EGE AKADEMİK BAKIŞ

Ekonomi, İşletme, Uluslararası İlişkiler
ve Siyaset Bilimi Dergisi

EGE ACADEMIC REVIEW

Journal of Economics, Business Administration,
International Relations and Political Science

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A Cultural Perspective of The Glass Cliff Phenomenon*

Cam Uçurum Olgusuna Kültürel Bir Bakış

Sebahattin YILDIZ[1]
Mehmet Fatih VURAL[2]

https://orcid.org/0000-0001-7625-5358
https://orcid.org/0000-0002-7822-6400

ABSTRACT

The purpose of this paper is to reveal whether the phenomenon of the glass cliff, a concept related to gender discrimination, is valid in Turkey, where the level of femininity is relatively high. While the sampling method used was convenience sampling, the data collection tool was a questionnaire. The study was conducted with 240 managers in the business world and the appointment to a glass cliff position was assessed in terms of "suitability, leadership, and trust" dimensions. The findings revealed that managers did not opt for a female executive candidate as the CEO, using a scenario in which the "company performance is poor." Accordingly, in consideration of contextual fundamentals, it can be suggested that the concept of the glass cliff, a term coined by psychologists Ryan and Haslam in the United Kingdom, where masculinity is predominant, may not be valid for Turkey, where the level of masculinity is relatively low.

Keywords: Career management, gender, gender discrimination, glass cliff, glass ceiling, Turkish culture.

ÖZ

Bu çalışmanın amacı cinsiyet ayrımcılığıyla ilgili güncel bir kavram olan cam uçurum fenomeninin dişillik seviyesi kısmen yüksek olan Türkiye'de geçerli olup olmadığını araştırmaktır. Örnekleme metodu kolayda örnekleme iken veri toplama aracı ankettir. Çalışma iş dünyasındaki 240 yöneticiye uygulanmıştır ve bir cam uçurum pozisyonuna atamada "uygunluk, liderlik ve güven" boyutları dikkate alınmıştır. Bulgular göstermiştir ki yöneticiler şirket performansının kötü olduğu bir senaryoda, kadın yönetici adayını CEO olarak tercih etmemişlerdir. Buna göre bağlamsal temeller dikkate alındığında erilliğin baskın olduğu Birleşik Krallıkta psikolog olan Ryan ve Haslam tarafından ortaya atılan cam uçurum kavramının erillik seviyesinin kısmen düşük olduğu Türkiye'de geçerli olamayabileceği söylenebilir.

Keywords: Kariyer yönetimi, toplumsal cinsiyet, cinsiyet ayrımcılığı, cam uçurum, cam tavan, Türk kültürü.

Introduction

Women who seek leadership positions are frequently faced with barriers that hinder their progress (Mulcahy and Linehan, 2014: 425). Factors that prevent women from being promoted to management positions or impair their career development include stereotypes, lack of mentorship, inability to become involved in networks, discrimination in the workplace, family issues and becoming one's own boss (Dzanic, 2009: 9-10).

In contrast to the concept of the glass ceiling, which refers to the subtle, i.e. invisible (glass) barriers (ceilings) encountered by women in their endeavor to reach the higher echelons of an organizational hierarchy, the "glass cliff" metaphor describes a new form of gender discrimination faced by women who have already overcome the glass ceiling and who are appointed to riskier positions than those of their male colleagues (Bruckmiller, Ryan, Rink and Haslam, 2014: 202). The "think manager-think male" stereotype coined by Schein (1975) constitutes the basis of most prevailing forms of gender discrimination in the workplace (Ryan, Haslam, Hersby and Bongiorno, 2011: 470). In turn, within the context of "think crisis-think female"

[1] Associate Professor. Kafkas University, Department of Management, syildiz@kafkas.edu.tr
[2] Research Assistant. Ardahan University, Department of Management, m.f.vural@hotmail.com

concept, obtaining a successful leadership position that would be particularly challenging and demanding for women, as they may be preferred for failing positions, contributes to the negative perceptions of their leadership ability (Chambers, 2011: ii).

In an investigation of 100 listed companies on the British stock exchange, in a study analyzing the conditions under which women are assigned to leadership positions and the outcomes of such appointments on company performance, Judge (2003) revealed that companies with women on their executive boards generally faced poor market performance. The study claimed that the ability of women to smash the glass ceiling and progress to the executive of boards of companies in the country was rather detrimental to the companies' performance and market value. On the other hand, in emphasizing that poor company performance and adverse circumstances lead to the appointment of women to leadership positions, rather than vice versa, Ryan and Haslam (2005) proposed the concept of a glass cliff, referring to appointments to management positions under adverse circumstances, to be the cause of poor company performance.

An evaluation of the situation in Turkey from a cultural standpoint (Hofstede, Hofstede and Minkov, 2010) reveals that while Turkey has relatively lower masculinity levels (index = 45 for Turkey), countries such as the United Kingdom, where the glass cliff phenomenon is observed, have higher masculinity levels (index = 66 for the UK). Studies into this phenomenon have on the whole been carried out in countries such as the United Kingdom and the United States, where patriarchal roles and characteristics such as power, control and success are mostly in the hands of men. In cultures such as Turkey, where femininity is more prevalent, the glass cliff phenomenon may not be applicable, because in cultures where femininity is more dominant, management appointments differ only slightly between women and men. For this reason, the appointment to a managerial role in such countries follows a more egalitarian approach. Whether or not this is also applicable in Asian and Middle Eastern countries has yet to be investigated. The reasons for carrying out this study in Turkey is based on the fact that no study has been carried out to date on this subject in the Turkish context, and unlike the other studies, Turkey has a feminine culture among the cultural dimensions determined by Hofstede, and that the employment rate of women in Turkey is low (28%), and much lower in management positions.

The purpose of this study is to identify whether or not the concept of the glass cliff, which can be considered as a form of gender discrimination, is prevalent in Turkey. The investigation of whether the participants opted for women as CEO candidates in a scenario in which company performance is poor within the context of Turkey would be the main contribution of this study. In addition to this, an attempt will be made to determine how the glass cliff phenomenon differs within different cultures, and also whether the phenomenon can actually be applied to different cultures. At the same time, the study will attempt to answer the question of whether it is men or women who actually steer women towards the "edge of the cliff" in cases and in countries where the glass cliff phenomenon exists. In literature, the glass cliff phenomenon is related to the "leadership ability" and "suitability" dimensions (Haslam and Ryan, 2008), while in the present study, the "trust" dimension (Chambers, 2011) was also taken into consideration, in addition to these two other dimensions, as this contributes to a more comprehensive and novel approach to the glass cliff concept.

In the glass cliff concept, which can be defined as a tool for gender discrimination, women are set up to fail by being appointed to upper management positions in times of low performance in the company. In this regard, the phenomenon can be considered as a barrier to career possession, as expressed by second-wave feminists. This pioneering article will contribute mainly to the discussion of whether the glass cliff phenomenon, as a form of gender discrimination, is a valid concept by examining it within the cultural context.

Theoretical basis of gender discrimination

In general, the theoretical basis of gender discrimination may be examined in terms of (1) theories of gender, and (2) feminist theories (Başak, 2013: 222-232). While the term "sex" refers to the biological and physiological characteristics of individuals as men or women, gender refers to the socio-cultural constructions, perceptions and ideas of, and meanings attributed to, sexual difference rather than biological differences, and to the expectations of how we should behave (Broadbridge and Simpson, 2011: 470). The term "gender" highlights the socio-cultural aspects of the relationship between men and women, such as parenting methods and the uneven division of labor within the household, which cannot be explained by sex (Giddens, 2012: 505).

Feminist theories on the social role and status of women have emerged around the concepts of rights and equality (the discourse of first-wave feminism), and today it has been transformed into a liberation movement in which the subordination and oppression of women in both the public and private sphere on the basis of gender are called into question (Alican, 2008: 29). Second-wave feminist theories (cultural, radical and Marxist), on the other hand, underline that even though men and women have equal rights, negative discrimination against women persists as a result of cultural and patriarchal constructs.

In Turkey, Article 10 of the Constitution of the Republic of Turkey stipulates that "men and women have equal rights" (www.tbmm.gov.tr, Access Date: 13.05.2016), and Article 5 of the Labor Law states that "discrimination based on sex shall be prohibited in business relationships" (www.tbmm.gov.tr, Access Date: 13.05.2016). Aside from the principle, "No women, regardless of her age, shall be employed in underground work (such as the laying of cables, sewage and tunnel construction) at any time" (www.ilo.org, Access Date: 23.03.2016) laid down in Article 2 of ILO Convention No. 45 entitled "Underground Work (Women)", which has been endorsed by Turkey, women are entitled to do any job. In this regard, rather than legal barriers, it is apparent that the impediments faced by women in their working lives are related to the patriarchal structure of society. In this study, the phenomenon of glass cliff, as a gender discrimination issue, was examined in the context of second-wave feminist theories.

Femininity and masculinity

Masculinity and femininity, which are among the Hofstede's cultural dimensions, are related to gender roles. Men, in short, are supposed to be assertive, competitive, and tough while women are supposed to be more concerned with taking care of the home and the children, and they are compassionate people. A society is referred to as "masculine" when emotional gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender and concerned with quality of life. There are key differences between feminine and masculine societies. For example, while relationships and quality of life are important in feminine societies, challenges, earnings, recognition and advancement are important in masculine societies. While both men and women should be modest in a feminine society, men should be assertive, ambitious and tough in a masculine society. While women and men teach young children in feminine society, it is a woman's task teach young children in a masculine society (Hofstede, Hofstede and Minkov, 2010).

In a feminine society, one attribute of the national culture attribute is that little differentiation is made between male and female roles, and women are treated as the equals of men in all aspects of society. A high femininity rating doesn't mean that a culture emphasizes feminine roles, in that it is equality that is emphasized between men and women. A high masculinity rating in a culture indicates that separate roles are assigned to men and women, with men dominating society (Robbins and Judge, 2013). In this respect, the glass cliff phenomenon that is applicable in cultures where the masculinity is high may not be applicable in other cultures where femininity is high.

Concepts related to gender discrimination in organizations

Several concepts highlighting the gender discrimination experienced by women in the corporate culture, such as the glass ceiling, the glass elevator, the glass escalator, tokenism, the double bind, the glass wall, the glass labyrinth, and of course, the glass cliff, are discussed within the context of gender and feminist theories. While the *glass ceiling* refers to an invisible barrier that prevents women from advancing beyond a certain level in a corporate hierarchy (Sabharwal, 2013: 400), the *glass cliff* refers to the tendency to appoint women to riskier management positions where the potential for making mistakes is relatively high (Ryan and Haslam, 2005: 81). *Glass elevator or glass escalator,* in contrast, refers structures and practices that lead men to advance faster, particularly in businesses where women are predominant (Williams, 1992: 253; Budig, 2002: 258), whereas the *glass wall* refers to invisible obstacles that restrict the horizontal mobility of women on the way up to senior management, and keep them in certain types of activities/sector segments (Sabharwal, 2013: 399). The *glass labyrinth* is used to refer to all of the obstacles faced by women that prevent them from reaching appropriate positions throughout their careers (Eagly and Carli, 2007), while *tokenism* refers to the policy of showcasing ostensible efforts, promotions or gestures, particularly among women and minority groups (Kanter, 1977). Finally, *double bind* refers to a situation in which a female executive cannot be successful, regardless of how she acts, due to her being trapped

between two conflicting demands (Lamsa, Jyrkinen and Heikkien, 2012).

The presence of so many concepts suggests that gender discrimination is still an important problem. Although the concepts that deal with these problems from different perspectives lead to confusion, there are differences between them. In this study, we have focused on glass cliff phenomenon, as a much-discussed and interesting topic in literature.

Glass cliff

Ryan and Haslam (2005) first coined the term "glass cliff" to refer to an adverse situation for women, introducing the concept as a criticism against Judge's (2003) article entitled *"Women on Board: Help or Hindrance?"* in The Times. (Ryan and Haslam, 2005: 82). Judge (2003) examined the situation in 100 large companies in the United Kingdom in which women had been appointed to management positions, and revealed that the performances of these companies tended to deteriorate when compared to those that only had men on their executive boards. In contrast to Judge (2003), who claimed that British companies would be better off without the women they had appointed to their boards, suggesting that company performances would deteriorate in cases where they appointed women, Ryan and Haslam (2005: 81-90) analyzed the performances of 100 listed companies in the United Kingdom before and after the appointment of men and women to their executive boards, and showed that appointments varied in terms of gender and context (organizational condition). While companies that appointed men to their boards experienced stability and growth both before and after these appointments, it was observed that most of the companies that appointed women to management positions were less successful and experienced financial difficulties before promoting women. In this regard, it can be understood that the glass cliff concept is used to define the appointment of many women who break through the glass ceiling to riskier positions (Haslam and Ryan, 2008: 531). Such positions neither improve the status of women nor eliminate the prejudices towards women on boards, but rather foster negative stereotypes and discrimination.

The categories used to define the glass cliff are sexism (gender barriers), preferability within groups (man's work), sacrificing women and laying the responsibility on others (seeking a scapegoat), lack of opportunity (women accept risky positions), lack of

communication networks and support (material, intellectual and emotional support), gender stereotypes (ability to hedge risk, coping with failure, being more competent under risky situations), displaying equality (appointing women to riskier positions to create the impression that no glass ceiling exists), factors related to the company, (doing something outside the box, as a last hope and appointing women to improve a company's image), and denying the phenomenon (questioning the existence of the glass cliff, claiming that the "best candidate for the position was appointed") (Ryan et al., 2007: 188–191).

The glass cliff is neither universal nor inevitable (Ryan and Haslam, 2009). The role of men in leadership positions, or the reason for the glass cliff, may be explained by means of several much-debated stereotypes. These stereotypes are *"think manager-think male"* (the task of managers is masculine, and so more suitable for men, and requires emotional balance, aggressiveness, self-confidence, competitiveness and objectivity); *social role* (while men behave agentically, in other words, aggressively, decisively, self-confidently, independently and dominantly, women behave socially, namely, in a polite, compassionate, empathetic and emotional way); and *role overlapping* (explains the prejudices towards women in social and leadership roles. "An inconsistency arises when there is a conflict between the social roles women are expected to fulfill and the requirements of leadership roles") (Sabharwal, 2013: 399).

Female leaders who manage to break through the glass ceiling are assigned to positions on the glass cliff, and so must work under stress in these risky positions at times when company performance is poor. Women exposed to such stresses and pressures are subjected to criticism and intimidation for not doing their jobs properly, and eventually, organizational disidentification takes place. In the end, having shown that women cannot be good leaders, male managers who are not satisfied with the leadership of women force them onto a career plateau, causing them to return to less rewarding positions in terms of prestige and remuneration, or even to leave the organization (Ryan and Haslam, 2006: 46).

The reactions of women and men to the glass cliff in different parts of the world are clearly different. While women accept the existence of the glass cliff, and perceive injustice, sexism, inequality opportunity and barriers, men tend to question the validity of the glass cliff or underestimate it, defining it in more moderate

terms, and associate it with suitability for challenging leadership tasks, the need to make strategic decisions and company factors that are unrelated to gender (Ryan et al., 2007). The probability of women falling off the glass cliff is lower when they have "influence over policy-making decisions, perceive empowerment, experience organizational justice, and when they are satisfied with their work-life balance" (Sabharwal, 2013: 400).

Glass cliff in literature

Several papers published in the British Journal of Management have addressed the ongoing debates on this subject. Initially, Judge (2003) argued that the performance of companies that appoint women to their boards tends to be poorer than those that have all-male boards. Criticizing this argument, Ryan and Haslam (2005) revealed that the companies that had appointed women to management positions had already been performing poorly before the appointment, and used the term "glass cliff" for the first time to refer to such positions. Adams, Gupta and Leeth, (2009), in turn, claimed that there is no glass cliff, as companies appoint women to CEO positions when their financial performances are strong, including the "period before the appointment". However, publishing a theoretical article highlighting that it is not easy to measure the glass cliff, and that the glass cliff cannot be identified merely by referring to financial performance, Ryan and Haslam (2009) criticized the results of Adams et al.'s (2009) study. In a further criticism of Adams et al.'s (2009) study, Haslam, Ryan, Kulich, Trojanowski and Atkins (2010) identified a negative correlation between the representation of women on executive boards and subjective, market-based performance indicators (Tobin's Q), thus confirming the validity of the glass cliff. Yet in the same study, Haslam et al. (2010) stated that the glass cliff theory could not be supported, as there was no correlation between the representation of women on boards and objective accounting performance indicators (ROA, ROE). On the other hand, Mulcahy and Linehan (2014) concluded that as the precarious position of listed companies increases, the probability of the over-representation of women on boards increases, thus supporting the glass cliff phenomenon.

Moreover, further articles have been published on the measurement of glass cliff appointments based on perception. According to Haslam and Ryan's study (2008, Study 1), graduates of business management schools perceived female candidates to be preferable to male candidates for leadership positions (in terms of leadership ability and suitability) when the company is performing poorly, while in another study by Haslam and Ryan (2008, Study 2), college students opted for the female candidate for the leadership position of a large-scale music festival when the popularity of the festival was falling and the risk of failure was rising. In a third study by Haslam and Ryan (2008, Study 3), it was revealed that businessmen/women perceived female candidates as more suitable for the finance manager position when the company was underperforming. Moreover, according to Ryan, Haslam, and Kulich (2010), political science students selected the female presidential candidate to contest hard-to-win seats (when the majority of seats were held by the opposition). Accordingly, based on the assumption that the ideal manager type would be women in times of poor company performance, Ryan et al. (2011, Study 2) suggested that a "think crisis-think female" association is at work. According to Uyar (2011), when company performance is deteriorating, the "female candidate was perceived as more suitable and capable for leadership than the male candidate". According to Ashby et al. (2007), law students preferred female attorneys for riskier rather than relatively easy cases. Ryan et al. (2011, Study 3) highlighted that women are promoted in times of poor performance, since there is little faith that they can improve performance and are not perceived as good managers, and they will be blamed for the organizational failure.

In previous literature, the glass cliff phenomenon is not addressed solely from a gender discrimination perspective, but also from a racial/ethnic discrimination perspective. For instance, white, rather than black and minority, head coaches were promoted to teams with the potential break a winning record in the basketball league (Cook and Glass, 2013). Similarly, even though black and ethnic minority candidates performed worse than their white counterparts in the 2001, 2005 and 2010 elections in the United Kingdom, this underperformance was explained by the lower winnability of black and ethnic minority candidates, such that the opposition candidate held a seat with a considerably larger majority compared to white candidates' opponents. In other words, the seats contested by black and ethnic minority candidates were harder to win (Kulich, Ryan, and Haslam, 2014). Regardless of the above, the present study addresses the glass cliff phenomenon solely as one associated with gender discrimination.

The following hypotheses were developed on the basis of the theoretical framework described above and from empirical studies in literature.

Hypotheses 1: <u>The preference level in favor of a manager candidate varies according to "company performance".</u>

Hypotheses 1a: The preference level in favor of <u>a male candidate</u> varies according to "company performance". **(**Do participants show a greater preference for <u>male manager candidates under positive circumstances</u> than under adverse circumstances?)

Hypotheses 1b: The preference level in favor of <u>a female candidate</u> varies according to "company performance". (Do participants have a greater preference <u>for female manager candidates under adverse circumstances</u> than under positive circumstances?)

Based on the assumption that women could be exposed to the glass cliff by men under patriarchal social structures and in male-dominant cultures, the following hypothesis, which "has not been investigated in literature, and has only been proposed as an alternative research question" was suggested in order "to fill the gap":

Hypotheses 2: The preference for female manager candidates for senior manager positions in times of poor performance varies according to "the gender of the participants." (Do male participants have a greater preference for female manager candidates than the female participants? In other words, do they lead female candidates to the glass cliff?)

Method

Sample

The phenomenon of the glass cliff in literature has been studied on a sample of managers in a number of studies. This study's sample comprised 240 managers, of which 30 (%12,5) were upper level managers, 164 (%68,3) were middle level managers and 46 (%19,2) were first level manages; of which 138 (%57,5) were in service sector (banking, telekominication) and 102 (%42,5) were in manufacturing sector (defense, automotive, iron and steel); of which 129 (54%) were female and 111 (46%) were male; of which 33 (%13,8) were below 25 age, 116 (%48,3) were between 26 and 35 age, and 91 (%37,9) were over 36 age, the mean age was 36; of which 23 (%9,6) were below 1 year experience, 115 (%47,9) were between 1 and 10 year experience and 102 (%42,5) were over 11 year experience.

While 133 questionnaires were collected via face to face, 107 questionnaires were collected via e-mail in Istanbul, Ankara, Konya and Ardahan, Turkey.

Measurement

The data collection tool was a questionnaire. In the glass cliff appointment, three dimensions were used: suitability, leadership ability and trust. It was measured with nine statements. The six statements on suitability (3 items) and leadership ability (3 items) dimensions were developed by Ryan and Haslam (2006), and adapted into Turkish by Uyar (2011), while the three items in the trust dimension were, in turn, developed by Chambers (2011) and adapted into Turkish by the authors. A 5-point Likert scale was used in the measurements and a convenience sampling method was preferred because of basing on the voluntary participation of the respondents.

The gender of the manager candidate (female or male), the gender of the participant (female or male) and the company performance (good or poor), all of which are factors affecting the glass cliff, were taken as the independent variables in the research. The dependent variable, on the other hand, was the glass cliff phenomenon, which implies the appointment (preferential assignment) of a manager candidate according to suitability, leadership and trust dimensions.

The two performance scenarios in the research, being good (golden period) and poor (critical period), were designed in relation to company performance. The scenarios were adapted from a news story about a company whose CEO had recently resigned. The participants were asked to evaluate, i.e. appoint, one of the two CEO candidates (a female and a male), whose CVs were exactly the same, considering their suitability, leadership and trust dimensions. For both candidates, who differed only in terms of gender, the CV of the former CEO of a reputable company was used. The questionnaire was completed by the participants using step-by-step briefings given in consultation with the researcher in a classroom setting.

Dimensions of the glass cliff

In literature, it can be observed that two methods are used to indicate a preference (assignment) of managers for glass cliff positions. In the first method, the participants were expected to answer the question "Which do you prefer, male or female candidates?"

In the second method, participants were asked to evaluate a number of dimensions (variables) in indicating a preference. In order to define how women are driven into to "senior management positions in a manipulative manner" in organizations during times of crisis, in other words, to explain how they are led to the glass cliff, the dimensions of suitability, leadership ability and trust have been used in literature (Haslam and Ryan, 2008; Dzanic, 2009; Ak Kurt, 2011; Chambers, 2011; Uyar, 2011). In this study, suitability and leadership ability (Haslam and Ryan, 2008), as well as trust in a manager (Chambers, 2011: 7) are taken into consideration in the promotion of an individual to a senior management position. We prefer to use the second method, being much more objective in the evaluation of manager candidates, in that it takes into account their managerial characteristics rather than being based on a general evaluation. The phenomenon of the glass cliff is measured based on secondary data, or perceptually, in literature. A perceptual measurement is also performed in this study. We used three dimensions to be able to make better decisions as regards preference by bringing the suitability, leadership ability and trust variables together, all of which have been used and accepted in the literature, but in different studies.

Collection and analysis of data

The data collection process was as follows: (1) Reading the resumes of CEO candidates (one male, one female), (2) reading the announcement of the company at which the CEO is to be employed, (3) reading the positive performance scenario, (4) asking the participants to evaluate the male candidate according to the positive scenario, (5) asking the participants to evaluate the female candidate according to the positive scenario, (6) reading the negative performance scenario, (7) asking the participants to evaluate the

male candidate according to the negative scenario, (8) asking the participants to evaluate the female candidate according to the negative scenario.

The data was analyzed using SPSS 20 package software. In order to identify "the differences in appointments to the CEO position" in terms of the gender of the participants (female or male), the gender of manager candidates (female or male) and the company performance, t-tests were applied.

Findings

Means, Validity and Reliability Analyses

The study comprised 240 managers, of which 129 (54%) were female and 111 (46%) were male; while the mean age was 36. An exploratory factor analysis was conducted in relation to the validity analysis of scales (construct validity), and the internal consistency (Cronbach's alpha) coefficient was taken into consideration for the reliability analysis. An increase in the glass cliff was measured with nine statements as a single dimension. Based on the scores presented in Table 1, the scales can be considered valid and reliable (Hair et al., 1995; Nunnally, 1978).

Hypothesis Tests

The following findings were obtained from the analyses regarding the hypotheses (along with the research questions).

The preference level for male manager candidate varied according to "company performance" ($p<.05$). The participants showed a greater preference for male manager candidates in times of good performance, as opposed to periods of poor performance. In other words, the preference for male manager candidates declined in times of poor performance. Accordingly, Hypotheses 1a was accepted (Table 2).

