyet Performans Analizi ve TCDD Ankara Hastanesi'nde Bir Uygulama (Yüksek Lisans Tezi). Hacettepe Üniversitesi Sağlık Bilimleri Enstitüsü, Ankara.
- Ağırbaş, İ. (2014). Sağlık Kurumlarında Finansal Yönetim ve Maliyet Analizi. Ankara: Siyasal Kitabevi.
- Ataç, G. K. (2009). Bir Kamu Hastanesinde Departmantal Maliyet Analizi (Yüksek Lisans Tezi). Hacettepe Üniversitesi Sağlık Bilimleri Enstitüsü, Ankara.
- Atmaca, E., Turan, F., Kartal, G. ve Çiğdem, E. S. (2012). Ankara İli Özel Hastanelerinin Veri Zarflama Analizi ile Etkinlik Ölçümü. Çukurova Üniversitesi İİBF Dergisi, 16(2), 135-153.
- Ayanoğlu, Y., Atan, M. ve Beylik, U. (2010). Hastanelerde Veri Zarflama Analizi (VZA) Yöntemiyle Finansal Performans Ölçümü Ve Değerlendirilmesi. Sağlıkta Performans ve Kalite Dergisi, 40-62.
- Aydın, S. ve Demir, M. (2007). Sağlıkta Performans Yönetimi, Performansa Dayalı Ek Ödeme Sistemi (2. Basım). Ankara: Onur Matbaacılık, TC Sağlık Bakanlığı Yayını.
- Aytekin, S. (2011). Yatak işgal oranı düşük olan sağlık bakanlığı hastanelerinin performans ölçümü: Bir veri zarflama analizi uygulaması. Uludağ Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 30(1), 113.
- Bal, V. (2010). Bilgi sistemlerinin sağlık işletmeleri performansına etkilerinin veri zarflama analizi ile ölçümü: Türkiye'deki devlet hastanelerinde bir araştırma (Doktora Tezi, Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü İşletme Anabilim Dalı).
- Bal, V. ve Bilge, H. (2013). Eğitim Ve Araştırma Hastanelerinde Veri Zarflama Analizi İle Etkinlik Ölçümü. Manas Sosyal Araştırmalar Dergisi, 2(2).

- Bayram, A. (2006). Hastane İşletmelerinde Finansal Verilere Dayalı Performans Ölçümü (Yüksek Lisans Tezi, Gazi Üniversitesi Sosyal Bilimler Enstitüsü).
- Büyükmirza, K. (2008). Maliyet ve yönetim muhasebesi. Tekdüzene uygun bir sistem yaklaşımı (13. Baskı). Ankara: Gazi Kitapevi.
- Ceylan, Z. (2009). Performansa dayalı ücretlendirme modelleri ve Türkiye açısından bir değerlendirme. *Sayıştay Dergisi*.
- Çakmak, M., Öktem, M. K. ve Ömürönülşen, U. (2009). Türk Kamu Hastanelerinde Teknik Verimlilik Sorunu: Veri Zarflama Analizi Tekniği ile Sağlık Bakanlığı'na Bağlı Kadın Doğum Hastanelerinin Teknik Verimliliklerinin Ölçülmesi. *Hacettepe Sağlık İdaresi Dergisi*, 12(1), 1–36.
- Çelik, K. (2014). Avrupa Birliği ülkelerinin bilişim teknolojilerini kullanma etkinliklerinin araştırılması: Bir veri zarflama analizi uygulaması (Yüksek Lisans Tezi). Gazi Üniversitesi Bilişim Enstitüsü, Ankara.
- Çil Koçyiğit, S. (2006). Faaliyete Dayalı Maliyet Yöntemi ve Hastane Uygulaması (Doktora Tezi). Gazi Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.
- Durukan Köse, S. (2014). Sağlık Uygulama Tebliği'nin Poliklinik Birim Maliyetleri Açısından Değerlendirilmesi. *the Journal of Academic Social Sciences*, 8(8), 28–28.
- Erciyes Üniversitesi. (2018). Erciyes Üniversitesi Tıp Fakültesi ile Sağlık Uygulama ve Araştırma Merkezi birimi döner sermaye gelirlerinden yapılacak ek ödemenin dağıtılmasında uyulacak usul ve esasları.
- Erdoğan, M. ve Yıldız, B. (2015). Sağlık İşletmelerinde Finansal Oranlar Aracılığıyla Performans Ölçümü: Hastanelerde Bir Uygulama. *KAÜ İİBF Dergisi*, 6(9).
- Erkan, A. (2011). Performansa dayalı ödeme: Sağlık bakanlığı uygulaması. *Maliye Dergisi*, (160), 423.
- Erkol, Ü. ve Ağırbaş, İ. (2011). Hastanelerde maliyet analizi ve faaliyet tabanlı maliyetleme yöntemine dayalı bir uygulama. *Ankara Üniversitesi Tıp Fakültesi Mecmuası*, 64(2).
- Esatoğlu, A. E., Ağırbaş, İ., Payziner Doğanay, P., Akbulut, Y., Göktaş, B., Özatkan, Y., ... Ökten, İ. (2010). Ankara Üniversitesi Tıp Fakültesi Hastaneleri'nde Maliyet Analizi. *Ankara Üniversitesi Tıp Fakültesi Mecmuası*, 63(1), 17.
- Eskişehir Osmangazi Üniversitesi. (2012). Eskişehir Osmangazi Üniversitesi Sağlık, Eğitim, Uygulama Ve Araştırma Hastanesi Döner Sermaye Gelirlerinden Yapılacak Ek Ödemenin Dağıtılmasında Uyulacak Usul Ve Esaslar.
- Gelir İdaresi Başkanlığı. (2009). Amortisman Tabii İktisadi Kıymetler.
- Güçlü, A. (1999). Türk Silahlı Kuvvetleri hastanelerinde teknik verimlilik ölçümü veri zarflama analizi uygulaması (Doktora Tezi, Gülhane Askeri Tıp Akademisi Sağlık Bilimleri Enstitüsü Sağlık Hizmetleri Yönetimi BD.).
- Gülcü, A., Coşkun, A., Yeşilyurt, C., Coşkun, S. ve Esener, T. (2004). Cumhuriyet Üniversitesi Diş Hekimliği Fakültesi'nin Veri Zarflama Analizi Yöntemiyle Göreceli Etkinlik Analizi. *C.Ü. İktisadi ve İdari Bilimler Dergisi*, 5(2).
- Gülsevin, G. ve Türkan, A. H. (2012). Afyonkarahisar Hastanelerinin Etkinliklerinin Veri Zarflama Analizi ile Değerlendirilmesi. *Afyon Kocatepe Üniversitesi Fen Ve Mühendislik Bilimleri Dergisi*.
- Hacettepe Üniversitesi. (2017). Hacettepe Üniversitesi Döner Sermaye Gelirlerinden Yapılacak Ek Ödemenin Dağıtılmasında Uygulanacak Usul ve Esaslara İlişkin Yönerge.
- İnönü Üniversitesi. (2012). İnönü Üniversitesi Turgut Özal Tıp Merkezi Döner Sermaye Gelirlerinden Yapılacak Ek Ödemenin Dağıtılmasında Uyulacak Usul Ve Esaslar.
- Kara, İ., Yıldırım, F., Küçük, H., Türkoğlu, M., Aygencel, G., Katı, İ. ve Başak Yumuş, D. (2015). Bir üniversite hastanesi iç hastalıkları ve anesteziyoloji yoğun bakım ünitelerinde hasta maliyetlerinin karşılaştırılması. *Turkish Journal of Anaesthesiology and Reanimation*, 43(3), 142.
- Kart, E. (2013). "Sağlıkta Dönüşüm" Sürecinde Performansa Dayalı Ücretlendirmenin Hekimler Üzerindeki Etkileri. *Çalışma ve Toplum*, (38), 103.
- Kısakürek, M. M. (2010). Hastane İşletmelerinde Bölüm Maliyet Analizi: Cumhuriyet Üniversitesi Tıp Fakültesi Hastanesinde Bir Uygulama. *Ataturk University Journal of Economics & Administrative Sciences*, 24(3), 229-256.
- Kısakürek, M. M., Yılmaz, A. ve Kılıç, E. (2011). Cumhuriyet Üniversitesi hastanesi anjiyo ünitesi maliyet-hacim-kâr analizi. *Elektronik Sosyal Bilimler Dergisi*, 10(37), 42.
- Kızılkın, A. Ç., Gültekin, Ö. ve Yıldırım, N. (2012). Sağlıkta Dönüşümde Performans Uygulamaları. *TAF Preventive Medicine Bulletin*, 11(6), 757–766.

- Mut, S. ve Ağırbaş, İ. (2017). Hastanelerde Maliyet Analizi: Ankara'da Hizmet Sunan İkinci Basamak Bir Kamu Hastanesi'nde Uygulama. Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi.
- Ondokuz Mayıs Üniversitesi. (2016). Ondokuz Mayıs Üniversitesi Sağlık Uygulama ve Araştırma Merkezi döner sermaye gelirlerinden yapılacak ek ödeme ve dağıtılmasında uyulacak usul ve esasları.
- Özgülbaş, N. ve Tarcan, M. (2013). Sağlık Kurumlarında Maliyet Yönetimi. Eskişehir: T.C. Anadolu Üniversitesi Yayını.
- Özkan, O. ve Ağırbaş, İ. (2015). Radyoloji Departmanında Birim Maliyet Analizi Ve Örnek Bir Uygulama. Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 1(13), 115-128.
- Özkan, O., Kutlu, G., Aydın, J. C., Aydemir, İ. ve Ağırbaş, İ. (2014). Hastanelerde maliyet analizi ve örnek bir uygulama. Program adı: 8. Ulusal Sağlık ve Hastane İdaresi Kongresi, Girne/K.K.T.C.
- Özsarı, H., Yanık, S., Vehid, S., Yenidikici Üzgül, A., Hoşgör, H. ve Boz, C. (2015). Kulak burun boğaz anabilim dalı klinik ve poliklinik maliyetlerinin değerlendirilmesi: Bir üniversite hastanesi örneği. Kulak Burun Boğaz Uygulamaları, 3(2), 68.
- Pakdil, F., Akgül, S., Doruk, T. Ç. ve Keçeci, B. (2010). Kurumsal performans yönetiminde veri zarflama analizi sonuçlarının kullanımı: Üniversite Hastaneleri karşılaştırması. Researchgate.Net.
- Sarı, Z. (2015). Veri Zarflama Analizi ve Bir Uygulama (Yüksek Lisans Tezi). Hacettepe Üniversitesi Fen Bilimleri Enstitüsü.
- Sülkü, S. N. (2011). Performansa dayalı ek ödeme sisteminin kamu hastanelerinin verimliliği üzerine etkileri. Maliye Dergisi, (160), 242.
- Şahin, İ. (1999). Sağlık Kurumlarında Göreceli Verimlilik ölçümü: Sağlık Bakanlığı Hastanelerinin İllere Göre Karşılaştırılmalı Verimlilik Analizi. Amme İdaresi Dergisi, 32(2), 123-145.
- Şenol, O. ve Gençtürk, M. (2017). Veri Zarflama Analiziyle Kamu Hastaneleri Birliklerinde Verimlilik Analizi. Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 29(4), 265-285.
- T.C. Sağlık Bakanlığı. Türkiye Kamu Hastaneleri Kurumuna Bağlı Sağlık Tesislerinde Görevli Personele Ek Ödeme Yapılmasına Dair Yönetmelik, (2013).
- Temür, Y. ve Bakırcı, F. (2008). Türkiye'de Sağlık Kurumlarının Performans Analizi: Bir VZA Uygulaması. Sosyal Bilimler Dergisi, X(3).
- Tengilimoğlu, D., Işık, O. ve Akbolat, M. (2012). Sağlık İşletmeleri Yönetimi. Ankara: Nobel Yayın Dağıtım.
- Tunca, H. and Yesilyurt, F. (2016). Hospital Efficiency In Turkey: Metafrontier Analysis. 9.
- Türkiye Kamu Hastaneleri Kurumu Verimlilik Daire Başkanlığı. (2012). Verimlilik Modeli Ön Çalışma Raporu I.
- Uğurtay, H., Öker, F., Sur, H., Bakır, İ. ve Döğücü, M. Ş. (2012). Bir Kamu Hastanesinde Anjiyografi Birimi Maliyetlerinin Faaliyet Tabanlı Maliyetleme Yöntemi ile Analizi. Nobel Medicus Journal, 9(1), 10-16.
- Üstüner, Y. ve İdrisoğlu Kalav, F. (2014). Kamu çalışma etiği ve neo-taylorist uygulamalar: Türk kamu sağlık hizmetinde performansa dayalı ücretlendirme örneği. ODTÜ Gelişme Dergisi, 41(2), 177.
- Vergi Usul Kanunu, 213 Sayılı, Madde: 315 (1961).
- Yanık, A., Ekinci, O., Kavuncubaşı, Ş. ve Çaçkurlu, T. (2012). Yoğun bakım ünitesi hizmetlerinin hastane maliyetlerine etkisi. Haydarpaşa Numune Eğitim ve Araştırma Hastanesi Tıp Dergisi, 52(2), 67.
- Yeginboy, Y. ve Yüksel, İ. (2015). Hastane İşletmeleri Kardiyoloji Polikliniğinde Sipariş Maliyet Yöntemiyle Ayaktan Hasta Tanı Maliyetinin Hesaplanması. Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 17(3), 409.
- Yeşilyurt, M. E. (2007a). Genel Hastanelerin Etkinlik, Girdi Tikanıklığı ve Aylak Girdi Analizi. Sosyal Bilimler Dergisi, 24.
- Yeşilyurt, M. E. (2007b). Türkiye'de Eğitim Hastanelerinin Etkinlik Analizi. Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi, 21(1), 61-74.
- Yeşilyurt, M. E. ve Yeşilyurt, F. (2006). Kadın, Doğum Ve Çocuk Hastanelerinde Girdi Tikanıklığı Ve Aylak Girdilere Bağlı Kayıpların Analizi. Dokuz Eylül Üniversitesi İşletme Fakültesi Dergisi, 7(2), 41-54.
- Yeşilyurt, M. E. ve Yeşilyurt, F. (2007). Poliklinik Ve Ameliyat Hizmeti Veren Hastanelerin Sahipliklerine Bağlı Olarak Oluşan Refah Kayıpları. Ekonomik Yaklaşım, 18(62), 103.
- Yiğit, V. (2016a). Bir Üniversite Hastanesinin Tıbbi Bölümlerinin Teknik Verimlilik Analizi. Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, (23), 17.
- Yiğit, V. (2016b). Hastanelerde Teknik Verimlilik Analizi: Kamu Hastane Birliklerinde Bir Uygulama. SDÜ Sağlık Bilimleri Enstitüsü Dergisi, 7(2), 9-16.

Yiğit, V. (2017). Performansa Dayalı Ek Ödeme Sisteminde Hekimlerin Teknik Verimliliği: Bir Üniversite Hastanesinde Uygulama. Elektronik Sosyal Bilimler Dergisi, 16(62), 854–866.

Yükseköğretim Kurulu. Yükseköğretim Kurumlarında Döner Sermaye Gelirlerinden Yapılacak Ek Ödemenin Dağıtılmasında Uygulanacak Usul Ve Esaslara İlişkin Yönetmelik. , (2011).

Yüksel, İ. (2013). Hastanelerde maliyet muhasebesi ve karlılık (Yüksek Lisans Tezi). Dokuz Eylül Üniversitesi, Sosyal Bilimler Enstitüsü, İzmir.

Zengin, S., Güzel, R., Al, B., Kartal, Ş., Sercan, E. ve Yıldırım, C. (2013). Bir üniversite hastanesi erişkin Acil Servisinin maliyet analizi. Akademik Acil Tıp Dergisi, 12(2), 71.



EFFECT OF TECHNOLOGICAL CHANGES ON AIRPORT SECURITY PERSONNEL: AGE-RELATED ANALYSIS

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ABSTRACT

Purpose- The aim of the study is to determine the impact of technological changes on age-based airport security personnel. Due to its strategic importance, airports have the potential to attract danger. There have been terrorist attacks at airports since the early years of aviation. Security control processes have been developed and implemented at airports since the 1970s. The airport security processes vary depending on the threat profiles. With the September 11, 2001 twin tower attacks, the world's aviation security processes have completely changed. Over the last decade, changes in the threat profile have occurred. The main purpose of aviation is to provide service to passengers by creating space and time benefits. The balance of passengers' comfort and safety to be maintained by air depends on the type of threats and the technology used in security. For this reason, large investments are made in the development of security technology at airports.

Methodology- 28-item questionnaire was applied to the airport security officers over the internet. 276 security personnel working in airports participated in the study. Age-based analysis was performed using chi-square analysis. In this process, small-scale, relatively simple security systems at the airports, large-scale, high-tech systems were introduced. New technological systems are digital, networked, software oriented and mobile solutions. Although there is a rapid change in airport security technologies, the security personnel and the human element using the technology remain the same. Considering that human factor is the user of technology, the attitude of individuals towards technology is effective in ensuring airport security. Technological change has had a significant impact on the attitudes, behaviors and mental structure of the employees. Technological change causes many psychological effects such as monotony, boredom, fatigue, stress and anxiety.

Findings- In the survey conducted to evaluate the approach of airport security personnel to technological change, 67% of security personnel were exposed to technological changes. The respondents defined technology as convenience and convenience (37%), innovation (36.6%) and efficiency (15.2%). Airport security personnel preferred to provide training and courses on the technology to be applied (48.6%) for the adoption of the new technology and 51.4% stated that they adopted the latest technological development applied in airport security in 7 days and under 6 days. 59.8% of the respondents stated that the technological change in airport security brought about an increase in the level of security.

Conclusion- As a result of findings, it can be said that the management of technological change is important for organizations. Ensuring security at airports is important in terms of minimizing the psychological, social, economic and physical impacts of technology on security personnel due to the key human factor. Training of security personnel before the technological change to be applied increases the interaction between technology and individual and contributes to the personnel to make appropriate decisions because it recognizes the technology.

Keywords: Security technologies, airport security, technological change, age-based analysis.

JEL Codes: L91, L93, L98

1. INTRODUCTION

Developing technology enables individuals to increase their knowledge levels, facilitate information sharing and the way of doing business. Moreover, it is necessary to understand, recognize and learn new technologies that significantly affect business life. The benefits of technological developments in business life depends on the human factor who use technology (Cascio & Montealegre, 2016).

The parallel of the increasing popularity of air transport increases the use of airports. Airports, strategically important for the country, have been the focus of terrorist actions since the first age of the aviation. Therefore, procedures are taken to increase

the security level in airports. In particular, security must be ensured at the entrance to the terminal building, which is the starting point for an illegal action against airports. Security scans for passengers, baggage or personnel at airports are increasingly being carried out with high-tech devices that make it easier to identify potential hazards and threats. However, the assessment of the security level with only technological devices can be wrong in airports. Because the security personnel of the airports, which are technology users, are the decision makers and the assurance person for providing security level (Alards-Tomalin, ve diğerleri, 2014).

Airport authority have to consideration to adaptation problem and effect of the technological changes on the airport security officers. Moreover, it is important to avoid security gaps because of adaptation problem of technological changes.

In the first part of this research; the technological advances in airport security and the impact of technology on the employee. Civil aviation security services, legal regulations, and passenger terminal building security issues are discussed in the second part. At the last section, the findings of the survey "Impact of Technological Changes on Airports Security Personnel" questionnaire applied to 276 people consisting of DHMI and private airport security company security officers were evaluated and explained. SPSS 15.0 program was used for these evaluations and Chi-Square analyzes were performed on the data.

2. LITERATURE REVIEW

The word technology comes from two Greek words, transliterated *techne* and *logos*. *Techne* means art, skill, craft, or the way, manner, or means by which a thing is gained. *Logos* means word, the utterance by which inward thought is expressed, a saying, or an expression. So, literally, technology means words or discourse about the way things are gained (Oregon State University, 2018).

2.1. Technological Change

Technology is defined as information on the maintenance of daily operations. Technological change can be defined as the increase of this information. It is seen that the products whose technological change mostly occurs in the form of new production methods, new designs that change the important qualities of production, marketing and management techniques (Aydin, 2013).

Technological change not only changes the production process and the nature of the goods produced, but also changes the human in the process starting from its labor. Technological change means the application of new knowledge and skills. This means the change of labor in the production process. The new technology raises the need for well-trained, skilled labor (Dertli, 2008).

2.2. Technological Changes and Developments in Airport Security

All the airports providing air transportation services are included in the international system. Due to the unique sensitivity of airports, large airports with heavy passenger volumes require detailed equipment systems and advanced technology security measures and the importance of personnel selection (Ashford, Stanton, & Moore, 1996). Security scanning technologies are used to check passengers or their baggage (Singh & Singh, 2013).

Airport security history shows significant changes in security control processes since the early 70s of the last century. During this time, threat profiles have changed dramatically. Since 2001, suicide bombing has become a real risk for civil aviation. In the last 15 years, these changes in the threat profile have made major investments in the development of new security technology, along with efforts to facilitate the transport of passengers by air (Hofer & Wetter, 2012).

It is possible to list some of the important security services at the airports as follows (Kardeş, Yılmaz, Ateş, Sayın, & Gemici, 2014):

- Passenger and baggage screening at terminal entrance control points,
- Screening of passenger and cabin baggage at the check-in points at the purified site,
- Ensuring security of entrance and exit of terminal parking lot,
- Ensuring the security of terminal entrance and exit doors,
- Scanning baggage in the baggage separation area,
- Ensuring the security of the aircraft waiting in the apron parked against external attacks,
- Taking permissible weapons from the aircraft to the weapon delivery point and from the weapon delivery point to the aircraft,
- Transportation of money or valuables from the aircraft to the designated delivery point at the airport or from the delivery point to the aircraft,

- Additional safety screening and checks during the process of loading passengers and cabin baggage to the aircraft,
- Profiling and checking of travel documents while boarding passengers,
- Aircraft search and control service,
- Ensuring the safety of cargo buildings and control of cargo to be loaded onto the aircraft.

In this context, some of the technologies used in airport security worldwide are as follows:

- **Reflective x-ray imaging systems:** This makes it a suitable technology for detecting both liquid and solid explosives as well as for the detection of drugs (Elias, 2009, s. 217).
- **3D Millimetric Wave Scanners:** An imaging system that can penetrate clothing to display items hidden by clothing. These techniques have been produced from microwave holography techniques (Sheen, McMakin, & Hall, 2001). This technology displays an extremely different image that makes it easier to recognize the potentially dangerous object. Microwave hologram imaging, unlike a security scanner has the potential to create clear images for substances that can be overlooked (Sweet, 2009, s. 295).
- **Biometric security systems:** Biometric security systems recognize individual physical characteristics such as fingerprints, signatures, voice, retina. Another popular biometric access control system uses the technique of recognizing three-dimensional data about a person's hand geometry. Biometric systems are two types: identification and verification. The biometric identification device automatically verifies the identity of a person by measuring a physical property or reproducible action of the person. Verification systems, on the other hand, require the use of identities such as cards that contain some physical characteristics of that person to perform verification procedures (Sweet, 2009, s. 299)(Sweet, 2009).

2.2. Effects of Technological Changes on Employees

Personnel providing security at airports are individuals who contribute to the detection of a potential threat (face, baggage or person) with the technologies it uses. Security personnel are expected to make appropriate action plans by increasing the threat level, if necessary. Therefore, security personnel may be asked to operate, monitor, and even undertake other tasks not related to the operation of the technology (Jain & Kumar, 2011, s. 150). Since technological changes will have different effects on each individual, it is important to examine this issue.

2.1. Psychological Effects of Technological Change on Employees

It can be said that technological change has a significant effect on the attitudes, behaviors and psychological structure of the employees. It can be said that technological change has emerged as psychological effects on workers, monotony and boredom, fatigue, stress and anxiety (Dertli, 2008).

2.1.1. Monotony and Boredom

Monotony is the condition of tiredness and boredom caused by repetitive work. Constant and demanding jobs are boring and more monotonous. Technological changes create changes in the quality and nature of the work, resulting in monotony in the workplace. Lack of opportunities to move the body, routine noise, mental and physical fatigue, non-compliance with work, not being able to get used to night shifts may reveal monotony (Dertli, 2008).

2.1.2. Stress and Worry

Stress; it can be defined as physical and emotional reactions caused by imposing, oppression and uncertainty (Gökgöz, 2013). Work stress can be defined as a mismatch arising from the specific structure of the job and the reaction of the employee to his / her own personality while performing the task (Erdoğan, Ünsar, & Süt, 2009). New technology, rapid changes in the business environment, the skills of employees quickly outdated. In addition, the need to know new equipment and systems constantly reveals the threat situation in the individual. This situation becomes a potential stress factor if adequate training is not provided (Okutan & Tengilimoğlu, 2002). Technological innovations and those who do not have enough knowledge and experience to work, is in two-sided fear. First; fear of damaging the machine or equipment; Fear of losing the job because it cannot adapt to the new technology (Dertli, 2008).

2.2. Social Effects of Technological Change on Employees

The social effects of technological change on employees; alienation, inadequacy, education.