Table 1: Information on the scales of managers

Candidate / Performance Period Scales	KMO	Bartlett's Test (sig)	Explained Variance	Reliability	Mean
Male Candidate, Good Performance	.843	.000	52.3	.88	3.64
Male Candidate, Poor Performance	.897	.000	60.7	.91	3.45
Female Candidate, Good Performance	.880	.000	61.2	.92	3.61
Female Candidate, Poor Performance	.887	.000	68.4	.94	3.49

The preference level for the female manager candidate varied according to "company performance" (p<.05). Therefore, Hypotheses 1b was accepted (Table 3). While participants were expected to show a greater preference for female manager candidates in times of poor performance, according to this finding, the preference for female manager candidate declined considerably in this period when compared to the period when company performance was good. In other words, the preference for female manager candidates was higher in times of good performance. This was a situation, which did not support the glass cliff phenomenon. This result could be explained by the femininity culture of Turkey. The reason underlying this finding can be discussed as follow: The glass cliff is valid in where masculinity is predominant but in Turkey, according to Hofstede's culture dimensions, the level of masculinity is relatively low (index = 45 for Turkey). (www.hofstede-insight.com/country/turkey). In masculinity cultures, patriarchal roles and characteristics such as power, control and success are mostly in the hands of men. Therefore, men perceive women as competitors for management positions and they lead women into cliffs because they see them as competing people. Besides, men want to see women as responsible for failure (seeking a scapegoat). But in Turkey that the level of masculinity is low, women may not have been dragged into the glass cliff because women are not perceived as people who will be competition for men.

In times of poor performance, the preference for a female manager candidate for the senior manager position varied according to "the gender of the participant" (p<.05). Therefore, Hypotheses 2 was accepted (Table 4). While male participants were expected to have a higher preference for the female manager candidate, it was the female participants that had a higher preference for the female manager candidate in times of poor company performance. Contrary to the general belief (that men steer women towards the glass cliff), it was the female participants who tricked the female manager candidate by forcing her to take the senior manager position in times of crisis, hence leading her to the glass cliff. This result may be attributed to the "Queen Bee Syndrome" (Staines, Tavris, and Jayaratne, 1974). In times of poor performance, it is the female participants rather than male participants who showed a greater preference for female candidates in upper management positions. Therefore, it was women rather than men who, in this particular context, pushed women towards the glass cliff.

Table 2: Paired samples t -test results regarding the preferability of the male candidate according to performance period

Performance	N	Mean	Good Performance - Poor Performance	T	Sig. (2 tailed)
Good Performance	240	3.6243			
			0.18178	4.471	.000
Poor Performance	240	3.4425			

Table 3: Paired samples t -test results regarding the preferability of the female candidate according to performance period

Performance	N	Mean	Good Performance - Poor Performance	T	Sig. (2 tailed)
Good Performance	240	3.6080			
			0.11368	2.677	.008
Poor Performance	240	3.4944			

Table 4: Independent samples t -test results regarding the preferability of the female candidate in times of poor performance

Candidate/ Performance	Participant's Gender	N	Mean	Std. Devation	Mean Difference	t	p
Female Candidate, Poor Performance	Female	129	3.6129	.81401	0.25634	2.366	0.019
	Male	111	3.3566	.86266			

In the above an Alyses, the glass cliff phenomenon when choosing preferences for the senior manager position was measured as a single dimension, while more detailed analyses took the sub-dimensions into consideration. According to the results of the deeper analyses, carried out taking the "ability, leadership, and trust" dimensions into consideration, women perceived the female candidate to be significantly more capable, suitable for the leadership role and trustworthy in times of poor performance than men (in other words, they were more disposed to leading the female candidate to the glass cliff). Surprisingly, no difference was found between the female and male participants with regards to the perception of the male candidate as capable, suitable for the leadership role and trustworthy in times of poor performance.

Discussion

While there is a perceived mismatch between leadership and stereotypes about women (think leader-think male), there is a perceived congruence between crisis management and stereotypes about women (think crisis-think female) (Ryan et al., 2007: 185). In other words, women are perceived to be good at crisis management, and are assumed to be able to cope with stress, traits that actually lead them into manipulative glass cliff positions. In this study, the phenomenon of the glass cliff has been examined in the context of second-wave feminist theories. It has been stated that there are the barriers which are related to culture and stereotypes, although there are no legal obstacles preventing women from being promoted to upper management positions according to this theory.

The participants had a greater preference for male manager candidates in times of good performance when compared to periods of poor performance. In other words, the preference for male manager candidates declined in times of poor performance. This finding is in line with Ryan and Haslam (2005), Ashby et al. (2007), Haslam et al. (2010), Ryan et al. (2011), Bruckmüller and Branscombe (2010), and Uyar (2011). It was observed that, as in the case of the United States and the United Kingdom, Turkey is also a country where male manager candidates are largely preferred during positive times. The reason underlying this finding can be discussed as follow: Men firstly come to mind when it is thought of who should be the manager in corporations. Men are not as sentimental as women, they decide quickly from women and men can clash

more than women when there is a dispute. The task of managers requires emotional balance, aggressiveness, self-confidence, competitiveness and objectivity. While men behave agentically, in other words, aggressively, decisively, self-confidently, independently and dominantly, women behave socially, namely, in a polite, compassionate, empathetic and emotional way. Therefore the task of managers is masculine, and so more suitable for men, expecially in positive performance situation than negative performance situation (Discussion 1).

The participants did not demonstrate a greater preference for female candidates in times of poor performance rather than in times of good performance of company, and this finding is contrary to the glass cliff phenomenon, but in line with Ak Kurt (2011). In the countries that masculinity is high, men see women as rivals and they don't want women to succeed because they lose their decision-making authority. Therefore men choose women as managers in negative performance periods, in other words, they push women to cliff. Since challenges, earnings, recognition and advancement are important and men should be assertive, ambitious and tough in masculine societies. But in Turkey, women may not be dragged into the cliff because they are not perceived as men to competing people. Since relationships and quality of life are important in feminine societies and both men and women should be modest in a feminine society. Additionally, there are few differences between male and female roles in feminine cultures, where women and men are treated equally. Modesty and quality of life are high on the agenda, rather than features such as challenge, recognition and ambition. The employment rate of women in Turkey is quite low, at 30 percent thus it can say that men do not perceive women as competitors for upper management positions and do not push into them the glass cliff as a career barrier. If we look at this finding from another perspective, because men don't see women as responsible for failure (seeking a scapegoat), they don't push women to cliff. (Discussion 2).

The female participants had a higher preference for female manager candidates in times of poor performance than the male participants, and this finding is in line with Hunt-Earle (2012). Hunt-Early (2012), in paper named "Falling Over a Glass Cliff: a Study of the Recruitment of Women to Leadership Roles in Troubled Enterprises" revealed that women recruiters preferred female candidates for high-risk roles. The view that

women are pushed towards the glass cliff by men in times of negative performance in a company has been shown to be erroneous, as women are observed to be pushed into risky positions by other women, rather than by men. This finding contradicts the patriarchal perception and the glass cliff phenomenon, and may be explained by the lack of opportunities offered to women. It could also be suggested that women accept precarious positions as they perceive senior manager positions to be an opportunity, even though they are risky. Based on these findings, the following can be said of the glass cliff, in addition to what has already been described in the current literature: Women can, in terms of careers, willingly become obstacles to women managers. The "Queen Bee Syndrome", in particular, can explain this situation (Staines, Tavris, and Jayaratne, 1974), in which women who see female manager candidates as threats or obstacles to their own careers tend to support these candidates as better managers than they actually are during difficult/challenging times, thus causing these female manager candidates to be appointed to the relevant positions under more disadvantageous conditions. In other words, women may themselves push female manager candidates towards the glass cliff. The reasons (glass ceiling) that prevent women from becoming upper level manager are lack of role models, gender discrimination, lack of supportive networks and queen bee syndrome in the positive performance periods of corporations. The concept of glass cliff is different from glass ceiling because it means appointment women into upper level management position in negative performance periods of corporations. Glass cliff concept refer to fraudulent positions in which women are appointed to move away from their career goals, to cause them experience stress and to declare them responsible for failure, not because of their competence or successful (Yıldız et al., 2016: 1132). Women as well as men push women glass cliff. Women expecially drug women abyss assigning them upper level managers position because of jealousy in precarious situation of corporations. This may be explained by queen bee syndrome. Therefore it can be say that glass cliff is not only a trap set on the side of men but also a trap set up by women (queen bee syndrome) in negative financial performance periods. If we look at this finding from another perspective, being an upper level executive is important for women's career and thus women can see risky and precarious positions as opportunities and prefer the positions regardless of negative performance (Discussion 3).

In addition, while in positive times, women are led to the glass ceiling mainly by men, this situation changes during negative times, when women are largely responsible for pushing other women towards the glass cliff. As a result, both the glass ceiling and the glass cliff come across as significant obstacles in women's careers. Unlike women don't want women to be senior managers in the positive performance period (glass ceiling), they want women to be senior managers in the negative performance period (glass cliff) because of envy or queen bee syndrome.

Implications

Considering all of the contextual fundamentals, it can be suggested that the glass cliff phenomenon, as coined by psychologists Ryan and Haslam in the United Kingdom, where the level of individualism and masculinity is high, may not be valid for Turkey, a country where the level of individualism and masculinity is relatively low. The association of women with good crisis management skills and better overall management (think crisis-think female) skills is a stereotypical perception, as is the assumption that a manager should be male under normal circumstances (think manager-think male) (Bruckmüller et al., 2014: 21). In this study, which may pioneer further studies regarding the glass cliff phenomenon within the cultural context, it has been determined that the glass cliff was not valid for the manager respondent groups in Turkey, a country where the level of femininity is high.

Limitations and future research opportunities

In prospective studies, whether or not the female managers who have broken through the glass ceiling are actually appointed to senior positions in times of crisis, and thus exposed to the glass cliff, could be investigated for different sample groups. Furthermore, records of manager appointments in public and private companies in previous years (male or female), and the periods of these promotions (positive or negative) could be examined by making use of secondary resources in prospective studies. Another research proposal would be to investigate glass cliff perception using sector-based primary data, so as to determine in which sectors female managers are exposed to the glass cliff, and to identify the impact of dimensions such as ability, leadership and trust in being exposed to the glass cliff through experimental studies or surveys. Moreover, different dimensions of the glass cliff (generosity, honesty) could be addressed, and the validity of the concept could be investigated in

different cultures. The glass cliff phenomenon may be also examined on the basis of ethnic discrimination, as well gender discrimination. Through secondary data, a relationship may be also established between organizational performance (ROA, ROE, Tobin Q) and the number of women on the board.

CONCLUSION

This research, which was conducted on a study sample of managers is the first study to introduce, theoretically and empirically, the concept of the glass cliff in Turkey. The above-mentioned findings reveal that the glass cliff phenomenon is not supported in these samples. The problem of leading women into risky positions by appointing them to upper management in times of downturn in the company, which is a career barrier that has been expressed in second-wave feminist theories, has not been observed in these samples. This outcome can be attributed to the cultural background of Turkey, namely, the masculinity-femininity aspects of the culture, and also in terms of the Queen Bee Syndrome.

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Asymmetric Cost Behavior and Acquirer Returns: Evidence from U.S. Mergers

Asimetrik Maliyet Davranışı ve Alıcıların Getirileri: A.B.D. Birleşmelerinden Bulgular

Mine UGURLU[1*]
Gamze OZTURK DANISMAN[2]
Seda BILYAY-ERDOGAN[3]
Cigdem VURAL-YAVAS[4]

https://orcid.org/0000-0002-1323-4610
https://orcid.org/0000-0003-3684-6692
https://orcid.org/0000-0001-6701-4448
https://orcid.org/0000-0002-3440-4762

ABSTRACT

This paper investigates the asymmetric behavior of the selling, general and administrative (SG&A) costs of acquirers, and reveals its effects on mergers & acquisitions (M&A) performance in a one-year event window. It is based on a sample of 6888 M&As completed in the U.S. during the 2003-2015 period and employs panel data regressions. The results show that 73% of the acquirers display asymmetric cost behavior. A significant negative relation is found between cost stickiness and acquirers' abnormal returns following the merger announcement. Competition in the market for corporate control is positively related with acquirer returns but exacerbates the negative effects of cost-stickiness on abnormal returns of acquirers. The acquirers' risk of default is significantly negatively related to the abnormal returns they generate. This adverse effect of default risk on returns is stronger for acquirers with anti-sticky costs. Acquirer risk offsets the positive effects of competition on returns. Acquirers with sticky costs have lower abnormal returns than those with anti-sticky costs in a one-year window. The present study contributes to the literature by revealing the asymmetric cost behavior of acquirers involved in merger activity during the last decade, and provides evidence for an alternative explanation for the lower abnormal returns of the acquiring firms.

Keywords: Cost asymmetry, Merger performance, Acquirer returns, Cost anti-stickiness, Sticky-costs.

JEL Codes: G34, G32

ÖZET

Bu çalışma alıcıların satış, genel ve yönetim maliyetlerinin asimetrik davranışlarını incelemekle birlikte; "Birleşme ve Satın Alma" performanslarına olan etkisini 1 yıllık olay penceresinden analiz etmektedir. Çalışma A.B.D.'de 2003-2015 yılları arasında tamamlanan 6,888 birleşme ve satın-almaya dayanmakta ve panel veri regresyonları kullanmaktadır. Sonuçlar alıcıların 73%'ünün maliyetlerinin asimetrik davranış sergilediğini göstermektedir. Birleşme duyurusunun ardından maliyet yapışkanlığı ile alıcıların olağandışı getirileri arasında anlamlı ve negatif bir ilişki olduğu saptanmıştır. Piyasadaki rekabet alıcıların getirilerini olumlu etkiler, ancak yapışkan maliyetlerin alıcıların olağandışı getirileri üzerindeki olumsuz etkisini daha da artırır. Ayrıca alıcıların temerrüt riskinin olağandışı getiriler üzerinde anlamlı ve negatif yönde etkisi vardır. Bununla birlikte, temerrüt riskinin getiriler üzerindeki olumsuz etkisi yapışkan olmayan maliyet yapısı olan alıcılar için daha kuvvetlidir. Alıcıların riski rekabetin getiriler üzerindeki pozitif etkisini azaltmaktadır. Bir yıllık olay penceresinden incelendiğinde, yapışkan maliyet yapısına sahip alıcıların yapışkan olmayan maliyet yapısına sahip alıcılara göre daha az olağandışı getirilere sahip olduğu gözlemlenmiştir. Bu çalışma 2003-2015 yılları arasında gerçekleşen birleşmelerde rol alan alıcıların asimetrik maliyet davranışlarını ortaya çıkararak ve alıcı firmaların daha düşük olağandışı getiri elde etmelerine alternatif bir açıklama getirerek literatüre katkıda bulunmuştur.

Anahtar sözcükler: Maliyet asimetrisi, Birleşme performansı, Alıcı getirileri, Yapışkan olmayan maliyetler, Yapışkan maliyetler

JEL Codes: G34,G32

[1*]**Prof. Dr., Bogazici University, Istanbul, Turkey, maugurlu@gmail.com, ugurlum@boun.edu.tr,**
[2]**Bahçeşehir University , Istanbul, Turkey, gamze.ozturkdanisman@eas.bau.edu.tr**
[3]**Kadir Has University, Istanbul, Turkey, seda.erdogan@khas.edu.tr**
[4]**Kadir Has University, Istanbul, Turkey, cigdem.yavas@khas.edu.tr**

1. Introduction

The seminal paper by Anderson, Banker and Janakiraman (2003) [hereby referred to as ABJ], compares the traditional model of cost behavior in which costs move proportionately with changes in the level of activity with an alternative model they develop. In their paper, ABJ propose a model which rests on the premise that sticky selling, general and administrative costs [hereby referred to as SG&A] arise because managers deliberately adjust resources committed to the activities when revenues decrease. ABJ (2003) define costs as sticky if the magnitude of the increase in costs associated with an increase in volume is greater than the magnitude of the decrease in costs related with an equivalent decrease in volume. Sticky costs may reflect a deliberate retention of resources based on a manager's expectations that revenue will increase in the future. These expectations may reflect both rational inferences and behavioral biases. Hence, following a prior sales increase or decrease, managers will anticipate future sales changes in the same direction. When managers are optimistic, they are more willing to retain slack in the event of a current sales decrease, enabling them to reduce current adjustment costs such as severance payments to laid-off workers and future adjustment costs such as hiring costs for new employees. A change in the direction of prior sales affects managers' expectations for future sales and constitutes an important determinant of cost asymmetry.

ABJ (2003) model of cost behavior is refined by Banker, Byzalov, Ciftci and Mashruwala (2014a) who claim that the type of cost asymmetry (stickiness or anti-stickiness) observed in the current period is determined by the direction of prior- period sales change. Thus, conditional on a prior-period sales increase, managers will be able to retain additional slack, cutting resources less than proportionately. Banker, Byzalov, Ciftci and Mashruwala (2014a) develop two-period and three-period models of cost behavior, showing that optimism increases managers' willingness to acquire additional resources, when current sales increase, and to retain unused resources when sales decrease; and pessimism has the opposite effect. While most of the evidence rests on the model developed by ABJ (2003), we use three-period BBCM (2014a) model of asymmetric cost behavior which constructs a better classification of managerial expectations.

The objective of this study is to investigate the effects of asymmetric cost behavior on acquirer returns and examine whether competition in the takeover market and risk of the acquirer tend to affect this relation. The competition in the market for corporate control, may have different implications for various acquirers with sticky costs. If sticky-cost acquirers are optimistic, following a prior period sales increase, they may choose to retain slack resources while engaging in efficiency – increasing mergers in competitive markets. This may result in higher post-merger acquirer returns. On the other hand, competition may lead to higher premium payments to targets, resulting in lower acquirer returns (Alexandridis et al., 2010). Cost stickiness of the acquirer may reduce resource adjustment flexibility of the acquirer, making post integration more difficult, and reducing acquirer returns. Although recent studies show that market competition is an important external mechanism affecting corporate actions, it appears that very little attention has been paid to the impact of competition on returns of acquirers with asymmetric cost behavior. When sales decrease in consecutive periods, the default risk may rise for some corporations. We expect that cost stickiness may result in lower acquirer returns when risk of default rises. So, the second factor included in the study is acquirers' risk of default. Previous research provides evidence indicating that as the default risk of a firm increases, cost stickiness decreases (Dierynck et al. 2012). We investigate if the default risk of the acquirer, when combined with the sticky cost behavior, leads to lower M&A performance and control for its effects.

The first part of this paper displays the asymmetric cost behavior of acquirers involved in 6888 merger transactions in the United States (U.S.) during the 2003-2015 period, using Banker et al. (2014a) three-period model and Weiss's (2010) measure of cost asymmetry. In the second part, we aim to investigate whether managerial expectations, as measured by the degree of cost stickiness of acquirers, provide an explanation for acquirer's post-announcement performance, controlling for acquirer and deal characteristics.

The results show that 73% of acquirers display asymmetric cost structure. The majority of these acquirers (90%) display sticky-cost behavior while a small portion (10%) reveals anti-sticky cost behavior. The increase in cost stickiness significantly decreases the one-year cumulative abnormal returns (CARs) generated by the acquirers. The significant negative relationship between cost stickiness and acquirer's abnormal returns provides an alternative explanation for

the lower returns observed in the literature generated by acquirers involved in merger transactions.

Competition in the market for corporate control has a favorable impact on abnormal returns of acquirers, but the co-existence of a competitive takeover market exacerbates the adverse effects of cost asymmetry on the abnormal returns of acquirers. Furthermore, the significant positive impact of competition on returns diminishes and becomes significantly negative when the acquirer has a high default risk. In other words, acquirer's high default risk offsets the positive effect of a competitive market for corporate control. Small acquirers have higher returns supporting Moeller et al., (2004) and deal size is significantly positively related to bidder returns, especially for acquirers with highly sticky costs.

Our study contributes to the literature by providing evidence for an alternative explanation of the lower abnormal gains of the acquirers. The degree of cost asymmetry of the acquirers significantly affects M&A performance. Controlling for competition and acquirer risk, we show that acquirers' asymmetric cost behavior significantly and negatively affects the abnormal returns they generate from the merger activity. The significant negative effect of cost asymmetry on abnormal returns is exacerbated when acquirers with sticky SG&A costs operate in a competitive market for corporate control.

2. Literature Review

2.1. Theoretical Models of Asymmetric Cost Behavior

Anderson et al., (2003) compare the traditional model of cost behavior to an alternative view that is based on resource adjustment costs and deliberate managerial decisions and show that the empirical behavior of SG&A costs is inconsistent with the traditional model. They consider SG&A costs "sticky" if the magnitude of the increase in costs associated with an increase in volume is greater than the magnitude of the decrease in costs associated with an equivalent decrease in volume. Anderson et al., (2003) document that when sales decrease, managers prefer to retain some slack resources rather than incur adjustment costs. Managers consider revenue decline more permanent when it occurs in the second consecutive period of revenue losses, less stickiness is expected when revenue declines for two consecutive periods.

BBCM (2014a) refined Anderson et al.'s (2003) single-period model by introducing two and three-period models where the type of asymmetry observed in the current period is determined by the direction of sales change in the prior period. They combined two conditional processes that give rise to a more complex pattern of asymmetry: cost stickiness conditional on a prior sales increase and cost anti-stickiness conditional on a prior sales decrease. Hence, the BBCM (2014 a) two-period model, shows that these two conditional processes lead to cost stickiness in the current period only in the case of a prior sales increase and generates anti-stickiness following a prior sales decrease. In the three-period model, if the sales increase in period t-1 (relative to t-2), then managers acquire needed resources in that period and the amount of slack carried over to period t is zero. However, if the sales decrease in period t-1, then managers retain significant slack resources which are carried over to current period t. If sales decrease further in the current period, managers are expected to cut resources proportionately. In this case, costs will rise less for current sales increases than they will fall for current sales decreases, thus exhibiting cost anti-stickiness. While this model is useful in the assessment of determinants of cost asymmetry, Weiss's (2010) alternative measure of cost asymmetry can be used as an explanatory variable to study the impact of cost asymmetry on other outcomes.

Managers tend to be more optimistic (pessimistic) after a prior sales increase (decrease) for two distinct reasons. One is that a prior-period sales brings optimistic expectations for future sales and results in a greater likelihood of further increases. On the other hand, a prior sales decrease induces pessimism and brings a higher probability of further decreases. The second reason is that past trends are likely to be extrapolated by the managers (Barberis, Shleifer &Vishny, 1998; Daniel, Hirshleifer & Surahmanyam, 1998; Lant & Hurley, 1999).

The three-period model set forth by Banker et al. (2014a) encompasses economic adjustment costs in addition to managers' agency related adjustment costs. When sales of a company decrease, empire building managers tend to keep their slack resources, while on the other hand when sales of a company increase, these managers choose to acquire new resources (Anderson et al., 2003; Chen et al., 2012). When sales decrease instead of increasing, the personal adjustment costs of managers will drive them to preserve additional slack resources. In addition to this,

it will also result in managers being more aggressive when doing their resource commitments in cases of optimistic expectations for future sales. Hence, the cost asymmetry model becomes applicable in the agency-related adjustment costs framework.

From a behavioral and agency perspective, asymmetric cost behavior may result from managerial biases (Calleja, Lu & Thomas, 2006), pessimism, optimism (Anderson et al., 2007; BBCM, 2014; Yasukata & Kajiwara, 2011) or overconfidence (Kuang, Mohan, & Qin, 2015). Adjustment costs, including costs and benefits that affect the agent's utility function, should be considered from the agent's perspective. Social status, reputation and power relate to the size of the entity they manage. Empire building incentives (Chen et al., 2012; Dierycnk et al., 2012; Banker et al., 2014a) and managerial exuberance (Calleja et al., 2006) encourage growth investments and discourage downsizing. As Balakrishnan, Petersen and Soderstrom (2004) and Anderson et al. (2007) suggest, the disutility of overstaffing may be lower than the disutility of understaffing. This incentive of misalignment results in agency problems.

2.2. Evidence on Asymmetric Costs

Banker and Byzalov (2014) provide strong support for the global pervasiveness of asymmetric cost behavior. Subsequent studies have extended Anderson et al.'s (2003) predictions of cost stickiness (Weiss, 2010; Chen et al., 2012; Kama & Weiss, 2013) while other studies have predominantly explained cost stickiness in terms of economic factors such as asset intensity, employee intensity and uncertainty of future demand (Anderson et al.,2003; Banker et al, 2014a; Banker et al.,2014b). Studies focusing on agency-related adjustment costs provide evidence that agency problems increase SG&A cost asymmetry. Chen et al. (2012) find that cost stickiness partly reflects empire building behavior, which is mitigated by strong corporate governance. Dierynck et al. (2012) and Kama and Weiss (2013) find that cost stickiness is diminished when managers face incentives to meet an earnings target.

Various studies provide evidence on the implications of cost behavior for fundamental analysis. Anderson et al. (2007) propose an earnings prediction model and find that future earnings are positively related to increases in SG&A cost to sales ratio in periods of revenue declines. Other studies document myopic activities related to earnings management, sacrificing employee morale and long-term value creation to meet short-term targets (Banker and Byzalov, 2014; Dierynck et al., 2012; Kama & Weiss, 2013). Thus, when sales decrease, a decreasing SG&A ratio is an ambiguous signal, as it may indicate either efficient or inefficient cost control.