2.2.1. Estrangement

Alienation is a person's life, a life style contrary to the essence of human life or human life does not fit into the way of life is imposed (Dertli, 2008). Alienation to work; it can be said that the reluctance, indifference, boredom, burnout and the inefficiency and conflict that this situation brings together (Gürsoy, 2014). Human re-division of technology and technology has become increasingly alienated in working life. Therefore, employees' relations with other people have decreased. Not only the degree of automation in technology, but also the technological change in work affects alienation. Because technological changes are often perceived as a factor that will lead to deterioration of the environment, bringing new risks related to safety and health, the occurrence of desires and the disruption of social integrity.

2.2.2. Inadequacy

Inadequacy is the situation in which those working in a certain position do not care about the knowledge and skills required by new technologies. Technology creates a number of jobs where the knowledge and dexterity of the employees is not sufficient. The replacement of a new invention, a machine, causes many people to change their positions (Adibifar, 2016). The speed of technological change leads to wear and tear of the workers. In addition to the danger of dismissal, the lack of technical knowledge and skills of the employees may also be a source of unrest. Technological change forces people's potential to change.

2.2.3. Training

Increasing the current performance of employees, updating their skills, solving organizational problems, being able to make career planning, keeping up with the changes and even guiding, were the factors that increased the importance of training activities. Training programs are organized to increase and improve the knowledge, skills and abilities of human resources. Technology, automation, changing values, computer, communication, information, environment and organizational changes can be listed as the main factors that increase the importance of education (Örücü & Yumuşak, 2015). Technological changes in organizations greatly change the qualities expected from the individual. The amendments make it necessary to train the employee. As a result of the change in technology, organizations are forced to adapt their employees to the machine. Education, jobs and opportunities should change the self and skills of the employee should change the basis.

2.2.4. Decrease in Communication and Social Relations

Technological change can eliminate staff members' co-workers and non-formal relationships with them. Some of his friends may get out of work, some of them may change their chapters or even be unfair.

2.2.5. Job Dissatisfaction

One of the important changes brought about by technological advances in working life is undoubtedly related to job satisfaction (Şahin, Aydın, & Güler, 2015). Job satisfaction can also be defined as a feeling that an employee experiences when he / she realizes that his / her work and the needs and personal values judgments overlap or allow them to overlap. In enterprises applying advanced technology, job descriptions should also be rearranged. These include; considering that the work is done faster with computers, reducing work hours, keeping wages satisfactory, and acquiring completely new division of labor and business principles can be considered (Can, 2008).

In enterprises applying advanced technology, job descriptions should also be rearranged. These include; considering that work is done faster with computers, reducing work hours, keeping wages satisfactory, and acquiring completely new division of labor and business principles can be considered.

2.3. The Economic Effect of Technological Change on the Employees

Technological change has two economic effects on employees: dismissal and job insecurity. The state of weakness in maintaining the continuity of the threatened work; the difference between the expected level of job security and the level of assurance; feelings of uncertainty as to whether an individual's job will continue; the perception of a potential threat to the continuity of work is the definitions made about job insecurity. Concerns about job insecurity are accepted as the heaviest period of the unemployment process and reveal the situation before losing the job (Çakır, 2007). Because the new technology can lead to specializations of different qualifications and make the works of those who worked until then become in a situation that they cannot manage.

2.4. Physical Effects of Technological Changes on Employees

Rapid technological developments; on the one hand it serves the welfare of the human being, on the other hand it brings with it the dangers for human life and the environment. Electromagnetic waves are propagated by many natural and man-made sources and the effect of those working on the work environment is inevitable (Dertli, 2008). As a result of technological advances, the use of electromagnetic waves is increasing day by day, and therefore, employees are exposed to high levels of electromagnetic waves in their workplaces. Although electromagnetic waves emitted by some high technology machines and devices cause problems such as headache and insomnia, it has been found to cause short-term effects (Özkan & Purutçuoğlu, 2010). Kerschner and Chelsvig found that age was effective in the adoption of technological innovations, negative opinions about technology increased and technology usage decreased with increasing age (Özkan & Purutçuoğlu, 2010).

3. DATA AND METHODOLOGY

The use of technology in the world and Turkey is increasing in all areas. Understanding the effects of technological developments on individuals is an important research topic. In civil aviation, technology is used as a tool to take measures that threaten security. This research was carried out to determine the effects of technological changes on security personnel who are technology users in ensuring security at airports. Because of security personnel at airports in Turkey research workers cannot be applicable to all of them reached the 276 airport security personnel survey is one of the limitations of this research. In order to determine the impact of technological changes on airport security personnel, a 28-question questionnaire was applied to airport security officers over the internet. The results of this survey were analyzed using the Chi-Square method with SPSS 15.0 program.

4. FINDINGS AND DISCUSSIONS

4.1. Demographic Data

276 security personnel working in airports participated in the study. 274 (99.3%) of the participants were male and 2 (0.7) were female. The age distribution of security personnel working at airports is shown in Table 1. Two (0.7%) of the survey participants were 51 years and over, 124 (44.9%) were in the 41-50 age range, 150 (54.3%) were in the 25-40 age range.

Table 1: Age Distribution Table of Airport Security Personnel

	Frequency	Percentile	Current Percentile	Total Percentile
51 years and older	2	,7	,7	,7
41-50 years old	124	44,9	44,9	45,7
25-40 years old	150	54,3	54,3	100,0
Total	276	100,0	100,0	

The education levels of the security personnel working at the airports are as follows 1 (%0,4) primary school, 36 (%13) high school, 80 (%29) associate degree, 150 (%54.3) master's degree, 9 (%3.3) master's degree (Table 1).

The seniority periods of the security personnel working at the airport are as shown in Table 5. 4 (1.4%) of the survey participants were between 1-5 years, 13 (4.7%) were between 6-10 years, 46 (16.7%) were between 11-15 years, 213 (77.2%) were more than 16 years has seniority periods.

Table 2: Table of Distribution of Seniority Periods of Airport Security Personnel in the Profession

	Frequency	Percentile	Current Percentile	Total Percentile
1-5 years	4	1,4	1,4	1,4
6-10 years	13	4,7	4,7	6,2
11-15 years	46	16,7	16,7	22,8
16 years and above	213	77,2	77,2	100,0
Total	276	100,0	100,0	

Table 2 shows the security personnel working at airports that are open to business innovations. The responses of the respondents are as follows 185 (%67) were totally agree, 81 (%29,3) were agree, 5 (%1,8) were undecided, 2 (%0,7) were disagree, 3 (%1,1) were disagree at all.

4.2. Technological predisposition

The distribution of the meaning of technology for security personnel working in airports is shown in Table 3. "What comes to your mind first when you hear about the concept of technology?" The responses of the respondents for the question are as follows 101 (%36,6) were innovation, 102 (%37) were convenience and comfort, 42 (%15,2) were efficiency, 10 (%3,6) were problem, 18 (%6,5) were labor and saving, 3 (%1,1) were other (Table 3).

Table 3: Airport Security Personnel's Perspective on the Work Related Innovations Distribution Table

	Frequency	Percentile	Current Percentile	Total Percentile
Innovation	101	36,6	36,6	36,6
Convenience and comfort	102	37,0	37,0	73,6
Efficiency	42	15,2	15,2	88,8
Problem	10	3,6	3,6	92,4
Labor and Saving	18	6,5	6,5	98,9
Other	3	1,1	1,1	100,0
Total	276	100,0	100,0	

4.3. Analysis of the Relationship between Technological Changes and Age

4.3.1. Investigation of the Relationship between the Type of Psychological Impact Caused by Technological Change and Age

Hypothesis 1: There is no relationship between the monotony and boredom caused by technological change and the age of security personnel (**H0**). There is a relationship between the monotony and boredom caused by technological change and the age of the security personnel (**H1**). To test this hypothesis, Chi-Square independence test of the questionnaire was applied.

104 airport security personnel between the ages of 25-40 according to the cross table according to age variable due to the monotony and boredom caused by technological change; 96 security personnel aged 41-50; 98 security personnel over 40 years of age disagreed that the technological change applied caused monotony and annoyance.

Table 4: The chi-square table according to the age variable with the effect of technological change creating monotony and boredom

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7,944(a)	3	,047
Likelihood Ratio	9,088	3	,028
Linear-by-Linear Association	,668	1	,414
N of Valid Cases	276		

a 0 cells (,0%) have expected count less than 5. The minimum expected count is 5,02.

As a result of the Chi-Square test in the table data were calculated as: $\chi^2 = 7,944$, $sd = 4$, $p = 0,047$. Since $\chi^2(2) = 7,944$, $p = 0,047 < 0,05$, H_0 hypothesis is not accepted and it is stated that there is relationship. Monotony and boredom caused by technological change and the age of security personnel.

4.3.2. Investigation of the Relationship between the Form of Social Impact of Technological Change and Age

Hypothesis 2: There is no relationship between job dissatisfaction and age of security personnel due to the monotony created by technological change in airport security (**H0**). There is a relationship between job dissatisfaction and age of security personnel due to the monotony created by technological change in airport security (**H1**).

100 airport security personnel between 25-40 years old according to the cross-table of age variables and job dissatisfaction due to the monotony created by technological change in airport security; 88 airport security personnel over 40 years of age stated that they do not participate in the job dissatisfaction due to the monotony created by technological change in airport security.

Table 5: Job Dissatisfaction and Age Variables due to the Monotony Created by Technological Change in Airport Security Chi-Square Table

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3,967(a)	4	,411
Likelihood Ratio	4,086	4	,395
Linear-by-Linear Association	,038	1	,846
N of Valid Cases	276		

a 2 cells (20,0%) have expected count less than 5. The minimum expected count is 2,74.

As a result of the Chi-Square test in the table data were calculated as: $\chi^2 = 3,967$, $sd = 4$, $p = 0,411$. Since $\chi^2(2) = 3,967$, $p = 0,411 > 0,05$, H_0 hypothesis is accepted and it is stated that there is no relationship between job dissatisfaction due to monotony created by technological change in airport security and the ages of security personnel.

4.3.3. Examination of the Relationship between the Physical Impact of Technological Change and Age

Hypothesis 2: There is no relationship between health problems experienced as a result of technological change in airport security and the age of security personnel (**H0**). There is a relationship between the health problems experienced as a result of technological change in airport security and the ages of security personnel (**H1**).

With the increase in health problems as a result of technological change in airport security, 62 airport security personnel between 25-40 years of age and 36 airport security personnel over 40 years of age did not agree with the increase in health problems following the technological change in airport security. 26 airport security personnel over the age of 40 agreed that health problems increased after technological change in airport security (Table 6).

Table 6: Increase in Health Problems as a Result of Technological Change in Airport Security and Age Variants Chi-Square Table

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5,705(a)	4	,222
Likelihood Ratio	5,744	4	,219
Linear-by-Linear Association	1,161	1	,281
N of Valid Cases	276		

a 0 cells (,0%) have expected count less than 5. The minimum expected count is 6,85.

As a result of the Chi-Square test in the table was calculated as $\chi^2 = 5,705$, $sd = 4$, $p = 0.222$. Since $\chi^2 (2) = 5.705$ $p = 0.222 > 0.05$, H0 hypothesis is accepted and there is no correlation between the increase in health problems as a result of technological change in airport security and the age of security personnel.

4.3.4. Investigation of the relationship between the economic impact of technological change and ages

Hypothesis 3: There is no relationship between the concern of dismissal after technological change at the airport and the age of security personnel (**H0**). There is no relationship between the age of security personnel and the concern of dismissal after technological change at the airport (**H1**).

96 airport security personnel between the ages of 25-40 according to the cross table according to age variable due to concern about dismissal caused by technological change; 76 airport security personnel over the age of 40 disagreed that the technological change made worries about dismissal.

Table 7: Chi-Square Table according to the Age Variable and the Worry of Dismissal caused by Technological Change

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3,187(a)	4	,527
Likelihood Ratio	3,198	4	,525
Linear-by-Linear Association	,116	1	,733
N of Valid Cases	276		

a 2 cells (20,0%) have expected count less than 5. The minimum expected count is 3,65.

As a result of the Chi-Square test in Table 27 was calculated as $\chi^2 = 3,187$, $sd = 40$, $p = 0.527$. Since $\chi^2 (2) = 4.574$ $p = 0.527 > 0.05$, H0 hypothesis is accepted and there is no relationship between the concerns of dismissal caused by technological change and the age of security personnel.

5. CONCLUSION

As in many other sectors, the civil aviation sector is one of the sectors where technology is used extensively in its fields of activity. The safe and secure conduct of aviation activities and the minimization of security gaps in airports necessitate the use of technology in airport security. It is important to identify the technology used in airports, developments and changes in this area, the perspectives of airport security personnel who are users of technology, and to what extent and how they are affected by the change. Because the security of airports, taking necessary measures for this depends on the decisions of airport security personnel who are users of technology.

Technological changes can have effects on people such as monotony and boredom, fatigue, dismissal and stress. Technological change management should be performed according to these criteria as these effects vary according to the age, seniority in the profession and educational level. As a matter of fact, monotony and boredom; There is a correlation between the stressful environment effect resulting from technological change and the age of airport security personnel. Monotonous and boredom as a result of technological change in the business environment, stress effect management should be made taking into consideration the age criteria.

As a result of analysis of hypothesis monotony and boredom caused by technological change and the age of security personnel. Moreover there is no relationship between job dissatisfaction due to monotony created by technological change in airport security and the ages of security personnel. And also, there is no correlation between the increase in health problems as a result of technological change in airport security and the age of security personnel. Another result of correlation analysis is that, there is no correlation between the increase in health problems as a result of technological change in airport security and the age of security personnel. And finally there is no relationship between the concerns of dismissal caused by technological change and the age of security personnel.

As a result of all this information, it can be said that the management of technological change is important for organizations. Ensuring security at airports is important in terms of minimizing the psychological, social, economic and physical impacts of technology on security personnel due to the key human factor.

Training of security personnel before the technological change to be applied increases the interaction between technology and individual and contributes to the personnel to make appropriate decisions because it recognizes the technology.

In addition, the adaptation of the person to the technology should be ensured by keeping the inadequacy arising from the lack of information in the face of technology resulting from technological changes in airport security to a minimum.

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REFERENCES

- Adibifar, K. (2016). Technology and Alienation in Modern-Day Societies. *International Journal of Social Science*, 61-68. doi:https://doi.org/10.11114/ijsss.v4i9.1797
- Alards-Tomalin, D., L.Ansons, T., C.Reich, T., Sakamoto, Y., Davie, R., e-McGowan, J. P., & C.Leboe-McGowana, L. (2014). Airport security measures and their influence on enplanement intentions: Responses from leisure travelers attending a Canadian University. *Journal of Air Transport Management*, 37, 60-68. doi:https://doi.org/10.1016/j.jairtraman.2014.02.004
- Ashford, N., Stanton, M. H., & Moore, C. A. (1996). *Airport Operations*. Newyork: Airlife Publishing LTD.
- Aydın, E. (2013). *Teknolojik Değişikliklerin Çalışma Hayatına Etkileri ve Hastane Çalışanları Üzerinde Bir Araştırma*. İstanbul: İstanbul Üniversitesi Yüksek Lisans Tezi.
- Can, İ. (2008). *Havacılık Güvenliği Açısından İnsan Kaynakları Yönetimi ve THY Teknik A.Ş.'nde Bir Araştırma*. İstanbul: İstanbul Üniversitesi (Yüksek Lisans).
- Cascio, W. F., & Montealegre, R. (2016). How Technology Is Changing Work and Organizations. *Annual Review of Organizational Psychology and Organizational Behavior*, 3, 349-375. doi:https://doi.org/10.1146/annurev-orgpsych-041015-062352
- Çakır, Ö. (. (2007). İşini Kaybetme Kaygısı: İş Güvencesizliği. *Çalışma ve Toplum*, 1, 117-140.
- Dertli, D. (2008). *Örgütsel Bir Değişim Olarak Teknolojik Değişime İşgörenlerin Yaklaşımı ve İşgörenlerde Etkisi: Öztay Tekstil (Abbate) Örneği*. Kütahya: Dumlupınar Üniversitesi Yayınlanmamış Yüksek Lisans Tezi.
- Elias, B. (2009). *Airport and Aviation Security, U.S Policy and Strategy in Age of Global Terrorism*. NewYork: Auerbachs Publications.
- Erdoğan, T., Ünsar, A. S., & Süt, N. (2009). Stresin Çalışanlar Üzerine Etkileri : Bir Araştırma. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 14(2), 447-461.

Gökgöz, H. (2013). *Stresin Çalışanların Performansı Üzerine Etkisi: Öğretim Elemanları Üzerine Bir Araştırma*. Edirne: Trakya Üniversitesi Sosyal Bilimler Enstitüsü Yüksek Lisans Tezi.

Gürsoy, F. (2014). *Sağlık İşletmeleri Personelinin İşe Yabancılaşma Düzeyi: Van İli Örneği*. Ankara: Ankara: Atılım Üniversitesi (Yüksek Lisans Tezi).

Hofer, F., & Wetter, O. E. (2012). Operational and Human Factors Issues of New Airport security Technology Two Case studies, 5, . *Journal of Transportation Security*, 277-291.

Jain, A. K., & Kumar, A. M. (2011). *Biometric Recognition: An Overview*. New York: Springer. doi:10.1007/978-94-007-3892-8_3

Kardeş, Y., Yılmaz, H., Ateş, S. S., Sayın, A. K., & Gemici, E. (2014). Türkiye'de Havalimanlarında Görev Yapan Güvenlik Personelleri Üzerinde "Mesleğe Bağlılık Araştırması". *INTAVIC*, (pp. 4-18). Ankara.

Okutan, M., & Tengilimoğlu, D. (2002). İş Ortamında Stres ve Stresle Başa Çıkma Yöntemleri: Bir Alan Uygulaması. *G.Ü.İ.İ.B.F Dergisi*, 3, 15-42.

Oregon State University. (2018, March 18). *Technology*. Retrieved March 18, 2018, from Definitions of Technology: <https://web.engr.oregonstate.edu/~funkk/Technology/technology.html>

Örücü, E., & Yumuşak, S. (2015). Örgütlerde İşgören Eğitimi Üzerine Bir Alan Araştırması. *İktisadi ve İdari Birimler Dergisi*, 19(2), 235-246.

Özkan, Y., & Purutçuoğlu, E. (2010). Yaşlılıkta Teknolojik Yeniliklerin Kabulünü Etkileyen Sosyalleşme Süreci. *Aile ve Toplum*, 6(23), 37-46.

Sheen, D. M., McMakin, D. L., & Hall, E. T. (2001). Three-Dimensional Millimeter- Wave Imaging for Concealed Weapon Detection. *IEEE Transactions on Microwave Theory and Techniques*, 9(49), 29-49.

Singh, S., & Singh, M. (2013). Explosives detections systems (EDS) for aviation security. *Signal Processing*, 31-55.

Sweet, M. K. (2009). *Aviation and Airport Security, Terrorism and Safety Concerns*. Washington: CRC Press.

Şahin, L., Aydın, E., & Güler, M. (2015). Teknolojik Gelişmelerin İşin Yapısı ve İşgücünün Nitelikleri Üzerine Etkileri: Hastane Çalışanlarının Algılarına Yönelik Bir Araştırma. *İş ve Hayat*, 1(1), 97-130.

INTERACTION EFFECT OF LEADER-MEMBER EXCHANGE AND STRESS MINDSET ON CHALLENGE STRESSOR AND JOB PERFORMANCE RELATIONSHIP

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ABSTRACT

Purpose - This study integrated job demands-resources model and concept of stress mindset to examine a three-way interaction model. Testing the effect of challenge stressor, leader-member exchange and positive stress mindset on job performance.

Methodology - Research data were collected from four hundred eighty-seven employees during different business in Taiwan. Hierarchical regression analysis was conducted, and results supported the three-way moderation effect.

Findings- The findings suggested that when supervisors' social support resources were strong, positive stress mindset can better improve employee's job performance.

Conclusion- There is a three-way interaction moderation effect of challenge stressors, leader-member exchange and positive stress mindset on job performance. A contribution of the present study to research is that we linked job demands-resources model and stress mindset theory to explain a boundary condition effect in stress issue.

Keywords: Leader-member exchange, stress mindset, three-way interaction

JEL Codes: D23

1. INTRODUCTION

Job stress has always been an important issue for academics and practitioners, because may affect employee attitudes and physical and mental health (Bliese, Edwards, & Sonnentag, 2017; Cooper, Dewe, & O'Driscoll, 2001; Ganster & Rosen, 2013). Early studies have argued that stress is harmful and negatively affects organizations and individuals, thus people must adopt effective strategies to prevent or reduce stress incidence (Atkinson, 2004; Bodenmann, Meuwly, Bradbury, Gmelch, & Ledermann, 2010; McEwen & Seeman, 1999; Schwabe & Wolf, 2010). In fact, there are two types of stressors (Cavanaugh, Boswell, Roehling, & Boudreau, 2000), which most scholars agreed that hindrance stressors will lead to negative outcomes, and challenge stressors lead to positive outcomes (Abbas & Raja, 2019; Cavanaugh et al., 2000; LePine, Podsakoff, & LePine, 2005; Podsakoff, LePine, & LePine, 2007; Webster, Beehr, & Christiansen, 2010).

Based on job demands-resources (JDR) model, Bakker and Demerouti (2007) proposed that job stress exists in any occupation, and it can be broadly divided into job demands and job resources, and the interaction effect between job demands and job resources can reduce strain or enhance job motivation. Some prior studies on conservation of resources (COR) theory have identified the supplemental resources of supervisors to alleviate employee work stress and lessen negative consequences (Campbell, Perry, Maertz Jr, Allen, & Griffeth, 2013; Thomas & Lankau, 2009). Theoretically, based on JDR model and COR theory, job resources should reduce negative outcomes, but this study suggest that individual's perception of stressors have an additional

effect beside job resources. In fact, the nature of work stress might different, and perception of experienced stress during the process of pursuit working goals may differ among people(González-Morales & Neves, 2015).

Overall, we propose that the nature of the stressors and the perceptions of stressors will affect employee subsequent behaviors. We introduce the concept of stress mindset, which refers to the extent to which one believes that stress enhances or debilitates (Crum, Salovey, & Achor, 2013). Specifically, our study focuses on challenge stressors (job demands), leader-member exchange (job resources), and positive stress mindset (perception) will have a three-way moderation effect on job performance. First, we expect this paper contribute to integrate the JDR model and leadership theory to explain the role of job resources and personal characteristic in the relationship between job demands and job performance. Second, we extend the Crum et al. (2013) stress mindset concept to examine its moderating role beyond leader-member exchange in work behaviors. Finally, we highlight the possible three-way moderating role of stress mindset in the job demands-resources model.

2. LITERATURE REVIEW

Cavanaugh et al. (2000) followed transactional theory of stress (Lazarus & Folkman, 1984), classified job stressors into challenge stressors and hindrance stressors. Hindrance stressors were defined as “work-related demands or circumstances that tend to constrain or interfere with an individual’s work achievement and that do not tend to be associated with potential gains for the individual,” for instance, role ambiguity, role conflict, hassle, red tape, organizational politics, and job insecurity (Cavanaugh et al., 2000, p. 68). On the other hand, challenge stressors were defined as “work-related demands or circumstances that, although potentially stressful, have associated potential gains for individuals”, such as workload, time pressure, job responsibility, and job complexity (Cavanaugh et al., 2000, p. 68).

2.1. Job Demands-Resources Model

The JDR model was proposed by Demerouti, Bakker, Nachreiner, and Schaufeli (2001), they divided the risk factors of job stress exists in any occupation into two categories: job demands and job resources. Both job demands and job resources involve the physical, psychological, social, and organizational aspects of the job. “Job demands” require that people continue to invest physical and psychological efforts or skills toward work and incur individual’s physical and mental depletion (Bakker & Demerouti, 2007), such as workload (Bakker, Demerouti, de Boer, & Schaufeli, 2003), customer aggression (Grandey, Dickter, & Sin, 2004) and organizational change (Rafferty & Griffin, 2006). “Job resources” not only help to achieve goals and reduce the work requirements and physical and mental consumption related to work but also stimulate individual growth and development (Bakker & Demerouti, 2007), such as higher salaries, supervisor or colleague support (Karatepe, Yavas, & Babakus, 2007) and high performance work system (Fu, 2013). The JDR model (Bakker & Demerouti, 2007, 2017) contains two mechanisms, one is job demands deplete an employee’s physical and psychological resources, bring strain, jeopardize the employee’s health, and result in poor job performance; the other is job resources help in achieving work goals; therefore, the employee’s internal motivation is activated, resulting in a good job performance. Besides, job demands and job resources exist interaction effect, such job resources can alleviate the relationship between job demands and strain, whereas job demands can strengthen the relationship between job resources and motivation.

Based on JDR model (Bakker & Demerouti, 2007, 2017; Demerouti et al., 2001) and dyadic viewpoint of stressor (Cavanaugh et al., 2000), hindrance stressor belongs to “bad” job demands and it will obstruct job performance, but challenge stressor belongs to “good” job demand, should be more able to activate job resources and promote job performance and the relationship between job resources and work motivation more relevant (Bakker & Demerouti, 2017; Bakker, Demerouti, & Sanz-Vergel, 2014). Based on our knowledge, challenge stressors are positively related to job satisfaction, motivation, work engagement, loyalty and performance (Abbas & Raja, 2019; LePine et al., 2005; Lin, Ma, Wang, & Wang, 2015; Podsakoff et al., 2007; Wallace, Edwards, Arnold, Frazier, & Finch, 2009; Webster et al., 2010).Therefore, we propose hypothesis 1 as follow:

Hypothesis 1: Challenge stressors have positive effect on job performance.

2.2. Leader-Member Exchange

Leader-member exchange (LMX) theory focuses on the dyadic relationship between leaders and followers, it is the employees’ perceptions of the quality of the interpersonal social exchange between them and their immediate supervisor (Graen, 1976; Liden & Maslyn, 1998). The core notion of LMX is that leaders treat their subordinates differently depending on the quality of the social exchange between them (Graen & Uhl-Bien, 1995; Liden, Sparrowe, & Wayne, 1997). Due to limited resources of the organization and the limited time and ability of supervisors, leaders were unlikely to form a close relationship with all subordinates (Graen & Scandura, 1987), leaders will selectively allocate these resources and form the quality of exchange relations between leaders and

subordinates, thus developed close relations (in-group) and weak relationships (out-group). Low-quality of LMX relationships are regarded as those that entail a unidirectional top-down influence, economic exchange behaviors, and formal role-defined associations. The characteristics of high-quality LMX relationships are the obligation to trust and respect each other (Graen & Uhl-Bien, 1995). Leaders rely more heavily on followers, interact with employees more frequently, and encourage them to undertake more responsibilities in such relationships. Followers assume additional duties and perform beyond their contractual expectations (Dunegan, Duchon, & Uhl-Bien, 1992), and leaders provide subordinates with social support, which is characterized as being empathetic and supportive of subordinates' needs (Kurtessis et al., 2017; Medler-Liraz, 2014).

2.3. Three-Way Interaction Hypothesis Development

Dweck (2008) defined mindset as a mental frame or lens through which we selectively organize and encode information and guide an individual's corresponding actions and responses through a unique method of understanding. Crum et al. (2013) proposed that stress mindset is the extent to which an individual believes that stress enhances or debilitates, suggested that changing one's stress mindset improves a person's response to stress. Specifically, if an individual's mindset is stress-is-enhancing (positive stress mindset), they will utilize stress to achieve their goals, which engenders positive consequences. By contrast, if an individual's mindset is stress-is-debilitating (negative stress mindset), that they will avoid or manage the stress to prevent negative or debilitating outcomes.

When employees encounter challenge stressors, employees are convinced that the job demands provide opportunities for growth and learning. At this time, we proposed that leaders will respect and trust their subordinate can overcome the problem in high-quality LMX situation, and also provide some advice and social support for subordinate (Kurtessis et al., 2017; Medler-Liraz, 2014; Wayne, Shore, & Liden, 1997). In addition to leader may plays supportive role, subordinates will assume additional duties and perform beyond their contractual expectations by invest more effort to complete the challenging task (Dunegan et al., 1992), it will trigger employees to hold a positive stress mindset (Crum et al., 2013), keep positive confident and utilizing their capacity and professional knowledge to help leaders achieve organizational goal and enhance their job performance. Therefore, we propose hypothesis 2 as follow:

Hypothesis 2: There is a three-way interaction of challenge stressors, leader-member exchange (LMX), and positive stress mindset (PSM) in predicting job performance. For employees with high LMX, the relationship between challenge stressors and job performance will be weaker under low PSM situation than under high PSM situation. For employees with low LMX, the relationship between challenge stressors and job performance will be weaker under low PSM situation than under high PSM situation.

3. DATA AND METHODOLOGY

3.1. Sample and Procedure

We designed a questionnaire to test the hypothetical model. In order to measure the individual's work stressors, leader-member exchange, stress mindset, and their job performance, we have targeted the employees of Taiwan's general organizations as research participants. The employees must belong to a work team with direct supervisors. Random sampling was conducted to organizations for different occupations, including trading company, restaurants, travel agency, bank, salesperson and staff of gas station and train station. We went to organization to conduct the measurement at the appointed time. Each participant received a letter of ethical information, a questionnaire and an anonymous return envelope.

Eventually, we got 530 employees from different occupations in Taiwan as our research sample. After uncompleted questionnaires were excluded, a final sample of 487 cases were used for data analyses, with 91.89% response rate. Demographics showed that 57.6% of participants were females, with an average age of 26.10 years and average work tenure of 4.94 years. Most were single (85.2%) and educated to college level (76.3%).

3.2. Measure

Challenge stressors. We measured challenge stressors using the 6-item scale of Cavanaugh et al. (2000). A sample item was "The amount of time I spend at work." The Cronbach's alpha coefficient was 0.81.

Leader-member exchange. We assessed leader-member exchange using the 7-item scale of Graen and Uhl-Bien (1995). A sample item was "I understand that my supervisor is satisfied with my performance." The Cronbach's alpha coefficient was 0.89.

Positive stress mindset. We measured stress mindset using the stress mindset measure-general (SMM-G) 8-item scale of Crum et al. (2013), but we treated the original four of eight positive items as a positive stress mindset and the other four inverted items

as a negative stress mindset. A sample item was "Experiencing stress facilitates my learning and growth." The Cronbach's alpha coefficient was 0.69.

Job performance. The 5-item job performance scale developed by Viswesvaran, Ones, and Schmidt (1996) was used. A sample item was "My working quality is high." The Cronbach's alpha coefficient was 0.70. All variables in this study followed responses ranging from 1 (strongly disagree) to 5 (strongly agree).

Control variable. We included the demography for gender, age, tenure, marriage and education as control variables. Additionally, challenge stressors and hindrance stressors are two relevant variables; thus, we included hindrance stressors as control variables to exclude its effect. We measured hindrance stressors using the 6-item scale of Cavanaugh et al. (2000). A sample item was "The lack of job security I have." The Cronbach's alpha coefficient was 0.73.

3.3. Common Method Bias Check

Since the collection of research data is came from the same source, which has doubts about the common method bias in research design, we use the Harman's one-factor test to perform a post hoc remedy of common method bias. According to Podsakoff and Organ (1986) suggestion, we need to consider all variable's items (including challenge stressors, leader-member exchange, positive stress mindset and job performance) as one-factor, and to judge the variation of the first principle component in the case of unrotated. If the total variance explained by a single factor is greater than 50%, and there is a problem with common method bias. After conducting Harman's one-factor test, the total variation explained by the first principle component in this study is 29%. Besides, we further include the control variable (i.e. hindrance stressors) in Harman's one-factor test, the value is reduced to 24%, which means that the problem of common method bias is not serious.

3.4. Discriminant Validity

We examined the discriminant validity of variable measures by performing confirmatory factor analysis. Since a limited sample size relative to many parameters estimated in the model is difficult to confirm (Floyd & Widaman, 1995), we created parcels of items for the analysis (including two or three items for each variable except stress mindset). Each parcel was constrained to load onto the latent construct without any error covariance. First, we treated all variables as one-factor model (chi-square = 905.614, $df = 90$; CFI = 0.551; NNFI = 0.477; RMSEA = 0.136; SRMR = 0.117). Second, we treated challenge and hindrance stressors as one factor, and the other three variables as another factor, built two-factor model (chi-square = 708.164, $df = 89$; CFI = 0.660; NNFI = 0.598; RMSEA = 0.120; SRMR = 0.117). Third, we drew out dependent variable (job performance) as a single factor, which formed three-factor model (chi-square = 513.023, $df = 87$; CFI = 0.766; NNFI = 0.717; RMSEA = 0.100; SRMR = 0.097). Then, we separated two moderators as different factors, resulted in four-factor model (chi-square = 382.515, $df = 84$; CFI = 0.836; NNFI = 0.795; RMSEA = 0.085; SRMR = 0.084). Finally, we divided all variables and built five-factor model, the result indicated that the five-factor model (chi-square = 217.232, $df = 80$; CFI = 0.925; NNFI = 0.901; RMSEA = 0.059; SRMR = 0.057) fits the data better than the other four models. These results illustrate that the discriminant validity of each variable was existence.

4. FINDINGS

The research framework is a three-way interaction model, we expected that positive stress mindset would have an additional moderating effect beyond the interaction effect of challenge stressor and LMX on job performance. We conducted a hierarchical regression analysis by using SPSS Statistics 22 to test whether the three-way interaction effect exists.

Table 1 showed all variables' mean, standard deviation, correlation coefficient, and reliability. As you can see, challenge stressor was positively correlated with LMX ($r = 0.29, p < 0.001$), PSM ($r = 0.026, p < 0.001$) and job performance ($r = 0.56, p < 0.001$). These results show initial support for our research hypotheses. The hierarchical regression results were showed in table 2. In model 1, we put in control variables to exclude their effects. Then, we put challenge stressors in model 2, challenge stressors were positive and significantly predicted job performance ($\beta = 0.550, p < 0.001$), so our hypothesis 1 was supported. Besides, model 3 also showed that challenge stressors were positively predicted LMX ($\beta = 0.209, p < 0.001$) and PSM ($\beta = 0.183, p < 0.001$). We further consider three two-way interaction terms to predict job performance in model 4, and there is only the interaction term of challenge stressors and LMX has a significant negative moderated effect on job performance ($\beta = -0.122, p < 0.01$). Finally, we put the three-way interaction term to predict job performance in model 5, the results revealed that there is a positive effect ($\beta = 0.159, p < 0.01$) on job performance, these findings primary support our hypothesis 2.

Table 1: Correlation Table

Variables	Means	SD	1	2	3	4	5	6	7	8	9	10
1.Gender	1.57	.50	-									
2.Age	26.10	10.71	.04	-								
3.Tenure	4.94	7.92	.06	.88***	-							
4.Marriage	1.14	.35	.06	.81***	.75***	-						
5.Education	2.84	.53	.09	.01	-.09*	-.09	-					
6.HS	2.72	.69	.00	.05	.03	.06	.02	(.81)				
7.CS	3.60	.63	.02	.21***	.16***	.16***	.14**	.22***	(.73)			
8.LMX	3.36	.63	-.13**	-.00	-.04	-.02	.04	-.07	.29***	(.89)		
9.PSM	3.62	.56	-.04	-.09	-.09*	-.11*	.05	.01	.26***	.39***	(.69)	
10.JP	3.57	.54	-.01	.15**	.13**	.09*	.11*	.11*	.56***	.38***	.39***	(.70)

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

Note: N = 487. Reliabilities are reported in parentheses. HS = hindrance stressor; CS = challenge stressor; LMX = leader-member exchange; PSM = positive stress mindset; JP = job performance.

Table 2: Three-way Moderation Regression Analyses on Job Performance

	Job Performance				
	Model 1	Model 2	Model 3	Model 4	Model 5
Control Variable					
Gender	-.026	-.029	.002	-.001	-.004
Age	.146	.009	.008	.007	.023
Tenure	.068	.092	.118	.133	.125
Marriage	-.074	-.067	-.044	-.061	-.069
Education	.111*	.043	.042	.042	.037
Hindrance Stressor	.103*	-.012	.024	.011	-.004
Independent Variable					
Challenge Stressors (CS)		.550***	.427***	.417***	.399***
Moderator					
Leader-Member Exchange (LMX)			.209***	.184***	.147***
Positive Stress Mindset (PSM)			.183***	.204***	.179***
Two-Way Interaction					
CS × LMX				-.122**	-.095*
CS × PSM				.051	.116*
LMX × PSM				-.061	-.051
Three-Way Interaction					
CS × LMX × PSM					.159**
R ²		.049	.318	.409	.426
F		4.087**	31.968***	36.750***	29.290***
ΔR ²			.270	.091	.016
ΔF			189.620***	36.774***	4.489**

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

To determine the form of the interaction, we following the approach recommended by Aiken and West (1991), the pattern of the three-way interaction between challenge stressors, LMX and PSM on job performance is illustrated in figure 1. Also, we further examined whether pairs of slopes differed significantly at high and low levels (above and below 1 SD) of LMX and PSM by using the slope difference test, and the results are shown in table 3. The results of simple slopes analysis indicate that, for employees

with high LMX, the relationship between challenge stressors and job performance was weaker when PSM is low ($\beta = 0.175, p < 0.01$) than PSM is high ($\beta = 0.388, p < 0.001$), and the slope difference test shows there is a significant difference between high LMX with high PSM situation and high LMX with low PSM situation (table 3; $t = 2.782, p < 0.01$). On the other hand, for employees with low LMX, the relationship between challenge stressors and job performance was weaker under low PSM situation ($\beta = 0.379, p < 0.001$) than high PSM situation ($\beta = 0.431, p < 0.001$), although there is no significant difference between low LMX with high PSM situation and low LMX with low PSM situation (table 3; $t = 0.998, ns$). These findings support our hypothesis 2.

Figure 1: Three-way Interaction Effects of Challenge Stressors (CS), Leader-Member Exchange (LMX), and Positive Stress Mindset (PSM) on Job Performance

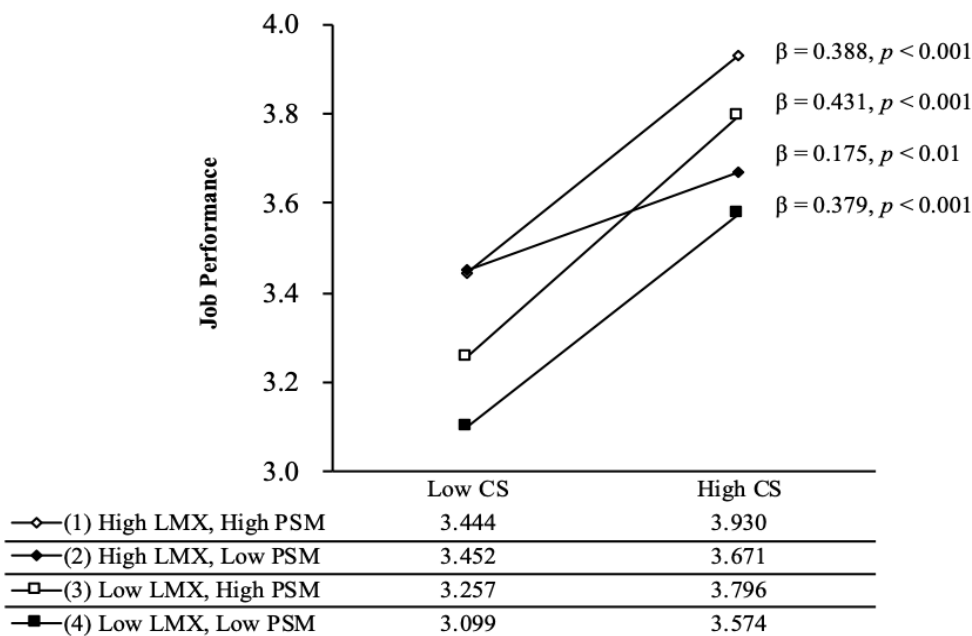


Table 3: Results of Slope Difference Tests

Pair of Slopes	t-value	p-value
(1) High LMX high PSM and (2) High LMX low PSM	2.782	0.006
(1) High LMX high PSM and (3) Low LMX high PSM	-0.710	0.478
(1) High LMX high PSM and (4) Low LMX low PSM	0.134	0.893
(2) High LMX low PSM and (3) Low LMX high PSM	-2.588	0.010
(2) High LMX low PSM and (4) Low LMX low PSM	-3.365	0.001
(3) Low LMX high PSM and (4) Low LMX low PSM	0.998	0.319

Note. LMX = leader-member exchange; PSM = positive stress mindset

Note: LMX = leader-member exchange; PSM = positive stress mindset.

5. DISCUSSIONS

First, our statistical results supported our hypotheses that challenge stressors were positively predicted job performance, and there was a three-way interaction moderation effect of challenge stressors, LMX and PSM on job performance. A contribution of the present study to research is that we linked job demands-resources model and stress mindset theory to explain a boundary condition effect in stress issue. Second, the interaction of high-quality of LMX and person characteristic of positive thinking of stressor play an incremental effect. However, it is worthy to mention, based on slope difference test shows in table 3, for high LMX with low PSM situation, the simple slope is significantly lower than the other three situations ($t = 2.782, p < 0.01$; $t = -2.588,$

$p < 0.05$; $t = -3.365$, $p < 0.01$). These results may imply two things: one is that employees have good relationship with their leader but without positive stress mindset in mind, could not promote the relationship between challenge stressor and job performance. The other one is that the effect of PSM may better and larger than the effect of LMX on the relationship between challenge stressor and job performance. Specifically, for employees with high PSM, the relationship between challenge stressors and job performance was stronger when LMX is low ($\beta = 0.431$, $p < 0.001$) than LMX is high ($\beta = 0.388$, $p < 0.001$); and for employees with low PSM, the relationship between challenge stressors and job performance was stronger under low LMX situation ($\beta = 0.379$, $p < 0.001$) than high LMX situation ($\beta = 0.175$, $p < 0.01$). We propose that these might have a substitutes effect of leadership (Kerr & Jermier, 1978), such that followers are aware that they possess enough skills and knowledge to successfully accomplish task and act as a substitute for a supervisor's leadership behavior.

5.1. Theoretical Implication

First, according to job demands-resources model (Bakker & Demerouti, 2017), job resources can refill employee energy which lost from job demands. Previous studies have emphasized that LMX has a social support role affecting the relationship between job demands and job performance (Loi, Ngo, Zhang, & Lau, 2011). Although, our study has further considered boundary condition of LMX, and found that larger supplemental effect of LMX occur when employee has PSM toward job demands. Second, we agree with Crum et al. (2013) and argue that different stress mindsets can result in different behaviors. However, we improve the methodological way they employed that treated stress mindset as a spectrum based on the degree of stress-is-enhancing or stress-is-debilitating. We divided stress mindset scale into positive and negative factors which provide future researchers with an alternative research option.

5.2. Empirical Implication

We propose practical implications for organizations and managers based on results showed that the interaction of challenge stressor, leader-member exchange and positive stress mindset can enhance job performance. For organization, work tasks can be designed to be more challenging and creating a work atmosphere that overcomes challenges, provide employees with a challenge stressor for growth opportunities, such as setting deadlines for task completion and increasing job responsibilities and task complexity. At the same time, cultivating employees' positive thinking skills through education and training will help improve work performance. For managers, leaders should conduct suitable relationships with employees, sometimes too much helping social support may have potentially harmful effects (Beehr, Bowling, & Bennett, 2010). We suggest that leaders should keep a favorable relationship quality with employee and assist employees to establish positive mindsets or develop their positive thinking by organizing learning activities or establishing psychological counseling units to help employees rethink the stressors they encountered. In addition, leaders can use LMX to play the role of social support, which will help employees connect their positive mindset to better adapt to the challenge stressors, and thus improve job performance.

5.3. Limitations and Suggestion for Future Research

Our study still has some limitations, and we also provide some suggestions for future research based on limitations. First limitation, we collected data from employee self-reporting source, it leads to common method variance concerns, data may have an inflation effect especially for job performance. Although we conducted Harman's one-factor test, and result shows that the variation of first principle component is lower than 0.5, means there is no common method variance concerns. However, we still suggest future researchers should use supervisor-employee dyadic questionnaires to avoid common source's concerns. And our data only be collected once, there is no data at two different time points for non-response bias test. Future researchers should collect data in different time periods to avoid the problem of common methods bias. Second, we divided stress mindset scale into two factors without a pilot study to ensure the reliability, we recommend that follow-up studies should categorize more rigorously. Stress mindset is an individual psychological state after evaluating stressor, some studies have argued that the classification of stressors should vary from different individuals (González-Morales & Neves, 2015). We suggest that future researchers can start with an appraisal perspective and consider more contextual factors. Third, this study only investigated challenge stressors and included hindrance stressors as the control variable, future research could treat hindrance stressors as the research variable to complete the framework. Besides, the future researcher may think about a different source of stress not only in the work task itself, but the stressor comes from organization, leaders, colleges, customers or family, and examine whether the stress mindset play moderating effect. Finally, our sample included only Taiwanese employees, so the results may be insufficient to generalize to other situations. We suggest that future research should increase sample size and use different scales and different occupational samples (such as public sector employees) to validate the results of this study.

6. CONCLUSION

This study presented a three-way interaction framework based on the job demands-resources model, which is the additional moderated effect of positive stress mindset behind the interaction effect of challenge stressors and leader-member exchange and on job performance. This give advises for practitioner and managers, not only design challenging work task and encouraging the employee to keep positive thinking mindset, but also maintain a favorable relationship quality for leader and subordinates, these can improve job performance for organizations.

REFERENCES

- Abbas, M., & Raja, U. (2019). Challenge-hindrances stressors and job outcomes: The moderating role of conscientiousness. *Journal of Business and Psychology, 34*(2), 189-201.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA, US: Sage Publications, Inc.
- Atkinson, W. (2004). Stress: Risk management's most serious challenge? *Risk Management, 51*(6), 20-26.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology, 22*(3), 309-328. doi:10.1108/02683940710733115
- Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273.
- Bakker, A. B., Demerouti, E., de Boer, E., & Schaufeli, W. B. (2003). Job demands and job resources as predictors of absence duration and frequency. *Journal of Vocational Behavior, 62*(2), 341-356. doi:[https://doi.org/10.1016/S0001-8791\(02\)00030-1](https://doi.org/10.1016/S0001-8791(02)00030-1)
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and Work Engagement: The JD-R Approach. *Annual Review of Organizational Psychology and Organizational Behavior, 1*(1), 389-411. doi:10.1146/annurev-orgpsych-031413-091235
- Beehr, T. A., Bowling, N. A., & Bennett, M. M. (2010). Occupational stress and failures of social support: When helping hurts. *Journal of Occupational Health Psychology, 15*(1), 45-59.
- Bliese, P. D., Edwards, J. R., & Sonnentag, S. (2017). Stress and well-being at work: A century of empirical trends reflecting theoretical and societal influences. *Journal of Applied Psychology, 102*(3), 389.
- Bodenmann, G., Meuwly, N., Bradbury, T. N., Gmelch, S., & Ledermann, T. (2010). Stress, anger, and verbal aggression in intimate relationships: Moderating effects of individual and dyadic coping. *Journal of Social and Personal Relationships, 27*(3), 408-424.
- Campbell, N. S., Perry, S. J., Maertz Jr, C. P., Allen, D. G., & Griffeth, R. W. (2013). All you need is... resources: The effects of justice and support on burnout and turnover. *Human Relations, 66*(6), 759-782.
- Cavanaugh, M. A., Boswell, W. R., Roehling, M. V., & Boudreau, J. W. (2000). An empirical examination of self-reported work stress among U.S. managers. *Journal of Applied Psychology, 85*(1), 65-74. doi:10.1037//0021-9010.85.1.65
- Cooper, C. L., Dewe, P., & O'Driscoll, M. P. (2001). *Organizational stress: A review and critique of theory, research and applications*: SAGE Publications, Inc.
- Crum, A. J., Salovey, P., & Achor, S. (2013). Rethinking stress: The role of mindsets in determining the stress response. *Journal of Personality and Social Psychology, 104*(4), 716-733. doi:10.1037/a0031201
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*(3), 499-512. doi:10.1037/0021-9010.86.3.499
- Dunegan, K. J., Duchon, D., & Uhl-Bien, M. (1992). Examining the Link Between Leader Member Exchange and Subordinate Performance: The Role of Task Analyzability and Variety as Moderators. *Journal of Management, 18*(1), 59-76. doi:10.1177/014920639201800105
- Dweck, C. S. (2008). Can personality be changed? The role of beliefs in personality and change. *Current Directions in Psychological Science, 17*(6), 391-394. doi:10.1111/j.1467-8721.2008.00612.x
- Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment, 7*(3), 286-299.
- Fu, N. (2013). Exploring the impact of high performance work systems in professional service firms: A practices-resources-uses-performance approach. *Consulting Psychology Journal: Practice and Research, 65*(3), 240-257. doi:10.1037/a0034502

- Ganster, D. C., & Rosen, C. C. (2013). Work stress and employee health: A multidisciplinary review. *Journal of Management*, 39(5), 1085-1122.
- González-Morales, M. G., & Neves, P. (2015). When stressors make you work: Mechanisms linking challenge stressors to performance. *Work & Stress*, 29(3), 213-229. doi:10.1080/02678373.2015.1074628
- Graen, G. B. (1976). Role making processes within complex organizations. In M. D. Dunnette (Ed.), *Handbook of Industrial and Organizational Psychology* (pp. 1201-1245). Chicago: Rand McNally.
- Graen, G. B., & Scandura, T. A. (1987). Toward a psychology of dyadic organizing. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior vol.9* (pp. 175-208). Greenwich, CT: JAI Press.
- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly*, 6(2), 219-247. doi:10.1016/1048-9843(95)90036-5
- Grandey, A. A., Dickter, D. N., & Sin, H.-P. (2004). The customer is not always right: customer aggression and emotion regulation of service employees. *Journal of Organizational Behavior*, 25(3), 397-418. doi:10.1002/job.252
- Karatepe, O. M., Yavas, U., & Babakus, E. (2007). The Effects of Customer Orientation and Job Resources on Frontline Employees' Job Outcomes. *Services Marketing Quarterly*, 29(1), 61-79. doi:10.1300/J396v29n01_04
- Kerr, S., & Jermier, J. M. (1978). Substitutes for leadership: Their meaning and measurement. *Organizational Behavior and Human Performance*, 22(3), 375-403.
- Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A., & Adis, C. S. (2017). Perceived organizational support: A meta-analytic evaluation of organizational support theory. *Journal of Management*, 43(6), 1854-1884.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing Company.
- LePine, J. A., Podsakoff, N. P., & LePine, M. A. (2005). A meta-analytic test of the challenge stressor-hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance. *Academy of Management Journal*, 48(5), 764-775. doi:10.5465/amj.2005.18803921
- Liden, R. C., & Maslyn, J. M. (1998). Multidimensionality of Leader-Member Exchange: An Empirical Assessment through Scale Development. *Journal of Management*, 24(1), 43-72. doi:10.1177/014920639802400105
- Liden, R. C., Sparrowe, R. T., & Wayne, S. J. (1997). Leader-member exchange theory: The past and potential for the future. In G. R. Ferris (Ed.), *Research in personnel and human resources management, Vol. 15*. (pp. 47-119). US: JAI Press.
- Lin, W., Ma, J., Wang, L., & Wang, M. (2015). A double-edged sword: The moderating role of conscientiousness in the relationships between work stressors, psychological strain, and job performance. *Journal of Organizational Behavior*, 36(1), 94-111.
- Loi, R., Ngo, H. Y., Zhang, L., & Lau, V. P. (2011). The interaction between leader-member exchange and perceived job security in predicting employee altruism and work performance. *Journal of Occupational and Organizational Psychology*, 84(4), 669-685.
- McEwen, B. S., & Seeman, T. (1999). Protective and damaging effects of mediators of stress: Elaborating and testing the concepts of allostasis and allostatic load. *Annals of the New York Academy of Sciences*, 896(1), 30-47. doi:10.1111/j.1749-6632.1999.tb08103.x
- Medler-Liraz, H. (2014). Negative affectivity and tipping: The moderating role of emotional labor strategies and leader-member exchange. *International Journal of Hospitality Management*, 36, 63-72. doi:10.1016/j.ijhm.2013.08.010
- Podsakoff, N. P., LePine, J. A., & LePine, M. A. (2007). Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover, and withdrawal behavior: A meta-analysis. *Journal of Applied Psychology*, 92(2), 438-454. doi:10.1037/0021-9010.92.2.438
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531-544.
- Rafferty, A. E., & Griffin, M. A. (2006). Perceptions of organizational change: A stress and coping perspective. *Journal of Applied Psychology*, 91(5), 1154-1162. doi:10.1037/0021-9010.91.5.1154
- Schwabe, L., & Wolf, O. T. (2010). Learning under stress impairs memory formation. *Neurobiol Learn Mem*, 93(2), 183-188. doi:10.1016/j.nlm.2009.09.009
- Thomas, C. H., & Lankau, M. J. (2009). Preventing burnout: The effects of LMX and mentoring on socialization, role stress, and burnout. *Human Resource Management*, 48(3), 417-432.
- Viswesvaran, C., Ones, D. S., & Schmidt, F. L. (1996). Comparative analysis of the reliability of job performance ratings. *Journal of Applied Psychology*, 81(5), 557-574.