2.3. Acquirers Cost Behavior and Performance of Mergers and Acquisitions

Although there is extensive research on M&A performance, studies investigating the effects of acquirers' cost behavior on post-M&A returns are rare. A recent study reveals that acquirers with low pre-acquisition cost stickiness are better acquirers than those with high cost-stickiness as reflected by deal announcement returns (Jang, Yehuda & Radhakrishnan, 2017). The authors find that less sticky acquirers have higher resource adjustment flexibility, earn higher abnormal returns, and purchase more intangible-intensive targets. Their evidence rests on ABJ's (2003) model and 3-day CARs around the acquisition announcement date.

Alexandridis et al. (2012) reveal that acquirers continue to realize significant losses around the acquisition announcements and destroy more value than in the past. Authors claim that a potential explanation for the lower returns in the sixth merger cycle is based on investor sentiment. Rosen (2006) found that short-run abnormal returns to acquirers are higher during periods that are preceded by more investor over-optimism.

M&A performance is the focus of study in numerous disciplines, the conclusions of which are varied. Evidence shows that M&A performance assessment is sensitive to the definition of performance, the methodology selected, the sample and the time-horizon used. Some acquisitions may be considered successful when using CARs but unsuccessful when using accounting ratios (Betzer, Doumet & Goergen, 2015; Wang & Moini, 2012). This happens because different measures emphasize different aspects of the organization (Meglio & Risberg, 2011. Using a global data-set, Alexandridis, Petmezas and Travlos (2010) find that acquirers outside the most competitive takeover markets (specifically the U.S., the U.K. and Canada) pay lower premiums and realize more gains whereas target shareholders in these markets gain significantly less. They find that the premium paid, the gains of the acquirer and the target are related to variations in the competitiveness of the M&A market.

3. Empirical Design

In the first part of the paper, the acquirers are classified into categories of cost asymmetry, employing the three-period BBCM (2014a) model. Furthermore, the Weiss measure of cost-stickiness is used to verify Banker et al.'s (2014a) classification of cost asymmetry.

The second part focuses on the impact of cost stickiness on acquirer returns. High cost stickiness may result in lower resource flexibility which may make post-M&A integration more difficult and lead to lower acquirer returns. Acquirer risk and competition in the market for corporate control may either mitigate or exacerbate the effect of asymmetric SG&A costs on acquirer returns when controlling for deal and acquirer characteristics that may affect this relation.

3.1. The BBCM (2014a) Model of SG&A Behavior and M&A Performance

Most of the empirical literature on cost stickiness builds on Anderson et al.'s (2003) model, which is based on a piecewise-linear relationship between log-changes in SG&A costs and concurrent log-changes in sales:

$$\Delta lnSG\&A_{it} = \beta_0 + \beta_1 * \Delta lnSales_{it} + \beta_2 * D_{it} * \Delta lnSales_{it} + \varepsilon_{it}$$

(Eq.1)

where $\Delta lnSG\&A_{it} = lnSG\&A_{it} - lnSG\&A_{it-1}$ is the log-change in the SG&A costs of the acquirer i in year t, $\Delta lnSales_{it} = lnSales_{it} - lnSales_{it-1}$ is the log-change in sales revenue, D_{it} is a sales decrease dummy, equal to 1 if $\Delta lnSales_{it} < 0$ and zero otherwise, and ε_{it} is an error term. Where the slope coefficient β_1 shows the percentage change in SG&A costs for a one percent sales increase, the coefficient β_2 captures the degree of asymmetry in cost response to sales decreases versus increases. Cost stickiness implies that β_2 is negative which indicates that costs fall to a lesser extent for a one percent sales decrease than they rise for an equivalent sales increase (i.e., $\beta_1 + \beta_2 < \beta_1$).

Subsequent research on cost stickiness has used further extensions of the ABJ model (Banker & Byzalov, 2014). Owing to its single-period nature, the ABJ model does not clearly distinguish between the underlying processes of conditional stickiness and anti-stickiness. Therefore, Banker et al. (2014a), in their refined model, propose two and three-period models, where the slopes β_1 and β_2 are estimated conditional on the directions of sales changes in one prior period and two prior periods, respectively.

In our analysis, we use their three period model to distinguish stickiness and anti-stickiness in our sample as shown in equation (2):

$$\Delta lnSG\&A_{it} = \beta_0 + I_{i,t-2}I_{i,t-1} \left(\beta_1^{IncInc} \Delta lnSales_{it} + \beta_2^{IncInc} D_{it} \Delta lnSales_{it} \right) +$$

$$+ D_{i,t-2}I_{i,t-1} \left(\beta_1^{DecInc} \Delta lnSales_{it} + \beta_2^{DecInc} D_{it} \Delta lnSales_{it} \right) +$$

$$+ I_{i,t-2}D_{i,t-1} \left(\beta_1^{IncDec} \Delta lnSales_{it} + \beta_2^{IncDec} D_{it} \Delta lnSales_{it} \right) +$$

$$+ D_{i,t-2}D_{i,t-1} \left(\beta_1^{DecDec} \Delta lnSales_{it} + \beta_2^{DecDec} D_{it} \Delta lnSales_{it} \right) + \varepsilon_{it}$$

(Eq.2)

where $I_{i,t-2}$ ($D_{i,t-2}$) is a dummy variable for a sales increase (decrease) in year t−2 relative to year t−3, and $I_{i,t-1}$ ($D_{i,t-1}$) is a dummy variable for a sales increase (decrease) in year t−1 relative to year t−2.

Similar to the BBCM (2014) model (Equation 2), we observe strong stickiness in the "pure" optimistic case ($I_{i,t-2} = I_{i,t-1} = 1$), strong anti-stickiness in the pure pessimistic case ($D_{i\,t-2} = D_{i\,t-1} = 1$) and no significant effects of stickiness or anti-stickiness on log-changes in SG&A costs, respectively, in the corresponding "mixed" cases ($D_{i,t-2} = I_{i,t-1} = 1$ and $I_{i,t-2} = D_{i,t-1} = 1$) in our sample.

However, as stated in Banker and Byzalov (2014), equation (2) is more appropriate when the researcher's objective is to examine the determinants of cost stickiness. Since we expect to observe strong stickiness in only the pure optimistic case and strong anti-stickiness in only the pure pessimistic case, we compare the effect of acquirer risk and competition on M&A performance in sticky cost vs. anti-sticky cost sub-samples and see how cost stickiness affects these relationships. Specifically, we conduct our analysis based on a sticky-cost subsample with prior two period sales increase where $I_{i,t-2} = I_{i,t-1} = 1$ and an anti-sticky cost subsample with prior two period sales

decrease where $D_{i,t-2} = D_{i,t-1} = 1$ and exclude mixed cases $D_{i,t-2} = I_{i,t-1} = 1$ and $I_{i,t-2} = D_{i,t-1} = 1$) from our sample.

We regress M&A performance on the independent variables of interest (acquirer risk and competition) and control variables that are related to the deal and acquirer characteristics for these two subsamples and use the following Models (1-3) in order to gain further insight into our research questions:

$$M\&A\ performance = \beta_0 + \beta_1 * High\ Risk + \sum \beta_i *$$
$$Acquirer\ \&\ Deal\ Characteristics + \sum \beta_j * Industry_j + \sum \beta_k * Year_t + \varepsilon_i$$

Model (1)

$$M\&A\ performance = \beta_0 + \beta_1 * High\ Competition + \sum \beta_i *$$
$$Acquirer\ \&Deal\ Characteristics + \sum \beta_j * Industry_j + \sum \beta_k * Year_t + \varepsilon_i$$

Model (2)

$$M\&A\ performance = \beta_0 + \beta_1 * High\ Risk + \beta_2 * High\ Comp. + \beta_3 * High\ Risk *$$
$$High\ Comp. + \sum \beta_i * Acquirer\ \&\ Deal\ Charac. + \sum \beta_j * Industry_j +$$
$$\sum \beta_k * Year_t + \varepsilon_i$$

Model (3)

3.2. Weiss Measure of Cost Behavior and M&A Performance

After revealing the asymmetric cost behavior of acquirers in the first part, we investigate the impact of cost stickiness on acquirers' CARs in a one-year event window employing the cost asymmetry measure proposed by Weiss (2010). The main benefit of this measure is that it can act as an explanatory variable in investigating the impact of cost asymmetry on other outcomes (Banker & Byzalov, 2014). Therefore, we develop Models (4-7) , using Weiss's (2010) cost stickiness measure along with some interaction variables, to gain further insights to the effects of cost asymmetry on acquirer returns:

$$M\&A\ performance = \beta_0 + \beta_1 * Cost\ stickiness + \sum \beta_i *$$
$$Acq. \&\ Deal\ Charac. + \sum \beta_j * Industry_j + \sum \beta_k * Year_t + \varepsilon_i$$

Model (4)

$$M\&A\ performance = \beta_0 + \beta_1 * Cost\ stickiness + \beta_2 * High\ Risk + \beta_3 *$$
$$Cost\ stickiness * High\ Risk + \sum \beta_i * Acq. \&\ Deal\ Charac. + \sum \beta_j *$$
$$Industry_j + \sum \beta_k * Year_t + \varepsilon_i$$

Model (5)

$$M\&A\ performance = \beta_0 + \beta_1 * Cost\ stickiness + \beta_2 * High\ Comp. + \beta_3 *$$
$$Cost\ stickiness * High\ Comp. + \sum \beta_i * Acq. \&\ Deal\ Charac. + \sum \beta_j *$$
$$Industry_j + \sum \beta_k * Year_t + \varepsilon_i$$

Model (6)

$$M\&A\ performance = \beta_0 + \beta_1 * Cost\ stickiness + \beta_2 * High\ Risk + \beta_3 *$$
$$High\ Comp. + \beta_4 * High\ Risk * High\ Comp. + \sum \beta_i *$$
$$Acq. \&Deal\ Charac. + \sum \beta_j * Industry_j + \sum \beta_k * Year_t + \varepsilon_i$$

Model (7)

We conduct regression analyses employing these models (Models 1-7) using pooled cross-sectional, time-series data with clustered standard errors at the acquirer level to control for cross-sectional dependence (Petersen, 2009). We include fixed effects for industries and years.

4. Sample, Data and Methodology

4.1. Data and Sample

Data is collected from Thomson Reuters Eikon database, with the announcement dates of completed mergers and acquisition transactions between January 1, 2003, and December 31, 2015. The sample period starts with the year 2003 because older data was not available and 2015 was the latest available data at the time of its collection. In order to be included in the sample, the following criteria must be satisfied:

Acquiring firms are U.S. firms that are publicly quoted on the AMEX, NASDAQ, or NYSE that have both return information and financial statement information available on Thomson Reuters Eikon database. The deal value is at least one million dollars.

- The percentage of target acquired by the acquirer is at least 50%.

- Both "sales" and "SG&A expenses" are non-negative and SG&A costs do not exceed sales.

- Information regarding the Sales and SG&A accounts of acquirers should be available within at least a 2-year period in advance to the M&A transaction.

- Only firms performing in the non-financial sector are included and industrial classification is based on their 2-digit SIC codes.

- The study is based on domestic acquisitions that involve U.S. acquirers and targets.

$$Sticky_{it} = \log(\frac{\Delta SGA}{\Delta Sales})_{i\underline{\tau}} - \log(\frac{\Delta SGA}{\Delta Sales})_{i\overline{\tau}} \quad \underline{\tau}, \overline{\tau} \ \epsilon \ \{t, \dots t-3\} \tag{Eq 3}$$

where $\underline{\tau}$ is the most recent of the previous four years with a consecutive decrease in sales and $\overline{\tau}$ is the most recent of the previous four years with a consecutive increase in sales, $\Delta Sales = Sales_{it} - Sales_{it-1}$ and $\Delta SG\&A = SG\&A_{it} - SG\&A_{it-1}$.

If costs are sticky, meaning that they increase more when activity rises than they decrease when activity falls by an equivalent amount, the Weiss measure has a negative value. Therefore, a lower and negative value of this measure expresses more sticky cost behavior.

All data is adjusted for inflation using the consumer price index, stemming from the fact that the theory of sticky costs concerns real changes in activity. Therefore, all data dealt with is converted into their real values. Furthermore, all continuous variables are truncated at the top and bottom 1% in order to get rid of extreme observations. So, after all the above filtering is completed, the population of 97,495 M&A's over the period is reduced to a sample of 6,888 M&As.

The first part of our analysis, where we investigate whether acquirers exhibit asymmetric cost behavior, employs a sample of 6888 domestic U.S. acquisitions between 2003 and 2015. The regression analyses in the next section aim to reveal the effects of cost asymmetry on acquirers' returns and rely on two subsamples that are formed using the BBCM (2014a) model: a sticky-cost subsample (comprised of 4,377 acquisitions) with a prior two- period sales increase, and an anti-sticky cost subsample (comprised of 507 acquisitions) with a prior two-period sales decrease. We exclude the mixed cases which are insignificant. The industry breakdown of the sample is given in Appendix Table AI.

4.2. Variables and Descriptives

Cost asymmetry measure employing the BBCM (2014a) three-period model, as shown in equation (2) above, is used. The descriptives of this model are summarized in Table II.

Weiss Cost Stickiness Measure: The second cost asymmetry measure is developed using the Weiss (2010) model. We estimate the difference between the rate of cost decrease for the previous four consecutive years with decreasing sales, and the corresponding rate of cost increase for the previous four consecutive years with increasing sales:

However, in order to ease the interpretation of results, we multiply Weiss measure by (-1) so that higher values of the measure indicate more sticky behavior.

Since Weiss measure can be computed only for firms that have both a sales increase and a sales decrease in the previous four consecutive periods and the sample has to be restricted to observations for which sales and costs change in the same direction; we encounter substantial data loss in constructing this measure as Banker and Byzalov (2014) indicated.

For instance, as displayed in Table II, we are able to calculate this measure for 354 acquisitions, with an average of -0.03.

M&A performance measure: We employ the cumulative abnormal return (CAR) as the stock market based measure of M&A performance (Moeller et al., 2004; Alexandridis et al., 2010; Jang et al., 2017). A one-year (-1, + 1) event window is used with the consideration that financial markets are forward-looking and that the effects of M&A's will be captured around the announcement date. Moreover, the uncertainties are expected to be eliminated during the days, and months following the merger, implying that the merger effects will be fully reflected in the stock prices within one year. Given that a long event window

may incorporate the impact of confounding events, the stability of stock price, which is the requirement of a long-term event study, is difficult to meet. So we employ a short-term event study ($\leq$ 1 year) as defined by Meglio and Risberg (2011) who point out that most research in this area uses short-term event windows.

Cumulative Abnormal Return (CAR): CAR is the acquirer's 1-year cumulative abnormal returns around the acquisition announcement date, capturing any expected value changes in the acquirer. Abnormal stock return is defined as the difference between the acquirer stock return and the MSCI USA Value-Weighted Index.

Other Variables: Acquirer and deal related control variables are displayed in Table I.

Table I: Variables and Measures

	Variable	Calculation
	Riskiness of the Acquirer	Altman (1968) z-score High Risk = 1 when change in z-score between t+1 and t-1 is below the median and 0 otherwise
	Competition	For each industry group, an index is calculated through dividing the number of listed acquired firms in an industry to the total number of listed firms in that industry (Alexandridis et al., 2010) High competition = 1 when the competition index is above the median and 0 otherwise
Acquirer related Control variables	**Size**	ln (total assets of the acquirer)
	Leverage*	ln (Book value of debt / Book Value of assets of the acquirer)
	CAPEX	CAPEX / Total Assets
Deal related Control Variables	**Payment method of the M&A Acquisition**	Cash (CASH) or stock (STOCK) Dummy variable= 1 if the payment of the M&A is conducted in Cash and 0 if stock is used
	Relative size of the deal*	Deal value / Total assets of the Acquirer
	Target Status	4 categories are present: public, private, subsidiary and joint venture, 3 dummies are included in the regressions
	Horizontal vs. Vertical M&A's	In **horizontal M&A's**: Acquirer and target function in the same line of business, and have the same primary two-digit industry codes. In vertical M&As: Acquirer and target belong to different primary two-digit industry codes.

Due to high skewness, these variables are taken in logs to smooth out the largest values

The descriptive statistics of the variables used in the study are presented in Table II.

Table II: Descriptive Statistics

Panel A: Summary Statistics						
Variable	**N**	**min**	**max**	**mean**	**median**	**sd**
CAR_1year	4437	-0.0268	0.1094	0.0031	0.0017	0.0107
Cost Stickiness Weiss	354	-5.82	5.48	-0.03	-0.01	1.83
Inc-Inc subsample	222	-5.59	5.48	0.28	0.42	1.73
Dec-Dec subsample	132	-5.82	5.24	-0.54	-0.26	1.89
SGA (millions) at t	4884	0.67	18000	772	150	2034
Sales (millions) at t	4884	5.50	91700	3651	737	8940
SGA/Sales at t	4884	0.00	0.99	0.29	0.25	0.21
Size	4883	3.00	18.62	13.61	13.60	1.93
Relative deal size	4883	0.00	3.36	0.25	0.08	0.49
Leverage	4878	0.00	0.96	0.23	0.20	0.21
Z-score at t-1	4213	-6.53	4.55	1.42	1.60	1.68
Competition	4884	0.04	0.54	0.17	0.17	0.09
CAPEX/TA	4881	0.00	0.81	0.05	0.03	0.08
Panel B: Dummy Variables						
Other variables	**N**	**% of total**				
HighCompetition	2487	51%				
Highrisk	2068	51%				
cash_payment	2524	52%				
Vertical M&A	1821	37%				
target_public	562	12%				
target_subsidiary	1720	35%				
target_private	2566	53%				

5. Results

5.1 Asymmetric Cost Behavior of Acquirers

The models of cost behavior used in the present study reflect that there are differences between acquirers with respect to the stickiness of their SG&A costs. The results of the analyses employing the BBCM (2014) model are reported in Table III.

5.2 Univariate Test Results

T-test analyses, in Appendix Table A.II- Panel A, indicate that sticky-cost acquirers are larger and less distressed, use lower leverage and are more profitable than acquirers with anti-sticky costs. The CARs of sticky-cost acquirers are significantly lower than those of acquirers with anti-sticky SG&A costs in the one-year window around M&A announcement date.

Table III: Three Period Model (Banker et al., 2014a)

Dep. Variable: $\nabla \ln SG\&A_{it}$

$I_{t-2} \times I_{t-1} \times \nabla LnSALES_{it}$	0.597***
	(38.22)
$I_{t-2} \times I_{t-1} \times D_t \times \nabla LnSALES_{it}$	-0.397***
	(-7,64)
$D_{t-2} \times I_{t-1} \times \nabla LnSALES_{it}$	0.365***
	(21.92)
$D_{t-2} \times I_{t-1} \times D_t \times \nabla LnSALES_{it}$	0.058
	(0.67)
$I_{t-2} \times D_{t-1} \times \nabla LnSALES_{it}$	0.427***
	(23.7)
$I_{t-2} \times D_{t-1} \times D_t \times \nabla LnSALES_{it}$	-0.081
	(-0,98)
$D_{t-2} \times D_{t-1} \times \nabla LnSALES_{it}$	0.406***
	(18.27)
$D_{t-2} \times D_{t-1} \times D_t \times \nabla LnSALES_{it}$	0.449***
	(5.5)
N	6,700
R^2	29.49%
Adj. R^2	29.40%

***, **, and * indicates statistically significant levels of 1%, 5% and 10%, respectively. The numbers in parentheses are the t-statistics, based on standard errors clustered by firm.

Furthermore, t-tests, in Table A.II Panel B, in the appendix, reveal that small and large acquirers have different characteristics. Large acquirers use higher leverage, are more profitable and have lower cumulative abnormal returns.

5.3. Multivariate Test Results

5.3.1. Effects of Competition and Bidder Risk on Acquirer Performance: Sticky-cost and Anti-sticky Cost Cases

The regression analyses for the two groups of acquirers (sticky cost and anti-sticky cost acquirers), are presented in Table IV.

Table IV: Comparison of Sticky –Cost Group vs. Cost Anti-Sticky Group CARs

Dep. Variable: CAR_1 year	MODEL (1)		MODEL (2)		MODEL (3)	
	Cost Sticky Group	Cost Anti-Sticky Group	Cost Sticky Group	Cost Anti-Sticky Group	Cost Sticky Group	Cost Anti-Sticky Group
High Risk	-0.358***	-0.557***			-0.285***	-0.321**
	(-10.27)	(-3.21)			(-5.9)	(-2.27)
High Competition			0.031	0.348*	0.119	0.527*
			(0.58)	(1.72)	(1.52)	(1.86)
High Risk x High Competition					-0.148**	-0.517*
					(-2.16)	(-1.67)
Size	-0.091***	-0.123***	-0.076***	-0.107***	-0.091***	-0.120***
	(-6.99)	(-3.36)	(-5.45)	(-3.03)	(-7.02)	(-3.28)
Relative Deal Size	0.044***	0.063	0.028**	0.043	0.043***	0.053
	(3.81)	(1.46)	(2.45)	(1.10)	(3.77)	(1.25)
Leverage	0.050***	0.053	0.052***	0.056	0.050***	0.053
	(3.68)	(0.83)	(4.37)	(1.28)	(3.66)	(0.83)
CAPEX / TA	-0.933**	0.145	-0.678**	0.906	-0.930**	0.387
	(-2.43)	(0.11)	(-2.08)	(0.78)	(-2.41)	(0.30)
Vertical	-0.034	-0.093	-0.024	-0.086	-0.035	-0.073**
	(-0.95)	(-0.6)	(-0.67)	(-0.60)	(-0.98)	(-0.47)
Target_public	0.132	-0.045	0.143	-0.168	0.130	-0.009**
	(0.89)	(-0.20)	(1.14)	(-0.67)	(0.89)	(-0.03)
Target_subsidiary	0.079	0.139	0.094	0.066	0.083	0.173
	(0.56)	(0.71)	(0.81)	(0.30)	(0.59)	(0.59)
Target_private	0.157	0.167	0.212*	0.085	0.157	0.180
	(1.11)	(0.78)	(1.82)	(0.37)	(1.12)	(0.59)
Cash Payment	-0.049	-0.123	-0.047	-0.114	-0.049**	-0.136
	(-1.44)	(-0.80)	(-1.41)	(-0.80)	(-1.44)	(-0.89)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
N	3,027	346	3415	385	3027	346
R²	17.22%	24.01%	13.02%	20.34%	17.36%	25.06%

*** ,**, and * indicates statistically significant levels of 1%, 5% and 10%, respectively. The numbers in parentheses are the t-statistics, based on standard errors clustered by firm.

The default risk of the acquirers tends to reduce the CARs significantly in both groups as shown in both Model (1) and Model (3). However, acquirer default risk has a significantly stronger negative effect on returns of acquirers with anti-sticky costs. Thus, the performance of bidders with anti-sticky costs deteriorates faster when the acquirer has a high default risk.

Competition seems to have a weak positive effect on returns, only for acquirers with anti-sticky costs as displayed in Model (2) and Model (3). The high competition in the market for corporate control tends to increase the premium paid to targets and the reduction of SG&A costs in the anti-sticky cost group of acquirers offsets the significant negative effects of premium payments, leading to positive effects on CARs, supporting Alexandridis et al. (2010).

The joint effects of acquirer risk and competition in the takeover market seem to be significantly and negatively related to acquirer returns for all acquirers as shown in Model (3). Hence, high default risk mitigates the benefits of competition in the market. Acquirers with a high default risk have lower gains when the competition in the market increases. This effect is stronger for acquirers with anti-sticky cost behavior.

Acquirer size is significantly negatively related to CAR in all the regressions. This supports evidence from Moeller et al. (2004) who claim that small acquirers have higher returns. Capital expenditures (CAPEX) significantly reduce returns of sticky-cost acquirers in all models, but do not have significant effects on anti-sticky group returns. The coefficients of vertical mergers and cash payments are negative in all regressions but are significant only in Model (3). Acquisitions of private targets seem to increase CARs but this is significant only in Model (2) for the sticky-cost acquirers. Deal size is significantly positively related to abnormal returns of acquirers and sticky-cost acquirers that undertake large deals seem to generate significantly higher returns. This relationship is insignificant for bidders with anti-sticky costs. Leverage is significantly positively related to CARs in all the regressions, but the coefficients are significant only for sticky-cost acquirers. Further analyses show that leverage raises the abnormal returns of the sticky-cost acquirers, but is not significantly related to the returns of acquirers with anti-sticky cost behavior. Thus, leverage and relative deal size appear to have significant positive effects on returns of acquirers with sticky costs. These findings are consistent in all models.

Overall, our findings for two groups of acquirers (sticky cost and anti-sticky cost acquirers) imply that the default risk of the acquirers tends to reduce the CARs significantly in both groups. Competition in the market increases CARs for acquirers with anti-sticky costs. Besides, the joint effects of acquirer risk and competition in the takeover market significantly decreases acquirer returns for both groups of acquirers. Hence, high default risk mitigates the benefits of competition in the market.