Wallace, J. C., Edwards, B. D., Arnold, T., Frazier, M. L., & Finch, D. M. (2009). Work stressors, role-based performance, and the moderating influence of organizational support. *Journal of Applied Psychology, 94*(1), 254-262. doi:10.1037/a0013090

Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal, 40*(1), 82-111.

Webster, J. R., Beehr, T. A., & Christiansen, N. D. (2010). Toward a better understanding of the effects of hindrance and challenge stressors on work behavior. *Journal of Vocational Behavior, 76*(1), 68-77. doi:10.1016/j.jvb.2009.06.012



THE IMPACTS OF UNDEREMPLOYMENT AND CAREERISM ON ORGANIZATIONAL TRUST AND CREATIVITY: THE MODERATING ROLES OF PERSONALITY AND ORGANIZATIONAL COLLECTIVISM

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ABSTRACT

Purpose- The present study aimed to explore the contributions of underemployment and careerism to organizational trust and creativity; and to examine the moderating effects of agreeableness, openness to experience, and organizational collectivism on these relationships.

Methodology- The study was conducted in the province of Istanbul/Turkey, among a convenient sample of 156 participants from private organizations. For testing the hypotheses of the present study, simple regression and multiple regression analyses were utilized.

Findings- All underemployment and careerism dimensions were interrelated. Besides, the two dimensions of underemployment were found to be significantly related to the two dimensions of creativity. Also, underemployment and organizational trust, on the one hand, and careerism and creativity, on the other hand, displayed significant relationships. The moderating role was only found for agreeableness on the relationship between behavioral careerism and trust in supervisors.

Conclusion- The impacts of underemployment and careerism on creativity and organizational trust need to be explored further. In addition to that, the moderating roles of other personality traits on these relationships need to be looked at as well.

Keywords: Underemployment, careerism, organizational trust, creativity, moderators.

JEL Codes: B30, O31, M14

1. INTRODUCTION

It is believed that the traditional Weberian approach of a career which is about the involvement of an employee in a long-term relationship with an organization no longer fits the new epoch career system. The new era is pushing forward to transform the traditional employment relationship from a relational to a more transactional psychological contract, where guaranteed employment will be replaced by short-term arrangements and positions (Adams, Srivastava, Herriot, and Patterson, 2012; Sullivan and Baruch, 2009). All these changes are automatically confronted with new attitudes and behavioral coping strategies by employees; for instance, the perception of underemployment and careerism orientation (Adams, et al., 2012). Underemployment and careerism, which are to a large extent human-made psycho-social phenomena, are being considered as negative factors in the workplace. However, the fact that these phenomena are a natural reaction to the new situation imposed on the workforce in modern societies is ignored. As a result of this negative view, many researchers have conducted studies to explore the negative consequences of these two variables on employees and organizations (Feldman & Weitz, 1991; Rousseau, 1990).

Unlike previous studies, this research sought to uncover potential positive effects by looking into the positive side of underemployment and careerism. They may be related to positive consequences such as creativity. Based on Meyer, Allen, and Smith's (1993) Model of Organizational Commitment (MOC) and the work of Zhou and George (2001), this study argues that

underemployed employees could be beneficial for their organizations.¹ According to the MOC, dissatisfied employees may be creative in terms of finding new ways of solving problems in case they face any challenges because they are overqualified for the job that they are doing (Zhou and George, 2003). The same opinion may be asserted concerning careerism. Employees who are careerism-oriented may be very creative since they have different work experiences in different jobs and organizations. Besides, they are vivid, open to new experiences, and boundaryless in terms of their tasks and working scope (Amabile, 1983; MacKinnon, 1962). Additionally, the present study has put forward another claim based on Amabile's (1983) Componential Theory of Creativity. According to her, any creative process should be initiated through internal motives, and generally, the main sources of these inner motives are the environmental and personal variables which guide employees. Therefore, and by following Amabile's (1983) theory, it is suggested that collectivism as a contextual variable and openness to experience as a personal variable will be considered as moderators that would strengthen the positive effects of underemployment and careerism on creativity.

Careerism and underemployment are also expected to be related to the organizational trust. The relationship between these variables is another issue searched in this study. Very few studies have examined these relationships, and they have reported negative results in terms of the trust. For instance, Crawshaw and Brodbeck (2011) have found that employees' careerist orientations were negatively related to perceptions of trust in their supervisors. Also, Feldman, Leana, and Bolino (2002) have suggested that underemployment may lead to negative job attitudes and job behaviors. Very few researchers have tackled this topic up to now and this study aims to fill the gap in the literature. To examine if the suggested relationships will be affected by individual and contextual variables, firstly it is argued that the trust of an employee who is careerism-oriented might be affected less negatively if he/she has an agreeable type of personality. Since agreeable people are more likely to confide in others, it is assumed that agreeableness could be a moderator which might weaken the relationship between careerism and organizational trust. Secondly, it is assumed also and based on Beck's (1999) theory that, an organizational culture of the collectivist type could moderate the relationship between underemployment and organizational trust. It is expected that the solidarity between organizational members may decrease the negative effect of feeling underemployed over the trust in others.

In the following paragraphs, the literature review regarding the previous variables will be mentioned and discussed. In addition to that, the hypotheses of the study will be formulated upon that.

2. LITERATURE REVIEW

2.1. The Relationship between Underemployment and Careerism

According to Feldman et al. (2002) and Cockroft (2011), underemployment is an antecedent of careerism, and they have explained this phenomenon as a state of frustration. The employee feels that he/she is not able to fully use his/her skills, becomes pessimistic about his/her work conditions, and increasingly starts developing the belief that the success in work has nothing to do with the objective performance but it is all about nonperformance activities such as networking, self-presentation strategies, and so on. Building on Feldman et al's (2002) study, Cockroft (2011) conducted another study to explore the nature of the relationship

¹ Since the present article aims to study the effects of underemployment and careerism on creativity and organizational trust from one side, and the moderating role of openness to experience, agreeableness, and organizational collectivism on these relationships from the other side, several theories and models have been used to formulate the theoretical framework of the present study. Firstly, Beck's (1999) Risk Society Theory (RST) was used to explain how the present socio-economic developments created a new era that is pushing forward a more transactional psychological contract, where guaranteed employment will be replaced by short-term arrangements and positions. The conditions may result in more underemployed employees, which in turn lead to distrust between employees and employers, in a more individualistic environment. Therefore, Beck's (1999) theory was used to justify the impact of underemployment on organizational trust and the moderating role of organizational collectivism in this relationship. Secondly, Amabile's (1983) Componential Theory of Creativity (CTC) was utilized to give grounds for the moderating role of organizational collectivism as a contextual variable and openness to experience as a personal variable on the effects of underemployment and careerism on creativity. This is based on CTC's claims that any creative process should be initiated through internal motives, and generally, the main sources of these inner motives are the environmental and personal variables that guide employees. Lastly, Meyer, Allen, and Smith's (1993) Model of Organizational Commitment (MOC) is used. Based on the MOC, the dissatisfied employees -who are underemployed and careerism oriented- may be creative in terms of finding new ways of solving problems in case they face any challenges because they are overqualified for the job that they are doing. Thus, based on the previous theories and models, in addition to some other studies, the theoretical framework of the present study was formulated.

between underemployment and careerism. Cockroft (2011) found that skills, job mismatch, and pay dimensions of underemployment were significantly correlated with careerism; whereas he found other two dimensions of underemployment which are involuntary part-time work and involuntary temporary work not to be significantly correlated with the construct. The researcher explained the findings of his study as follows: employees who experienced lack of skill exploitation or who perceived inconsistency between their educational level and payment, or a mismatch between their educational level and the job which they are doing, generally displayed a strong careerism orientation. Besides, it may also be possible that employees who display careerist inclinations and believe that climbing the career ladder is not solely based on merit may be more likely to perceive their employment status as inadequate. Therefore, the following hypothesis is formulated:

H1: Underemployment will be positively related to careerism.

2.2. The Impacts of Underemployment on Creativity and Organizational Trust

Feldman et al. (2002) have suggested that underemployment may lead to negative job attitudes and job behaviors. According to them, laid-off and re-employed workers both desire and feel it is their right to have better jobs than those they occupy at this point in their careers. In turn, this desire for, and feeling of the prerogative to, better occupations and professions may straightforwardly lead to more negative work attitudes. As it can be noticed, Feldman (1996) has mentioned about job attitudes and job behaviors in general without specifying any. Some examples of important job attitudes and behaviors in the workplace are creativity and trust. In a study, Lin, Law, and Zhou (2017) attempted to explore the positive contributions of underemployment on creativity and organizational citizenship behavior. Lin et al. (2017) have found that underemployment could be a positive element in the workplace, and an underemployed employee could be a creative person if the organization fulfills some conditions.

The relationship between underemployment and organizational trust was a part of Beck's (1999) The Risk Society Theory. According to him, the socio-economic development of the world could be divided into three stages: the pre-modern societies, the early-simple modern societies, and the reflexive modernity. The last stage of these social developments started later in the 20th century. Beck (1999), asserts that, in this stage, individuals generally, consider themselves as the center of the eco-social activities. The author suggests that reflexive modernity expresses two important ideas: firstly, for the individuals, it is a stage that made them reconsider their relationship with and loyalty to the institutions which they are tied to; secondly, for the society, it is a period of the negative reflexivity of the modern society, which reflects its hideous face. According to the researcher, everything is becoming harmful and a source of hazard for the individual and his/her environment.

Consequently, and based on the earlier studies, it is hypothesized that:

H2: Underemployment will have a positive contribution to creativity.

H3: Underemployment will have a negative contribution to organizational trust.

2.3. The Impacts of Careerism on Creativity and Organizational Trust

A contradictory relationship exists relating to the nature of careerism and its outcomes. Generally, researchers have put forward negative assumptions about the outcomes of careerism (Feldman and Weitz 1991); however, there are other perspectives which convey that careerism may bring about some positive outcomes. The previous claim could be supported by Greenhaus, Callanan, and DiRenzo's (2008) study which revealed that careerism-oriented employees had been commonly characterized as being highly adaptive and flexible. The positive side of careerism stands on Rousseau's (1990) point of view. She argued that careerism is a concept which has so much overlapped with two concepts, protean career, and boundaryless career. Protean career reflects the person who is self-directed and internally driven by his/her convictions. Boundaryless career, on the other hand, reflects the person who sees himself/herself and his/her career as being independent of organizational boundaries. The individual may work in different organizations to do different jobs since he/she has acquired many skills and experiences (Adams et al., 2012; Arthur and Rousseau, 1996; Briscoe, Hall, and DeMuth, 2006). Therefore, it may be assumed that individuals with such a nature may be expected to display creative activity at work.

Not only the relationship between careerism and creativity seems misty, but the relationship between careerism and trust also involves the same ambiguity. The only study which has been found in this context is that of Crawshaw and Brodbeck (2011). In this study, the researchers aimed to explore the antecedents of careerist orientations to work. They hypothesized that employee perceptions of trust in management are negatively related to their careerist orientations to work. In this study, Crawshaw and Brodbeck (2011) explained the negative relationship between careerism and trust in such a way that employees' mistrustful attitudes towards management may lead to the perception that their career development opportunities are allocated inequitably.

The other way round may also be possible, and it may be proposed that employees with careerist intentions would be likely to develop distrust at work.

So, based on the previous studies it will be assumed that:

H4: Careerism will have a positive contribution to creativity.

H5: Careerism will have a negative contribution to organizational trust.

2.4. Moderating Effects of Organizational Collectivism, Openness to Experience, and Agreeableness

In the following paragraphs, the discussion will be upon the literature related to the moderating roles of organizational collectivism, openness to experience, and agreeableness on the main variables of the study:

2.4.1. The Moderating Effects of Organizational Collectivism and Openness to Experience on the Impacts of Underemployment and Careerism on Creativity

In this study, it is assumed that underemployment and careerism will display positive relationships with creativity. When employees feel underemployed and develop careerist tendencies, supportive contextual characteristics such as cooperation at work, and their personality characteristics such as innovativeness may increase the positive effects of these factors on creativity.

Based on Amabile's (1983) componential theory of creativity, researchers have emphasized the fact that the personal and contextual characteristics contribute jointly to creativity (Oldham and Cummings, 1996). The studies revealed that for an employee to be creative in his/her performance, he/she has to be intrinsically motivated, which means, he/she feels excited and interested in engaging in his/her work activities willingly, and for the sake of the work itself. For instance, the personality traits of an employee could be a great source for enhancing and applying his/her creative skills and abilities (Oldham and Cummings, 1996).

Some researchers confirmed the significance of personality traits in terms of their relationship and predictability to creativity, yet mixed results have been found regarding these relationships; the status that has led some scholars to admit the fact that, personality traits are domain-general, which means the effects of a personality trait might change based on the conditions. In a meta-analytical study, researchers have found that three personality traits, namely, openness to experience, extraversion, and neuroticism were positively related to creativity, whereas, agreeableness and conscientiousness were found to be negatively related (Feist, 1998; Batey and Furnham, 2006). Therefore, an employee who is careerism-oriented might be very creative if he/she displays openness to experience as a type of personality.

However, the original initiator of an employee's intrinsic motivation comes from the organizational context or the work environment. The notion that the supportive social context could be a real incentive for a creative environment in the workplace has been referred to in several previous studies (Amabile, Conti, Coon, Lazenby, and Herron, 1996; Oldham and Cummings, 1996; Zhou and George, 2001). The elements of the organizational context are organizational and supervisory encouragement, workgroup support, freedom, sufficient resources, challenging work, workload pressure, and organizational impediments (Amabile et al., 1996).

Based on the above studies and assumptions, it will be hypothesized that:

H6: Organizational collectivism will strengthen the positive relationship between underemployment and creativity.

H7: Openness to experience will strengthen the positive relationship between careerism and creativity.

2.4.2. The Moderating Effects of Organizational Collectivism and Agreeableness on the Impacts of Underemployment and Careerism on Organizational Trust

In this study, it is assumed that underemployment and careerism will display negative relationships with organizational trust. When employees experience underemployment and careerism; solidarity at work and an amenable personality may decrease the negative effects of these factors on organizational trust.

According to Beck (1999), underemployment has been considered to be among the five elements that characterize the world risk society; these five interrelated elements are globalization, individualization, gender revolution, underemployment, and global risks (e.g. ecological crisis and the crash of global financial markets). For Chan (2012), these elements operate within an integrated format. As it was discussed previously, one of the natural results of the reflexive modernity era and the interactive effects of the

five factors that generate the risk society is the distrust that will be a common attitude among people and their institutions. Therefore, and based on the preceding explanation, an employee who is underemployed, most probably experiences distrust in his/her workplace, and the distrust will be strengthened if the environment which he/she is working within is individualistic-oriented. So, in a reverse sense, it could be assumed that the distrust attitude will be weakened if the same employee works in a collectivist-oriented environment.

The moderating role of agreeableness on the relationship between careerism and trust, on the other hand, could be explained by the conditional effects of personality characteristics. The trust between a careerism-oriented employee and his/her organization and supervisors will be negative; however, if this particular employee has an agreeable type of personality, this negative relationship might be weakened. This is because an employee who is characterized as agreeable is generally described to be forgiving and trusting in nature (Caliendo, Fossen, and Kritikos, 2014).

One of the theories which explain how trust is formed is the personal innate predisposition view. In this approach, trust depends largely on the trustor’s innate propensity to trust. Trust is therefore conceived as a stable predisposition that does not change over time and is closely related to personality traits (Uslaner, 2002). The studies which targeted the relationship between FFM (Five-Factor Model) of personality traits and trust revealed mixed results, which certainly merit a closer look before passing judgment (Freitag and Bauer, 2016). For instance, in a study, trust was found to have a significant relationship with agreeableness only (Mondak and Halperin, 2008). In another study, all personality traits were significantly related to trust (Dinesen, et al., 2014). In other studies, personality traits were found to have a significant relationship with some dimensions of organizational trust only. For example, Freitag and Bauer (2016) have found that conscientiousness and openness are significantly related to trust for co-workers and strangers; whereas agreeableness was more related to trust in strangers only.

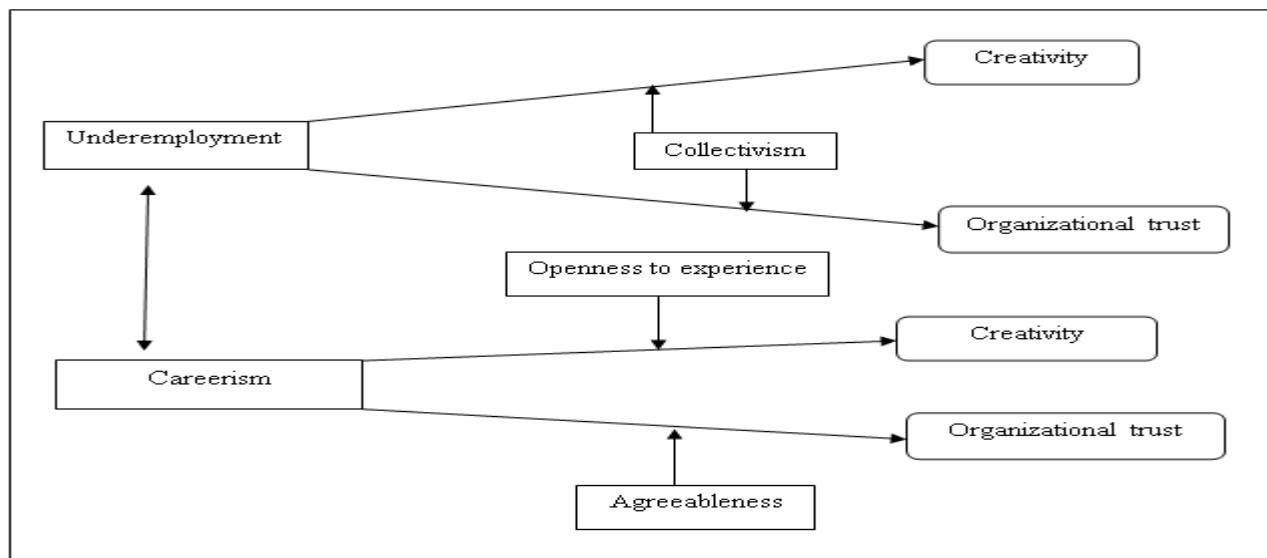
Therefore, the following hypotheses are formulated:

H8: Organizational collectivism will weaken the negative relationship between underemployment and organizational trust.

H9: Agreeableness will weaken the negative relationship between careerism and organizational trust.

Based on the previous studies and literature, the model of this study is formulated as illustrated in Figure 1.

Figure 1: The Conceptual Research Model



3. DATA AND METHODOLOGY

3.1. Participants and Procedure

In the present study, it was aimed to explore the constructs of underemployment and careerism among employees working in private organizations. The study was conducted in the province of İstanbul/Turkey, among a convenient sample of 156 participants. They occupied positions as technicians, officers, experts, middle-level managers, and upper-level managers in the private sector. The sample of the study consists of 112 males (71.8 %) and 44 females (28.2 %). The age range was between 18 and 72. The majority of the participants were university graduates (76 respondents forming 48.7 % of the sample). More than half of the participants (87 respondents forming 55.8 % of the sample) worked for less than five years in the present workplace.

The respondents were approached by both in a face to face fashion and via delivering e-mails and Google Forms (an online version of the questionnaire). The time to complete the questionnaire was approximately 15 minutes. The participants were given information that the responses will be kept confidentially.

3.2. Instruments

The data was collected through several scales. The first scale was a (7) seven-item questionnaire, used to gather the *demographic data*. In measures, 2 to 7, the responses were expressed on a 1 to 6 scale ranging from (1) strongly disagree to (6) strongly agree. Higher scores indicated a higher level of the measured construct.

The second instrument was an (8) eight-item scale, used to measure *careerism*, the perception of an employee about how to move up the career ladder. The scale consists of items drawn from two separate careerism measuring scales; the five-item scale developed by Rousseau (2000) ($\alpha = 0.77$), and the five-item scale developed by Chay and Aryee (1999) ($\alpha = 0.68$), which in itself was a shortened version of an earlier scale developed by Feldman and Weitz (1991) that included 23 items.

The third one was a (13) thirteen-item scale used to measure *underemployment*. The measure was developed by Bolino and Feldman (2000) ($\alpha = 0.90$) to assess skill utilization and underemployment. The items tapped into the extent to which individuals' work was not challenging, did not provide learning opportunities, and did not fully utilize their education, experience, training, skills, and abilities (Bolino and Feldman, 2000).

The fourth scale was utilized to measure *organizational trust*, a (12) twelve-item subscale. The scale was developed by Nyhan and Marlowe (1997) ($\alpha = 0.89$). The scale is mainly built upon Luhmann's (1979) Systems Theory. Based on his view, trust is considered as a multi-dimensional construct, containing two dimensions: personal and systems trust, or trust in supervisors and trust in the organization. Therefore, Nyhan and Marlowe (1997) have constructed their OTI with twelve items; eight items measuring trust in supervisors and four items measuring trust in the organization.

The fifth instrument was a (7) seven-item scale, used to measure *organizational collectivism*. The scale was developed by Robert and Wasti (2002) ($\alpha = 0.81$) to explore the extent to which employees perceived the organizational culture as focused on group priority.

The sixth measure was a (13) thirteen-item scale utilized to collect data about *creativity*. The scale was developed by Zhou and George (2003) ($\alpha = 0.94$). It was constructed based on the creativity conceptualization of Amabile (1998) to reveal the extent to which individuals are capable of novel thinking.

The seventh and last tool was used to measure *openness to experience and agreeableness*. The two of the five factors of the Ten-Item Personality Inventory (TIPI), namely, Openness to Experience ($\alpha = 0.45$) and Agreeableness ($\alpha = 0.40$) were used in this study. TIPI was developed by Gosling, Rentfrow, and Swann (2003). The scale assesses personality using the Big Five Model (Five-Factor Model). It contains ten items, each pair of items measuring one of the five factors which are: Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experience. In the present study, all items of openness to experience and agreeableness are worded in a positive direction.

4. RESULTS

4.1. The Validity and Reliability of the Measures

The internal consistency analyses and factor analyses were performed for all the scales that were used in this study, using Cronbach's alpha coefficient and principal components analysis technique. Throughout the process, the following common criteria were taken into consideration: 1- Coefficients of Cronbach alpha close to .60 (if the number of the items is less than 10) and above were considered as adequate for internal consistency, 2- an item that had a factor loading of less than 0.40 was eradicated, 3- in

case an item was loaded on two or more factors with a .10 or less difference, that item was deleted, 4- also, if only one item was loaded on a factor, that item was deleted (Loewenthal, 2001).

The results of the rotated component matrix revealed that the careerism scale has two factors which are: *attitudinal careerism* and *behavioral careerism*. The total variance explained by these factors is 52.44 % (KMO=0.73; Bartlett's Test of Sphericity X^2 :265.51; df: 28; $p<0.001$). Also, underemployment was found to reveal two dimensions: *skill utilization and learning opportunities*. The total variance explained by these factors is 65.15 % (KMO=0.84; Bartlett's Test of Sphericity X^2 :822.09; df: 45; $p<0.001$). Personality, as expected, displayed two dimensions: *openness to experience and agreeableness*. The total variance explained by these factors is 78.22 % (KMO=0.60; Bartlett's Test of Sphericity X^2 :136.37; df: 6; $p<0.001$). *Organizational collectivism*, on the other hand, appeared as a unidimensional variable. The total variance explained by this factor is 66.29 % (KMO=0.87; Bartlett's Test of Sphericity X^2 :761.59; df: 21; $p<0.001$). Organizational trust yielded two dimensions: *trust in supervisors* and *trust in the organization*. The total variance explained by these factors is 69.42 % (KMO=0.88; Bartlett's Test of Sphericity X^2 :1456.04; df: 66; $p<0.001$). Similarly, creativity was found to have two dimensions: *creativity orientation* and *creativity implementation*. The total variance explained by these factors is 67.47 % (KMO=0.93; Bartlett's Test of Sphericity X^2 :1419.35; df: 78; $p<0.001$). The Cronbach's alpha coefficients for the variables are presented in Table (1) below.

Table 1: Internal Consistency Coefficients of the Measures

Scale	Cronbach Alpha
Attitudinal Careerism	.69
Behavioral Careerism	.71
Skill Utilization	.87
Learning Opportunities	.86
Openness to Experience	.78
Agreeableness	.58
Organizational Collectivism	.91
Trust in Supervisors	.92
Trust in the Organization	.88
Creativity Orientation	.89
Creativity Implementation	.87

4.2. Means, Standard Deviations, and Correlations among the Variables

In Table (2), the means, standard deviations, and correlations among the variables have been reported. The relationships between the variables of the study were investigated by using Pearson product-moment correlation coefficients. Initial analyses were conducted to make certain that there is no violation of the assumptions of normality, linearity, and homoscedasticity.

As it can be noticed in the table below, the sub-dimensions of underemployment and organizational trust are significantly related. Skill utilization and trust in supervisors ($r = -.263, p<.001$), skill utilization and trust in the organization ($r = -.291, p<.001$), learning opportunities and trust in supervisors ($r = -.213, p<.001$), and learning opportunities and trust in the organization ($r = -.186, p<.005$) are negatively related and the correlation coefficients ranged from low to moderate. In terms of the relationship between underemployment and creativity, it was seen that there was a low negative correlation between learning opportunities and creativity orientation ($r = -.158, p<.005$). No significant relationship was found between careerism and organizational trust. As to the careerism and creativity relationship, a low positive correlation between behavioral careerism and creativity implementation ($r = .165, p<.005$) was found.

4.3. Hypothesis Testing

As seen in Table 2 above, all the sub-dimensions of underemployment and careerism are significantly correlated. There are positive and moderate correlations between skill utilization and attitudinal careerism ($r = .290, p<0.01$), learning opportunities and attitudinal careerism ($r = .238, p<0.01$), skill utilization and behavioral careerism ($r = .275, p<0.01$), and learning opportunities and behavioral careerism ($r = .253, p<0.01$). The positive correlations between underemployment and careerism reveal that *Hypothesis 1* ("Underemployment will be positively related to careerism") is fully supported.

For testing hypotheses 2, 3, 4, and 5, multiple regression analyses were conducted. Regarding Hypothesis 2 (“Underemployment will have a positive contribution to creativity.”), it was found that both creativity orientation ($R^2=.073$, $F=6.054$, $p<.05$) and creativity implementation ($R^2=.051$, $F=4.083$, $p<.05$) were predicted significantly by the two underemployment dimensions. Although the two dimensions of underemployment significantly contributed to creativity dimensions, one was positive whereas the other was negative. Skill utilization was positively related to creativity implementation ($\beta=.227$; $p=.009$) and creativity orientation ($\beta=.241$; $p=.005$). However, the learning opportunities dimension contributed negatively to creativity implementation ($\beta=-.180$; $p<.05$) and creativity orientation ($\beta=-.256$; $p<.001$). Therefore, *Hypothesis 2 is partially supported*.

The test for Hypothesis 3 (“Underemployment will have a negative contribution to organizational trust.”) revealed that skill utilization significantly and negatively contributed to the two dimensions of trust in supervisors ($R^2=.069$, $F=11.467$, $p<.05$) ($\text{Beta}=-.263$; $p=.001$) and trust in the organization ($R^2=.085$, $F=14.215$, $p<.05$) ($\text{Beta}=-.291$; $p=.000$). However, no significant contribution was obtained for learning opportunities. Thus, *Hypothesis 3 is partially supported*.

Table 2: Means, Standard Deviations and Correlations between the Variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1 Creativity orientation	4,9	0,845	1										
2 Creativity implementation	4,6	0,838	,741**	1									
3 Trust in supervisors	4,5	1,054	,232**	,131	1								
4 Trust in the organization	4,2	1,229	,203*	,200*	,531**	1							
5 Organizational collectivism	3,9	1,145	,270**	,248**	,473**	,665**	1						
6 Skill utilization	3,6	1,161	,136	,154	-,263**	-,291**	-,165*	1					
7 Learning opportunities	2,5	1,181	-,158*	-,087	-,213**	-,186*	-,198*	,409**	1				
8 Attitudinal careerism	2,8	1,048	,013	-,024	-,075	-,147	-,126	,290**	,238**	1			
9 Behavioral careerism	3,2	1,128	,093	,165*	-,051	-,026	-,013	,275**	,253**	,433**	1		
10 Openness to experience	4,6	1,002	,505**	,578**	,013	,170*	,226**	,220**	-,003	,000	,227**	1	
11 Agreeableness	4,7	0,997	,394**	,265**	,158*	,179*	,193*	-,019	-,215**	-,119	,034	,298**	1

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

For Hypothesis 4 (“Careerism will have a positive contribution to creativity.”), the results showed that only the behavioral careerism dimension of careerism made a significant contribution ($R^2=.027$, $F=4.295$, $p<.05$). Behavioral careerism ($\text{Beta}=.165$; $p<.05$) significantly predicted creativity implementation. Therefore, since attitudinal careerism made no significant contribution and behavioral careerism did not predict creativity orientation, *Hypothesis 4 is partially supported*.

The results for Hypothesis 5 (“Careerism will have a negative contribution to organizational trust.”) indicated that attitudinal careerism and behavioral careerism were not significantly related with the two dimensions of trust. So, *Hypothesis 5 is not supported*.

For testing hypotheses, 6, 7, 8, and 9, hierarchical multiple regression analyses were conducted. As a first step, and to keep away from potential high multicollinearity with the interaction term, the variables were centered (Aiken & West, 1991). The independent variable and the moderating variable were calculated by subtracting the mean values from the respondents’ scores. The interaction term was computed by multiplying standardized scores of variables.

The findings indicated that *Hypothesis 6* (“Organizational collectivism will strengthen the positive relationship between underemployment and creativity”), *Hypothesis 7* (“Openness to experience will strengthen the positive relationship between careerism and creativity.”), and *Hypothesis 8* (“Organizational collectivism will weaken the negative relationship between

underemployment and organizational trust”) were not supported. However, partial support was obtained for Hypothesis 9 (“Agreeableness will weaken the negative relationship between careerism and organizational trust.”). As seen in Table 3, the model was significant for the interaction of behavioral careerism and agreeableness (Beta= -.159; t= -1.998; p<0.05), and the explanatory power at step 3 had increased (R² =.053).

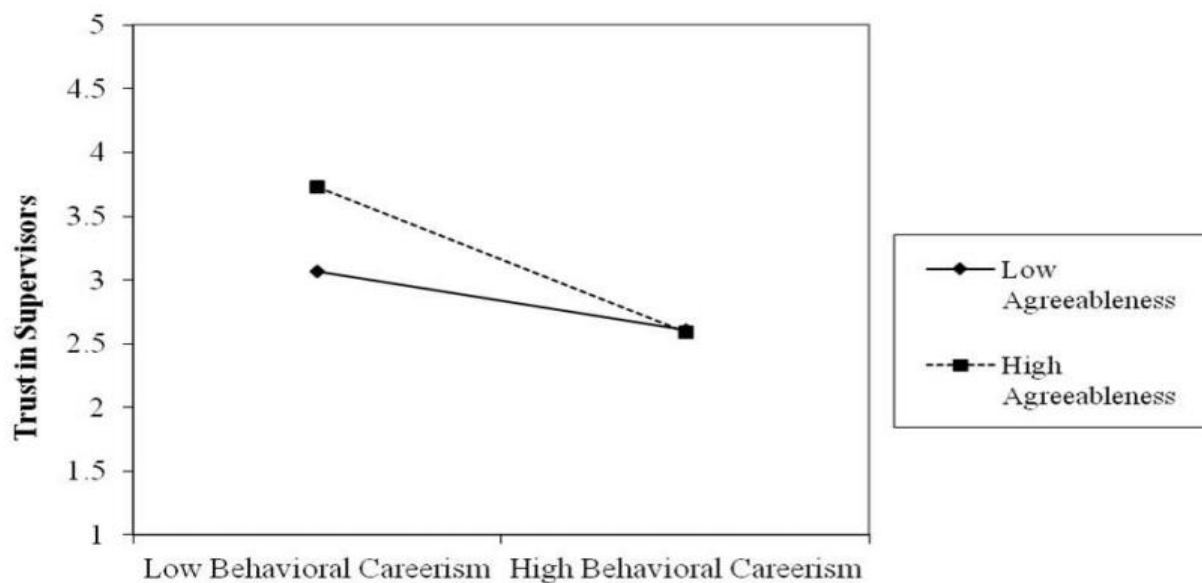
Table 3: The Moderating Role of Agreeableness on the Relationship between Behavioral Careerism and Trust in Supervisors

Variables	B	Beta	R ²	Adjusted R ²	R ² change	F	P
Step 1	-.053	-.051	.003	-.004	.003	.396 t -.629	.530
Step 2						2.209 t -.703	.013
Behavioral Careerism	-.059	-.056	.028	.015	.025	2.003	.483
Agreeableness	.168	.160					.047
Step 3						2.832 t -.472	.040
Behavioral Careerism	-.040	-.038	.053	.034	.025	1.934	.637
Agreeableness	.161	.153					.055
Behavioral Careerism* Agreeableness	-.171	-.159				-1.998	.048
Dependent variable: Trust in Supervisors							

Since the interaction was significant, two-way interaction effects for standardized variables were plotted as it can be seen in Figure 2, and the Probing Procedure suggested by Aiken and West (1991) was conducted to make a final decision regarding the confirmation of the result presented in Table 3.

As it can be seen in the below figure, agreeableness weakens the negative relationship between behavioral careerism and trust in supervisors. That is, behavioral careerism leads to a lower decrease in trust in supervisors when agreeableness is high.

Figure 2: The Interaction of Behavioral Careerism and Agreeableness in terms of Their Effect on Trust in Supervisors



5. CONCLUSION AND DISCUSSION

As it was stated earlier, this study aimed to look into the positive side of two seemingly negative variables, which are underemployment and careerism. It sought to explore the impacts of these variables on creativity and organizational trust. The study has put all the assumed relationships within the personality and environmental context. Therefore, the study argued that some personality traits (e.g. openness to experience and agreeableness) and the type of culture in the workplace (collectivism) could moderate the relationships among the mentioned variables. In the coming paragraphs, the results of the study will be discussed in light of the previous studies.

In the present study, the two dimensions of underemployment which are skill utilization and learning opportunities were found to have a positive relationship with the two dimensions of careerism (attitudinal and behavioral). Thus, Hypothesis 1 has been supported. The findings are in line with the previous studies as it has been mentioned earlier. An employee who is not able to fully utilize his/her skills, experiences a sense of psychological emptiness and self-contempt or loss of self-esteem. Such a person will start thinking about finding a job where he/she can be able to achieve a sort of self-assertion. The same assumption can be stated about an employee who does not have the opportunities to learn and improve himself/herself in the organization that he/she is working for. He/she would be likely to lose psychological attachment to it because of the feeling that the organization is not fulfilling the employee's psychological need for self-enhancement and development, which makes the person to gradually develop careerist attitudes. However, the question that arises is that, do all employees who experience some or all types of underemployment develop careerism orientation? At least, the studies which have been found have not yielded consistent results (Cockroft, 2011). There are very few studies which attempted to unlock and lighten the relationship between these two variables. There seems to be more need for conceptual and empirical studies that would produce clear information about these constructs.

The second hypothesis was about the positive contribution of underemployment to creativity. The results have revealed that all the relationships between underemployment and creativity dimensions were significant. However, not all of them were positive as it was expected. Skill utilization was found to be positively related with the two dimensions of creativity (creativity orientation and creativity implementation); whereas learning opportunities were found to be negatively related to the two earlier mentioned creativity dimensions. Regarding the positive relationship of skill utilization with creativity, the finding is in line with the results of a study conducted by Lin, Law, and Zhou (2017). Lin et al. (2017) attempted to explore the positive contributions of underemployment to creativity and organizational citizenship behavior. Lin et al. (2017) have found that underemployment could be a positive

element in the workplace, and the underemployed employee could be a creative person if the organization fulfills some conditions. According to them, objective underemployment affects subjective underemployment, which in turn affects employees' images about their jobs. Therefore, the organizational environment and employees' personality characteristics help them to develop a positive image in their eyes and others' eyes about their jobs. When employees perceive objective underemployment positively, they automatically move to a new stage called task crafting, the key element of which is creativity. For the underemployed individuals, task crafting becomes a means of ensuring a better fit with their preferences and competencies and asserting a positive self-image which leads them to be creative in their domains. Consequently, the positive relationship between skill utilization and the two dimensions of creativity could be explained based on Lin et al.'s (2017) view which has been mentioned in the previous lines. Besides, it is possible that employees may use their already existing potentials to demonstrate creativity. However, those who have experienced underemployment in terms of learning opportunities were found to be less likely to be creative. The improbability of acquiring new masteries seems to impede creativity. Accordingly, and based on Zhou and George's (2001) work, most probably these employees might be reacting passively to their underemployment conditions through neglect (withdrawal behaviors such as applying fewer efforts) or loyalty (accepting the negative conditions without trying to change anything).

The third hypothesis asserted that underemployment will have a negative contribution to organizational trust. The results of the present study revealed that skill utilization significantly and negatively contributed to the two dimensions of organizational trust. However, the contribution of learning opportunities to the two dimensions of trust was not significant. The employees who experience underemployment in terms of skill utilization might remain in the same organization due to continuous commitment, however, this may happen at the expense of distrust between the employees and their supervisors in particular and the organization in general. On the other hand, the insignificant relationship between the learning opportunities dimension of underemployment and the two dimensions of organizational trust, leads us to question the nature of learning opportunities, whether it is more related to job satisfaction or it is about underemployment as Feldman (2000) has suggested in his work. This claim might be put forward because it seems that the employee who does not have opportunities to get further training to improve himself/herself, most probably feels dissatisfied rather than feeling underemployed. Therefore, such employees may feel dissatisfied about the job and the organization that they work for, without developing a problem of trust.

The positive contribution of careerism to creativity was the fourth hypothesis of the present study. The findings showed that the hypothesis was partially supported. It was found that behavioral careerism had a positive contribution to creativity implementation. This hypothesis was formulated based on the theory that careerism has two dimensions, one being positive and the other being negative. The positive side of careerism stands on Rousseau's (1990) point of view. She argued that careerism is a concept which has so much overlapped with two concepts, which are: first, protean career, which reflects the person who is self-directed and internally driven by his convictions; and second, boundary less career, which reflects the person who sees himself and his career as being independent of organizational boundaries. The self-sufficient individual may work in different organizations to do different jobs since he/she has acquired many skills and experiences (Adams, et al., 2012; Arthur and Rousseau, 1996; Briscoe, et al., 2006). This dimension of careerism which is called behavioral careerism may lead employees to develop new approaches and provide innovative solutions to problems.

The fifth hypothesis of this study proposed that careerism will have a negative contribution to organizational trust. The results showed that there is no significant contribution of any dimension of careerism to organizational trust dimensions. Researchers point out that organizational trust is a reciprocal relationship between two parties. This reciprocal relationship is the crucial element in any psychological contract, and the trust is placed at the core of the psychological contract breach (Robinson and Morrison, 2000). Based on Sullivan and Baruch (2009), however, it may be stated that, in the new era, a tendency of a more transactional psychological contract rather than a relational one is observed. That is, the relationship between the employee and the employer is based on legal rights and reciprocal benefits rather than on the mutual trust only. These changes in employment relationships have pushed employees to develop new attitudes and coping strategies (Adams et al., 2012). The acceptance of exchange-based interactions as a norm may lead to careerist intentions that are irrelevant in terms of trustful attitudes. The findings of this research and the contradicting results of Crawshaw and Brodbeck's (2011) study seem to call for more detailed studies concerning the nature of the relationship between careerism and organizational trust.

For hypotheses 6, 7, and 8 no significant results were obtained for the moderating roles of organizational collectivism and openness to experience variables.

For the ninth hypothesis, however, partial support was obtained. It was expected that agreeableness will weaken the negative relationship between careerism and organizational trust. The hypothesis was partially supported since the results have shown that agreeableness moderates the relationship between behavioral careerism and trust in supervisors only. Although the relationship between behavioral careerism and trust in supervisors was found to be negative but insignificant, the moderating effect of agreeableness on this relationship turned out to be significant. Previous research provides support for this result. Many studies have confirmed the positive relationship between agreeableness and trust (Dinesen, Nørgaard, and Klemmensen, 2014; Freitag and Bauer, 2016; Hiraishi, Yamagata, Shikishima, and Ando, 2008; Mondak and Halperin, 2008; Oskarsson et al., 2012; Weinschenk and Dawes, 2019). Besides, an employee who is behaviorally careerism-oriented has positive psychological and behavioral characteristics (e.g., self-confidence, tolerating uncertainty, enthusiasm, and determination). Therefore, it may be assumed that when an employee demonstrates careerism in the positive sense and has an agreeable type of personality, he/she most probably will have trust in supervisors and they will respond similarly. The moderating effect of agreeableness was only observed for trust in supervisors but not for trust in the organization. A study conducted by Tan and Tan (2000) revealed that proximal variables such as the ability, benevolence, and integrity which were embodied by a supervisor and as perceived by his or her employees have a positive effect on employees' trust in supervisors. However, global variables such as perceived organizational support and justice were associated with trust in the organization rather than trust in supervisors. Thus, it may be concluded that, in general, trust in supervisor is predicted by individual variables.

6. LIMITATIONS OF THE STUDY

Some limitations have to be mentioned in the present study. These are mainly related to the methodology of the research. The first point to be stated is the utilization of self-report questionnaires as data collection tools. The disadvantages of using such tools are well-known among researchers. Generally, the use of self-report questionnaires may raise the possibility of common method variance. For instance, a respondent may fall in social desirability bias, which is a socio-psychological state that leads a person to respond in a socially acceptable way. This may happen especially if the answer could affect his/her future career in the organization (e.g., such as revealing that he/she is careerism-oriented or expressing the intention to leave the organization sooner or later). Besides, he/she may fall in response bias which is a psychological state that directs the person to respond in a certain way regardless of the question.

Secondly, another problem related to the method section may be the clarity of the items which is influenced by cultural differences, translation, or the rephrasing of the items. Some of the questionnaires were translated into Turkish Language and were tested for their reliability and validity in the Turkish setting by the authors of the test (e.g., organizational collectivism) whereas others were translated by other researchers (e.g., creativity, organizational trust), or by the author of this study (e.g., underemployment and careerism). Since the measurement scales were not developed in the Turkish context, the translated instruments might have affected the comprehensibility of the items for the respondents via cultural differences or linguistically ambiguous content.

Thirdly, the limitations of methodology concern the sampling method and the sampling size. The convenience sampling method has been utilized in the present study which means that the results cannot be generalized to the entire population. Although the sample size consisting of 156 participants is acceptable, some differences in terms of the results obtained in various studies may be attributable to larger sample sizes used in them.

Finally, an issue related to the nature of the sample exists. The participants of this study were from different work sectors (e.g., service, industry, etc.) which might be a cause affecting some results of the study. Since some variables of the study are domain-general oriented, such as creativity, the manifestation of the construct may vary among different work fields. The exposure of creativity in a business field may not be the same as it is in a service field. Therefore, the heterogeneous nature of the sample may have influenced the findings.

7. SUGGESTIONS FOR FUTURE RESEARCH

First of all, what can be concluded from the theoretical background of the conceptualization of careerism is that there is a clear disagreement between Rousseau (1990) and Feldman and Weitz (1991) in terms of the conceptualization of careerism. A closer look at the researchers' conceptualizations makes a reader feel that each one is describing careerism differently. Rousseau's (1990) conceptualization of careerism seems to fit an employee who works in an organization to which he/she is not attached psychologically and has the ability and the will to leave it. Accordingly, the employee tends to make his/her current job as a stepping stone to another more satisfying job. On the other hand, Feldman and Weitz's (1991) conceptualization seems to imply that the employee is not satisfied with the job he/she is doing, however, is not able to leave the job. That is why the employee may start using non-performance based means in the pursuit of career growth. Therefore, the psychological state of the employee in Rousseau's (1990) conceptualization is positive and enterprising in contrast to that of Feldman and Weitz's (1991) which is negative and passive. These two views of careerism may affect the course of any study in quite a different way. Therefore, it is recommended for future research to study these two conceptualizations deeply to clarify the nature of the construct.

Second, in the present study, only openness to experience and agreeableness as personality traits have been set forth as variables to moderate the relationship between careerism and creativity; and careerism and organizational trust. Since other traits were not tested, it is strongly suggested for future research to study the moderation effects of different personality traits.

Third, only individual variables (openness to experience and agreeableness) were used for investigating the moderating effects on the relationship between careerism and creativity; and careerism and organizational trust. However, and based on Amabile's (1983) Componential Theory of Creativity, researchers have emphasized the fact that personal and contextual characteristics contribute jointly to creativity (Oldham and Cumming, 1996). Therefore, it is recommended for future research to study the effects of contextual variables such as organizational culture, leadership styles, communication network, and the like as well.

Fourth, as it was mentioned earlier in the limitations section, the participants of this study were from different work sectors (e.g., service, industry, etc.), which seems to be a potential cause for influencing the findings of the study. As domain-general oriented constructs such as creativity may be expressed differently in distinct work areas, it is suggested to explore the relationships of the variables of the current research in specific work domains for the generalizability of the results. Besides, a larger sample size would further increase the generalizability of the study findings.

Lastly, in the discussion section, a note related to Amabile's (1983) Creativity Theory was emphasized. The Componential Theory of Creativity has been developed in an era which was characterized according to Sullivan and Baruch (2009) as the period of traditional career model. This model, in general, maintains an exchangeable loyalty between the employer and the employee, a type of psychological contract. However, the present study represented an attempt of studying creativity and its relationship with careerism and underemployment, in the novel era of career system which is based on a transactional contract. The new contract is a result of fundamental changes in terms of the work environment and personal career attitudes. These changes prompt us to question the compatibility of the theory with the current situation and to ask if there is a need to re-conceptualize the theory to adapt the present change. Therefore, it is recommended for future research to test Amabile's (1983) Creativity Theory in this new personal and contextual environment.

8. THEORETICAL AND PRACTICAL CONTRIBUTIONS OF THE STUDY

The current study could be beneficial in several aspects; which will be summarized in the following points:

- 1- The study offers a comprehensive understanding of the issues of underemployment and careerism from an organizational behavior perspective as distinct from an economic point of view. This approach may help researchers and practitioners to search for different ways to clarify and treat underemployment and careerism.
- 2- The study highlights that focusing only on the negative sides of underemployment and careerism concepts may be an incomplete approach. The present study revealed that some dimensions of underemployment and careerism contributed positively to creativity. Besides, it was seen that some dimensions of these constructs did not display significant relationships with organizational trust. Thus, the current research presents cues for exploring the beneficial outcomes of underemployment and careerism.
- 3- The study also contributes theoretically and practically in terms of learning how personality traits affect employee trust. The finding that agreeableness has a moderating role in the relationship between behavioral careerism and trust in supervisors indicates that an agreeable employee displaying careerist orientations may put forward a trusting attitude toward the supervisor. Therefore, in hiring selections agreeable employees may be preferred when careerist behaviors are dominant.