5.3.2 Asymmetric Cost Behavior and Acquirer Performance –Weiss Measure Results

In the second part of this study, the effect of cost behavior on acquirer returns is investigated using the Weiss measure (2010) of cost stickiness. As displayed in descriptive statistics in Table II, the sticky group has a higher mean (0.2755) than anti-sticky cost group (-0.54) which justifies the aforementioned sticky and anti-sticky classification of acquirers based on the BBCM (2014) model. Hence, both models produce consistent classification of the sample. Moreover, the correlation coefficients between the variables are low and there is no multicollinearity.

The results of Models (4-7) that use Weiss (2010) measure of cost stickiness and CAR as a measure of merger performance are displayed in Table V. Our findings indicate that cost stickiness has a significant and negative effect on acquirers' CARs in models (4) and (7). Therefore, managerial optimism or pessimism leads to asymmetric cost behavior in M&A transactions which in turn reduces their abnormal returns.

The results of Table V further reveal that acquirer default risk tends to reduce CARs and that competition tends to increase it, confirming previous findings (see Section 5.3.1). As detected in Model (6), competitiveness of takeover markets seem to be strongly positively related to bidder returns which implies that the synergy gains of acquirers compensate for the premiums paid to targets. Furthermore, competition serves as a disciplining device for managers and leads them to undertake value-increasing acquisitions. When the joint effect of cost stickiness and competition is analyzed, cost stickiness tends to mitigate or even reverse the positive effect of competition on the abnormal returns of acquirers. On the other hand, the joint effect of

Table V: The Effect of Cost Stickiness on CAR- Weiss Measure

Dep. Variable: CAR_1 year	MODEL (4)	MODEL (5)	MODEL (6)	MODEL (7)
Cost Stickiness Measure_Weiss	-0.070**	-0.084	-0.032	-0.061**
	(-2.43)	(-1.57)	(-0.60)	(-2.28)
High Risk		-0.359***		-0.187
		(-3.72)		(-1.39)
High Competition			0.341**	0.579***
			(1.95)	(2.82)
Cost Stickiness Measure_Weiss x High Risk		0.025		
		(0.34)		
Cost Stickiness Measure_Weiss x High Competition			-0.082**	
			(-1.09)	
High Risk x High Competition				-0.310
				(-1.58)
Size	-0.090**	-0.111**	-0.091**	-0.106**
	(-2.02)	(-2.55)	(-2.07)	(-2.39)
Relative Deal Size	0.050	0.069*	0.047	0.073**
	(1.44)	(1.89)	(1.37)	(1.97)
Leverage	0.072**	0.076**	0.076**	0.081**
	(2.11)	(1.94)	(2.10)	(1.99)
CAPEX / TA	3.422	3.547*	3.287	2.993
	(1.60)	(1.69)	(1.60)	(1.46)
Vertical	0.085	0.061	0.090	0.044
	(0.74)	(0.54)	(0.79)	(0.40)
Target_public	0.340	0.546*	0.430	0.602**
	(1.17)	(1.90)	(1.48)	(2.36)
Target_subsidiary	0.447	0.455*	0.519*	0.508**
	(1.51)	(1.61)	(1.76)	(2.01)
Target_private	0.217	0.275	0.279	0.333
	(0.77)	(1.01)	(1.00)	(1.42)
Cash Payment	0.168*	0.135	0.136	0.101
	(1.61)	(1.27)	(1.35)	(1.02)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	293	262	293	262
R^2	33.38%	40.16%	35.11%	42.58%

***, **, and * indicates statistically significant levels of 1%, 5% and 10%, respectively. The numbers in parentheses are the t-statistics, based on standard errors clustered by firm.

cost stickiness and acquirer default risk does not have a significant impact on the abnormal returns of acquirers.

In all the models employing Weiss measures of stickiness, small bidders have significantly higher CARs and thus support Moeller et al. (2004). Leverage significantly positively effects bidder returns in all the models supporting our previous analyses. Relative deal size is significantly positively related to acquirers' abnormal returns in Models (5) and (7). Therefore,

the regressions that employ Weiss measures strongly support the results documented in Table IV which are based on the BBCM (2014) classification of cost asymmetry.

Overall, our findings using Weiss measure of cost asymmetry imply that cost stickiness of acquirers has a significant and negative effect on CARs. Higher default risk significantly decreases CARs and competition increases it, confirming findings in Section 5.3.1. When the joint effect of cost stickiness and competition is analyzed, cost stickiness tends to mitigate or even reverse the positive effect of competition on the abnormal returns of acquirers.

5.3.3 Robustness of Results

For robustness tests, we employ a control group comprised of acquirers that do not exhibit significant asymmetric cost behavior. The control group is selected from the categories of the BBCM (2014) three-period model in which no significant effects of stickiness and anti-stickiness were observed, i.e. the "mixed" cases ($D_{i,t-2} = I_{i,t-1} = 1$ and $I_{i,t-2} = D_{i,t-1} = 1$). We then investigate the effect of cost stickiness, using the Weiss (2010) cost asymmetry measure, on M&A performance as measured by CARs and using a one-year event window. Our results indicate that cost stickiness has no significant effect on M&A performance for this control group, validating the robustness of our findings[1].

6. CONCLUSION

This paper investigates the asymmetric cost behavior of U.S. acquirers involved in M&A activity during the 2003-2015 period, using BBCM (2014a) three-period model and the Weiss (2010) measure of cost asymmetry, and reveals the effects of asymmetric cost behavior on acquirers' returns. The results show that 73% of acquirers display asymmetric SG&A cost structure. The majority of these acquirers (90%) display sticky-cost behavior while a small portion (10%) reveals anti-sticky cost behavior. The increase in cost stickiness significantly decreases the one-year cumulative abnormal returns (CARs) generated by the acquirers. The univariate analyses show that the abnormal returns of the sticky-cost acquirers are significantly lower than bidders with anti-sticky costs in the one-year window around the merger announcement.

Because the competition in the market for corporate control and acquirers' risk of default tend to affect acquirers' returns, these variables are expected to moderate the effect of cost-stickiness on post-merger acquirer returns. The results of the regression analyses that employ the two groups, sticky-cost and anti-sticky cost acquirers, show that the default risk of the acquirers tends to reduce the CARs significantly in both groups.

The joint effects of acquirer risk and competition in the takeover market significantly decreases acquirer returns for both groups of acquirers. The high negative coefficient of the interaction term indicates that the default risk of the acquirers offsets the positive effect of competition on acquirers' abnormal returns, the effect being stronger for acquirers with anti-sticky costs. Therefore, managerial pessimism leading to cost anti-stickiness makes acquirers' returns more vulnerable to variations in default risk, especially when the market for corporate control is highly competitive.

The analyses that employ Weiss measure of stickiness indicate that as cost stickiness rises, CARs of acquirers drop significantly. Competition in the takeover market is significantly positively related to acquirer returns. This finding supports Alexandridis et al. (2012) who find evidence that mergers in recent years have involved lower premiums, indicating more rational behavior. It seems that high competition in the takeover market serves as a disciplining device for managers and leads them to undertake value-increasing acquisitions rather than empire building investments. Another explanation may be that firms that are under competitive pressures obtain synergy gains from their mergers which may offset the premiums paid to targets. When the joint effect of cost stickiness and competition is analyzed, cost stickiness tends to mitigate or even reverse the positive effect of competition on the abnormal returns of acquirers. Furthermore, the results indicate that the default risk of acquirers significantly reduces their abnormal returns.

This study contributes to the literature in several ways. It provides an alternative explanation for the low post-merger abnormal returns of the acquirers which is prevalent in M&A transactions. It shows that (a) managerial optimism or pessimism that is reflected in stickiness of SG&A costs ,leads to asymmetric cost behavior of acquirers which in turn reduces their abnormal returns; (b) the negative effect of cost stickiness on acquirers' abnormal returns is stronger in a competitive market for corporate control, and mitigates the positive effects of competition; (c)

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[1] **The analyses will be presented upon request.**

acquirers with anti-sticky costs are more vulnerable than sticky-cost acquirers to changes in default risk and competition in the market for corporate control.

Although the usage of the Weiss (2010) model of cost asymmetry reduces the sample size to a large extent due to the calculation requirements of the measure, it is very significant to capture it as it lets cost stickiness to be used as an explanatory variable in the analyses. This research relies on data from M&A transactions in the U.S. where a competitive takeover market exists and the results provide a new insight to the analysis of post-merger acquirer returns. The study can be extended to cross-border mergers, to reveal how the effects of asymmetric cost behavior on acquirer gains or losses differ in settings with varying degrees of competition in the market for corporate control. Furthermore, integrating target firm characteristics as control variables may add a different perspective that remains to be investigated in further research.

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Appendix

Table A1: Industry breakdown

Industries	N	% of total
NoDur	251	5%
Dur	80	2%
Manuf	598	12%
Enrgy	375	8%
Hitec	1444	30%
Telcm	223	5%
Shops	363	7%
Hlth	663	14%
Utils	148	3%
Other	739	15%
Total	**4884**	

Table A.2. T-tests

Panel A: Comparison of sticky cost vs antisticky cost acquirers

	Antisticky	Sticky	Diff.	t-stat
Size	13.412	13.633	-0.220	-2.4298**
Leverage	0.364	0.235	0.128	3.0168**
Zscore	0.868	1.483	-0.614	-7.4551***
Relative deal size	0.328	0.239	0.089	3.8975**
Profit margin	0.049	0.124	-0.075	-8.311**
CAR_1year window	0.0048	0.0029	0.0018	3.573***
N	507	4376		

Panel B: Comparison of large vs small acquirers

	Small	Large	Diff.	t-stat
Leverage	0.208	0.288	-0.080	-3.094***
Zscore	1.214	1.599	-0.385	-7.4747***
Relative deal size	0.356	0.146	0.210	15.4009***
Profit margin	0.095	0.136	-0.042	-7.569***
CAR_1year window	0.0044	0.0019	0.0025	7.961***
N	2386	2492		

***, **, and * indicates statistically significant levels of 1%, 5% and 10%, respectively. All variables except dependent variables are calculated at time t-1.

CONSUMER ANXIETY, WELL-BEING and SOCIAL MEDIA USE: THE CASE OF #HealthyNutrition

TÜKETİCİ KAYGISI, İYİ-OLUŞ ve SOSYAL MEDYA: #SağlıklıBeslenme

Ayla ÖZHAN DEDEOĞLU[1]
Ezgi KABASAKAL[2]

○ *https://orcid.org/0000-0002-0179-0644*
○ *https://orcid.org/0000-0001-8204-1970*

ABSTRACT

The present study aims to describe the possible influence of social media content about healthy nutrition on consumer anxiety and well-being. In the literature there are insufficient numbers of scholarly studies that analyze consumer anxiety and well-being together, and particularly, on the basis of user-generated social media content about healthy nutrition. Understanding how user-generated social media content about healthy nutrition influences consumers' anxiety and well-being by shedding a light on both constructs can help the development of new theoretical explanations of functional and dysfunctional use of social media content and its consequences. The findings reveal that consumers do not feel so anxious due to the shared healthy nutrition contents and may have used these contents functionally for gratifications resulting in an increase of their well-being to a certain extent. Furthermore, posts on social media with healthy nutrition content generally have a positive effect on wellbeing. Considering the findings that indicate a low level of consumer involvement and relatively negative perceptions of the scientific validity of the content, recommendations for further studies are developed.

Keywords: consumer anxiety, consumer well-being, social media, healthy nutrition, functional use

ÖZET

Mevcut çalışma, sosyal medyada yapılan sağlıklı beslenme içerikli paylaşımların tüketiciler üzerinde kaygı yaratma ya da iyi-oluşu artırma açısından olası etkilerini betimlemeyi amaçlamaktadır. Literatürde tüketici kaygısı ve iyi-oluşu bir arada ve özellikle de sağlıklı beslenme hakkında sosyal medya kullanıcılarınca yaratılan içerikler bağlamında inceleyen yeterli sayıda akademik çalışma bulunmamaktadır. Sağlıklı beslenme hakkında sosyal medyada kullanıcılarca yaratılan içeriklerin tüketici kaygıları ve iyi-oluşu nasıl etkilediğinin, her iki yapının boyutlarını derinlemesine analiz ederek incelenmesiyle söz konusu içeriklerin fonksiyonel olan ve olmayan kullanımları ve sonuçları hakkında yeni teorik açıklamalar geliştirmeye katkısı olacaktır. Çalışmada elde edilen bulgular, tüketicilerin sosyal medyadaki sağlıklı beslenme içerikleri nedeniyle çok fazla kaygı duymadıklarını ve bu içerikleri iyi-oluşlarını arttırmak için fonksiyonel olarak belli bir seviyede kullandıklarına işaret etmektedir. Ayrıca, sosyal medyada sağlıklı beslenme ile ilgili paylaşımların tüketicilerde genellikle iyi-oluşa olumlu etki ettiği tespit edilmiştir. Bununla birlikte, düşük tüketici ilgilenim düzeyi ve içeriklerin bilimsel geçerliliğine ilişkin kısmen olumsuz algılara işaret eden bulgular da dikkate alınarak gelecek çalışmalara ilişkin önerilerde bulunulmuştur.

Anahtar kelimeler: tüketici kaygısı, tüketici iyi-oluşu, sosyal medya, sağlıklı beslenme, fonksiyonel kullanım

INTRODUCTION

Due to the rise of critical consumption and financially empowered consumers, food supply chains have become more demand-oriented (Lowe et al., 2008). Although consumers are regarded as active agents that led the way of changes in the dominant food regime toward the direction of sustainability, in a complex, technology-led and globalized marketplace,

[1]**Prof. Dr., Ege University Faculty of Economics and Administrative Sciences, Bornova/İzmir, ayla.dedeoglu@ege.edu.tr**
[2]**Res. Assist., Ege University Faculty of Economics and Administrative Sciences, Bornova/İzmir, ezgi.kabasakal@ege.edu.tr**

consumers perceive higher risks and regard producers less trustworthy (Grunert, 2002; Fonte, 2013). It was proposed that consumers' reflexivity is connected to, among other things, the higher level of consumer distrust in food and marketers' nutritional claims (Hansen et al. 2011; Kjaernes and Torjusen, 2012). Reflexive consumption defines how modern consumers, as constituent subjects and reflexive agents in the marketplace, construct a meaningful and coherent sense of identity (Beckett and Nayak, 2008; Falguera et al., 2012) though reflexive (re)interpretation of knowledge that is, in fact, open to revision (Giddens, 1991). Despite the attempts of the producers to put faith in hygienists, retailers, and food scientists, distrusting consumers reflexively scrutinized and replaced that sense of faith with fear and anxiety (Spaargaren et al., 2012).

Consumer anxieties on food are shaped and provoked via news in mass media concerning farm crises, food scares and scandals such as the mad cow disease and bird flu (Jackson, 2010). For instance, genetically modified foods and swine flu were two cases that had created immense controversy in Turkey; discussions in the mass media and negative word-of-mouth communications have led to immense fear and anxiety among consumer (Dedeoglu and Ventura, 2012, 2017).

Anxiety, a negative feeling triggered by the potentially harmful future events, has an obviously negative impact on well-being of consumers. Consumer anxieties shaped around food and healthy nutrition has given rise to a quest for natural and minimally-processed food that improves health (Hansen et al. 2011). Health, defined by WHO (World Health Organization) as a state of complete physical, mental and social well-being, is becoming an increasingly important personal and societal value and a motivation for the consumption of both organic and functional foods (Goetzke et al., 2014). In addition to other types of well-being, food well-being was also proposed in the literature: Block et al. (2011) defined it as a positive psychological, physical, emotional, and social relationship with food at individual and social levels.

21st century witnessed the rise of social media that has enabled collaborative content development and sharing, interactivity, mobile messaging, social networking services (Korda and Itani, 2013). Social media has become a part of consumers' daily lives. Functional use of social media can help consumers pursue a healthy lifestyle, cope with anxiety adaptively and achieve a certain level of well-being. Yet, next to serving as a motivator, dysfunctional use of social media can pose a threat to consumers' self-preservation goal, cause anxiety and deteriorate well-being.

Both consumer anxiety and well-being are analyzed in many contexts, yet, to our best knowledge, there are insufficient number of scholarly studies that analyze the influence of shared social media content about healthy nutrition on both consumer anxiety and well-being. Moreover, although there are published statistical researches, such as RSPH (2017), that measure consumer anxiety and other emotions, in addition to studies that focus on various psychopathology, including depression, stress, social pain (Thomée et al. 2007; Kross et al., 2013; Bhagat, 2015; Woods and Scott, 2016; Elhai et al., 2017), there still remains a need to research the possible influence of related social media content on consumer anxiety and well-being, by considering all the dimensions of both constructs. Understanding how user-generated social media content about healthy nutrition influences consumers' consumer anxiety and well-being by shedding a light on both constructs can help developing new theoretical explanations of functional or dysfunctional use of social media content and its consequences. Furthermore, understanding the impact of dis/functional use of social media use on consumer emotions can help public policy makers in their effort to develop a public policy to promote functional use of social media that may have positive impact on consumer well-being.

CONSUMER ANXIETY

Consumers today live in an era of anxiety. Jackson (2010) argued that it has become a normal, everyday condition; modern consumers are said to be living in a state of constant anxiety: 'a time of fears'. Anxiety is an unpleasant emotional state, characterized by tension, apprehension, and worry, and occurs in response as a threat to a self-preservation goal (Arkin and Ruck, 2007). Anxiety arises in such situations where the person is uncertain about potentially harmful outcomes of a future event, lacks self-efficacy in altering the course of events and, thus, perceives high threat (Chiou and Wan, 2006). Lee et al., (2011) proposed that being driven by fear, anxious consumers try to avoid risks of facing uncertain outcomes more so than other negative emotions such as depression, sadness or anger. Anxiety is also defined as feelings of worry, nervousness or unease; whereas depression is defined as feeling extremely low and unhappy (RSPH, 2017). Luce et al. (2001) reflected that it might prompt a goal of uncertainty reduction or risk avoidance because

anxiety frequently involves uncertainty and lack of control. Consumer anxiety arises from a sense of threat in the context of consumption.

In the literature, anxiety was measured using various scales. Liebowitz introduced the Liebowitz Social Anxiety Scale (Liebowitz, 1987) that operationalized anxiety in fear, avoidance and social avoidance dimensions. Lovibond and Lovibond (1995) introduced the Depression Anxiety Stress Scales (DASS) that measured anxiety, next to two other negative emotional states of depression and tension/stress, by focusing on autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. In their study, Scholten et al. (2017) tested the cross-cultural applicability of the DASS across four countries and found meaningfully comparable results; accordingly, for instance, Russia was the country with highest level of anxiety. Alkis et al. (2017) studied and analyzed college students' social anxiety on social media platforms. Being driven by the definition of social anxiety as the feelings of discomfort and nervousness during interaction with others in a social setting (Hartman, 1986), they distinguished four dimensions of social anxiety (shared content anxiety, privacy concern anxiety, interaction anxiety, and self-evaluation anxiety) and proposed the Social Anxiety Scale for Social Media Users. Shared content anxiety derives from sharing of content in social media by individuals themselves or by others related to them (Alkis et al., 2017). Privacy concern of social media users also triggers social anxiety (Liu, Ang, and Lwin, 2013). Privacy concern anxiety derives from the possibility of disclosing personal information on social media (Alkis et al., 2017). Individuals with a high privacy avoid sharing their personal information online (Liu et al., 2013). While interaction anxiety is defined a type of social anxiety that is felt during interaction with others, especially with the ones that are just met, on social media, self-evaluation anxiety is defined to include apprehension and fear of being judged by others (Mattick and Clarke, 1998; Alkis et al., 2017).

Consumer anxiety has been studied in the literature by analyzing the antecedent variables, such as individual choices that increases perceptions of uncertainty and risks (Locander and Hermann, 1979), impulse buying (Gardner and Rook, 1988; Aadel et al. 2016), exposure to fear appeals (Sego and Stout 1994), consumers' familiarity obtained from ongoing usage and past experience (Kuhlmeier and Knight, 2005), perception of self-efficacy (Meuter et al. 2003; Gelbrich

and Sattler, 2014), potential negative evaluations from others (Alkis et al. 2017), the degree of awareness of and sensitivity to the reactions of others to one's own behavior (Piamphongsant and Mandhachitara, 2008), service or website quality and trust (Hwang and Kim, 2007; Yao and Liao, 2011). Consumer anxiety is a significant determinant of behavioral intention, i.e. intention to purchase and use (Meuter et al., 2003; Gelbrich and Sattler, 2014), consumer avoidance behavior (Lee et al., 2011) such as procrastination (Ferrari et al. 1995; Blichfeldt et al., 2015) and escapism (Darrat et al. 2016), post-purchase dissonance (Sweeney et al. 2000; Keng and Liao, 2013) and even compulsive buying (Valence et al., 1988), customer dissatisfaction (Thomson and Johnson, 2002) and disloyalty (Delacroix and Guillard, 2016).

CONSUMER WELL-BEING

There is a growing demand towards products and foods with natural ingredients and minimal processing (McGill, 2009). Falguera et al. (2012) stated that motivations underlying consumption is not only the basic biological needs, but a need to express a sense of self and improve psychological well-being. Well-being is a broad and holistic concept that signifies a state of happiness and relates to a subjective evaluation of a person's life on many dimensions, such as social, physical, emotional, spiritual, intellectual (Suranyi-Unger, 1981; McMahon, Williams and Tapsell, 2010; Ares et al., 2015). Discussions focused on some hallmarks of well-being: it is multidimensional and subjective and it relies on a balance between cognitive and affective dimensions next to positive and negative emotions (e.g. Diener, 1984; Adams et al., 1997). Diener et al. (1999) and Diener (2000) identified main components of subjective well-being as emotional responses (including positive and negative emotions), domain-specific satisfactions, and global judgments of life satisfaction.

Suranyi-Unger (1981) identified hedonic, commodity-specific, and income-specific approaches to the definition and measurement of consumer wellbeing. While hedonic approach is built upon on the theory of social welfare and concepts of preference, choice, satisfaction, and utility and utilizes subjective measures of satisfaction, commodity-specific approach relies on the input of goods and services that are used to meet a predesignated minimum level of well-being that is measured with possession of commodities. Income-specific approach is based on expression

of well-being levels as an income-level requirement (Suranyi-Unger, 1981).

Different approaches operationalized the well-being construct varyingly. Miscellaneous operationalization indicates that it is a multidimensional construct and relates to every domain of human life. While Veenhoven (2000) discussed four dimensions of well-being which are livability of the environment (good living conditions), utility of life (the extent to which higher values are achieved), life ability of the person (how well a person is prepared to cope with life) and appreciation of life (related to subjective well-being), Hettler (1984) defined well-being in six interdependent dimensions; physical, intellectual, social, emotional, occupational and spiritual well-being. Adding societal level next to individual level of assessments, Block et al. (2011) distinguished psychological, physical, emotional, and social dimensions. King et al. (2015) analyzed well-being using emotional, intellectual, physical, social, and spiritual dimension; they found that physical dimension had the highest correlation with well-being. Physical well-being relates to assessments of physical activity, nutrition, health and vitality. While spiritual well-being involves perception of the meaning and purpose of one's life, emotional and psychological dimension involves the awareness, control and acceptance of feelings such as leisure, happiness, calm, quietness, and joy (Goetzke et al., 2014; Meiselman, 2016). Social well-being relates interactions to others and is affected by having the support of friends or family. Intellectual well-being relates to mental and intellectual activity and performance (Ares et al. 2015).

Using a different conceptualization, Schuster et al. (2004) discussed that health is a multidimensional construct that includes physical, psychological, social, and spiritual dimensions; and that well-being is a higher order construct which integrates all these dimensions of health.

Identifications of well-being can be diverse based on various cultural and socioeconomic contexts (Diener and Suh, 2000). For instance, in the domain of nutrition, several socioeconomic factors, such as culture, price, availability, convenience, personal preferences and environmental, social or health concerns (Falguera et al., 2012), can influence how consumers define their well-being. Ares et al. (2015) noted that average income level and self-evaluations of people as being better than others can account for cross-cultural differences.

SOCIAL MEDIA: A MAJOR SOURCE OF CONSUMER WELL-BEING OR ANXIETY?

Social media, a group of Internet-based applications that build on Web 2.0 that allow the creation and interactive exchange of user-generated content and participation in social networking (Kaplan and Haenlein, 2010), has become a part of consumers' daily lives. It has not only been as a new communication medium, it also influences users' lifestyles by altering the way people socialize, communicate and relate to each other. It allows access to information anytime and anywhere and transfers information easily. Social media affects consumers' consumption patterns and self-representation.

The uses and gratifications theory tries to explain how consumers who motivated by social and psychological needs use the media, in the present case social media platforms, and seek gratifications (Raacke and Bonds-Raacke, 2008; Koc and Gulyagci 2013). As regards to consumption habits, functional use of social media may provide consumers tools for self-expression (Belk 2013), pursuing a socially-connected and healthy lifestyle, increasing their well-being and obtaining gratification.