REFERENCES

- Adams, J. W., Srivastava, A., Herriot, P. & Patterson, F. (2012). Careerist Orientation and Organizational Citizenship Behavior in Expatriates and Non-Expatriates. *Journal of Career Development*, 40(6), 469-489.
- Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park, CA: Sage Publications.
- Amabile, T. M. (1983). *The Social Psychology of Creativity*. New York: Springer Verlag.
- Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the Work Environment for Creativity. *Academy of Management Journal*, 39, 1154–1184.
- Amabile, T. M. (1998). A Model of Creativity and Innovation in Organizations. *Research in Organizational Behavior*, 10, 123-167.
- Arthur, M. B., & Rousseau, D. M. (1996). *The Boundaryless Career: A New Employment Principle for a New Organizational Era*. New York, NY: Oxford University Press.
- Batey, M., & Furnham, A. (2006). Creativity, Intelligence, and Personality: A Critical Review of the Scattered Literature. *Genetic, Social, and General Psychology Monographs*, 132, 355-429.
- Beck, U. (1999). *World Risk Society*. Cambridge: Polity Press.
- Bolino, M. C., & Feldman, D. C. (2000). The Antecedents and Consequences of Underemployment among Expatriates. *Journal of Organizational Behavior*, 21(8), 889–911.
- Briscoe, J. P., Hall, D. T., & DeMuth, R. L. F. (2006). Protean and Boundaryless Careers: An Empirical Exploration. *Journal of Vocational Behavior*, 69, 30–47.
- Caliendo, M., Fossen, F., & Kritikos, A. (2014). Personality Characteristics and the Decision to Become and Stay Self-Employed. *Small Business Economics*, 42(4), 787- 814.
- Chan, R. H. K. (2012). Competence, Trust, Job-related Risks and Their Management: The Case of Hong Kong. *Asian Journal of Political Science*, 20(3), 267-283.
- Chay, Y. W., & Aryee, S. (1999). Potential Moderating Influence of Career Growth Opportunities on Careerist Orientation and Work Attitudes: Evidence of the Protean Career Era in Singapore. *Journal of Organizational Behavior*, 20(5), 613- 623.
- Cockroft, K. B. (2011). *The Relationship between Underemployment and Job Attitudes of New Zealand Graduates*. (Thesis, Master of Applied Psychology). University of Waikato, Hamilton, New Zealand. Retrieved from <https://hdl.handle.net/10289/5337>.
- Crawshaw, J. R., & Brodbeck, F. C. (2011). Justice and Trust as Antecedents of Careerist Orientation. *Personnel Review*, 40, 106-125.
- Dinesen, P. T., Nørgaard, A. S., & Klemmensen, R. (2014). The Civic Personality: Personality and Democratic Citizenship. *Political Studies*, 62, 134-152.
- Feist, G.J. (1998). A Meta-analysis of Personality in Scientific and Artistic Creativity. *Personality and Social Psychology Review*, 2(4), 290-309.
- Feldman, D. C. (1996). The Nature, Antecedents and Consequences of Underemployment. *Journal of Management*, 22(3), 385– 407.
- Feldman, D. C., & Weitz, B. A. (1991). From the Invisible Hand to the Glad-hand: Understanding a Careerist Orientation to Work. *Human Resource Management*, 30(2), 237-257.
- Feldman, D. C., Leana, C. R., & Bolino, M. C. (2002). Underemployment and Relative Deprivation among Re-employed Executives. *Journal of Occupational and Organizational Psychology*, 75(4), 453-471.
- Feldman, M. S. (2000). Organizational Routines as a Source of Continuous Change. *Organization Science*, 11, 611–629.
- Freitag, M., & Bauer, P. C. (2016). Personality Traits and the Propensity to Trust Friends and Strangers. *The Social Science Journal*, 53(4), 467-476.
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B. (2003). A Very Brief Measure of the Big-Five Personality Domains. *Journal of Research in Personality*, 37, 504-528.
- Greenhaus, J. H., Callanan, G. A., & DiRenzo, M. (2008). A Boundaryless Perspective on Careers. In J. Barling (Ed.), *Handbook of Organizational Behavior*: 277-299. Thousand Oaks, CA: Sage.

- Hiraishi, K., Yamagata, S., Shikishima, C., & Ando, J. (2008). Maintenance of Genetic Variation in Personality through Control of Mental Mechanisms: A Test of Trust, Extraversion, and Agreeableness. *Evolution and Human Behavior*, 29, 79–85.
- Lin, B., Law, K., & Zhou, J. (2017). Why Is Underemployment Related to Creativity and OCB? A Task Crafting Explanation of the Curvilinear Moderated Relations. *Academy of Management Journal*, 60(1), 156-177.
- Loewenthal, K. M. (2001). *An Introduction to Psychological Tests and Scales* (2nd ed). Hove, East Sussex: Psychology Press Limited.
- Luhmann, N. (1979). *Trust and Power*. New York: John Wiley.
- MacKinnon, D. W. (1962). The Nature and Nurture of Creative Talent. *American Psychologist*, 17, 484-495 [University of California, Berkeley, CA].
- Meyer, J. P., Allen, N. J., & Smith, C. (1993). Commitment to Organizations and Occupations: Extension and Test of a Three-component Conceptualization. *Journal of Applied Psychology*, 78, 538-551.
- Mondak, J., & Halperin, K. (2008). A Framework for the Study of Personality and Political Behavior. *British Journal of Political Science*, 38, 335–362.
- Nyhan, R. C., & Marlowe, H. A. (1997). Development and Psychometric Properties of the Organizational Trust Inventory. *Evaluation Review*, 21(5), 614-635.
- Oldham, G. R., & Cummings, A. (1996). Employee Creativity: Personal and Contextual Factors at Work. *Academy of Management Journal*, 39(3), 607–634.
- Oskarsson, S., Dawes, C., Johannesson, M., & Magnusson, P. (2012). The Genetic Origins of the Relationship between Psychological Trust and Social Trust. *Twin Research and Human Genetics*, 15, 21–33.
- Robert, C., & Wasti, S. A. (2002). Organizational Individualism and Collectivism: Theoretical Development and an Empirical Test of a Measure. *Journal of Management*, 28(4), 544-566.
- Robinson, S. L., & Morrison, E. W. (2000). The Development of Psychological Contract Breach and Violation: A Longitudinal Study. *Journal of Organizational Behavior*, 21(5), 525-546.
- Rousseau, D. M. (1990). New Hire Perceptions of Their Own and Their Employer's Obligations: A Study of Psychological Contracts. *Journal of Organizational Behavior*, 11(5), 389- 400.
- Rousseau, D. M. (2000). *Psychological Contract Inventory*, Technical Report #3. Pittsburgh, PA: Heinz School of Public Policy, Carnegie Mellon University.
- Sullivan, S. E., & Baruch, Y. (2009). Advances in Career Theory and Research: A Critical Review and Agenda for Future Exploration. *Journal of Management*, 35, 1542–1571.
- Tan, H., & Tan, C. S. (2000). Towards the Differentiation of Trust in Supervisor and Trust in Organization. *Genetic, Social and General Psychology Monographs*, 126(2), 241-260.
- Uslaner, E. M. (2002). *The Moral Foundations of Trust*. Cambridge, United Kingdom: Cambridge University Press.
- Weinschenk, A. C., & Dawes, C. T. (2019). The Genetic and Psychological Underpinnings of Generalized Social Trust. *Journal of Trust Research*, 9(1), 47-65.
- Zhou, J., & George, J. M. (2001). When Job Dissatisfaction Leads to Creativity: Encouraging the Expression of Voice. *Academy of Management Journal*, 44(4), 682-696.
- Zhou, J., & George, J. M. (2003). Awakening Employee Creativity: The Role of Leader Emotional Intelligence. *The Leadership Quarterly*, 14(4), 545-568.



POVERTY ALLEVIATION THROUGH SELF-SUSTAINING NEW ENTREPRENEURS PROGRAM: A CASE STUDY IN BANGLADESH

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ABSTRACT

Purpose- One of the significant challenges facing many countries in the world is poverty. Mass poverty and unemployment can be eliminated through entrepreneur development. This study focuses on introducing how the new entrepreneurs (NE) program can help poverty alleviation in Bangladesh.

Methodology- The case study was used to capture the NE program process and context. The data collection was done by in-depth interviews with respondents who are business owners of different small business.

Findings- The result of this study showed that the NP program has significant effect on poverty reduction in Bangladesh. The NP program is the process that provides trainees with knowledge, skills, and financial support to create a professional businessman for poverty and unemployment reduction.

Conclusion- Entrepreneurship is central to the economic growth and development of any nation. The NE program is the resourcefulness of traditional entrepreneurship whose mission is to change the society. The NE program is a sustainable solution for reducing poverty. Adequate attention must be given to the growth of new entrepreneurs.

Keywords: Entrepreneur, poverty alleviation, NE program, Bangladesh.

JEL Codes: M13, N35, P31

1. INTRODUCTION

More than billions of people around the world live in the poverty (Singla 2014) and poverty is a major obstacle to the success of social and economic development in many countries (Andrew & Andrew 1994). The social, economic, demographic, cultural and other significant contributing factors for poverty reduction have implications on the economic development and policy interventions (World Bank 2014). The percentage of people living in extreme poverty globally fell to a new low of 10 percent in 2015 — the latest number available — down from 11 percent in 2013, reflecting steady but slowing progress. The number of people living on less than \$1.90 a day fell during this period by 68 million to 736 million (World Bank 2018).

There are many countries facing poverty problem. Although the government has taken some policies to alleviate poverty, but until now the problem of poverty has not been fully solved (Singer 2006). Poverty in Bangladesh is becoming widespread and sever. In spite of Bangladesh's vast human resources, the country is known for its low Gross Domestic Product (GDP), low per capita income, high unemployment rate and low industrial utilization capacity (International Labour Organization (ILO), 2013). The poverty rate in Bangladesh fell from 24.3 percent in 2016 to 21.8 percent in 2018, according to the latest data released by the Bangladesh Bureau of Statistics (BBS, 2019). However, an effective way to boost poverty reduction is through entrepreneurship.

Entrepreneurship is an effective tool for economic development and poverty alleviation in the impoverished and lower-income regions of the world (Mead & Liedholm 2010). (Ludovick 2013) mentioned in his study that entrepreneurship reduce poverty significantly. Entrepreneurship represents an alternative and potentially effective path to poverty reduction and economic development (Anokhin, Grichnik, & Hisrich, 2008; and Oghojafor, Olayemi, Okonji, & Olayiwola, 2011). Entrepreneurship contributes to poverty alleviation when it creates employment through the start-up of new entrepreneurs or the expansion of existing ones. Entrepreneurs can increase social wealth by creating new markets, new industries, new technologies, and new jobs. Entrepreneurs help to increase the living standards for the population (Hoang & Gimeno 2010). Many studies have tried to answer questions about the identification and setting up of business opportunities (Shane & Venkataraman 2000). Entrepreneurship is an effective tool (Yunus 2017) which is a close connection with the alleviation of poverty.

New entrepreneurs program is the potential means to improve unemployed individuals by building an understanding of how they can act as entrepreneurs sustainably. NE program which has conceived by Nobel Peace Winner (2006) Professor Muhammad Yunus. To break the cycle of poverty, Grameen social business fund company (GSBFC) provides all kinds of assistance for building a successful NE program in different parts of Bangladesh. This paper describes the procedures and sustainability indicators tools of the NE program.

Many researchers, practitioners, and business societies want to know about the NE program. Even though NE program still a relatively new concept in Bangladesh, but each year many unemployed peoples who join the NE program for creating employment through the business. The primary objective of this study is to explore the poverty alleviation through self-sustaining new entrepreneurs program in Bangladesh.

This paper is structured as follows. In the second section, we discuss the development of the NE program and the reasons why GSBFC engages in NE program. The third section introduces the operation of the NE program and how does it work through the GSBFC in Bangladesh. The fourth section introduces some cases of the NE program, and the fifth section proposes the key success factors of the NE program. Finally, we conclude with some recommendations for the business societies.

2. THE DEVELOPMENT OF THE NE PROGRAM

Entrepreneurship can be seen as a pathway to reducing poverty and conflicts in developing countries (Bruton, Ketchen & Ireland 2013). Reducing unemployment is the most important priority of developed and developing country economies. Entrepreneurs create jobs and increasing the supply of consumables products reducing the unemployment rate (Azhar, Javaid, Rehman & Hyder 2010). NE program, which is known to create many businesses in the local community in Bangladesh recently. Grameen Social business fund company (GSBFC) is responsible for conducting the NE program to address the unemployment problem in Bangladesh.

The long-term purpose of the NE program is to create positive social and economic impacts and unemployed people are supposed to become entrepreneurs, which in turn creates employment opportunities for themselves as well as for others. Fundamentally, the NE program is a network of unemployed people who contribute their time, expertise, and money to create employment. This support includes providing new entrepreneurs (NE) accesses to advanced financial tools and business networks. This network includes incubation, acceleration, business strategy, financial services, and market.

The new entrepreneurs and the GSBFC both are the business partners. GSBFC invests their investment money into the new entrepreneurs' business and become a managing partner or the manager until back the full investment money to the GSBFC. During this time, new entrepreneurs would take a consolidated monthly salary from his/her business. GSBFC, monitors its investment money only. The objectives of GSBFC are not only to create a job for new entrepreneurs but also to transform a job seeker into a giver and thus create an entrepreneur.

The selling of the shares to the new entrepreneurs, the rule is that the GSBFC will take the original investment money with an additional fixed sum of 20% on the original investment money. After paying back the original investment money with a 20% share transfer fee then, GSBFC hand over the full shares/ownership to the new entrepreneurs. This additional amount is called the "share transfer fee". The investment money remains very active during the entire process, making sure that the new entrepreneurs are well prepared for running his business and GSBFC provides all the connections and advice to succeed in new entrepreneurs' businesses. GSBFC is doing a social business and new entrepreneurs business is a profit-making business. Because the GSBFC employed his/her unemployment for creating a small business.

One revolutionary initiative of Professor Yunus was to establish Grameen Bank (GB) to rescue the poor people from the lenders in Bangladesh. Grameen Bank has since grown into a worldwide movement that has helped over 300 million poor families improve their lives through entrepreneurship. The entrepreneurship model of GB provides an alternative way for reducing poverty (Yunus, Moingeon & Lehmann 2010) and such a directive is helping the future generations to get rid of their unemployment problems. NE programs as a support system, a safety net for the new entrepreneurs.

The children of the borrowers got support from Grameen bank in the form of education loans to continue their studies and pursue their goals. To ensure their livelihood Professor Yunus came up with the NE program. He tried to deviate their minds from the traditional path of hunting for jobs and tried to make them self-sufficient by making them entrepreneurs. By motivating their entrepreneurial spirit, he tried to make them believe that they are not job seekers but job givers (Khashru 2016) and he came up with a revolutionary idea to solve the unemployment problem. In 2001, Grameen Bank launched the 'Nobin program' and calling the young people who choose that path 'entrepreneurs'. He introduced the social business concept, which emphasizes a combined and organized effort of poverty alleviation through a self-sustaining NE program. It encourages new entrepreneurs to develop, organize and manage a business venture with making a profit.

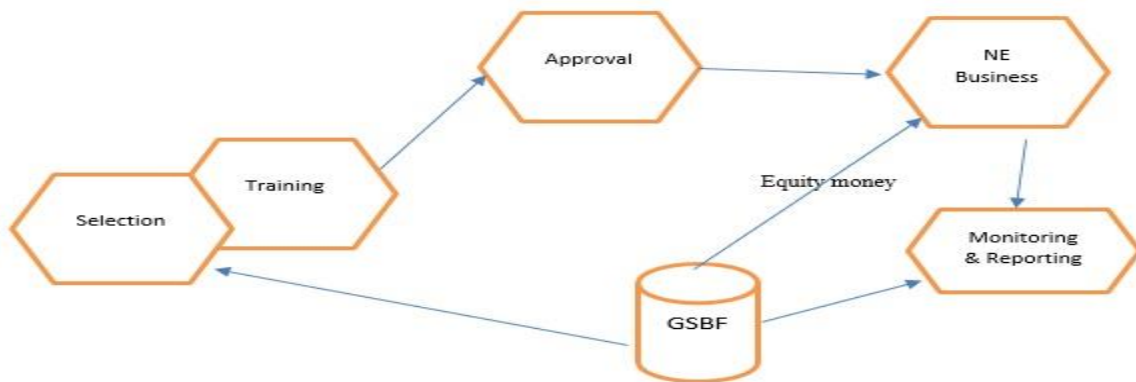
To help remedy the unemployment and other social problems, Professor Muhammad Yunus created Grameen Social business fund companies (GSBFC). Those are Grameen Telecom Trust (GTT), Grameen Kalyan (GK), Grameen Shakti Shamajik Byabosha (GSSB) and Grameen Trust (GT) for running the NE Program in Bangladesh. In 2013, Yunus Centre, Dhaka, Bangladesh launched the NE Program through the social business design lab which is playing an important role in solving the unemployment problem both locally and globally.

GSBFC focuses on the unemployment children of the Grameen Bank borrower. However, it is a universal application for all young unemployed or underemployed people including the aged or retired people in both developed and developing countries. It can be applied wherever unemployment appears; for example, in crowded cities or thinly populated village, in refugee camps or immigrant communities, and low-income countries or very rich countries (Yunus, 2017).

3. OPERATION OF THE NE PROGRAM

Entrepreneurship training are very significant for starting a small business (Elert, Andersson & Wennberg 2015; Souitaris, Zerbinati & Al-Laham 2007), training leads to a more realistic view of what it takes to be an entrepreneur (Oosterbeek, Van & Ijsselstein 2010). The NE program maintains selection criteria, training, financial operation, logistics support, monitoring, evaluation, and business sustainability. For the operations of the NE program, the selection criteria and training process is essential, as unemployed people tend to be unaware of their capabilities. As a part of those processes, the field staff of GSBFC organizes an orientation camp in the village. Each of those camps can accommodate 15 to 30 candidates. The candidates can be both boys and girls. Afterward, an experienced camp leader carries out the identification and confidence-building process. During this camp, participants will gain a deeper understanding of the rules and procedures of the NE program and will have the opportunity to ask questions to get a clearer picture of what the program entails. At the camp, selected projects of new entrepreneurs are discussed some questionnaires. These camps usually end with a shortlist of 'potential' entrepreneurs. The following illustrations figure: 1 shows the operation of the NE program.

Figure 1: Operation of the NE Program



The selected candidate invite to Dhaka to pitch their business plans and ideas at the Business design labs. Each candidate makes a five-minute presentation with financial details in the presence of high-level officials of the GSBFC and ask lots of comments and questions after their pitch. If the board is satisfied, then the business plan gets the approval for investment from GSBFC.

After the approval for equity money, an agreement will be signed between the GSBFC and the new entrepreneurs. There are few clauses included in the agreement to ensure that the new entrepreneurs gradually become a professional and independent businessperson, as follows:

1. I will not look for a job, I will rather give jobs,
2. I will become financially independent through entrepreneurship,
3. I will not commit dishonesty,
4. I will work hard with commitment to expand my business,
5. I will send my children to school,
6. I will become health conscious and will educate my family members about hygiene issues,
7. I will work to minimize unemployment in the area,
8. I will not commit fraud to anyone and will pay a proper salary to my employees,
9. I will not do anything that harms the environment,
10. I will keep a proper record of all financial transactions,
11. I will pay back the investment and make the business mine as soon as possible,
12. I will help others to become an entrepreneur by sharing my experiences and helping them as much as my capabilities,
13. I will contribute to the socio-economic development of my community,
14. I will always do business with happiness.

The next step, GSBFC collecting the financial information daily through the mobile phone via SMS. All the information is accumulated at the central server, which are auto-generates reports for daily, monthly or as desired to GSBFC. The new entrepreneur can also view his business performance information by logging on to the system. If there is a notable difference in the financial and sales figures, the representative of GSBFC to meet the entrepreneur immediately to discuss the issues and creates a solution.

Finally, GSBFC supports the new entrepreneurs for sustaining the business which is related to the help in professionalism, payback the equity money, business extension, product stock level, new adventures for marketing, quality products, employment opportunity, and social initiators.

4. SOME CASES OF THE NE PROGRAM

This research was a focus on NE program innovation, particularly in the established small business of new entrepreneurs, which led to an in-depth study of many cases. According to Patton (1990) & Yin (2009), a case study is an in-depth investigation of individual groups, institution or phenomena. The researcher uses it because it provided a detailed examination of his study and it was the most appropriate method of collecting data concerning fostering entrepreneurship as a solution to poverty reduction in developing the economy. (Mattar 1994) mentioned that structured interviews set out from standardized questions, whereas in semi-structured interviews, despite the existence of a script with the main topics to be addressed, other questions not contained in the script but deemed pertinent can be asked. Our interviews with the new entrepreneurs are involved in their professional attitude.

In particular, we describe the NE program approach to cultural learning and building sustainable business communities. First, we describe the research setting and method, as our case study uses the qualitative research method that captures the new entrepreneurs' activities of importance to the acculturation process and context. Second, we provide some background information about new entrepreneurs. In conclusion, we outline specific implications and future research directions. This research was to confront conventional literature on NE program innovation with the Grameen Bank experiences implemented by the GSBFC. To test whether the NE program is innovation and to find out if the NE program resembled conventional business model innovation.

This study was carried out in Tangail and Dhaka districts. Tangail is located 100 Kilometer north of Dhaka, the capital city of Bangladesh. There are two case study design was adopted in this study. The study targeted the new entrepreneurs business who are actively involved in the NE program. The field survey was conducted at two branches of the GSBFC, named Sheldon (Tangail) and Jannatul (Dhaka). The following two cases provide the business professional success perspective to the NE program. We focused on the case of Sheldon and Jannatul, a new entrepreneur who has been leading an initiative aimed at increasing the standard of their life through the NE program.

4.1. Case One

Sheldon was 19 years old. He was able to study till class eight. He could not continue his studies due to financial problems. His father died when he was ten years old. His mother was a member of Grameen Bank. He has four brothers and sisters with lives his mother. His mother encourages him to contact with the GSBFC for his business investment money. His mother makes the bamboo handicraft item. One day he contacts the GSBF and submits his business proposal for equity money. He takes the training from the field station of GSBF. His business plan was selected for presenting on the design lab in Dhaka. He got USD 625 for the investment money of his business, and he invested more USD 375 from his mother. Sheldon started his business with a total of USD 1000. Now his business capital has increased USD 2000. He makes various bamboo baskets, fruit and flower baskets, hand fan. He is now a professional and successful businessperson. Many traders buy his product directly. The demand for his products has increased accordingly.

In the meantime, he has given back his business equity money to the investor. He created two jobs in his business. After meeting all costs including employees and other expenses, earns the profit USD 100 per month. He provided financial information to the funding company daily through mobile SMS. Sheldon has been a pioneer in this area. He can prepare the financial plan, calculate the daily income expenditure, determine the price of the product, and sell products to the customers by himself. He can write his daily expenditure in the accounts book. He understood how poverty could be overcome by doing the business.

4.2. Case Two

Jannatul who is an inspirational entrepreneur. Her mother was a respected borrower member of Grameen Bank. After finished the education, she tried to find a job. She took the tailor training and bought an old machine for cloth sewing. After a long struggle, she is a motivational entrepreneur in her society today.

One day her mother suggested to her for submitting a business plan to the GSBFC. Jannatul contacts with the field office of GSBFC and submitted her business plan. She joined the training camp of GSBFC and selected her business plan for the design lab. Her

business name was "Irina Fashion Tailors and Boutique House". The proposed business capital was USD 3600 which she invested USD 1800 from herself and USD 1800 from the GSBFC. After getting the capital money, she starts her business.

After getting the investment money, Jannatul starts her business and receives many orders for making the cloths from the customer. She prepares the daily accounts of her business and provides the financial information to the GSBFC through mobile SMS at the end of the day. Within a few days, her business grows up, and she returned her investment money with share transfer fees to the GSBF within three years. Now Janatul improved her economic condition. Janatul employed two unemployment peoples in her business.

Based on two cases study, we identified many success factors of new entrepreneurs have a significant relationship with the NE program success factors in Bangladesh.

5. KEY SUCCESS FACTORS OF THE NE PROGRAM

The NE program has been making vital contributions to economic development by providing Investment money to new entrepreneurs business. We observed there are some barriers to the NE program in Bangladesh such as lack of access to non-Grameen Bank unemployed peoples, payback the investment money, lack of social environment are also seen. These adversely can affect their contribution to more employment creation and poverty reduction. GSBFC, created much employment through the NE program in Bangladesh, shows the statistics:

Table: 1, Statistics of NE Program from 2013 and up to 2018

1	Total number of NE projects Presented	38,588
2	Total number of NE projects approved	38,253
3	Total number of new entrepreneurs funded	35,047
4	New entrepreneurs employed of their business	15,270
5	Total employment generation (4+5)	50,317

This data shows the total number of employment created through the NE program. At the same time, new entrepreneurs created many jobs for unemployment people in their business. In Bangladesh, the impact of small enterprises on specific socio-economic variables such as children's schooling, household nutrition, health, education is traceable (Chowdhury 2007). However, the new entrepreneurs play an important role in the improvement in education, nutrition, and the health condition of their family members. GSBFC properly addressed these aspects, where poor people become entrepreneurs for reducing poverty through the NE program. As a result, unemployment people will be able to stand on their own feet and the NE program will be developed around the world.