Social media provides the opportunity for users to control how they express and present themselves to their followers (Zhao, Grasmuck and Martin, 2008). Self-presentation can be defined as complex intraself negotiations to project a desired impression (Jensen Schau and Gilly, 2003). Social media serves as a tool of self-expression (Belk, 2013); using their social media accounts, users represent better or the best version of themselves and construct a digital self. Users can present the version of themselves that they hope to be, rather than what they actually are; thus, this could affect the content they post and the accounts that they follow that provide information about recipes and exercises (Vaterlaus et al., 2015).

In their seminal article, Price and Arnould (2003) asserted that through 'authenticating acts' consumers mark differences between self and others and to engage in acts redolent of personal style. Furthermore through 'authoritative performances' (Price and Arnould, 2003), they also express their shared participation, create a unity between themselves and community and gain individual legitimacy. Consumers employ these practices to create a narrative sense of self. Social media users' acts of creating, consuming and negotiating images and meanings function as authenticating acts; they mark differences. On the other hand,

through contents they generate, they also perform so that they integrate the community. In their quest to express themselves and gain legitimacy, people strive to present better and mostly different (sometimes distorted) versions of themselves. Although users, in fact, create "cool" and hyperreal content that embrace consumer culture, they also consume these images no matter how unconnected they are to their real life experiences.

Since social media can improve young people's access to other people's experiences of health and expert health information, it may serve as a motivator for a healthy lifestyle (RSPH, 2017). Several studies revealed that young adults use the Internet as a health information source (McKinley and Wright, 2014; Vaterlaus et al., 2015). Vaterlaus et al. (2015) found that consumers exploit exercise related content on social media platforms. However they also found that it may serve as a barrier since the amount of time and effort spent online may replace the energy allocated for exercise and distract users (Vaterlaus et al., 2015).

Social media also affects food consumption habits; it serves as a platform that enables information sharing and receiving about food (Zilberman and Kaplan, 2014). Vaterlaus et al.'s (2015) findings indicate that wide range of information and recipes shared online leads to the expansion of food choices and diversification in meal plans. Besides the healthy recipes and healthy nutrition lifestyle, unhealthy food consumption content is also shared through social media (Vaterlaus et al., 2015). Therefore, social media may lead to an increase in high calorie food intake. If used functionally, social media may help them pursue a healthy lifestyle via diet and exercise so that they can present a better version of themselves and satisfy self-expressive needs.

However, dysfunctional use of social media platforms, in addition to failed uses and gratifications, can trigger anxiety. Then again, experiencing anxiety during social media interactions can lead to spending more time on social networking sites (Ryan and Xenos, 2011; Koc and Gulyagci, 2013; Kross et al., 2013; Błachnio et al., 2015; Oberst et al., 2017). In other words, the more consumers involve in social media, the more they are likely to be subjected to anxiety-inducing content and vice versa. Kross et al. (2013) argued that being subjected to other consumers' "perfect" lifestyles, users may develop perceptions of social isolation rather than objective social isolation, thus develop social pain, and i.e. feel socially disconnected and isolated.

They also found that the more people interacted with other people directly, the more strongly Facebook use predicted declines in their affective well-being.

According to a current report (RSPH, 2017), compared to drugs and alcohol, social media happens to be more addictive for social media users, of which 91% of them are younger than 24 and consequently has led to 70% increase in depression and anxiety in the past 25 years. Analysis of social media platforms was made based on 14 health and well-being dimensions, such as anxiety, self-expression, body image; Instagram was found to have the most detrimental effect on young people's health and well-being among other platforms (RSPH, 2017). It can be proposed that image-focused platforms may influence self-esteem negatively, trigger feelings of inadequacy and anxiety and deteriorate well-being. Findings of other studies also revealed that dysfunctional use of social media can trigger various types of psychopathology, including anxiety, depression, stress and exacerbate existing conditions (Thomée et al. 2007; Bhagat, 2015; Woods and Scott, 2016; Elhai et al., 2017). Therefore, this study aims to analyze the influence of shared social media content about healthy nutrition on both consumer anxiety and well-being.

THE RESEARCH METHODOLOGY

The present study aims to describe the possible influence of social media content about healthy nutrition on consumer anxiety and well-being. For the aim of the study, online survey method was used. To find out how the participants feel when they see posts related to healthy nutrition on social media, a well-being scale is employed; the items used in the survey were inspired by the studies by King et al. (2015) and Ares et al. (2015). The scale included five dimensions (emotional, intellectual, social, physical and physical well-being) that are proposed to relate to the context of the study. While the emotional well-being dimension included items such as feeling happy and enthusiastic, intellectual well-being related to aspects like being focused and curious. Social well-being was measured with items such as being connected and accepted. While physical well-being referred to evaluations of, for instance, being active and resilient, spiritual well-being was measured with items, such as feelings of satisfaction and gratefulness.

The social media anxiety scale that aims to measure the level of anxiety when they come across or share posts related to healthy nutrition in social media was

adapted from Alkis et al.'s (2017) the Social Anxiety Scale for Social Media Users that originally includes four dimensions; shared content anxiety, privacy concern anxiety, interaction anxiety, and self-evaluation anxiety. For the purpose of the study, shared content anxiety is operationalized in two dimensions; shared content anxiety induced by users' own posts and by other users' posts. Shared content anxiety induced by other users' posts is operationalized with items such as "The healthy nutrition content posted by others make me feel distressed.", whereas shared content anxiety induced by users' own posts is operationalized with items such as "I feel anxious that people find my posts about healthy nutrition awkward". Self-evaluation anxiety dimension is adapted so to refer to users' self-evaluations considering their all activities. Since privacy concern anxiety does not relate to the aim of the study, it is not included among other dimensions. Scale items that passed the requirements of confirmatory factor analysis appear in Table 3. All anxiety and well-being items were measured using Likert scale, where 1 means strongly disagree and 5 means strongly agree. Due to budgetary limitations, the data was collected via convenience sampling method.

DEMOGRAPHIC AND SOCIAL MEDIA USAGE PROFILE OF THE PARTICIPANTS

According to the report Digital 2019, there are 59.36 million active social media users in Turkey (Kemp, 2019). Considering the standard normal deviation set at 95% confidence level, 50% proportion of consumers who share online content of healthy nutrition and margin of error of 0.5, the minimum sample size can be calculated as 384 (Sekaran and Bougie, 2016). The data was collected from a sample that consists of 406 consumers via convenience sampling. The demographic and social media usage profile of the participants appears on Table 1. The majority of the participants consist of women (59.4%), university graduates (47.8%), consumers at ages between 0-24 (39.9%). The average age of the participants is 32.82. Among the participants, 35.7% spend between 1-2 hours each day on social media. The most preferred social media platform is Instagram (56.4%). While 43.6% percent of the participants share healthy nutrition content, 87.8% of them follow related content in some degree.

Table 1: The Demographic and Social Media Usage Profile of the Participants

Education Level	n	%	Age* (mean = 32,82; std. dev.= 13,12)	n	%
High school	110	27.1	0-24	162	39.9
University	194	47.8	25-34	91	22.4
Master's / PhD	102	25.1	35-44	57	14.0
Total	406	100	45-54	59	14.5
Occupation	**n**	**%**	55 and above	37	9.1
White collar workers	23	5.7	Total	406	100
Employee in private sector	34	8.4	**Social Media Use**	**n**	**%**
Employee at public sector	38	9.4	Less than 1 hour	68	16.7
Professions that requires expertise	91	22.4	1-2 hours	145	35.7
Merchant	24	5.9	2-3 hours	95	23.4
Manager	10	2.5	More than 3 hours	98	24.1
Retired	10	2.5	Total	406	100
Housewife	8	2.0	**Social Media Platform Used the Most**	**n**	**%**
Student	154	37.9	Instagram	229	56.4
Unemployed	7	1.7	Facebook	61	15.0
Other	7	1.7	Twitter	52	12.8
Total	406	100	LinkedIn	14	3.4
Gender	**n**	**%**	Other	50	12.3
Women	241	59.4	Total	406	100
Men	165	40.6			
Total	406	100			
Frequency of Posting Healthy Nutrition Content	**n**	**%**	**Frequency of Following Healthy Nutrition Posts**	**n**	**%**
Never	229	56.4	Never	49	12.1
Rarely	110	27.1	Rarely	92	22.7
Sometimes	51	12.6	Sometimes	138	34.0
Often	10	2.5	Often	86	21.2
Always	6	1.5	Always	41	10.1
Total	406	100	Total	406	100

Participants disagree that healthy nutrition contents posted on social media platforms are convincing, reassuring, scientific or valid (Table 2). It is difficult to propose that participants believe and thus get highly involved in healthy nutrition contents.

Table 2: Participant's Thoughts About Believability and Scientific Validity of the Healthy Nutrition Posts

Item	N	Mean	Std. dev.	t
"Healthy nutrition contents on social media platforms are …"				
Convincing	406	2.81	0.946	-4.040*
Reassuring	406	2.76	0.932	-5.165*
Scientific	406	2.56	0.919	-9.718*
Valid	406	2.72	0.930	-6.086*

*$p<0.01$

FINDINGS ABOUT ANXIETY TRIGGERED BY HEALTHY NUTRITION POSTS

The items used to measure social anxiety were adapted from the Social Anxiety Scale proposed by Alkis et al. (2017). By healthy nutrition content, it is referred to the user-generated online content about, for instance, healthy ingredients and nutritional value of foods, and preparing processes of healthy foods. To verify the factor structure of the set of observed anxiety variables and facilitate testing the adaptation of the original scale, confirmatory factor analysis is conducted (Table 3). The items that provided estimates of squared multiple correlations lower than 0.5 are removed from the scale. The model fit indices (CMIN/DF=2.903; GFI =0.941; AGFI=0.905; NFI =0.952; CFI =0.968; RMSEA =0.069) indicate a satisfactory fit of the model to the sample data. Internal consistency reliability statistics of each dimension are satisfactory.

Table 3: Confirmatory Factor Analysis of the Adapted Social Anxiety Scale For Social Media Users

Factor		Standardized Regression Weights	Critical Ratio
Shared Content Anxiety Induced by Posts of Users' Own	I feel anxious that people find my posts about healthy nutrition awkward.	.550	*
	I am concerned by the fact that healthy nutrition contents I share will not be liked by others.	.695	12.740+
	I would feel uncomfortable when my friends publicly express their dislike about healthy nutrition contents I have shared.	.915	12.415+
Cronbach alpha=0.871	I am concerned about being judged about my shared healthy nutrition contents by my friends in the presence of others.	.971	12.560+
Shared Content Anxiety Induced by Other Users' Posts	Healthy nutrition posts make me feel anxious.	.833	*
	The healthy nutrition content posted by others make me feel distressed.	.881	15.671+
Cronbach alpha=0.803	I find it awkward that the people I follow post healthy nutrition content on social media.	.539	10.675+
Interaction Anxiety	I feel anxious when talking with users I have just met.	.849	*
	I feel nervous when I talk with users I do not know very well.	.949	22.779+
	I am afraid of interacting with other users.	.727	15.235+
Cronbach alpha=0.885	I feel nervous when I have to talk with other users about myself	.698	16.032+
Self-Evaluation Anxiety	I feel anxious about making a negative impression on other users.	.877	*
	I am concerned about other users thinking poorly of me.	.916	24.555+
Cronbach alpha=0.903	I feel anxious about not being able to meet other users' expectations.	.816	20.891+

* The unstandardized regression weight of the first variable of each component factor is fixed at 1, thus the critical ratio is not available.
+ $p=0.001$

One sample t-tests were conducted in order to discover the social anxiety levels of participants (Table 4). The findings reveal that that the participants do not feel anxious for sharing healthy nutrition content on social media. They do not also feel anxious for people not liking or judging their health-related posts and for showing their negative reaction in front of others. Thus, anxiety due to the content shared by participants themselves is found to be low. Healthy nutrition contents that are shared by other users do not cause much anxiety over participants, as well. Low level of interaction anxiety indicate that the participants do not feel so nervous when talking to the people they just met on social media and they do not hesitate interacting with people on social media. Low level of self-evaluation anxiety indicates that participants do not feel so anxious in terms of self-evaluation because of what other people think about them on social media platforms.

Despite the finding that the level of social anxiety felt by the participants is not so much influenced by the contents of healthy nutrition posts shared by themselves or others, self-evaluations or how they interact, there are some differences in the anxiety levels between frequent users of different platforms. Frequent Instagram and Twitter users' self-evaluation anxiety (F=2.401 sd:4/401 *p=.049*) and interaction anxiety (F=2.400 sd:4/401 *p=.036*) due to the healthy nutrition posts is higher compared to Facebook, LinkedIn and other platforms users, in this particular order. Healthy nutrition posts on Instagram and Twitter influence frequent users' anxiety felt during social interactions or due to being negatively evaluated by other people during interactions more compared to others posts on other platforms.

The findings reveal that the more participants share healthy nutrition contents on social media the more they follow content shared by other (Pearson chi-square=73 df:9 *p=.000*). In other words, social media users who share healthy nutrition contents are the ones who actually follow related contents. The more participants share healthy nutrition contents the less they develop anxiety due to the content shared by others (F=3.467 df:4/401 *p=.000*), i.e. they feel less threatened by the content shared by others. Furthermore, the more they follow related content, the more they develop self-evaluation anxiety (F=6.964 df:4/401 *p=.000*) and the less they develop anxiety induced by the content shared by others (F=3.878 df:4/401 *p=.004*). The more they follow related content on social media, the less they feel threatened by the content shared by others, however, the more they negatively evaluate themselves because of what other people might think about them.

Table 4: One Sample T-Test Results For Anxiety Scale Items

Item	N	Mean	Std. dev.	t
Content Anxiety -Shared By Participants				
I feel anxious that people find my posts about healthy nutrition awkward.	406	2.25	1.21	-12.50*
I am concerned by the fact that healthy nutrition contents I share will not be liked by others.	406	2.07	1.08	-17.22*
I would feel uncomfortable when my friends publicly express their dislike about healthy nutrition contents I have shared.	406	2.38	1.26	-9.87*
I am concerned about being judged about my shared healthy nutrition contents by my friends in the presence of others.	406	2.25	1.19	-12.65*
Content Anxiety - Shared By Others				
Healthy nutrition posts make me feel anxious.	406	1.82	.99	-23.95*
The healthy nutrition content posted by others make me feel distressed.	406	1.76	.96	-25.95*
I find it awkward that the people I follow post healthy nutrition content on social media.	406	1.99	1.14	-17.80*
Interaction Anxiety				
I feel anxious when talking with users I have just met.	406	2.64	1.27	-5.77*
I feel nervous when I talk with users I do not know very well.	406	2.70	1.26	-4.80*
I am afraid of interacting with other users.	406	2.07	1.01	-18.42*
I feel nervous when I have to talk with other users about myself	406	2.48	1.21	-8.71*
Self-evaluation Anxiety				
I feel anxious about making a negative impression on other users*.	406	2.78	1.30	-3.36*
I am concerned about other users thinking poorly of me.	406	2.72	1.28	-4.35*
I feel anxious about not being able to meet other users' expectations.	406	2.54	1.26	-7.31*

*p <0.01

The findings reveal positive correlations between self-evaluation anxiety and finding healthy nutrition posts convincing (r=0.217 df:406 p=.000), reassuring (r=0.237 df:406 p=.000), scientific (r=0.231 df:406 p=.000) and valid (r=0.239 df:406 p=.000). The more participants believe that the posts are convincing, reassuring, scientific and valid, the more they feel anxious in terms of evaluating oneself because of what other people think about them on social media platforms. However, there are no significant correlations between other anxiety dimensions and evaluations of posts in terms of believability and scientific validity of its content. Thus, no matter how they evaluate the content of healthy nutrition posts, both their shared content anxiety and interaction anxiety do not change; i.e. whether they are scientific and reassuring or not, shared content on healthy nutrition and interaction with others do not make them feel so anxious. The relationships do not change irrespective of the participants' tendency to share and/or follow related contents. Thus, the involvement level of the participants does not moderate the relationship between anxiety dimensions and evaluations of posts in terms of believability and scientific validity of its content. It means that no matter how involved they are, the more they evaluate the content in terms of believability and scientific validity, the more self-evaluation anxiety they develop, but they do not feel more anxious due to the shared content or interaction about the content even when they scrutinize it. This finding indicates that, being involved or not, participants just apprehend the healthy nutrition content without much deliberation, and do not feel so threatened.

Despite the fact that participants do not truly perceive healthy nutrition content as threats and feel so anxious, for instance, females and older consumers are expected to feel more threatened as health and nutrition concerns may become more important for women and as consumers get older. Surprisingly, no significant relationship was found between demographic variables and consumer anxiety dimensions. The methodological limitations of the present study, such as relying on a sample that is chosen by convenience sampling and, thus, may not represent of the entire population, may account for the lack of expected relationships. Then again, the findings of a study (Aktan, 2018) about social anxiety of university students in Turkey that revealed only minor relationship between gender and consumer anxiety should also be considered. The motives and reasons behind this can also further be investigated with qualitative techniques, such as projective techniques and in-depth interviews.

FINDINGS ABOUT WELL-BEING AND HEALTHY NUTRITION POSTS

The items used to measure well-being were adapted from the The WellSense Profile proposed by King et al. (2015) and the study of Ares et al. (2015). To verify the factor structure of the set of observed well-being variables and facilitate testing the adaptation of the original scales, confirmatory factor analysis is conducted (Table 5). The items that provided estimates of squared multiple correlations lower than 0.5 are removed from the scale. The final model fit indices (CMIN/DF=2.524; GFI=0.931; AGFI=0.892; NFI=0.962; CFI=0.976; RMSEA =0.061) indicate a satisfactory fit of the model to the sample data. The dimensions underlying the adapted well-being scale include emotional, intellectual, social, physical and spiritual well-being. Internal consistency reliability statistics of each dimension are satisfactory.

One sample t-tests were used to discover the possible effects of healthy nutrition posts on social media on participants' well-being (Table 6). Participants were asked how healthy nutrition content on social media makes them feel in five dimensions of well-being (emotional, intellectual, social, physical and spiritual). The findings reveal that participants had positive emotions, such as happiness, calmness and enthusiasm, when confronted to healthy nutrition posts on social media. However, they are not certain whether contents make them feel joyful or not. Healthy nutrition posts influences participants' intellectual well-being positively. They feel curious, focused and intellectually stimulated when they encounter healthy nutrition posts. On the other hand, participants' social well-being is negatively influenced by the related content; they felt less connected, sociable and accepted. Moreover, participants are not certain whether those contents influenced their physical or spiritual well-being. These findings reveal that healthy nutrition posts influences emotional and intellectual well-being positively and social well-being negatively.

Table 5: Confirmatory Factor Analysis of the Adapted Well-Being Scale

Factor		Standardized Regression Weights	Critical Ratio
Emotional Well-being	Happy	.842	*
	Calm	.671	16.136+
Cronbach alpha=0.880	Enthusiastic	.818	19.932+
	Joyful	.878	22.231+
Intellectual Well-being	Stimulated	.824	*
Cronbach alpha=0.883	Focused	.884	21.150+
	Curious	.823	19.193+
Social Well-being	Connected	.856	*
Cronbach alpha=0.865	Sociable	.909	23.251+
	Accepted	.733	17.027+
Physical Well-being	Energetic	.909	*
	Active	.946	34.134+
	Invigorated	.959	35.700+
Cronbach alpha=0.874	Healthy	.804	22.687++
	Resilient	.821	23.676
Spiritual Well-being	Satisfied	.910	*
Cronbach alpha=0.886	Grateful	.871	24.887+

* The unstandardized regression weight of the first variable of each component factor is fixed at 1, thus the critical ratio is not available.
+ p=0.001

Table 6: One Sample T-Test Results For Well-Being Scale Items

Item "When I see healthy nutrition content on social media I feel.."		N	Mean	Std. dev.	t
Emotional Well-Being	Happy	406	3.24	1.17	4.17*
	Calm	406	3.24	1.13	4.32*
	Enthusiastic	406	3.41	1.22	6.85*
	Joyful	406	3.03	1.23	.62
Intellectual Well-Being	Stimulated	406	3.43	1.17	7.42*
	Focused	406	3.27	1.18	4.58*
	Curious	406	3.63	1.21	10.42*
Social Well-Being	Connected	406	2.73	1.10	-4.95*
	Sociable	406	2.84	1.17	-2.80*
	Accepted	406	2.54	1.19	-7.82*
Physical Well-Being	Energetic	406	3.03	1.18	.59
	Active	406	3.02	1.18	.30
	Invigorated	406	3.03	1.19	.46
	Healthy	406	3.07	1.19	1.13
	Resilient	406	3.00	1.16	.09
Spiritual Well-Being	Satisfied	406	2.99	1.15	-.17
	Grateful	406	3.09	1.18	1.52

*p <0.01

Participants' well-being is influenced by the healthy nutrition posts to a certain degree. Moreover, the findings reveal some differences in terms of the level of influence between frequent users of different platforms. Frequent Instagram and LinkedIn users' emotional (F=3.464 sd:4/401 p=.008) , intellectual (F=2.599 sd:4/401 p=.036), social (F=3.663 sd:4/401 p=.006) and physical well-being (F=2.688 sd:4/401 p=.031) are more positively influenced by the healthy nutrition posts compared to Facebook, Twitter and other platforms users, in this particular order. For instance frequent Instagram and LinkedIn users feel happier (F=2.946 sd:4/401 p=.020), calmer (F=2.855 sd:4/401 p=.023), more willing (F=3.184 sd:4/401 p=.014), more joyful (F=2.569 sd:4/401 p=.038), more curious (F=2.693 sd:4/401 p=.031), closer to people (F=3.296 sd:4/401 p=.011), more social (F=3.555 sd:4/401 p=.007), more energetic (F=3.101 sd:4/401 p=.016) and more youthful (F=2.389 sd:4/401 p=.050) compared to Facebook, Twitter and other platforms users, respectively. All users are equally indecisive in whether their spiritual well-being influenced by the healthy nutrition posts.

The findings reveal that the more the participants believe that healthy nutrition posts are convincing, reassuring, scientific and valid, the more their emotional, intellectual, social, physical and spiritual well-being increase (Table 7).

Table 7: Pearson Correlations Between Well-Being Dimensions and Participants' Evaluation of Contents of Healthy Nutrition Post

Posts Are…	Convincing	Reassuring	Scientific	Valid
Emotional Well-being	0.504*	0.482*	0.395*	0.448*
Intellectual Well-being	0.499*	0.480*	0.401*	0.460*
Social Well-being	0.438*	0.433*	0.360*	0.401*
Physical Well-being	0.520*	0.513*	0.420*	0.476*
Spiritual Well-being	0.540*	0.548*	0.458*	0.510*

*p <0.01 and N=406

Although not being significantly related to dimensions of social anxiety, some demographic variables significantly related to well-being dimensions. Women significantly experienced greater emotional (t=3.670 df: 404 p=.000), intellectual (t=4.863 df: 331.7 p=.000), physical (t=3.129 df: 327.3 p=.002) and spiritual well-being (t=3.358 df: 324.7 p=.001) compared to men. Furthermore, there are differences between participants' level of emotional (F=2.761 df:9/396 p=.004), intellectual (F=2.355 df:9/396 p=.013), physical (F=2.724 df:9/396 p=.004) and spiritual well-beings (F=2.606 df:9/396 p=.006) based on their household income; as their income increases, their evaluations of well-being decrease. There are no significant relationship between age, marital status and education and well-being dimensions. It can be suggested that women, as consumers who are expected to have health and nutrition concerns, and participants with low/middle income functionally utilized healthy nutrition content better than the others. Free online content on healthy nutrition may be seen as a source to enhance well-being by less affluent consumers.

DISCUSSION AND CONCLUSION

The present study aims to describe the possible influence of social media content on healthy nutrition that may cause anxiety or increase consumers' well-being and fill a gap in the literature for studies that scrutinize the influence of shared social media content about healthy nutrition on both consumer anxiety and well-being. Social media, which affects consumers' consumption patterns and self-representation, can be a major source of consumer well-being or anxiety. Functional use of social media may provide consumers tools for self-expression, pursuing a socially-connected and healthy lifestyle, increasing their well-being and obtaining gratification. However, dysfunctional use of social media platforms, in addition to failed uses and gratifications, can trigger anxiety, next to various types of psychopathology.

The findings demonstrate that the participants do not feel so anxious due to the healthy nutrition content shared by other users or themselves, due to interactions on the topic or due to the self-evaluations about what other people think about them on social media platforms. Considering that approximately 44% of the participants share and 88% follow healthy nutrition content in some degree, a reason why they do not feel threatened by these content and sharing activity may be that the content may be used by the participants functionally, i.e. in an authenticating action (Price and Arnould, 2003) that help them pursue a socially-connected and healthy lifestyle, express themselves, gain legitimacy, and obtain gratification, as suggested by, for instance, Belk (2013), McKinley and Wright (2014), Vaterlaus et al. (2015). Then again, it is important to recognize that it is also possible they may have shared the content with a critical and skeptical approach. On the other hand, other findings also indicate that the involvement level of the participants does not moderate the relationship between anxiety dimensions and evaluations of posts in terms of believability and scientific validity of its content. It means that no matter how involved they are, the more they evaluate the content in terms of believability and scientific validity, the more self-evaluation anxiety they develop, but they do not feel more anxious due to the shared content or interaction about the content even when they scrutinize it. Thus, being involved or not, participants just apprehend the healthy nutrition content without much deliberation, and do not feel so threatened. Since the findings of the present study cannot point to a particular reason, there is a need for exploratory studies that aims to understand motives underlying their behavior.

The findings about consumer anxiety also indicate that the more participants share healthy nutrition contents, the less they feel threatened by the content that are even shared by others. In their study about the influence of social media interactions on consumer–

brand relationships, Hudson et al., (2016) found that low frequency interaction might lead to anxiety and illustrated an anticipation of reduced uncertainty and risk due to the reason that social media interaction can increase the knowledge and understanding between the consumer and the brand. As consumers begin sharing more content, the perceptions of threats and risk can deteriorate. Furthermore, the more they follow related content on social media, the less they feel threatened by the content shared by others, yet, the more they negatively evaluate themselves because of what other people might think about them. In other words, when consumers share related content, they do not perceive threatened by the other consumers' post, however following related content make them feel anxious in terms of self-evaluation. Moreover, healthy nutrition posts on Instagram and Twitter influence frequent users' self-evaluation and interaction anxiety more compared to others posts on other platforms; users feel more worried, nervous or uneasy felt during social interactions or due to being negatively evaluated by other people during interactions more compared to others posts on other platforms. This finding also needs further exploration via future studies; while Instagram is an image-based platform, Twitter is a text-based platform. Thus, the level of consumer anxiety in the context of healthy nutrition may be influenced by images, yet convincing tweets and debates may also be affective. Considering the low level of anxiety felt by the participants, the nature and intensity of the influence of each social media platform posts need further investigation.

The findings about consumer well-being reveal that participants had positive emotions, such as happiness, when confronted to healthy nutrition posts. The posts influenced participants' intellectual well-being positively; they feel curious, focused and intellectually stimulated when they encounter them. However, their social well-being is negatively influenced by the related content; they felt less connected, sociable and accepted. These findings reveal that healthy nutrition posts influence emotional and intellectual well-being positively and social well-being negatively, yet, they are ineffective in terms of physical or spiritual well-being. Furthermore, it is found that the more the participants believe that posts are convincing, reassuring, scientific and valid, the more their emotional, intellectual, social, physical and spiritual well-being increase. It is also found that frequent Instagram and LinkedIn users' emotional, intellectual, social and physical well-being are more positively influenced by the healthy nutrition

posts compared to Facebook, Twitter and other platforms users. Then again, considering different nature of these platforms, the mechanism of these platforms' influence needs further investigation.

Although not being significantly related to dimensions of social anxiety, some demographic variables are significantly related to well-being dimensions. Women significantly experienced greater emotional, intellectual, physical and spiritual well-being compared to men. Furthermore, as their income increases, their emotional, intellectual, physical and spiritual well-beings increase. It can be suggested that women and participants with low/middle income functionally used healthy nutrition content more functionally than the others.

Having a descriptive purpose, the present study demonstrates that consumers do not feel so threatened by the shared healthy nutrition contents and may have used these contents functionally for gratifications resulting in a slight increase of their well-being. However, considering low level consumer involvement and somehow negative perceptions of scientific validity of the content, it can be proposed that this conclusion can be premature. The results that indicate consumers' functional use of online contents about healthy nutrition can help companies in developing marketing strategies that aim to increase consumer well-being. Considering that a low level of consumer anxiety and high level of well-being may diminish the likelihood of consumer avoidance behavior, such as procrastination and escapism, incorporating online content about healthy nutrition may help marketers to improve purchase intentions and customer satisfaction. Since Instagram and Twitter users' self-evaluation and interaction anxieties are found to be higher, using the social media platforms other than these may help marketers to avoid negative returns on their investments of marketing campaigns that incorporate healthy nutrition topics. Moreover, bearing in mind that healthy nutrition posts influence emotional and intellectual well-being positively, the marketers can appeal to feelings such as happiness and try to create online healthy nutrition content that aims to increase curiosity and to stimulate customers intellectually. They also should consider creating interactive content, for instance, with the help of platform technologies and crowdsourcing that involves consumers so that they can feel more connected and accepted. Furthermore, using scientifically valid content may also help marketers get positive results.

Fulfilling its descriptive aim, the present study's findings points to a need for further investigations of the motives underlying behaviors and emotions. Moreover, studying consumer anxiety and well-being constructs using different contexts, such as exercising, and also with improved research methodology in terms of sampling and sample size, may also facilitate obtaining more significant results and develop explanations. Future qualitative studies can help to understand the underlying motives and develop insight of the consumer experiences. Another topic of inquiry inviting future study pertains to consumers' coping mechanisms for anxiety and low-level of well-being caused by social media content.

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Turkey's Otherness in the Identity Discourses of European Parliament

Avrupa Parlamentosu'nun Kimlik Söylemlerinde Türkiye'nin Ötekileştirilmesi

Hülya AĞCASULU[1]
Ringo OSSEWAARDE[2]

https://orcid.org/0000-0003-3939-904X
https://orcid.org/0000-0003-3449-1074

ABSTRACT

This study aims to analyze discursive constructions of Turkey's otherness and its relation to European identity in the European Parliament (EP). The social constructivist approach is employed in the study and European identity is proposed as a contested, hybrid and relatively exclusivist concept, which is primarily shaped by the self/other nexus particularly in the enlargement process. The focus of the paper is the identification of hegemonic referential strategies and related metaphors emphasizing the otherness of Turkey, without denying the inclusive discourses in the EP. The research data consists of 1999-2012 EP plenary debates. The study's major findings are a) the tendency to present acquired characteristics as the innate differences; b) the majority of exclusive discourses emanate from right-wing MEPs and c) the exclusivist debates peaked during the 2004-09 term, coinciding with the launch of accession negotiations.

Keywords: discourse, identity, European Parliament, enlargement, Turkey, otherness.

Jel Codes: Z1, F5, H83

ÖZET

Bu çalışma Avrupa Parlamentosu'nda (AP) Avrupa kimliği ile bağlantılı olarak Türkiye'nin ötekileştirilmesinin söylemsel yapılanmalarını analiz etmeyi amaçlamaktadır. Çalışmada inşacı yaklaşım benimsenerek Avrupa kimliği, özellikle genişleme sürecinde öncelikli olarak ben/öteki bağlantısında şekillenen, tartışmaya açık, hibrit yapıda ve nispeten dışlayıcı bir kavram olarak ele alınmaktadır. Çalışmanın odak noktası, AP'deki kapsayıcı söylemleri inkâr etmeden, Türkiye'nin ötekiliğine vurgu yapan hegemonik referans stratejileri ve ilgili metaforları tespit etmektir. Çalışmanın araştırma verisi 1999-2012 yılları arasındaki AP genel tartışmalarından oluşmaktadır. Araştırmanın en önemli bulguları arasında a) kazanılan özelliklerin de içkin farklılıklarmış gibi sunma eğilimi; b) dışlayıcı söylemlerin çoğunluğunun sağ-kanat AP üyelerine ait olması ve c) üyelik müzakerelerinin başlangıcına denk gelen 2004-09 döneminde dışlayıcı söylemlerin en üst seviyeye ulaşmasıdır.

Anahtar Kelimeler: söylem, kimlik, Avrupa Parlamentosu, AB genişlemesi, Türkiye, ötekileştirme.

Jel Kodları: Z1, F5, H83

INTRODUCTION

Since its origins, the EU has transformed itself due to the need to respond to the present challenges. Contemporary debates on the widening and the deepening of EU includes cultural and identity discourses. Particularly, the fear of cultural distance between Turkish and EU identities is an area of contestation (Melakopides 2000: 300; Rumelili 2011: 235-249). In the literature, studies sought to find theoretical answers regarding construction of European identity and its relation with other identities, particularly with Turkey (Delanty 1995; Delanty and Rumford 2005; Neumann 1999; Diez 2004; Cuisan 2012; Baban and Keyman 2008; Aydın-Düzgit 2013; Kösebalaban 2007). Besides, empirical studies scholarly assessed Turkey's accession with particular attention to the self/other nexus of the European and the Turkish identity through media (Negrine

[1]Dr., Suleyman Demirel University Department of Business Administration, hulyatek@sdu.edu.tr
[2]Assoc. Prof. Dr., University of Twente Department of Public Administration, m.r.r.ossewaarde@utwente.nl

2008; Aksoy 2012; Matonytė and Morkevičius 2009; Tekin 2010; Canan-Sokullu 2011; Buckingham 2013). In this paper, we seek to contribute to this evolving body of research. The aim of the paper is to uncover processes of othering and reveal how such othering is articulated for Turkey.

In political discourses of the European identity and othering of Turkey, the EP has been a key actor by its heterogeneous character. Its role and legislative power in the EEC and the EU has accelerated over time, to the point that the power of future treaty amendments has come to rest in the EP. It has acted as an influential actor in the making of the enlargement policies, determining who would be in the EU by giving assent to the final terms of accession before the treaty can be signed and ratified (Europarl 2003: 2). In its plenary debates, Turkey had become a topic of debate from 1987 onwards, after Turkey's application for full membership. With the establishment of EU, questions of the European identity and the Turkish identity were raised, with (potential) member states now being identified as something more than strategic partners. For our analysis, the real turning point in the construction of Turkey's otherness in the plenary sessions is the post-Helsinki period, the declaration of Turkey's official candidate status.

Taking into consideration above mentioned remarks, this study seeks to address 'How the otherness of Turkey has been represented in the discourses of European identity in the EP plenary from 1999 onwards?'. We particularly paid attention to the party affiliations of MEPs and formulated two research sub-questions to identify the common referents of the European identity and Turkey's otherness. These are a) what are the hegemonic exclusive discourses of European identity?; b) how Turkey is framed as the other in relation to the European identity? The theoretical basis is structured on the social construction of identity, European 'self' and Turkey 'otherness'. Then the EP plenary contents are analyzed by discourse analytical approach.

It should be noted we do not ignore the existence of inclusive discourses. However our main interest is in Turkey's othering process and how it is expressed in the exclusive discourses. The added-value of our enquiry is the analysis of EP discourses on Turkish identity in contrast to European identity since 1999, when Turkey's candidacy status was officially confirmed. The EP is deliberately chosen since it's the only public forum where directly elected representatives from all EU member states meet on a constant basis and echo the identity vision of the entire EU (Cuisan 2012: 114).

EVOLUTION OF THE IDENTITY DISCOURSES IN THE EU-TURKEY RELATIONS

The quest for the Europeanness of Turkey has always been alive in its political and cultural development since the late Ottoman Era. Turkey's relationship with the EU, with its forerunner European Economic Community (EEC), started with the 1963 Ankara Agreement. Until that time the Cold War period had granted to Turkey a golden historical opportunity to gain a European or Western status as a buffer between the Soviet Union and Western Europe. In that period Turkey became a valued pillar of Western security by being member of the Council of Europe in 1949, NATO in 1952 and OECD in 1961. However these progressive developments have not resulted in membership, mainly due to reluctant European partners and political events in Turkey. In the 1960s and 1980s Turkish state experienced two military takeovers. Besides Turkey's Cyprus peace operation in 1974 led to a temporary freeze in relations with the EEC. Then Turkey applied for full EEC membership in 1987 and two years later the EEC found Turkey eligible. Nonetheless EEC insisted on Customs Union Agreement instead of Turkey's full membership due to conjectural developments (Müftüler-Baç 1998, 241-243). Although an agreement was predominantly signed for economic (common market) reasons in 1995, the political logic underlying the agreement dominated over the economic logic from the Turkish side. In the minds of Turkish nations, there was no doubt that Turkey would eventually become a full member of the EU. Only the timing of the EU entry was uncertain and the transitional period would be long and painful (Öniş 1999: 125).

In 1997 Luxembourg Summit, European Council decided to open accession negotiations with eleven applicant countries excluding Turkey. From the Turkish side, the decision concerning Turkey's exclusion among the Central and East European candidates called into question of EU's objectivity (Rumford 2000: 332-335). Because Turkey had a relatively equal or developed market economy when it's compared to the post-socialist states and its political problems were no worse than those many of the other applicants (Öniş 1999: 113). Turkish perceptions of the EU as a closed cultural and religious club were strengthened at that time by the European Council's failure to produce a

credible explanation for not opening negotiations with Turkey, given that such negotiations do not guarantee EU accession (Müftüler-Baç 2000: 21-22). As a result Turkey's relations with the EU became problematic. However Turkey was officially declared a candidate country destined to join EU in the 1999 Helsinki Summit. This summit affirmed that the accession negotiations could only begin when Turkey would fulfill the Copenhagen criteria that is to comply with the political, economic and administrative standards for the EU membership (Diez 2005: 628). The debates on the desirability of Turkish accession have been intensified during the accession process. As Diez (2004) claims opposition side begun increasingly to base their debates on the grounds that Turkey poses a profound challenge to the European project due to the perceived ambiguities over differences between the European and the Turkish identity (Aydın-Düzgit 2013: 522).

Since the accession negotiations inaugurated, the European identity and Turkey's otherness have been two interconnected and dependent notions in the discourses. In addition it shall be noted that the EU has been regarded by Turkey as the institutional bearer of the European identity during the enlargement process. Indeed the EU has typically been recognized as the only institution with identity enforcement mechanisms and the most visible and powerful actor that shapes the Europeanization process (Müftüler-Baç 2005: 18).

In the Cold War era, Turkey tended to consider Europe as located in the west of the Iron Curtain. Accordingly it seemed like the process of enlargement reached its limits, the boundaries of European integration were thought to be established in the mid-1980s (Öniş 1999: 113). The 1980s involved mutual endorsement of a homogeneous European identity largely based on the West European experiences (Blokker 2008: 258). With the end of the Cold War, Europe's boundaries had shifted from congruence with the line tracing the Iron Curtain to one of civilizational divide defined as cultural difference. Western Europe rushed to embrace its long-estranged Eastern European half and the borders of Europe could now be drawn according to a presumed cultural affinity rather than political expediency (Keyder 2006: 73).

The disappearance of Red Menace, the corresponding negation of the EEC and the creation of the EU, brought into question on Turkey's place in European security arrangements, as a buffer zone between West and Soviet Union. Turkey's value as a security partner for Western Europe had diminished. Instead Turkey's incorporation in the EU would be possible only if the Turkish state would meet European standards. Thus what the Cold War structures enabled Turkey to hide could no longer be concealed. The post-Cold War relationship between the EU and Turkey came to revolve around European values like the rule of law, protection of human rights and upholding democratic principles (Müftüler-Baç 1998: 243-244). Besides European identity became a focal point for analysing European politics including its historical origins and legacies (Müftüler-Baç 2000: 25). At that time Central and Eastern European accession, as well as Turkish candidacy raised deeper concerns about the various dimensions, histories, memories and legacies of European identity. Particularly, Turkey's accession bid called for an ontological inquiry into the nature of EU (Kylstad 2010: 2). EU needed to rethink its cultural borders and political identity in the context of Turkey's candidacy (Baban and Keyman 2008: 109).

EEC had already come to specify characteristics of the European identity. European identity was first introduced in the declarations as an identity policy in 1973 (Stråth 2002: 388). However EU treaties came to reconfigure exclusionary culturalist logics, formulating geographic, spiritual, cultural and secular sources of the European identity in the post-Cold War period (Spohn 2009: 362) According to Maastricht, Copenhagen, Constitutional Treaties two compulsory conditions are observed in the European identity definition. First, the candidate for EU entry should be a European country in terms of geography and culture which is exclusivist and narrow. There was no possible way in which a state could alter its geographic location. Second, the candidates should respect certain European principles and values, and reform its state if it is to be included (Aydın-Düzgit 2013: 525-526; Rumelili 2004: 37-39). In this sense first criterion is based on inherent differences while the latter refers to acquired differences.

The 1992 Maastricht Treaty problematized the European identity as an exclusive and roots-based identity (Art. 128 Stat. 2). It was now recognized that the European identity, being indeed a collective identity, could not be divorced from traits like religion, history or culture, and depended on drawing boundaries that separated insiders from the outsiders, us from them and we from the others. The discursive construction of us and them is a basic fundament of discourses of the

European identity, difference and otherness (Wodak 2001: 73). The Copenhagen summit (1993: 13) explicitly referred to the stability of democratic institutions and respect for human rights as essential preconditions for candidacy status and for opening accession negotiations. The political conditionality of the EU has since become the strongest external factor for political change in countries applying for EU membership and identifying themselves as European (Müftüler-Baç 2005: 18). The 2004 Constitutional Treaty emphasized the European identity as a collective identity[1] and stated that 'the cultural, religious and humanist inheritance of Europe, from which have developed the universal values …., freedom, democracy, equality and the rule of law.' (Treaty Establishing a Constitution for Europe 2005: 9). Ambiguities of European identity and Turkey's political stance including ups and downs as stated in this part contributed to the framing of Turkey's otherness and to the differences from European identity in the discourses.

SOCIAL CONSTRUCTION OF IDENTITY

Theoretically, the study acknowledges the social constructivist approach which assumes that identities are not simply given, but discursively constructed (Diez 2004: 321). Social constructivists often explore the role of social factors, including norms and culture, in constructing collective identities. The emphasis is placed on representations of social situations and political choices. Such constructions come about through dynamic processes of persuasion or social learning (Jupille et al. 2003: 15). Identity construction, in that sense, is an ongoing interactive process that builds upon combination of different ideas on the issue and creates constant change and redefinition process of the ideas (Rubington and Weinberg 2003).

The notion of collective identity focusses on the social rather than individual traits. Identifying a collectivity consists of producing a series of rational arguments, emotional judgments and aesthetic choices for distinguishing that particular collectivity from the others. According to the social constructivists, identity cannot be completely divorced from traits such as ethnicity, religion, history or culture (Rumelili 2008: 99). Collective identity is more or less integrated symbolic structure with time dimensions in which history particularly plays an important role (Schlenker

2013: 28-29). Additionally, collective identity is essentially an exercise of boundary drawing, separating the insiders from the outsiders, 'us' from 'them' and 'we' from the 'others' (Yılmaz 2007: 29; Eder 2009: 255-271). The discursive construction of self/other relationship is viewed as the basic fundament of discourses of identity (Wodak 2001: 63-95). Two central operations are necessary for collective identity; an internal definition of in-group, thus certain commonalities to refer to and an external boundary drawing to separate outsiders concentrating on the differences (Yılmaz 2007; Eder 2009). Collective identities are always constituted in relation to difference of others, because a thing can only be known by what it is not (Neumann 1999; Rumelili 2004: 29). Identity is not only constructed by the internal processes, but it is meaningful and more powerful with the definition of others (Hall 1992). The exclusion of others is a powerful driving mechanism and desirable party of the game of identity politics. Besides, in principle, any difference can be politicized and elevated into a marker of identity (Neumann 1999: 1-37).

The differences of self and other identities can be explained by the mirror metaphor. While 'self' constitutes the original object, 'other' occurs as a mirror reflection. Hence what characteristics make self as original are reflected as opposite characteristics of other. The common denominators of collective identity can move along a continuum from the 'thin' to the 'thick' identity constitutions. While thin identity definitions tend to be catch-all phrase that is loose, broader and more inclusive, thick identity definitions are more strict, narrow and exclusive. The self/other relation is also shaped by the inclusive/thin and exclusive/thick nature of the identity which the self claims its relation to the other. Inclusive/thin identities embody differences based on acquired characteristics, whereas exclusive/thick identities embody differences based on inherent characteristics. If difference is constructed by inherent characteristics, then the possibilities for change in the other non-existent and it is placed in a position of permanent difference. If, on the other hand, difference is constructed by acquired characteristics, then, there is the possibility that the other will become like self one day, so the other is only in a position of temporary difference (Delanty 2002: 345; Neumann 1999; Rumelili 2004; 2008). Besides, depending on magnitude of differences, the location of other can vary from an

[1]Particularly Article 2 states the acquired characteristics of EU and Article 49 states any European country willing to be member should meet these criteria. Further notions referring to collective identity such as "cultural heritage of European significance" or "culture and the history of the European peoples" can be found at Chapter V, Section 3: Culture.

existential threat, inferior, violating universal principles or simply different in the world of self (Diez 2005: 628-629). In EU identity politics, the European identity has been constructed as an original object, while Europe's others emerged as a mirror reflection. That is, what characteristics make the European identity as original are reflected the opposite of Europe's others.

Original Object: Europe as Self

While the EU opened up the possibility of the construction of a political identity through a less exclusionary practice, geographical and cultural differences have become more important in European identity since the 1990s (Diez 2004). In fact, EU representatives have given mix signals on the identity notion starting from these years. European integration was one of the most crucial developments to re-design identity notion of the Union. In general, enlargement led the confirmation of a monolithic conception of Europe that is culturally and politically defined by Western Europe. One of the outcomes of a singular European identity in the post-Cold War period has been the reconfiguration of exclusionary cultural logics across Europe (Spohn 2009: 362). This selective history and exclusive interpretations enabled a hierarchy of cultures within Europe and strengthened the monolithic view (Arat-Koç 2010: 182-183).

The official documents of Union also contributed to the delivering mix signals, while emphasizing rather a monolithic model. Hence it can be claimed that contemporary European identity definition possesses a hybrid nature but at the same time it is relatively more exclusive and thick identity definitions in the documents. According to Copenhagen criteria, Maastricht Treaty and Constitutional Treaty, two compulsory conditions are observed in the European identity definition. First, candidate should be a 'European' country in terms of geography which is exclusivist and narrow. There is no possible way in which a state can alter its geographic location. This compulsory situation is in line with the enlargement ideas and identity constructions of 1990s. Second it should respect certain inclusive and broad principles only if it can reform itself (Neumann 1999; Rumelili 2004). While the first criterion is based on inherent differences, the latter refers to acquired differences.

Along with the official documents, the academic and elite debates feed from both inclusive and exclusive perspectives reflecting their ideologies. Since the study stands on the elaboration of the exclusive identity construction, the hegemonic discourses of European identity's roots shall be explained in order to answer the first sub-question 'what are the hegemonic exclusive discourses of European identity?'. Exclusive European identity formation possesses a number of powerful in-group referents that is ideologically and historically grounded as the basis of differentiation. Although the substance of European culture is contested, its origins consist of values opposing the values of other cultures. Distinguishing a European culture from others is a strategy for the construction of a European self (Eder 2009: 436). European heritage, related with the idea of Europe, is based on a specific set of thick cultural values (Blokker 2008: 263) including Greco-Roman civilization, Christianity, French Revolution and the ideas of the Enlightenment which serve as the core elements of the European heritage. By this legacy, European identity necessarily contains a demarcation from the non-European (Stråth 2002: 388-397). The nature of listed traits is in fact acquired characteristics that can be obtained by the certain developments of a country. However the emphasis of the legacy is the 'history' that claims original ownership leading to re-categorization of them as innate traits. For instance, democracy as one of the defining elements of European identity is seen as preserved throughout the ages, from ancient Greece to contemporary Europe (Aydın-Düzgit 2013: 537).

Additionally, the religion is the hegemonic referent in European identity. Christianity and common Christian heritage serves as an identity marker. Christianity is understood not only as a belief system but also a civilizational idea, a political culture and a lifestyle. Weiler (2007: 143) defends recognizing Christian historical and cultural identity in the symbolism of the preamble of European Constitution due to its universal ethical and moral values that even the others can respect. According to him, the reconstruction of the European integration history from a Christian standpoint is needed. It is believed that the cultural roots of secular European values, such as the separation of spiritual and worldly affairs, the separation between the public and the private spheres, the idea of natural rights protecting the individual against the state, and the culture of capitalism, all have their roots in Europe's Christian heritage. Regardless the degree of attachment, this perception indeed ascribes an inherent characteristic and assumes that others who do not share the Christian heritage, would not acquire European values and integrated into European societies (Yılmaz 2007: 298-299).

Geography, as a mode differentiation, is another hegemonic exclusionary device and also a fuzzy concept regarding identity definitions in the popular political culture of Europe. Not only the post-Cold War era, but also history has contributed to geographical and physical boundary construction. In Ancient Greece, geography was used as a differentiation particularly from Asian civilization. In 18ᵗʰ century, the eastern border and a division from Russian civilization became prominent. Intellectuals of that time considered Urals as the natural dividing line between Asia and Europe, physically, economically and civilizational sense (Mikkeli 1998: 163-164). Again since the 1990s, the relations of identity politics and geography heightened and linked with each other in European identity formation through practices of othering (Diez 2004: 331; Murphy 2007: 586). Europe has gathered a huge history of images of its boundaries that are used selectively to define its borders. These constructions used as objective referents and put them together into a meaningful whole, i.e. into an identity (Eder 2006: 256).