Entrepreneurs' business contributes significantly to unemployment and poverty reduction by providing much employment (Dhaliwal, 2016). They make employments growth of the nation by creating new jobs in the short and long-term (Kritikos 2014). It is our understanding that the primary measures of the success of the NE program are the sustainable impact that new entrepreneurs created their employment through the business and created many jobs for others. New entrepreneurs pay back their investment money to the GSBFC properly. However, our observation indicated that the NE program also benefits entrepreneurs in numerous ways.

Moreover, based on our study, certain success factors of the NE program have been identified which come through the NE program daily operations have been discussed below:

Family Background - (Hisrich & Brush 1987) argued that family background is important to entrepreneurs. In this case, most of the members of Grameen Bank stated the reason for joining the Grameen Bank's micro-credit program to be to improve their life through poverty alleviation and increase their income for a better life through income-generating activities. For running their small business, they take the loan from GB. The children of Grameen Bank borrowers take the business consultancy from their parents for their own business. Sheldon and Jannatul take the business consultancy from their mother accordingly.

Business strategy - A business strategy is a set of competitive moves and actions that a business uses to attract customers, compete successfully, strengthening performance, achieve organizational and goals outlines how business should be carried out to reach the desired ends (Neuman 2003). According to Namiki (1988) it is very difficult for small businesses to lead in the market where numbers of suppliers already exist. The focus should be on its existence in every way it should remain in the market. According to Joynt & Welch (1985), it is very hard to manage a growing business because whenever new small business grows it requires more investment and more professional. The expenses of business ultimately increase and it possible that the short-run profit of an organization decreases. Most organizations do not understand the phenomena this circle and go to a low level or stay at a small level. According to Hallberg (2000) in small businesses, the management team is the main factor. According to him, the entrepreneur's trust in the market also plays a vital role in small level business. NE program trains to new entrepreneurs' business strategies. They collect the sales order from their buyers and supply them as per their requirements. Also, if they face any problem with an excess stock of goods, then GSBFC provides them business advice. In our case study, we found, Sheldon and Jannatul followed the business strategy for increasing their sales.

Financial support - (Naudé 2011) had argued that the inability of entrepreneurs to access external and internal financing from banks and other financial institutions contribute to the high failure rates of business start-ups. Most unemployed poor peoples in Bangladesh do not own land, which is another factor of production and cannot access collateral against the loans. Most banks and financial institutions consider youth business start-ups as high-risk ventures, and therefore, decline to invest that venture. Being a developing country and having poor infrastructure, Bangladesh's economy has been operating through an inefficient financial market through which it is almost impossible for the poor to get loans from financial institutions, which require sufficient collateral.

The NE program has innovated a mechanism under which business equity money is providing to the second generation of Grameen Bank borrowers without any collateral. Sheldon and Jannatul presented their business plan on the design lab, which has organized by the funding company. GSBFC provides the business investment money of their business without any collateral. The findings on access to finance influence on the success of NE program start-ups revealed the existence of a positive relationship between GSBFC and the success of them.

Sales and Marketing - A surveillance is conducted by GSBF to verify whether the business is running smoothly of Sheldon and Jannatul. If the customers know that this business is operating by the new entrepreneurs then the customers try to buy the product from the new entrepreneurs business. Some indications of new entrepreneurs' good relationship are:

- Loyal customers buy the product or goods in credit from new entrepreneurs.
- New entrepreneurs' behaviour and honesty are very satisfactory. They can attract new customers.
- Old customers are willing to come to buy more products or services because of trust.

Sheldon and Jannatul used the GSBFC logo to promote their services to customers, and they got many customers. They always improve their service by taking into consideration all the feedback from customers. People come to them because of the uniqueness of their products. They are very creative in giving their services to the customers. All new entrepreneurs have learned from the GSBFC that the most important aspect of a business is not to generate profit but to attract and retain customers

Budgeting and Daily Cash Statements - Financial literacy topics such as record keeping, budgeting, personal finance, and savings were viewed to be more important to lower-income individuals. Record keeping is a fundamental skill a businessperson must possess (Gray, Sebstad, Cohen & Stack 2009). Budgeting, on the other hand, refers to the expenditure planning and cash flow analysis (Uddin, Chowdhury & Zakir 2009) which is very important to the success of the business operation and processes (Bragg & Burton 2006). However, (Torres & Nichole 2008) found that small business owners are not concerned about budgeting; their concern is more of the cash flow. Sheldon and Jannatul maintain the budget and daily cash statement. They take the training from the NE program on how to prepare the daily cash budget and how to minimize the daily personal expenditures. After accounting for the daily cash budget, they understand about the profit. Sheldon and Jannatul believe that the experience acquired through the NE program has given him the necessary ability and knowledge to maintain financial training.

Legal Compliance - Potential entrepreneurs with weak legal knowledge are usually unable to run their business properly and should need legal assistance to avoid penalties (Levie & Autio 2011). GSBFC provides the training for Sheldon and Jannatul about the legal transparency of their business.

Good Relations with Suppliers - The relationship between buyer and seller should not be a discrete event and need to see this relationship as an ongoing process (Cannon & Perreault, 1999; Dwyer, Schurr & Oh, 1987). Sheldon and Jannatul creates a good

relationship with suppliers. They maintain the business deal with the suppliers. Suppliers guarantee the best price and quality to retailers to maintain trust among them.

The NE program's success story in the alleviation of poverty in Bangladesh has resulted in widespread attempts of its replication in many other countries.

6. CONCLUSIONS

The study concludes that the NE program can contribute to the important role in poverty reduction and social-economic development in Bangladesh. We identified new entrepreneurs' business-related seven success factors, which are related to the NE program in Bangladesh. The most important finding of this case study is that the business skills of NE have a direct relationship with the development of the NE program in Bangladesh. New entrepreneurs become more enthusiastic to initiate their business after taking the training from the NE program. These significant relationships indicate that if the GSBFC can enhance this skill among the more unemployed peoples, it would lead towards the development of the NE program around the world. As a result, unemployed peoples will be able to stand on their own feet and reducing poverty.

This study considered poverty alleviation through the self-sustaining of the NE program. We believe strongly there will be a growing interest in the NE program for two main reasons. First, the corporate business peoples, NGOs or non-profit organizations can sustainably practice the NE program. This practice will be leading many unemployed peoples to create entrepreneurs for reducing their poverty. Secondly, in our conventional practice, NE programs are not engaged in a contest. The objective of GSBFC to reduce poverty through the NE program. The findings in this article have emerged from the field and the specific context for shaping current practice in GSBFC.

REFERENCES

- Azhar, A., Javaid, A., Rehman, M., & Hyder, A. (2010). Entrepreneurial intentions among business students in Pakistan. *Journal of Business Systems, Governance and Ethics*, 5(2), 13-21.
- Andrew, E. C., & Andrew J. O. (1994). Unhappiness and unemployment: *The Economic Journal*, 104(424), 648-659.
- Anokhin, S., Grichnik, D., & Hisrich, R. D. (2008). The journey from novice to serial entrepreneurship in China and Germany: Are the drivers the same? *Managing Global Transitions*, 6(2), 117-142.
- Singer, A. E. (2006). Business strategy and poverty alleviation. *Journal of Business Ethics*, 66(2-3), 225-231
- Bangladesh Bureau of Statistics (BBS) (2019). Dhaka, Bangladesh. www.bbs.gov.bd
- Bragg, M. & Burton, J. (2006). *Accounting And Finance For Your Small Business*. New Jersey, USA: **Wiley**.
- Bruton, G.D., Ketchen, D.J., & Ireland, R.D. (2013). Entrepreneurship as a solution to poverty. *Journal of Business Venturing*, 28(6), 683-689.
- Cannon, J. P., & Perreault, W. D. Jr. (1999). Buyer-seller relationships in business markets. *Journal of Marketing Research*, 36(4), 439-460.
- Chowdhury, M.J.A. (2007). Does the participation in the microcredit programs increase consumption of participating households? The Case of the Grameen Bank in Bangladesh. <https://econpapers.repec.org/paper/agsudcmdw/46545.htm>
- Dwyer, F. R., Schurr, P. H., & Oh, S. (1987). Developing buyer-seller relationships. *Journal of Marketing*, 51(2), 11-27.
- Dhaliwal, A. (2016). Role of entrepreneurship in economic development. *International Journal of Scientific Research and Management*, 4(6), 4262-4269.
- Elert, N., Andersson, F., & Wennberg, K. (2015). The impact of entrepreneurship education in high school on long-term entrepreneurial performance. *Journal of Economic Behavior & Organization*, 111, 209-223.
- Gray, B., Sebstad, J., Cohen, M., & Stack, K. (2009). Can financial education change behavior? Lessons from Bolivia and Sri Lanka. *Global Financial Education Program Financial Education Outcomes Assessment Working Paper #4*.
- Grameen Telecom Trust (GTT). (2010). Social business fund company, Dhaka, Bangladesh., <http://gtctrust.com/>
- Grameen Kalyan (GK). (1996). Social business fund company, Dhaka, Bangladesh., <http://www.grameenkalyan-info.org/>
- Grameen Trust (GT). (1989). Social business fund company, Dhaka, Bangladesh. <http://www.grameentrust.org/>

- Grameen Shakti Shamajik Byabosha (GSSB). (2011). Social business fund company, Dhaka, Bangladesh. <http://socialbusinesspedia.com>
- Hirich, R. D., & Brush, C. (1987). 'Do women entrepreneurs require different training'? *American Journal of Small Business*, 12(1), 27-36
- Hoang, H., & Gimeno, J. (2010). Becoming a founder: How founder role identity affects entrepreneurial transitions and persistence in founding. *Journal of Business Venturing*, 25(1), 41-53.
- Hallberg, K. (2000). *A market-oriented strategy for small and medium scale enterprises*. Working paper series. Washington, D.C.: The World Bank.
- International Labor Organization (ILO) (2013). Bangladesh: Seeking better employment conditions for better socioeconomic outcomes. https://www.ilo.org/global/research/studies-on-growth-with-equity/WCMS_229105/lang-en/index.htm
- Joynt, P., & Welch, L. (1985). A strategy for small business internalization. *International marketing review* 2(3), 64-73.
- Khashru, A., MFM. (2016): *The Power of Social Business*. Dhaka, Bangladesh: Anynna Prokasoni.
- Kritikos, A. S. (2014). Entrepreneurs and their impact on jobs and economic growth. *IZA World of Labor*. <https://wol.iza.org/articles/entrepreneurs-and-their-impact-on-jobs-and-economic-growth/long>
- Levie, J., & Autio, E. (2011). Regulatory burden, rule of law, and entry of strategic entrepreneurs: An international panel study. *Journal of Management Studies*, 48 (6), 1392-1419.
- Ludovick, L. S. (2013). Alleviating poverty through innovation and entrepreneurship. *Research Paper*, University of Florida, USA.
- Mead, D.C., & Liedholm, C. (2010). The dynamics of micro and small enterprises in developing countries. *World Development*, 26(1), 61-74.
- Mattar, F. (1994). *Pesquisa de Marketing: Metodologia, Planejamento, Execução e Análise*. São Paulo: Atlas.
- N. Namiki. (1988). Export strategies for small business. *Journal of Small Business Management*, 26(2), 32-37.
- Naudé, W. (2011). Entrepreneurship is not a binding constraint on growth and development in the poorest countries, *World Development*, 39, 33-44.
- Neuman, L. W. (2003). *Social research methods: Qualitative and quantitative approaches*. London, UK: Allyn & Bacon
- Oosterbeek, H., Van, P. M., & Ijsselstein, A. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review*, 54, 442-454.
- Oghojafor, B. E. A., Olayemi, O. O., Okonji, P. S., & Olayiwola, P. O. (2011). Entrepreneurship as an intervention strategy to poverty alleviation in developing economy. Tamkeen, Bahrain.
- Patton, M.Q. (1990): *Quantitative Evaluation and Research Methods*. Oaks, CA: Sage
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217-226.
- Singla, M., L. (2014). Microfinance and economic development in India: Growth and challenges. *International Journal of Research in Finance and Marketing*, 4(3), 1-13.
- Souitaris, V., Zerbinati, S., & Laham, Al., A. (2007). Do entrepreneurship program raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Firm Venturing*, 25, 566-591.
- Torres & N. L. (2008). Budget sense. *Entrepreneur*, 36(5):98-98
- Uddin, M., Chowdhury, R., & Zakir, A. (2009). Do we need to think more about small business capital budgeting? *International Journal of Business Management*, 4(1): 112-116.
- World Bank (2014). Preventing diarrhea through better water, sanitation and hygiene: exposures and impacts in low- and middle-income countries.
- World Bank (2018). Decline of global extreme poverty continues but has slowed.
- Yunus, M., Moingeon, B., & Ortega, L. (2010). Building social business models: Lessons from the Grameen experience. *Long range planning* 43(2/3), 308-325.
- Yunus, M. (2017). *A world of Three Zeroes: The New Economics of Zero Poverty, Zero Unemployment, and Zero Net Carbon Emissions*. NY, USA: Public Affairs.
- Yin, R. (2009). *Case Study Research: Design and Methods*. Oaks, CA: Sage.

RETURNS AND RISK ON BITCOIN: A VOLATILITY MEASUREMENT BY UNIT ROOT TEST

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ABSTRACT

Purpose - The major reason of performing this study is to examine volatility of the Bitcoin prices. As known, Bitcoin became more popular when its price movements changed radically. It has been increasing for years since the date of first issuance in 2010 and reached highest level in its history by testing 19,345 USD. Based on this price movement, risk and returns are taken together for making investment in Bitcoin since huge decreasing observed in respond to the these increases.

Methodology - In this study, Bitcoin prices are analyzed monthly basis through the time series analysis. Data related to closing prices of Bitcoin are obtained from investing.com web site. We established analysis based on sample consist of Bitcoin prices for the period between 2016 and 2019. Augmented Dickey Fuller (ADF) and Phillips Perron (PP) unit root test is applied to find out whether series are stationary or not.

Findings- According to test results, the series of Bitcoin prices are not stationary yet. Although different fluctuating degree can be seen by years, generally it can be stated that Bitcoin prices are still volatile.

Conclusion- Based on findings, Bitcoin prices may still be considered as volatile instrument. Therefore, investors should be careful when they want to include this investment tool to the portfolio since it represents risky instrument properties.

Keywords: Crypto currencies, Bitcoin, unit root test, time series.

JEL Codes: C00, C32

1. INTRODUCTION

Cryptocurrency may be considered one of the greatest inventions of the last century. It is also possible to define the cryptocurrency as a financial revolution, which has many advantages over the classical money concept issued by the governments. Cryptocurrencies are online digital payment tools that replace traditional paper money that is subject to physical circulation. The first example of cryptocurrencies is Bitcoin, which was introduced in 2008 by Satoshi Nakamoto. Nakamoto described cryptocurrencies as peer to peer version electronic cash (Nakamoto, 2008: 2).

The origin of the cryptocurrency concept online digital records and these records can be duplicated easily and don't bring costs and therefore it can be used many times in financial transactions (Chiu and Koepl, 2019: 1). Compared to credit cards with a cash payment system, it will be seen that the cash payment system provides more anonymity (Narayanan et.al, 2016:14). Because once the credit card is issued, the bank will be able to follow the personal expenditures more easily. However, this is not possible with cash payments. Basic characteristics of the Bitcoin can be stated as follows (Lee, 2015:37):

- It is based on system that works on decentralized peer-to-peer network. It means this system cannot be controlled by a single person, group or even government.
- It is also completely distributed that ensures every computer can connect to each other.
- The system is global and very fast. Thanks to this feature, it allows financial integration and the speed of the financial transactions are higher.
- It has reliability and secure system features. In this system there is no settlement risk. It is suitable for cost savings.

In the second part of the study, the previous studies included in the literature about Bitcoin are provided. In part 3, the application of the study is performed and in this section, whether the Bitcoin price series is stationary is measured by unit root tests. In the last part of the study, findings related to test results are analyzed and interpreted.

2. LITERATURE REVIEW

Adrian et.al (2015), they carried out an econometric analysis of the presence of bubbles claimed to exist in the Bitcoin market. They examined the short-term bubbles seen during the 2010-2014 period. In the second part of the 2011 - 2013 period, 3 large bubbles lasting between 66 and 106 are identified. They reported that the last bubble is the largest and resulted in the collapse of the Mt Gox Index.

Katsiampa (2017), investigated the optimal conditional heteroskedasticity model which is best suited to Bitcoin price data. The best model was found to be the AR-CGARCH model emphasizing the importance of including both a short- and long-term component of conditional variance.

Corbet et. al. (2018), investigated the price bubbles seen in the cryptocurrencies of Bitcoin and Ethereum by using an econometric method. Unlike the previous studies in the literature, the main drivers of price in both currencies have been examined. They produced significant rates in terms of economically and computationally and tried to determine the date of bubbles through these rates. According to the results of the studies, Bitcoin is almost at the bubble stage. Considering that there is no significant difference between the Bitcoin price at the time of the study and the current price level, it can be stated that Bitcoin is still at the bubble level.

Koutmos (2018), examined the empirical relationship between Bitcoin returns and trading activities. As a contribution to the current literature, which reveals that Bitcoin prices may act contrary to basic economic principles, this study investigated whether price movements are related to trading transactions. According to the results of the analysis, it was observed that a standard deviation of one unit in the transactions caused a 30% increase in returns on the third day following the shock. On the sixth day, however, he found that there was a price movement in the opposite direction and that all earnings were therefore lost. As a result of the bi-directional relationship between return and transaction activities, it was found that the deviation in returns had more effect on transaction activity.

Ozyesil (2019), examined the interactions between Bitcoin and Exchange Rates. He conducted VAR model to find out Bitcoin is becoming an alternative investment tool for the exchange rates. According to the results of analysis, there is no significant relationship between Bitcoin and USD and therefore it is concluded that Bitcoin and Foreign Exchange Rates have not become substitution for each other yet.

Mensi et.al. (2019), investigated the effects of structural breaks on Bitcoin and Ethereum price returns. In their studies, they have determined the structural changes and their long-term effects by using generalized autoregressive conditional heteroscedasticity models such as GARCH, FIGARCH, HYGARCH. They also found out that, by considering long memory and switching states the persistence level of both returns and volatility decreases.

Katsiampa et.al. (2019), by using BEKK model with three pairs of variables, they examined conditional volatility dynamics and conditional correlation relationships between Bitcoin-Ether, Bitcoin-Litecoin and Ether-Litecoin pairs of criterion currencies. Although the price volatility of the cryptocurrency is determined to be based on their own past shocks, they also observed bidirectional shock effects between Bitcoin and both Ether and Litecoin and the unidirectional spillovers effect from Ether to Litecoin. In addition, the unidirectional volatility spillover effect is observed between all three cryptocurrencies.

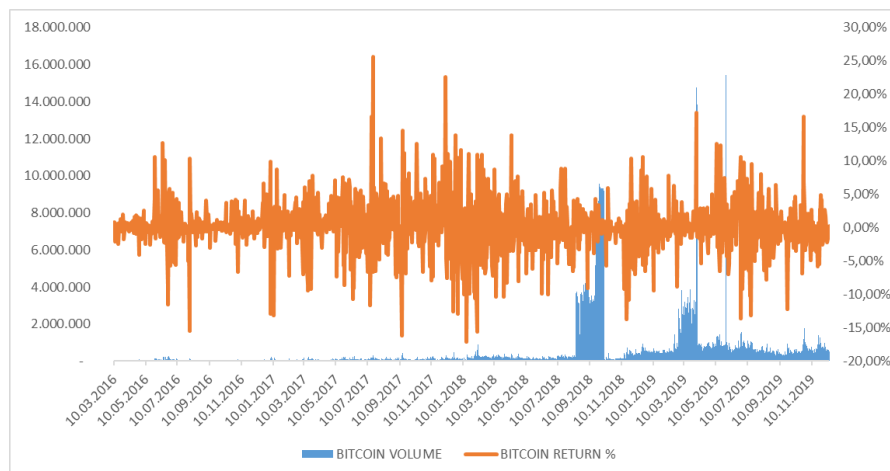
Geuder et.al. (2019), analyzed the bubble behaviors in Bitcoin prices during the period 2016 – 2018 by using The Phillips et al. (2015) PSY methodology. According to the results of the analysis, they found that the price bubble behavior was a common and repeated result of Bitcoin prices. In addition to this, they found that after 6 December 2017, the effect of bubble behavior on Bitcoin prices decreased.

3. DATA AND METHODOLOGY

With this study, volatility degree of the Bitcoin prices are calculated. Analysis is based on a sample includes Bitcoin prices monthly basis that covers the 10.03.2016 – 13.12.2019 period.

The data are obtained from the investing.com. In the selection of the analysis period, we tried to determine the broadest time range that fluctuating is beginning. Therefore, period that covers from 10.03.2016 to 13.12.2019 is chosen. In the final version of the sample, there are 1374 daily data. The data used in the analysis is shown in Graph 1 as follow:

Graph 1: Bitcoin Returns and Volume



Stationarity of the series are examined by the Augmented Dickey Fuller (ADF) and Phillips Perron (PP) tests. ADF is selected because of being most widely preferred approach for unit root test. In addition, PP is chosen because it considers that series may include trend and therefore it provides more stable results than ADF.

Descriptive Statistics of the Sample are provided in Table.1 as follows:

Table 1: Descriptive Statistics of the Sample

(10.03.2016 – 12.12.2019)	BITCOIN
Mean	5.056,77
Median	4.335,10
Maximum	19.345,50
Minimum	408,20
Std. Dev.	3.905,47
Skewness	0,606
Kurtosis	- 0,183
Jarque-Bera	86,07
Probability	-
Sum	6.942.946,40
Observations	1373

4. TEST RESULTS AND DISCUSSIONS

In order to get robust results, stationary degree of the series should be examined. Stationary level of the series are determined by unit root tests. If the series are stationary, the regression model that will be established on this series will not cause spurious regression problem. Because when a series become stationary, it will move around it average so that outlier numbers (observations) can be eliminated. In this study, unit root test is conducted via the ADF and Phillips (PP) approaches.

Established hypotheses of these tests are shown as follow:

H_0 : Series are not stationary.

H_1 : Series are stationary.

To find out whether the series are stationary or not, probability value of the ADF and PP tests should be taken into consideration. If the probability value is lower than %5 than it is accepted the series are stationary. If the series are not stationary and becomes stationary after calculating their first differences they are called as I(1).

We performed ADF and PP unit root tests and results are shown as follow:

Table 2. Unit Root Test Results

Variable	Origin Level		First Difference	
	Probability Value of the ADF Test	Probability Value of the PP Test	Probability Value of the ADF Test	Probability Value of the PP Test
LnBIT	0.65	0.57	0.001*	0.001*

Note: The optimum lag length is determined according to Akaike Criterion. Optimum bandwidth in the PP test is determined based on Newey-West Method. * refers to stationarity at %10 significance level.

According to test results, it can be inferred that Bitcoin prices for the 10.03.2016 – 12.12.2019 are not stationary based on probability values. They become stationary once their 1st difference are taken. Therefore, it suitable to define Bitcoin price series as I(1). Following illustration indicated remarkable differences between original level values and first differences.

Figure 1:. Histogram Charts of Original level Values and 1st Differences Values



As Figure 1 shows, based on the original level values, Bitcoin does not tend to indicate normal distribution properties while after calculating first differences, it became to represent normal distribution properties.

5. CONCLUSIONS AND RECOMMENDATIONS

The concept of cryptocurrency is one of the most popular topics in the financial universe thanks to its radical difference from the traditional money concept and its revolutionary innovations. Especially Bitcoin hat is emerged in 2008, has attracted the attention of many investors due to its price performance. Bitcoin prices have seen historical record levels in the last 10 years and reached an all-time high of \$ 19,345 on 16.12.2017. Later on, many cryptocurrencies were issued thanks to the advantages of the cryptocurrency concept and the price performance of Bitcoin. Many countries even went on to issue their own cryptocurrency.

In this study, we discussed whether Bitcoin can still be considered risky as an investment tool. We analyzed whether a time series of Bitcoin prices is stationary. For this purpose, we used ADF and PP unit root tests and interpreted the results. For analysis, we used Excel 2016 and Eviews 9 program.

According to the analysis results, we found that Bitcoin prices are not stable in both unit root tests. We observed that bitcoin prices became stationary only after the first differences are calculated Based on this finding, it is possible to interpret that Bitcoin, as an investment instrument, still follows a volatile course. It will be more beneficial for investors to evaluate Bitcoin with its risk and its returns together to generate higher capital gains. Since it is possible to get stationarity in Bitcoin prices after calculating 1st differences, investors certainly should pay attention volatility of Bitcoin prices in order not to face with spurious regression problem. Because series are based on first differences do not represent original values that’s why it may

provide misleading information for the investors. Particularly, when needed to establish regression analysis, cointegration analysis should be performed to find out relationship of Bitcoin prices with another variable.