In the exclusionary identity formations of Europe, the above stated modes of differentiations are presented as an original object, while others are mirror reflections. Addressing the second sub-question, the otherness of Turkey is framed by historical, cultural, political, religious and geographic dominant referents of out-group. They are based on inherent differences except for political difference which, to some extent, are based on acquired traits considering Copenhagen criteria. However, there is the tendency in discourses that political otherness fall into the inherent difference category due to historical evolutions of Europe as mentioned above.

Mirror Reflection: Turkey as Other

Discourses on the European identity in relation to the question of Turkish accession have divided elites, voicing conflicting responses to Turkey's full membership. It shall be admitted that there are many proponents of Turkey's membership. At the same time, it can also be claimed that the opposition discourses against Turkey's membership are predominant, not only in terms of meeting the objective criteria to become member, but also inherent and acquired differences. In the discourses, EU countries are geographically continental Europe, demographically in medium or small sizes, Christian, developed, civilized and constitutional. On the other hand, Turkey is constructed as mirror reflection with differences like, large, Asian or

at least periphery to continental Europe, Muslim, military tradition of state, developing and modernizing. All these contrasts constitute background of Turkey's identity discourses.

Addressing the second sub-question that is "the framing of Turkey's otherness" possesses referents that the exclusive discourses reason themselves. In general these framings are historical, religious and geographical. Most of the discourses on Turkish civilizational compatibility base their arguments on the differences of historical evolutions. Historically, discourses against Turkey have two assumptions emphasizing inherent differences. The first one is that European legacy represents a progression from Ancient Greece to the Enlightenment and is the product of this linear history. The second assumption is that homogeneous European culture and its values are culturally and essentially internal to its participants. In this sense historical European heritage cannot be attributed Turkish identity. Discourses on different historical developments involve references to Turkey's inability to become democratic and respect to human rights, since Turkish secularism was assumed as artificial and adopted only by a small group of Westernized Turkish elites and protected from that society only by the force of arms. Consequently, what makes European secularism is not found in its implementation but rather in its shared common European heritage (Yılmaz 2007: 300; Baban and Keyman 2008: 117).

Another dominant referent is based on Turkey's religious traits. Historically, the representation of Islam as the other of Christian Europe has not been positive. As observed by many scholars, Islam for centuries and Islamophobia nowadays framed as threat to Europe and Christianity (Canan-Sokullu 2011: 483-497; Yılmaz 2007: 300). In hegemonic debates, this clash appears that elites can reason their discourses against Turkey's membership (Rumford 2000: 337). What is more interesting is that, democracy, rule of law, constitutionality and secularism are the acquired differences that might be attained by candidate countries. However, the exclusive discourses tend to categorize them as inherent traits and to root them in the historical dimension of European identity.

Turkey's geography is another differential framing. Turkey, possessing lands both in Europe and Asia, is also seen as 'a bridge between Europe and Asia, but not as a European country' (Yanık 2009: 531-545). According to Diez (2009: 328), although the line dividing Europe and Asia has traditionally been drawn through

Turkey, historically Asia Minor is not really part of Asia either. Hence, it is a social reality that contemporary Turkey is different from EU countries due to inherent and acquired characteristics. However, it also depends on the European identity definitions as being thick/exclusive or thin/inclusive and the hybrid nature of entry criteria.

DISCOURSE ANALYSIS OF EP PLENARY SESSIONS

A discourse is defined as 'shared set of capabilities enabling the assemblage of words, phrases, and sentences into meaningful texts intelligible to readers or listeners' (Dryzek 1988: 710). It is institutionalized way of thinking channeled through language which has certain structure, logic appealing to certain proponents of a specific topic. Rather than being a bare language, discourse is an influential tool and powerful strategy depending on its persuasiveness and logical construction to mobilize people. Discourse analysis assumes that all actions and practices are socially meaningful and the meanings are shaped by social and political struggles in specific historical periods. In this sense, it aims to show how the actions and practices are realized and what they mean for specific social entity (Wetherell et al. 2001). Another dimension to mention is the interrelation of discourse and hegemony. It is an activity in a power struggle rooted to the basic social structures and ideological practices. Hence, discursive political activity contributes to construction of power relations and political domination (Phillips and Hardy 2002).

The study particularly suits to discourse analysis since it deals with the 'social construction' of identity and otherness notions by MEPs. The study's unit of analysis is the plenary debates of the EP. In identity politics, EP has been a key actor by its diverse views. Its role and legislative power in the EEC and the EU have accelerated over time, to the point that the power of future treaty amendments has come to rest in the EP (European Communities 2009). Then EP became an influential actor in the making of the enlargement policies, determining who would be defined in the in-group by giving assent to the final terms of accession before the treaty can be signed and ratified. It also had a leading role on Turkey's accession, such as suggesting suspension of negotiations after the customs union agreement due to violation of democracy and human rights (Europarl 2003: 2). Although it is not explicitly

stated in any documents, Turkey is assumed to be a topic of debate agenda from 1987 onwards, i.e. after Turkey's application for full membership. For the study the real turning point in the EP's plenary sessions is the post-Helsinki period, the declaration of Turkey's official candidate status. Discourses of MEPs are particularly important regarding identity politics, since it gathers all nationalities and ideological perspectives. In that sense MEPs are channeling their positions and mental constructions through languages and texts. From a social constructivist viewpoint, they play an important role in framing of collective identities since they are continuously constructed, negotiated and contested.

A number of steps are employed to analyze EP plenary debates. In order to detect related plenary debates the study utilized quantitative content search. Then the detected excerpts are qualitatively assessed by discourse analysis. In the analysis, the first step is the lexical search, content assessment and the classification of discourses. The data for the study are collected from the accessible online plenary debates by lexically searching the word 'Turkey'. We have collected and analyzed 1244 debates which 'Turkey' passed. Further relevant passages investigated whether they are exclusionary discourses. The 'neutral' debates mentioning facts and technical matters, also thin/inclusive European identity discourses are sorted out to clarify exclusive discourses. Before the analysis part, we shall also note that discursive construction regarding Turkey was not only confined to the topic of enlargement or identity issue. Freedom of religion, freedom of expression, Kurdish minority rights, women's rights, so-called Armenian genocide, Cyprus issue, demography, population, immigration and budget topics (c.f. Akçay and Yılmaz 2012) are recurred in the discourses.

We detected 258 out of 1244 EP plenary debates possessing explicit exclusivist statements. The distribution of exclusive discourses are 47 out of 380 (ca 12%) in 1999-2004; 139 out of 533 (ca 26%) in 2004-09; and 76 out of 327 (ca 23%) in 2009-12[2]. The content assessment of the EP plenary revealed in total above 20% of the debates, meaning on average one out of five speeches, bear the exclusivist expressions regarding Turkey.

The preliminary content research revealed the presentation of otherness hit peak in the second term, coinciding with the time of the launch of ne-

[2]The online data gathered for the study was accessible till 2012 at the time of research.

gotiations with Turkey. Since 1999, Europeanization process and the related domestic political reforms have been stimulated by EU in an increasing fashion in the Turkish side (Müftüler-Baç 2005: 6-30). The incentive to adopt major political changes can be seen rapprochement of acquired differences. Paradoxically the volume of exclusionary discourses has increased, despite the reform improvements in Turkish domestic politics at that time. This controversy might possess multiple meanings. The immediate thought might be undermining the attempts to fulfil the gap of acquired differences by the country and the tendency to show them as innate differences. The second can be Turkey's progress to membership becomes a reality to take into consideration in the eyes of elites. So the fear of integration was also a key for the increasing opposition.

The analysis' second step included the further elaboration on the members' political affiliations. The purpose to seek for MEPs political standings is to avoid treating EP as homogenous entity. It is found that there are exclusive excerpts belonging to the left-wing representatives with a very low percentage (ca 10%) when compared with the right wing MEPs. On the other hand, nearly 90% of the exclusivist arguments focusing on the inherent features belong to a range of center-right and far-right MEPs. The findings were not surprising, since general perception was that the right-wing values are grounded on the more conservative and traditional inherent traits, while left-wing ideology attaches more importance to the acquired characteristics. It can be claimed that the high ratio among right-wing is also an affirmation of the negative predication of Turkey's otherness mostly relying on the inherent differences.

The last step is the main analysis of the study focusing on the discourse strategies based on identity membership. The paper sought to find out hegemonic referential strategies and the metaphors concretizing differences of in-group and out-group. Hegemonic referents and metaphors falling into identity membership include positive in-group European identity (real object) and negative out-group Turkish representation (mirror reflection). The metaphors employed in debates are aimed to steer attention, conceptualize issues and create a common-sense meaning (c.f. van Teeffelen, 1994). They assist the capturing of an abstract experience by picturing it something concrete and familiar. They are also utilized to draw borders between self and other.

Referential strategies are the most encountered exclusivist discourse topic. Group demarcations are usually driven by the social processes of categorization, comparison, competition and conflict. These dynamics reinforce the biases towards homogeneity of in-group, and the out-group members are framed by stereotyping and hostility (Scheuer and Schmitt 2009: 554-555). While asserting the non-Europeanness, the discourses also picture Turkey in different magnitudes ranging from simple stranger to existential threat to the collective identity of Europe. The following excerpts are some striking selected samples of hegemonic referents:

(1) '… nor is it part of European history, whose religious, cultural and political landscapes have been defined by Christianity, the Renaissance, the Enlightenment and the democratic nation state.' van Dalen, November 25, 2009.

(2) 'When de Gaulle built Europe with the other Europeans, he said that Europe was determined by her geography, her Greco-Roman culture and the Christian religion. So now we are going to bring the Turks into Europe. That will be a crime for Europe. Do not commit it.' Karatzaferis, December 13, 2004.

(3) 'Mr Chirac, …, recently said that we are all children of Byzantium. It is hard to think of a more sinister omen, since the children of Byzantium, busy discussing the sex of angels with their parents and their councillors were overwhelmed by the Islamic army of Sultan Mehmet II on 29 May 1453 after a month-and-a-half-long siege. In a symbolic and barbaric gesture, the Sultan dipped his hand in the blood of the dead Christians and daubed this blood on the wall of the Hagia Sophia in Constantinople, which became and has remained Istanbul's main mosque.' Le Pen, Jean-Marie, November 18, 2004.

These excerpts connect powerful referents constituting the European heritage. The European identity is associated with a number of in-group features that is ideologically and historically grounded as the basis of differentiation. In these discourses, culture and religion go hand in hand to identify referents such as history and civilization. Despite the witnessed diversity, division and conflict of European history (Scheuer and Schmitt 2009: 553), the in-group identifies itself with a monolithic linear historical development as stated in

terms of Renaissance, Enlightenment, Ancient Greece, Greco-Roman culture (1, 2).

Undeniably, Christianity is presented as both religion (2) and political and cultural life (1) that is a component of the European legacy. It is understood as not only a belief system but also a civilizational idea, political culture and lifestyle that can be termed as 'Christian Europe'. It is believed that the cultural origins of secular European values have their roots in the Christian heritage (Yılmaz 2007: 298). While Christianity is an innate collective trait, Turkey belongs to the out-group. In the excerpts, the instrumental construction of in-group similarities is created through selective use of pronouns 'we', 'us' and 'together' that define the collective identity. Besides, excerpt (2) uses blaming strategy against oppositional discourses that are being delegitimized. Turkey is not only depicted different but also a threatening entity to the point that its accession would mean a 'crime'.

Another demarcating feature is that whereas belonging to the in-group is presented positive connotations and hierarchal superiority, Turkish otherness is identified negative connotations and cultural inferiority vis-à-vis Europe. The excerpts (1) and (2) selectively use the good historical developments and presents Europe as a homogenous entity. While Europe is built on a higher civilization, the image of Turkey is represented barbaric (3) with a historical 'clash of civilization' manifested by the conquest of Constantinople. The rhetorical use of the word 'Constantinople' belonging to Christian European history contrasts with the name of 'Istanbul'. The city's name change in the paragraph emphasizes the transformation to another civilization. Besides the historical portrait of Ottoman Sultan is a strategy employed to revitalize older images of Turkey's otherness. It reveals the previous Turk/Ottoman vision which is still alive in the collective imaginary of Europe. It is also an interesting strategy that Europe's Byzantine legacy is explicitly downgraded in the in-group traits, since proponents of Turkey use the inclusion of this civilization in the European heritage (c.f. Delanty 1995; 2002) which would imply potential possibility of Turkey's integration to in-group.

Geography is one of the most frequently used hegemonic referent in the discourses of MEPs. The discourses make use of geography as objective and politically correct criticism, to emphasize otherness. Geography serves as the easiest and most secure denominator accompanied by the questioning of

European borders and the potential danger of terror and instability in the Middle East.

(4) 'Turkey is not Europe, given that 97% of Turkish territory is in Asia.' Allam, March 28, 2012.

(5) ' … having been given no geographical boundary, this Europe, after having let in Turkey, will have no grounds to refuse the entry of other Asian or African countries.' Lang, December 13, 2006.

(6) 'The fact is that, under Article 49 of the Treaty on European Union, any applicant for membership of the European Union must be a European State. Turkey is an Eastern power; it plays a dominant role among the Turkish-speaking peoples of Central Asia and shares lengthy borders with Iran, Iraq and Syria. Such an unstable region, in our view, is no place for the European Union.' Mathieu, April 1, 2004.

In the refined EP discourses, geography is used as the 'objective science' that is assumed to be no one can be opposed to. Giving the statistical proportions of the country's landscapes (4), the discourses assert the geography, *per se*, is seen sufficient to accept otherness. The speaker acknowledges geography as an objective truth. On the contrary, geography and borders are constructed primarily by human decisions based on historical and political contingencies (Tekin 2010:114-115).

Connecting geography with boundaries, the borders of Europe are clearly defined in the selected debates, while excluding the people beyond the borders. This unambiguous vision of Europe's borders is presented in the excerpt (5) exaggerate the consequences of Turkey's membership. In the excerpt (6), it is located in the region of terror, instability, border problems, and ongoing wars. It also stresses the differences regarding the geo-political role. While the EU is a European and Western organization as stated in an official document, Turkey is geopolitically presented an Eastern country, close to the Central Asia and Middle East, proving the belonging to another in-group.

The selected paragraphs refer to constructed inherent differences that Turkey cannot possibly alter. Discourses also manifest constructions of acquired differences which the country might attain mainly stemming from Copenhagen criteria. However, these differences are also announced as the sources of inherent otherness:

(7) '…Turkey is not a European country and that our western democratic model is not necessarily shared by a nation whose heritage has other sources.' Le Pen, Marine, July 6, 2005.

(8) 'There is not an Islamic country in the world that meets the Copenhagen criteria, and Turkey is hardly likely to do so either …' Camre, April 1, 2004.

(9) 'Although it is a secular state, culture and history are very different from the current EU Member States, which bear the stamp of Christianity.' Belder, November 19, 2002.

While referring to the lack of democracy, above statements present democracy as a homogenous and innate trait. Turkey's democratic deficits allegedly stem from the inherent historical traditions of the society and more generally from the world of Islam. Turkish democracy is a kind of deviant form which political and cultural deficiencies prevail, and does not comply with the European standards (8, 9). Thus it is implied that democracy alone is a Western term which can only be properly performed by the West without leaving a room for alternative definitions (7). Turkey also belongs to in-group of Islamic countries (8) religiously stressing the differences between self and other. The referent of European history and religion, as a way of political life, go hand in hand in the discourses.

A particular form of referential strategies is the metaphors. They are interesting pieces of identity memberships, since they contribute to the self and other demarcation. Metaphors encountered can be classified as 'container' and 'personification metaphors'. All the container metaphors indeed serve to the concretization of in-group and out-group demarcation. Besides, the most frequently used 'personification metaphors' are family, marriage, house and child.

(10) '(Turkey) represents a potential Trojan horse of radical Islamism in our continent.' Bizzotto, September 27, 2011.

(11) 'Turkey is closer than ever to our gates.' Le Rachinel, September 27, 2006.

(12) 'We are against arranged marriages: to get married you have to know each other and love each other, and that applies to Turkey's ambitious goal...' Pistelli, September 26, 2006.

(13) 'Europe has moved too far in Turkey's direction, despite the latter behaving like a

spoilt child blackmailing its parents?' Zaleski, September 28, 2005.

(14) 'Turkey is an adopted child, and we should not forget that the responsibilities of the family and of the parents are particularly challenging when adopting a child. I hope we are all fully aware of this, and that we will begin to put our European house in order.' Jałowiecki, December 15, 2004.

The metaphors used tell a lot about the members' visualizations and how they place Turkey in their mental maps. Container metaphors as 'gate' and 'door' are meant to visualize the spatiality of demarcation of self from the other. The excerpt (11) gives the message that the inmates of Europe control the door for Turkey. They symbolize the outsider status of Turkey, passively 'waiting in the gates of Europe' and possessing a potential threat to collective identity. The Trojan horse (10) metaphor deeply reveals the concerns regarding the danger of Turkey as a bearer of Islamic fundamentalism. It is also perceived that Turkey has a kind of 'sneaky plan' to damage Europe. It promotes the existing fears of religious terror by picturing a dangerous country. Turkey is seen the source of Islamic terror and contributes to the intrusion of political Islam into the European continent. In the discourse, the other religion is equated with the insecurities while conceptualizing monolithic defining feature of out-group.

Personification metaphors of 'house' and 'family' serve the same purpose. While belonging to the house and family represents the ownership of the in-group, the outsiders are the strangers. They symbolize homogenous, familiar, secure and united entity bounded with shared common heritage. 'European family of nations' symbolizes the innate descent of Europeanness that one can either be family member or not at all. The marriage metaphor is commonly goes hand in hand with the family metaphor. Any relation can only be constructed by 'marriage' founded by 'contract' between the EU and Turkey. The marriage metaphor has additional meanings emphasizing differences on the religion, culture and civilization between the spouses, a marriage between two distinct worlds with a necessary non-blood tie. In the excerpt (12), the marriage is doomed to be 'an arranged marriage', not 'a love marriage'. The bottom line, EU has to deal with domestic problems of Turkey as a result of the forced marriage. Apart from the marriage metaphors, Turkey can be included as either a spoiled or adopted child

in the 'European family' (13, 14). A spoiled child is irresponsible and problematic, needed to be disciplined in the European house by mature members. To sum up, exclusive referential strategies i.e. membership categorizations and metaphors are assumed to be derived from inherent traits. However acquired traits are also perceived as if inherent trait that cannot change.

CONCLUSION

While modernization is equated with Westernization and being a member of the EU on the Turkish history, identity politics has been a legitimacy issue on the EU side. For Turkey, Helsinki Summit was the opportunity to change discourses of elite project into a rational 'normalization process' to reform domestic structure and contribute to the civil content. For EU, ratification of the Constitutional Treaty was the opportunity to create an EU identity based on acquired traits and post-national citizenship. Although the opportunities for another vision of identity are not missed, there is a long way to change exclusive 'meaning-making' into an inclusive one.

It would not be unfair to state that both EU's and Turkey's contemporary situations are at the center of the storm. One of the study's critics might be the data until 2012, since EP's plenary sessions were publicly accessible till that time at the time of research. But the recent developments on the EP's composition revealed more radicalization of the MEPs specifically following the 2014 elections. Even there has been a record in the xenophobic populism alongside with the rise of anti-EU rhetoric of Eurosceptic representatives (Brack 2015; Grabbe and Groot 2014). This means exclusive identity discourses and otherness of Turkey may be voiced more than ever which can be subject for further studies.

The existence of self-other notion concerning the EU identity politics specifically uncovering Turkey's otherness and its repercussions are re-affirmed by the research. Without ignoring the inclusive approaches and EP's diverse composition, the exclusive identity discourses are assessed. The original contribution of the study is the investigation of EP which is the key platform of representing all EU nationals and political groups. The substantial data extracted from online EP plenary debates in order to give the 'picture' of EU countries on Turkey's otherness. It is observed that the exclusive views belong to the right-wing. Acquired differences stemming from Copenhagen criteria such as democracy and secularism are also presented as inherent differences. Additionally, the density of exclusive discourses increased in the second term, since the launch of the negotiations. As a specific mode of referential strategy metaphors are employed to concretize the case of Turkey, stressing exclusivist standpoints.

The study acknowledges the multiple factors that affect Turkey's current situation along with the fact that identity concerns influencing EU-Turkey relations. The challenges originating from the differences are controversial issue which seems to be a heated future discourse agenda affecting enlargement policies. It can be claimed that Turkey issue is one of the fundamental points in the evolution of European identity and vice versa. Yet, any decision about Turkey will have repercussions on the meaning-making of self/other reproductions.

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Using Data Envelopment Analysis to Measure the Technical Efficiency of Public Hospitals in Turkey

Veri Zarflama Analizi ile Türkiye'deki Kamu Hastanelerinin Teknik Etkinliğinin Ölçülmesi

Mehmet KARAHAN[1]

https://orcid.org/0000-0002-0402-0020

ABSTRACT

In the study, it was targeted to increase the efficiency of business by identifying the performance and efficiency levels of 1533 public hospitals in 81 provinces of Turkey by means of data envelopment analysis and, in addition to this, identifying the problems of units causing disruptions; it was aimed to sort out these problems by suggesting solutions. The data obtained from health businesses, in which application was performed, were checked; their efficiency degrees were assessed; and analysis results were obtained. These results obtained from the study were used in the improvement studies that are going to be carried out to increase the efficiency of or remove the deficiencies of hospitals, in which application is performed. According to the results obtained, the technical efficiencies of 1533 businesses being active in 81 provinces and presenting similar health services were measured by means of data envelopment analysis and it was identified that 775 of these hospitals that are present in 36 provinces worked efficiently, and that 758 of them that are present in 45 provinces did not work efficiently.

Keywords: Data envelopment, efficiency analysis, hospital efficiency, health businesses

JEL Classification: H21, I11, P47, P27

ÖZET

Çalışmada, veri zarflama analizi ile Türkiye'nin 81 ilindeki 1533 kamu hastanesinin performans ve etkinlik düzeyleri belirlenerek işletmenin etkinliğini artırmak hedeflenmiş, ayrıca hastanelerde aksamalara neden olan birimlerin sorunları belirlenerek çözüm önerileriyle bu sorunları düzeltmek amaçlanmaktadır. Uygulama yapılan sağlık işletmelerinden elde edilen veriler kontrolden geçirilecek etkinlik dereceleri değerlendirilmiş ve analiz sonuçları elde edilmiştir. Çalışmadan elde edilen bu sonuçlar, uygulamanın yapıldığı hastanelerin etkinliği artırmak veya eksikliklerinin giderilmesi için yapılacak iyileştirme çalışmalarında kullanılmıştır. Elde edilen sonuçlara göre, 81 ilde faaliyet gösteren ve benzer sağlık hizmetleri sunan 1533 hastanenin teknik etkinliği veri zarflama analizi ile ölçülmüş ve bu hastanelerden 36 ilde bulunan 775 tanesinin etkin olarak çalıştığı, 45 ilde bulunan 758 hastanenin de etkin olarak çalışmadığı belirlenmiştir.

Anahtar Kelimeler: Veri zarflaması, etki analizi, hastane etkinliği, sağlık işletmeleri

1. INTRODUCTION

While health, as a service area, on the one hand, is directly interested in the human and social life, on the other hand, making contributions to the quality of factor labor, it also affect economic performance as a whole via the employment and production. It is very important to know the effectiveness levels of hospitals, which are businesses of health sector, beca- use hospitals use public resources, and it is necessary to use these resources in the best way and without wasting.

Each economic unit, for realizing its aims, transforms the resources (inputs) it supplies from external environment into the outputs in the form of goods and service, utilizing a certain production technology.

[1]Assoc. Prof. Dr., Firat University Faculty of Economics and Administrative Sciences Department of Business,
mkarahan@msn.com

Assessing the performances of businesses in a certain slice of time is closely related to how rationally they behave, while transforming the inputs they use into the outputs. In this context, while the performance of an economic unit is evaluated, it is necessary to identify whether or not the maximum output is obtained from the inputs used or the output level determined is reached with the amount of minimum input. This assessment is carried out by Data Envelopment Analysis (DEA), developed to measure the relative performance of the businesses and one of the most used methods in the literature.

DEA is a non-parametrical method of measuring efficiency, which can be easily for more than one input and output. In addition, DEA can perform measurement, using the inputs and outputs such as cost, weight, and volume, which are very different from each other; and, in the units making decision such as hospital, using the input and output variables such as the number of bed, number of specialists and practicing physician, mortality rate, and currency capital, which are in the very different number from each other, an effective measurement of efficiency can be performed.

In this study carried out, the efficiency comparisons of public hospitals selected as an example were made by using DEA method. In the study, in the light of factors such as the structure and organization of health sector, financing health services, and health expenditures, relative efficiency analysis of public hospitals was made and, utilizing the findings obtained, the suggestions related to the health policies to be implemented were developed. In this study, in which the relative service performances of the hospitals are examined, data were obtained from the statistics, published in the official web site of Ministry of Health. Performance measurement based on the resource use efficiency of hospitals was performed according to the approach of DEA. While performance measurement are performed, including in the possibilities presented by DEA, the distinct models were used and hospitals were compared to each other according to the cases of constant return to scale and variable return to scale. In assessment of efficiency performance, the variables such as the number of total bed, specialist physicians, and nurses were used as input and the variables such as the number of patients treated, inpatients, surgical operations, and bed turnover as output. With this analysis, performing the measurements of resource use efficiency and performance at hospital level, it was aimed to reveal the efficiencies of hospitals to present health service.