REFERENCES

- Adrian (Wai-Kong) Cheung, Eduardo Roca & Jen-Je Su (2015) Cryptocurrency bubbles: an application of the Phillips–Shi–Yu (2013) methodology on Mt. Gox bitcoin prices, *Applied Economics*, 47:23, 2348-2358
- Chiu, J., Koeppl, T.V. (2019). *The Economics of Cryptocurrencies – Bitcoin and Beyond*, Bank of Canada Staff Working Paper, 1-56.
- Corbet, S., Lucey, B., Yarovaya, L. (2018). Datestamping the Bitcoin and Ethereum Bubbles, *Finance Research Letters*, 26, 81-88.
- Dickey, D. and W. Fuller (1979). "Distribution of the Estimators for Autoregressive Time Series with a Unit Root," *Journal of the American Statistical Association*, 74, 427-431.
- Dickey, D. and W. Fuller (1981). "Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root," *Econometrica*, 49, 1057-1072.
- Geuder, J., Kinatader, H., Wagner, N.F. (2019). Cryptocurrencies as Financial Bubbles: The case of Bitcoin, *Finance Research Letters*, 31, 179 - 184.
- Göçer, İ. (2016). *Lisans ve lisansüstü için ekonometri*. 1. Baskı. İzmir: Lider Yayınları.
- Katsiampa, P. (2017). Volatility Estimation for Bitcoin: A Comparison of GARCH Models, *Economic Letters*, 158, 3-6.
- Katsiampa, P., Corbet, S., Lucey, B. (2019). Volatility spillover effects in leading cryptocurrencies: A BEKK-MGARCH analysis *Finance Research Letters*, 29, 68-74.
- Koutmos, D. (2018). Bitcoin Returns and Transaction Activity, *Economic Letters*, 167, 81-85.
- Lee Kuo Chuen, D. (ed.) *Handbook of digital currency*, 1st edn, Elsevier (2015)
- Nakamoto, S., 2008. *Bitcoin: A Peer-to-Peer Electronic Cash System*. Bitocin.org.
- Narayanan, A., Bonneau, J., Felten, E., Miller, A., Goldfeder, S. (2016). *Bitcoin and Cryptocurrencies Technologies*, Princeton University Press.
- Mensi, W., Al-Yayhee, K.H., Kang, S.H. (2019), Structural breaks and double long memory of cryptocurrency prices: A comparative analysis from Bitcoin and Ethereum, *Finance Research Letters*, 29, 222-230.
- Ozyesil, M. (2019). A research on interaction between Bitcoin and foreign exchange rates. *Journal of Economics, Finance and Accounting (JEFA)*, V.6(1), p.55-62.
- Perron, P. and S. Ng. (1996). "Useful Modifications to Some Unit Root Tests with Dependent Errors and their Local Asymptotic Properties," *Review of Economic Studies*, 63, 435-463.
- Phillips, P.C.B. and P. Perron (1988). "Testing for Unit Roots in Time Series Regression," *Biometrika*, 75, 335-346.
- Tari, R. (2012). *Ekonometri*. 8. Baskı. Kocaeli: Umuttepe Yayınları.
- www.investing.com, (Accessed in 15.12.2019).



ECONOMIC CHALLENGES OF DRUG POLICY IN GEORGIA

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ABSTRACT

Purpose - Georgian drug policy in last dacades can be characherized as a strong prohibitive policy. Application of restrictive sanctions are accompanied by imprisonment or monetary fines. Punishment policy is an economic incentive which aims to reduce the level of drug use and the harm caused by it.

In this paper, we examine how the drug market responds to restrictive policies. We analyze government supported incentives for 20 years and their impact on drug distribution. Our analysis shows that such a policy does not lead to the reduction in consumption. Banning certain types of drugs causes the demand to responds by switching to alternative substances. Thus in this article, we examine how the drug market responds to prohibitive policies and explain why there is no effect on the level of drug demand during observed period.

Methodology - The article reviews the current situation on the Georgian drug market in light of the economic forces operating there. The work mainly uses review approach. It combines various research findings that have been done over the last 20 years. Changes in drug demand and supply are presented as economic models.

Findings- Research findings show that drug circulation, like any other goods and services, is managed by the principles of economics and the market. In addition to the usual supply and demand that determines the price and quantity of drugs on the black market, it also responds instantly to incentives, including prohibitions and sanctions. Comparative analyses of the secondary data show decreased effectiveness of the Ministry of Internal Affairs while the incidence and prevalence of intravenous users are increasing. The decreased presure from the law enforcements may explain the increased demand on heroin and subotoxin, as well as on hallucinogens and new psychoactive substances in contemporary days.

Conclusion- Drug policy in Georgia, which is based on prohibitive approach is ineffective. The volume of drugs available on the market is determined by the increasing demand in recent years. Steps to reduce supply are forcing suppliers and consumers to look for efficient and safe ways to meet their needs.

Keywords: Illicit drugs, prohibition, drugpolicy, decriminalization, substances

JEL Codes: J16, M50, M54

1. INTRODUCTION

Government drug policy in general can be described in two ways - the application of prohibitive sanctions against drug market implying imprisonment and monetary fines to drug users and suppliers and so-called humane approach that includes prevention, treatment and other methods, including decriminalization and liberalization policies. Regardless of the fundamental difference, both drug policies have one common goal - to reduce the harm caused by drug use. Accordingly, any decision to pursue a particular policy should be based on a comparison of the estimated costs and benefits (damage) that may arise as a result of the implementation of these policies. In this article we discuss the impact of prohibitive policies on changes in drug use

Circulation of illicit drugs as well as any goods are managed by the principles of economics and the market. Besides of usual demand and supply forces, which define the price and amount of distributed drugs on the black market, market immediately reacts upon stimulus, including prohibitions and sanctions.

If we take a look at the trends of drug use in Georgia, the following dynamics can be observed: from the beginning of 90th opium, so called "black", was predominated on black market. The "black" was widely widespread in the countries of former Soviet Union, especially in those regions, where the wild poppy grew. From the end of 90th to 2003-2004 years the portion of heroine was gradually increasing. These were the years of prosperity for the drugs market, because the handmade drugs were substituted by heroine manufactured with more sophisticated technology and distributed under the unofficial support by the law enforcement representatives.

In 2003, when the authority of rose revolution reformed law enforcement system and the ways through which Georgian drug users got heroine were locked. Considering that demand for drugs is sufficiently inelastic with respect to outward factors changing, which means that demand on drugs insignificantly changes in the conditions of price increasing or/and restriction of police pursuing, drug users started consuming homemade opioids got from confectionery poppy seeds

Shortly after, the authority prohibited this product, it was totally removed from trading chain and during 2004-2008 demand on drugs was changed again - homemade drugs were substituted by injection drugs made from subutex pills (Report 2012) containing buprenorphine illegally imported from different countries of Europe (Burchuladze, 2011).

These years are characterized by anti-drug campaign. In 2006 zero tolerance was declared towards drug users and massive inspections were begun in the streets on the bases of reasonable doubt (Vardiashvili 2013). According to another research, in 2008, 45000 people were detained as a result of this campaign, the proceeding was started over 30000 people concerning to drug usage (Otiashvili at all 2011).

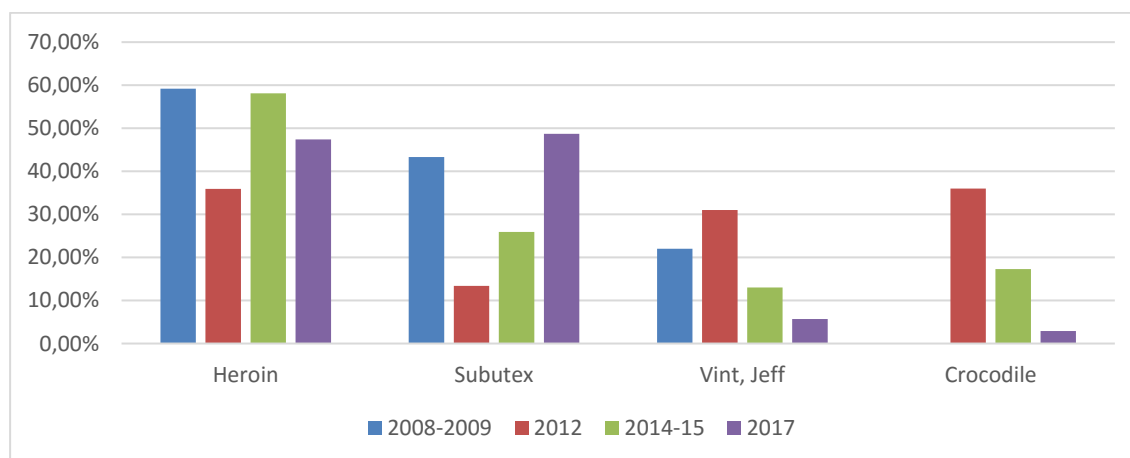
2. DEMAND SHIFTING AND SUBSTITUTES

Such drastic deterioration of situation on the Georgian drug market put forward the significance of substitutes. The users started consuming homemade injecting drugs. In 2008-2009 handmade stimulators were used, which were made from cough medicines containing ephedrine, which could be bought in the country pharmacies without a prescription. (Otiashvili, 2008). Slangy name of such drug was "Vint" in Georgia, which is characterized by long-lasting effect. In this period, also well forgotten old handmade drug "Jeff" was spread out, which also used ephedrine and the drug was made by the way of chemical reaction with potassium permanganate. Unlike Whitt, Jeff is a short-acting stimulant. Medicines containing Ephedrine have been banned since 2011 (Alavidze et al., 2015), potassium permanganate was removed from the trading chains (Parliament of Georgia, 22/05/2012). However, during the same period, the codeine-containing drug called "crocodile" was added to the range of easily accessible handmade injection spectrum (Sikharulidze, 2012).

In 2014 pharmacy drug addiction was significantly restricted as a result of tightening of prescription procedures. As a result supply of drugs on Georgian black market was extremely reduced, though drugs were still was on demand. The demand on drugs could only be satisfied by "crocodile" (Alavidze et al., 2016), which was a very devastating drug for human body, besides that, consuming "crocodile" was related to the serious neurological disorders and atrophy of human organs (that's where the name "crocodile" comes from) the overdosing risk caused by it was very high (Sikk, 2007);

Figure #1 reflects the results of various studies conducted in 2009-2017. This figure clearly shows the changes that the subutex black market has undergone. The increased activity of the law enforcement system initially led to a decrease in the availability of this illegal substance on the market. In economic terms, these steps were directed to restrict supply of drugs on the market. Although, market demand remained unchanged and "Vint" and "Jeff" replaced Subutex. In 2012, some chemicals and medicines containing ephedrine were banned - these steps were still directed to reduce supply. But again, the demand for medicines has not decreased, and since 2012 even more dangerous drug – "crocodile" has come into circulation. The only drug substance that remained unchanged for many years was heroin with its high consumption rate, a large share of which was in western Georgia, including Batumi in which neighbourhood of Turkey probably has been playing an important role. (Curatio, International Foundation; Bemoni, Public Union, 2013).

Figure 1: Injection of Drugs



Source: (Curatio, International Foundation; Bemoni, Public Union, 2009); (Curatio, International Foundation; Bemoni, Public Union, 2013); (Curatio, International Foundation; Bemoni, Public Union, 2015); (Curatio, International Foundation; Bemoni, Public Union, 2017)

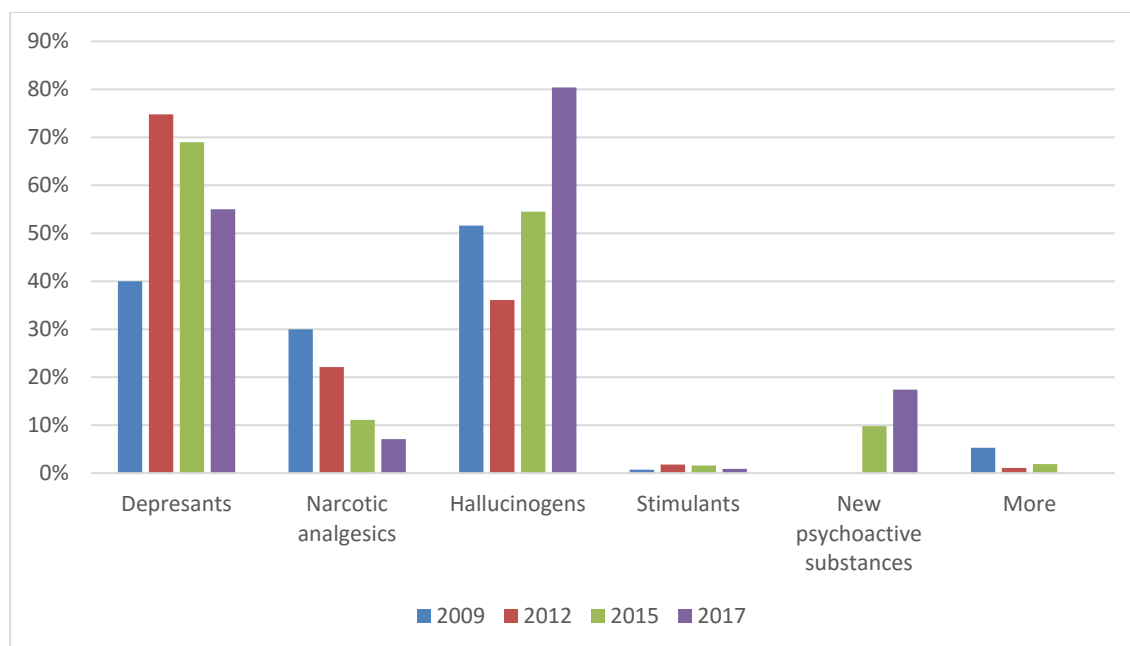
In a study published in 2015, we pointed out and predicted that drug restriction policies in the market would not affect drug demand reduction and that drug users could adapt to new conditions by finding new drugs based on market restrictions. We noted that the tightening of the pharmacy prescription after 2014 will create new stimulus for the illegal drug market. A gradual decrease in pharmacy drug addiction and the reduction of crocodile consumption would begin, the cause of latter would be premature death of consumers and, probably, the use of heroin would remain unaffected. (Khurtsia & Tsertsvadze, 2015)

Subsequent years have shown that the market has been completely reacted according to the laws of economics, and as seen in Figure # 1 by 2017, heroin still holds the leading position among the most commonly used intravenous drugs, although the most commonly used drug is buprenorphine. In contrast, the use of ephedrine ("Jeff", "Whitt") and dezomorphine ("Crocodile") containing drugs were decreased due to increased availability of heroin and subutex.

The same trend, in particular the policy of supply reduction, is also observed in the market of non-injection drugs. The following figure # 2 shows how the demand for pharmacy drug addicts (depressants) changed in 2009-2012, when supply of narcotic analgesics and hallucinogens was restricted. Since 2012, depressants have been on the leading positions in non-injection drug use, though tightening pharmacy prescription rules have led to declining consumption trend (from 74.8% in 2012 to 69% in 2015). However, since 2015, we have witnessed the emergence of new psychoactive substances. It is noteworthy that if the share of injecting drug users had previously been low in non-injecting drug use, by 2015 a large proportion of injecting drug users have used non-injectable drugs (82.2%). At the same time, the share of new psychoactive drugs, which are consumed through smoking (synthetic marijuana, bio, spas), has doubled.

It is critical to note that the spread of new psychoactive substances was facilitated by the Internet and online payment systems. The use of new technologies in the drug market reaches a large scale. According to articles published in local media, the supplier and the consumer are connected to each other using information technologies and agree on price and place of purchase of drugs. Payments are usually made through international remittances. Such a scheme ensures the security and inaccessibility of the supplier from the law enforcement structures.

Figure 2: Non-injectable Drug Use



Source: (Curatio, International Foundation; Bemoni, Public Union, 2009) ; (Curatio, International Foundation; Bemoni, Public Union, 2013) ; (Curatio, International Foundation; Bemoni, Public Union, 2015) ; (Curatio, International Foundation; Bemoni, Public Union, 2017)

3. SECONDARY DATA ANALYSES

Despite government restrictions on the drug market, the number of drug users in Georgia is gradually increasing. Studies conducted to evaluate the pool of problem injecting drug users in 2009-2017 revealed a significant increase. In 2009, using the multiplier method and consensus with field experts, the number of problematic injecting drug users in Georgia was estimated at 40,000, with a prevalence of 1.5% (Sirbiladze, 2010). In 2012, different method was used for the assessment, and the number of users increased to 45,000 (prevalence 1.65%) (Sirbiladze, 2013). Despite the increase in indicators, experts have refrained from validating this trend as different methodologies have been used (Alavidze et al., 2015).

In the following 2014 and 2016, the Bemoni Society and the International Foundation Curatio carried out an assessment of the population of injecting consumers using two measurement methods — they estimated the scale of the network and measured the multiplier coefficients and calculated measurement indicators. Both studies were followed by expert consensus and the number of injecting drug users was defined (BPU & CIF, 2015, 2017). The results of all four studies are summarized in Table # 1 below.

Table 1: Number and Prevalence of Injecting Drug Users in 2009-2016

Years	Injecting drug users	Prevalence among injecting drug users
2009	40,000	1.50%
2012	45,000	1.65%
2014	49700	2.02%
2016	52500	2.24%

On the other hand Ministry of Internal Affairs annually publishes its report about recorded criminal cases. Statistical analyses retrieved from the MIA shows a decline in drug crime during the period of 2014-17 (see table #2 below). Data published on the MIA's website reflects cases registered and opened under Articles 260-274 of the Criminal Code. It is noteworthy that in 2017, compared to 2014, the number of drug offenses decreased by 34.87%. In 2017, 1998 cases of illegal production, purchase, storage, shipment, transfer and / or use of drugs were detected (article 273 of the Criminal Code). This indicates

that by the effort of the law enforcements only 4% of those drug users were identified, the number of which was revealed in the study of Bemoni Society and the International Foundation Curatio (BPU & CIF, 2016, 2017).

Comparative analyses of the statistical data of the MIA and Curatio and Bemoni study (it should be mentioned that prior to 2017, both injecting and non-injecting drug use was illegal according to article 273 of the Criminal Code), shows the number of crimes reported in accordance with Article 273, and thus the effectiveness of the Ministry of Internal Affairs is decreasing while the incidence and prevalence of intravenous users are increasing. As these two should correlate with each other this finding demonstrates the following options: either the efficiency of the Ministry of Internal Affairs has decreased, and this institution is not able to maintain effective control over drug use, or high-profile cases in recent years (the case of Beka Tsikarishvili, decisions of the Constitutional Court) have affected the current drug policy and the oppression of drug use is no longer among priorities of contemporary public policy in Georgia.

On the one hand, the number of registered crimes for smuggling and purchasing of psychotropic substances has not been reaching even 100 cases per year, on the other hand the use of new psychotropic substances started in 2015 increased by 7% in 2017, this directly indicates how the role of the Ministry of Internal Affairs ineffective during this period. The decreased pressure from the law enforcements may explain the increased demand on heroin and subotoxin, as well as on hallucinogens and new psychoactive substances in contemporary days.

The reviewed data indicates that drug circulation in Georgia is governed by the basic principles of a market economy. Drug policy directed toward destimulation of supply is ineffective. The number of drugs available in the market is determined by the increasing demand in recent years. Steps to reduce supply are forcing suppliers and consumers to look for efficient and safe ways to meet their requirements.

Table 2: Registered Drug Offenders in Georgia (2014-2017)

Articles of CC	2014	2015	2016	2017	Crime changes in 2017 in comparison with 2014 as a base	
					n	%
Drug Crime 260-274	7312	5126	5196	4762	-2550	-34.87%
Heavy - 260, 261-III-IV, 262, 263-III-IV, 264-II-IV, 265-II-III, 266. 267. 268-II-III, 271-III-IV, 272-II-III.	3087	2424	2887	2636	-451	-14.61%
Drug smuggling 262	323	272	248	200	-123	-38.08%
Purchase, storage or sale of drugs 260	2737	2112	2473	2327	-410	-14.98%
Psychotropic drugs smuggling 263	27	32	27	20	-7	-25.93%
Purchase, storage, sale of psychotropic means 261	88	85	96	79	-9	-10.23%
Illegal sowing of plants containing drugs 265	153	155	178	128	-25	-16.34%
Substance use 273	3978	2462	2165	1998	-1980	-49.77%
All the others 264, 266-272, 274	6	8	9	10	4	66.67%

Source: MIA web site: <http://police.ge/en/useful-information/statistics/skhvadaskhva-sakhis-statistika-kvlevebi>

4. FINDINGS

As indicated above, study analyses show that drug circulation, like any other goods and services, is managed by the principles of economics and the market. In addition to the usual supply and demand that determines the price and quantity of drugs on the black market, it also responds instantly to incentives, including prohibitions and sanctions. Comparative analyses of the secondary data shows decreased effectiveness of the Ministry of Internal Affairs while the incidence and prevalence of intravenous users are increasing. The decreased pressure from the law enforcements may explain the increased demand on heroin and subotoxin, as well as on hallucinogens and new psychoactive substances in contemporary days.

It should be noted that according to another research findings (Bergen-Zico et al., 2017), the costs required to implement a punitive policy did not lead to behavioral changes in the career of drug addicts, thus confirming the ineffectiveness of such policies. One of the main objectives of this study was to determine whether punitive measures would prevent drug addicts from stopping the use of illegal substances. The results showed that the majority of respondents resumed drug use three months after the judgment, and they all returned to drugs 11 months later. This finding is an important indicator of how crucial the study is to evaluate policy effectiveness.

5. CONCLUSION

From this review we can conclude that drug policy directed toward destimulation of supply is ineffective. The number of drugs available in the market is determined by the existing demand on drugs. Steps to reduce supply are forcing suppliers and consumers to look for efficient and safe ways to meet their requirements and as a result demand is shifted to other substances thus substituting current demand with new (or old) ones.

Therefore, before the government starts any preventative policy, policymakers should analyse other factors which might have even more influential features than punishment and the risk of being imprisoned. So the question still remains - what determines consumption, what causes the inelastic nature of drug use, and whether the drug policy based on decriminalization and liberalization is an effective alternative to reduce the harm?

REFERENCES

- Bergen-Cico, D., Otiashvili, D., Kirtadze, I., Zebransky, T., & Tsertsvadze, V. (2017). Cost analysis of Georgia's street level drug testing policy. *Journal of Drug Policy Analysis* 10 (2) , p. 1-22.
- BPU, BP, & CIF, CI (2015). *Population Size Estimation of People Who Inject Drugs in Georgia 2014*. Tbilisi: CIF, p. 1-51
- BPU, BP, & CIF, CI (2017). *Population Size Estimation of People Who Inject Drugs in Georgia 2016*. Tbilisi: CIF. p. 1-54
- Curatio, International Foundation; Bemoni, Public Union. (2009). *Bio-behavioral surveillance surveys among injecting drug users in Georgia (Tbilisi, Batumi, Zugdidi, Telavi, Gori, 2008 - 2009)*. study report. Tbilisi: CIF p. 1-160.
- Curatio, International Foundation; Bemoni, Public Union. (2013). *HIV risk and prevention behaviors among People who inject drugs in six cities of Georgia Bio-behavioral surveillance survey in Tbilisi, Batumi, Zugdidi, Telavi, Gori, Kutaisi in 2012*. Tbilisi: CIF, p.1-130.
- Curatio, International Foundation; Bemoni, Public Union. (2015). *HIV risk and prevention behaviors among People Who Inject Drugs in seven cities of Georgia. Bio-Behavioral Surveillance Survey in seven cities of Georgia*. Tbilisi: CIF p.1-58.
- Curatio, International Foundation; Bemoni, Public Union. (2017). *HIV Risk and Prevention Behaviors Among People Who Inject Drugs in Seven Cities of Georgia Integrated Bio-Behavioral Surveillance Survey in seven cities of Georgia*. Tbilisi: CIF p.1-156.
- Khurtsia, L., & Tsertsvadze, V. (2015). Drugs, Silk Road, Bitcoins. *World Academy of Science, Engineering and Technology, International Science Index, Economics and Management Engineering* (pp. 9 (7), 1529). Istanbul: WASET.
- Otiashvili, D., Kirtadze, I., Tsertsvadze, V., Chavchanidze, M., & Zabransky, T. (2012). *How Effective Is Street Drug Testing*. Tbilisi: *Alternative Georgia*. Tbilisi: altgeorgia, p. 1-39.
- Sirbiladze, T. (2010). *Estimating the prevalence of injecting drug use in Georgia: Consensus report*. Tbilisi: Bemoni Public Union, p. 1-90.
- Sirbiladze, T. (2013). *Estimating the prevalence of injecting drug use in Georgia: Consensus report*. GFATM, p. 1-91.
- Alavidze, S., Balanchivadze, N., Batselashvili, L., Duchidze, N., Javakhishvili, J., Kikvidze, T., Tsertsvadze, V. (2015). Drug Situation in Georgia. Annual Report 2013. Tbilisi: Alternative Georgia, p.1-44
- Alavidze, S., Duchidze, N., Kirtadze, I., Otiashvili, D., Razmadze, M., Sturua, L., Javakhishvili, J. (2016). Drug Situation in Georgia. Tbilisi: Alternative Georgia, p.1-44.
- Burchuladze, n. (06 06 2011). Poppy Case. The Kviris Palitra magazine. p. 11.
- The Parliament of Georgia. (22/05/2012). The Law of Georgia on Narcotic Drugs, Psychotropic Substances and Precursors, and Narcological Assistance. Tbilisi: Legislative Herald of Georgia, p. 1-20.
- Javakhishvili, J., Balanchivadze, N., Kirtadze, I., Sturua, L., Otiashvili, D., & Zabransnicki, T., (2012). Drug Situation in Georgia. Tbilisi: Alternative Georgia, p. 1-24.