2. Data Envelopment Analysis

While the first applications of DEA were generally carried out in non-profit organization, they, becoming wide later, have been begun to be applied in profit-oriented organizations as well. Among application areas, the hospitals, educational institutes, military units, local governments, airports, banks, hotels, and municipalities can be counted (Bowlin, 1998). DEA, first introduced by Charnes, Cooper and Rhodes (CCR) in 1978, is a linear programming process, in which a number of input and output are defined as boundary analysis (Charnes et al., 1978; Widiarto et al., 2017). The first DEA model, introduced by CCR, was built on the study by Farrel in 1957 (Cooper et al., 2004). The method largely attracted attention in the following years, and a number of theoretical and applied studies were carried out (Tavares, 2002). DEA is s method, which produces multiple output in a production system, using multiple input, and which are used in measuring the relative efficiencies of decision making units (DMU), which carry out the similar duties (Yun et al., 2004).

DEA is a method, in which some mathematical programming methods are used, to compare the efficiencies of a group. That it requires that there are not any functional connections between inputs and outputs is the most important advantage of the method. This state brings the feature to be non-geometrical method in DEA (Ayricay and Ozcalici, 2014). DEA is a specific application form of linear programming (Tunca et al., 2010), commonly used in relatively measuring the effectiveness of the businesses, which are active in service sector and have the same aims and targets (Tetik, 2003).

DEA method is generally used for measuring the efficiency of a number of units such as production units, banks or hospitals, which are generally characterized with the complex inputs and outputs. In the process to obtain the desired outputs, efficiency and effectiveness analyses are very important managerial instruments in determining until what level inputs are used. In DEA, the units assessed are called decision making units (DMUs), and performance measurement is made by utilizing the input and output data (Yu, and Zhang, 2017). Particularly in the cases, in which the relationships between inputs and output are not known, it is a useful analysis method. The first model,

developed by Charnes, Cooper and Rhodes, under the assumption of Constant to Return Scale (CCR), was later arranged by Banker, Charnes, Cooper under the assumption of Variable Return to Scale and brought a new dimension in efficiency measurement. This form of DEA is known as BCC model (Karahan and Akdag, 2014).

Since DEA is basically used for production efficiencies in the similar sort, the conditions that the decision units that can be the subject of analysis perform similar functions toward the same target, are active in the same market conditions, and all units in the group are the same except for the intensities and size of the factors qualifying their effectiveness are required. In addition, DEA is a method that can measure efficiency by using more than one input and output and is not affected from the distinctness of input and output units (Bayraktutan and Pehlivanoglu, 2012). In DEA service process, it can be generally obtained a number of outputs by using a number of outputs. That DEA has a feature to be a method considering all inputs and outputs in selecting a successful service unit of DEA is its aspect that is more advantageous compared to the other effectiveness analysis (Aslan and Mete, 2007).

DEA is a mathematical programmed-based technique used in measuring the relative efficiencies of organizational units having multiple inputs. Especially, in the cases, in which more than one input and output is not transformed into a weighted set of input or output, this technique is accepted as an efficient approach. The method accepts the best observation as efficiency boundary and following this, the other observations are evaluated to this observation that is most efficient. Later, when duality of each model is formed and solved, it is calculated that non-efficient units are not efficient according to which units and what the amounts of increase and decrease that is necessary to be done for providing efficiency are. What makes the method from others is that it accounts for optimal performance instead of average performances (Guzel et al., 2012).

While a production model is formed for health sector, it is necessary to process input and output more than one. Therefore, it is not suitable to predict the effectiveness of hospitals with less number of simple input and output coefficients. In calculations of hospital efficiency, for being able to get the desired results with minimum input, it is necessary to well predict the variables and, thus, it is possible to reach the maximum output level (maximum performance)

with minimum input (Helmig and Lapsley, 2001). DEA method, thanks to these superior features of it, was used in analyzing the effectiveness of health organizations in the developed countries (Kirigia et al., 2004), measuring production effectiveness in Scotland (Parkin and Hollingsworth, 1997), increasing output quality of the hospitals in England (Thanassoulis, 1995), and many applications similar to these, and positive results were obtained.

3. Application of Increasing Service Efficiency of Public Hospitals in Turkey

Today, in parallel with the material and economic possibilities of the people, importance given to the presentation of health services has increased, and the sectorial data of service reached important dimensions. When the attempts of EU countries to converge health issues and excessive increases in health expenditures are considered, the issues such as effectively giving health services, increasing their service efficiency by continually controlling, and limiting the excessive expenditures have become an important focus for today's service presenters. In this context, through worldwide studies related to the subject, a wide literature review has been made, and some of the studies carried out on hospital-performance were summarized as follows.

Helmig and Lapsley (2001), in the study they carried out in Germany, in order to reduce the excessive cost increase, carried out a study by means of DEA method, and they tried to solve the problem with excessive cost, increasing the efficiency of the hospitals. In the study, as input variables, the number of bed, the number of health personnel (the numbers of physician, nurse and physicist, medical and technical auxiliary staff) and operational expenditures made and amount of all other expenditures were used. As output variable, the number of the inpatient and discharged patient and the amounts of expenditures made for the health and educational facilities were used. As a result of the study carried out, in all health facilities, between the years of 1991-1996, effectiveness increases at absolute level were provided and, in addition, as a result of the comparisons made between private and public sectors, it was concluded that the effectiveness of public hospitals is relatively higher and that public hospitals used relatively less resource.

Hofmarcher, Paterson and Riedel (2002), in the study, in which they examined the effectiveness and productivity development in health sector in Austria

between the years of 1994-1996, utilized DEA method, using panel data, for being able to compare the effectiveness score between hospitals. As a result of the study, while output effectiveness of the first of two efficiency models, designed by the researchers, was average 96%, the average of the second was calculated as 70%. Average effectiveness in the first model moderately increased in the period of 1994-1996, it was observed that average effectiveness in the second model did not vary too much.

Ferrier and Valdmanis (2004), in the study titled "*Can customers develop hospital effectiveness*", comparatively examined two hospitals they selected and researched whether or not their effectiveness to be augmentable. The study covers the years of 1996-1998, and analyzes were made by means of DEA method. As a result of the study, it was put forward that thanks to short termed studies to be carried out, the performance of the hospital could be increased.

Hu and Huang (2004), in their studies, in which they studied the ways of reducing the health costs in Taiwan, among 637 hospitals in the country, 80 hospitals having bed more than 250 were studied as a sample, and effectiveness calculations of these hospitals were made by means of DEA. In the study, using official datasets belonging to the year 2001, technical efficiency scores of the hospitals were calculated. According to the results obtained from the study, it was put forward that the current effectiveness of the public hospitals selected as an example was significantly poor, and that it was necessary to increase the rates of capacity use. Again, according to the results obtained, it was suggested that the number of physician per capita, the number of bed, the number of room, the numbers of hospital, medical resource allocation, and external competitive factors significantly affected the effectiveness of the hospitals; that increasing bed turnover significantly increased the efficiency of hospitals; that the effectiveness of public hospitals in Taiwan was lower compared to private sector; and for this reason, privatizing public hospitals would be a suitable strategy.

Karagoz and Balci, (2007), in the study, in which they examined the effectiveness of departments giving education of health management in Turkey, administered a survey in 207 students of health management and made statistical analysis on the data obtained from the application. According to the results obtained from the study, it was identified that the efficiency levels of the departments was at

moderate level and that the highest efficiency was in the dimension organizational health.

Garcia-Lacalle and Martin (2010), in the study they carried out, studied whether or not the reforms regarding health services in Europe affected the hospitals in the urban and rural regions and, in this context, the performance, effectiveness, and perceived qualities of the hospitals were compared to each other. The study focused on the policy of freedom to select hospital in Spain, and on the applications of repayment system of Andalusian Health Services (ASS), based on hospital performance, and covers a two years' period between the years of 2003 and 2006. As a conclusion of the study, it was identified that the rural and urban hospitals were similar to each other in the dimension effectiveness and that the hospitals in rural regions exhibited much better performance in the dimension patient satisfaction than those in urban regions and, therefore, it was put forward that market-based reforms made did not form a more difference in the performances of the rural and urban hospitals.

Dimas et al., (2012), in the study they carried out, assessed the variations in the effectiveness and technological development of 22 public hospitals in Greece. In the study, DEA method was used to measure the effectiveness of the hospitals, and it was tested whether or not environmental factors affected the effectiveness of the hospital. As a result of the study, it was identified that performance of public hospitals decreased by average 55.4% throughout duration of the study and that the major reason for this was high expenses related to the technical changes (operational expenses, purchase of medical equipment and material). In the study, it was argued that the improvement at efficiency level of the hospitals could be provided via better management and reallocation of the resources, and that this improvement would bring an extra profit of EURO 25 million in the hospitals for the duration of 3 years.

Davis et al., (2013), in a case study they carried out related to the performances of public hospitals in New Zeeland between the years of 2001-2009, made a comparison of 35 hospitals across the country in the dimensions of effectiveness, efficiency, and equality. In performance assessments carried out, the data such as hospital stay of the patients and the number of surgical operation daily performed were utilized and it was concluded that according to these data, performance differences between the hospitals was in the tendency to decrease in time. As a result of the study, for being

able to assess the performances of public hospitals in New Zeeland at international level, it was expressed that it was necessary to develop a certain standard frameworks and criteria, and that many studies had to be carried out for this.

Oderkirk et al. (2013) carried out a study determining the standard data that can be used in improving the performance of health institutes and targeting them to be transformed into standard data that can be used at international level. In this scope, a survey application was made in 20 OECD countries and it was studied how health data published in these countries can be generalized and whether or not these data can form a problem for some countries. According to the results of the study, for strengthening national information structure, there is a need for the laws and policies providing data connection and data share and, for raising the quality of health services and performance of health system, it is necessary to standardize, store, and protect the data. Thanks to these data standardized, the common studies between OECD countries can be developed much more and performance assessments and comparisons of health system can be made more healthily.

Gholami et al., (2015), in the study they carried out, searched for an answer to the questions "Should be hospital efficiency or quality preferred?" or "Is it possible to apply together with it?". The study was carried out by means of DEA and continued two years in 187 hospitals in USA. According to the results obtained from the study, IT investments relatively affect the efficiency, quality and operational efficiency of the hospitals.

Chowdhury and Zelenyuk (2016), in the study they carried out in Ontario, Canada, between the years of 2003-2006, related to the performance of hospital services, tried to identify key factors determining the efficiency of hospital, making performance, effectiveness, and efficiency analyses As a result of the study, it was identified that some of organizational factors determining hospital efficiency were hospital occupancy rate, amount of work personnel individually produces (production amount per capita), incoming and outgoing patient transformation rate (inpatient and outpatient), case mix index, and geographical locations, and educational status of patients.

In the direction of this wide literature review carried out, it was decided to be carried out a study covering all of public hospitals in Turkey and, for this aim, in 2015, the efficiency of using input of all public hospitals in Turkey (1533 hospitals) according to the provinces was measured, and the performances of hospitals were introduced. Another aim of the study carried out is also to develop suggestions toward more improving of health services, making efficiency comparisons between the hospitals.

In this study, by means of output-oriented approach of method of DEA, the indices of constant return to scale, variable return to scale, and scale efficiency were calculated. While the calculations are made, first of all, all hospitals were evaluated together, their efficiency values were measured, then, the deficiencies or surpluses of the hospitals detected that they were not efficient, were identified; and, finally, in order to improve the performance of the hospitals, detected that they were not efficient, it was identified what should be done. In this context, the year 2015 data belonging to 1533 hospitals were drawn from website of Ministry of Health and, making the necessary arrangements, the technical and scale efficiencies of the hospitals were calculated. Utilizing the findings, obtained from the study, for the hospital not working efficiently to work more effectively, the amounts of output and input that are necessary to be increased and decreased were identified.

4. Study Method and the Data Used

In the study, in order to measure the efficiencies of hospitals, DEA was used. Because, considering that the DEA considers all inputs and outputs in selecting the successful service unit, it makes it superior to other efficiency analyzes. Instead of the performance averages that make DEA different from other methods, the optimal performance description (Aslan and Mete, 2007), the effectiveness of each decision point, the effectiveness of the ineffective decision points can be increased and the information about the decision points that can be used as a reference (Akgobek et al., 2015). While DEA can calculate the potential improvement values for the input variables in order for the inactive segments to be effective; Decision making methods such as Promethee and Electre, rank the total and technical efficiency, measure an effective decision making unit from the activity limit and measure the distance from the activity limit of this unit (Aladag et al., 2018).

The most important reason for selecting this method is that it can be easily used for more than one input and output. DEA uses all data, does not

leave any data outside, and can be used without problem. In the study carried out, since the data of currency capital belonging to the hospitals and the data related to allowances reserved from the budget and expenditures cannot be supplied, they were not used. The data belonging to the variables of input and output, which are used in the study and affect hospital performance, were drawn from the year 2015 statistics lately published in 2016.

Indeed, there are a number of input and output variables in hospital businesses. However, the most important ones of the output variables are the numbers of medical examinations conducted in the hospital. In the same way, as input variable, the number of bed and the number of human resources are mostly dealt with. In the distribution of resources to the hospitals, first of all, since the number of bed is based on, considering that the number of bed will account for a number of input variables, it was handled as input variable. The data used in the study are the data published in the website of TR Ministry of Health and arranged according to international standards, these data were divided into two groups as input and output, utilizing the relevant literature. 6 input variables and 5 output variables, used in the study, were shown as follows (Table 1).

As seen in Table 1, in the study, as input variables, a total number of bed, the number of hospital, the number of attending physician, the number of general practitioner, the number of nurses, and the number other health personnel were taken. As output variables, a total number of patient treated, the number of surgical operation, the data of the number of inpatients, bed turnover, and crude mortality rate were taken.

In case that a number of input and output variables are included in the application, since the ability of DEA

to decompose falls, this number should be kept as limited as possible. Since a total number of input and output have to be less than the number of decision unit (Aslan and Mete, 2007), in this study carried out, a total number of input and output variables were kept less than the number of decision unit. The data used in the analyses were handled in the daily basis and, determining the best production limits of hospitals, performance indicators, were assessed according to this limit. DEA and efficiency calculations were carried out by using WinDEAP 2.1 package program.

4.1. The Findings Obtained from the Study

Technical efficiency scores, calculated as a result of DEA, vary between 0 and 1. That these values approach to 1 shows that efficiency increases and approaches to 0 shows that efficiency decreases. If technical efficiency score is 1, there is a case of full efficiency. Indeed, the case of full efficiency shows that the relevant hospital is in the boundary of the best production. For this aim, since efficiency score was compared to the value 1, generally ineffectiveness score was also less than 1. The case that the value of technical efficiency index is smaller than 1 means that business cannot produce maximum output with its existing inputs. In short, this case expresses that the actual output of business can be proportionally produced with less input. The hospitals, whose technical efficiency value is less than 1 (inefficient), are shown as follows (Table 2).

4.1.1. Efficiency Scores of Public Hospitals in Turkey

In Turkey, the scores of technical efficiency, pure efficiency and scale efficiency belonging to all public hospitals (1533 hospitals in 81 provinces) that are present in 2015 are shown as follows (Table 2).

Table 1: Variables Used in Work

Input Variables	Output Variables
Total Number of Beds	Total number of patients treated
Number of hospitals	Number of Surgical
Number of Expert Doctors	The number of inpatients
Number of Practitioner Doctor	Bed Turnover Rate
Number of Nurses	Rough Death Rate
Number of Other Health Personnel	

Table 2: Efficiency Scores of Public Hospitals in Turkey

SN	Provinces	CRS	VRS	Scale Efficiency	
1	Adana	1.000	1.000	1.000	-
2	Adıyaman	0.925	0.926	1.000	-
3	Afyonkarahisar	0.919	0.924	0.995	drs**
4	Ağrı	0.777	0.792	0.981	irs*
5	Amasya	0.994	1.000	0.994	drs**
6	Ankara	1.000	1.000	1.000	-
7	Antalya	0.905	0.926	0.977	drs**
8	Artvin	1.000	1.000	1.000	-
9	Aydın	0.911	0.911	1.000	-
10	Balıkesir	0.982	1.000	0.982	drs**
11	Bilecik	1.000	1.000	1.000	-
12	Bingöl	0.934	0.947	0.986	irs*
13	Bitlis	0.959	0.967	0.991	irs*
14	Bolu	1.000	1.000	1.000	-
15	Burdur	0.955	0.964	0.991	irs*
16	Bursa	1.000	1.000	1.000	-
17	Çanakkale	0.909	0.915	0.993	irs*
18	Çankırı	1.000	1.000	1.000	-
19	Çorum	0.848	0.864	0.982	drs**
20	Denizli	1.000	1.000	1.000	-
21	Diyarbakır	0.811	0.817	0.993	irs*
22	Edirne	1.000	1.000	1.000	-
23	Elazığ	0.920	0.923	0.998	irs*
24	Erzincan	0.821	0.845	0.972	irs*
25	Erzurum	0.928	0.943	0.984	irs*
26	Eskişehir	0.942	0.942	1.000	-
27	Gaziantep	1.000	1.000	1.000	-
28	Giresun	0.891	0.892	0.999	drs**
29	Gümüşhane	0.891	0.909	0.980	irs*
30	Hakkari	0.891	0.934	0.954	irs*
31	Hatay	0.946	0.953	0.993	drs**
32	Isparta	1.000	1.000	1.000	-
33	Mersin	1.000	1.000	1.000	-
34	İstanbul	1.000	1.000	1.000	-
35	İzmir	0.906	0.954	0.949	drs**
36	Kars	0.733	0.796	0.921	irs*
37	Kastamonu	0.937	0.970	0.966	drs**
38	Kayseri	1.000	1.000	1.000	-
39	Kırklareli	0.965	0.965	1.000	-
40	Kırşehir	0.857	0.870	0.986	irs*
41	Kocaeli	1.000	1.000	1.000	-
42	Konya	0.855	0.874	0.977	drs**

Table 2: Efficiency Scores of Public Hospitals in Turkey (Continuation of Table 2)

SN	Provinces	CRS	VRS	Scale Efficiency	
43	Kütahya	0.898	0.913	0.983	drs**
44	Malatya	1.000	1.000	1.000	-
45	Manisa	0.935	0.936	0.999	drs**
46	Kahramanmaraş	0.956	1.000	0.956	drs**
47	Mardin	1.000	1.000	1.000	-
48	Muğla	0.808	0.814	0.992	drs**
49	Muş	1.000	1.000	1.000	-
50	Nevşehir	1.000	1.000	1.000	-
51	Niğde	0.980	0.980	1.000	-
52	Ordu	0.872	0.878	0.993	drs**
53	Rize	1.000	1.000	1.000	-
54	Sakarya	0.979	1.000	0.979	drs**
55	Samsun	0.896	1.000	0.896	drs**
56	Siirt	1.000	1.000	1.000	-
57	Sinop	0.968	0.977	0.990	irs*
58	Sivas	0.759	0.759	1.000	-
59	Tekirdağ	1.000	1.000	1.000	-
60	Tokat	0.847	0.855	0.991	drs**
61	Trabzon	0.908	0.909	0.999	drs**
62	Tunceli	1.000	1.000	1.000	-
63	Şanlıurfa	1.000	1.000	1.000	-
64	Uşak	1.000	1.000	1.000	-
65	Van	1.000	1.000	1.000	-
66	Yozgat	0.755	0.762	0.991	irs*
67	Zonguldak	0.909	0.914	0.995	irs*
68	Aksaray	1.000	1.000	1.000	-
69	Bayburt	1.000	1.000	1.000	-
70	Karaman	0.834	0.852	0.979	irs*
71	Kırıkkale	0.965	0.987	0.978	irs*
72	Batman	1.000	1.000	1.000	-
73	Şırnak	0.903	0.916	0.986	irs*
74	Bartın	1.000	1.000	1.000	-
75	Ardahan	1.000	1.000	1.000	-
76	Iğdır	1.000	1.000	1.000	-
77	Yalova	1.000	1.000	1.000	-
78	Karabük	1.000	1.000	1.000	-
79	Kilis	1.000	1.000	1.000	-
80	Osmaniye	1.000	1.000	1.000	-
81	Düzce	0.996	1.000	0.996	drs**
	Average	0.944	0.953	0.991	

*increasing return to scale
**decreasing return to scale

As seen in Table 2, according to the result of the analysis carried out, in the context of efficiency calculations of a total of 1533 present in 81 provinces, according to CRS (Constant Return to Scale) technical efficiency score, it was identified that although 775 hospitals in 36 provinces (the provinces numbered 1, 6, 8, 11, 14, 16, 18, 20, 22, 27, 32, 33, 34, 38, 41, 44, 47, 49, 50, 53, 56, 59, 62, 63, 64, 65, 68, 69, 72, 74, 75, 76, 77, 78, 79 and 80) were efficient, 758 hospitals in 45 provinces (the provinces 2, 3, 4, 5, 7, 9, 10, 12, 13, 15, 17, 19, 21, 23, 24, 25, 26, 28, 29, 30, 31, 35, 36, 37, 39, 40, 42, 43, 45, 46, 48, 51, 52, 54, 55, 57, 58, 60, 61, 66, 67, 70, 71, 73 and 81) were inefficient.

4.1.2. Adjustments That Are Necessary to Be Done for Making Efficient the Inefficient Hospitals

As a result of calculations made above, for making the hospitals, identified that they are inefficient, to make efficient, using the values in reference set, the amounts of input or output that hospitals have to increase or reduce are calculated by means of the software. According to the results of analysis, among 1533 hospitals, in which efficiency analysis is made, those detected that they do not work efficient, are 758 hospitals in 45 provinces. For making efficient these 758 hospitals, identified that they are inefficient, the adjustments that are necessary to be done in the input and output variables were calculated by WinDEAP and these amounts of adjustments obtained are shown as follows (Table 3).

As seen in Table 3, it was identified that 758 hospitals in 45 provinces do not efficiently work and the existing cases of these hospitals i.e. the current data belonging to the input and output variables in the situation, in which hospitals are not efficient, are shown.

The name of the numbers assigned to the columns in Table 3 and 4 are. 1) A total number of bed, 2) the number of hospital 3) the number of attending physicians, 4) the number of general practitioner 5) the number of nurses 6) The number of other health personnel 7) a total number of patients treated, 8) the number of surgical operation 9) the number of inpatients, 10) bed turnover 11) crude mortality rate.

Table 3: Current Status of Hospitals Specified as Not Efficiency

SN	Prv.	1	2	3	4	5	6	7	8	9	10	11
1	2	1139	12	383	306	1169	1081	4532015	20994	89207	78	8
2	3	1945	22	520	392	1379	1508	6088719	41347	133357	69	15
3	4	858	11	224	295	635	681	3364	11033	61223	71	5
4	5	783	7	190	195	702	803	3082520	10885	35045	45	24
5	7	5527	43	2650	1339	4268	4481	19763948	156268	426030	77	17
6	9	2838	23	1032	660	2090	2001	9755546	54860	227201	80	18
7	10	3018	29	870	668	2200	2201	11011262	62845	176308	58	26
8	12	642	8	111	155	568	607	1560084	8181	40697	63	6
9	13	759	9	161	210	526	552	2199422	11868	57595	76	5
10	15	667	8	147	195	586	754	2308755	12055	44686	67	14
11	17	1344	16	506	302	1151	1127	4871652	24355	74473	55	24
12	19	1542	16	323	327	1044	1300	4127480	19536	98047	64	19
13	21	4508	24	1322	844	3347	2500	10965929	94392	295034	65	10
14	23	2900	11	620	330	1398	1320	4718052	37136	134836	46	16
15	24	601	11	176	143	489	574	1757479	8794	39530	66	15
16	25	3611	24	727	505	1880	1620	6210468	75590	158451	44	13
17	26	3439	16	990	481	2339	2141	7518804	64481	197247	57	20

Table 3: Current Status of Hospitals Specified as Not Efficiency (Continuation of Table 3)

SN	Prv.	1	2	3	4	5	6	7	8	9	10	11
18	28	1428	18	284	280	1030	1239	3872532	19314	81203	57	18
19	29	336	6	73	98	297	409	1019878	3144	20580	61	12
20	30	485	5	92	114	332	351	1270768	6421	29014	60	5
21	31	3133	24	1050	901	2441	2614	12729712	90755	278453	89	18
22	35	11466	57	5872	2294	9017	7717	37532589	281036	677295	59	24
23	36	762	9	214	184	460	494	1837817	13627	37977	50	11
24	37	993	17	174	251	733	970	2822454	11111	48231	49	22
25	39	867	9	244	197	640	723	3166768	14009	59786	69	13
26	40	491	6	172	146	482	710	1833876	8443	36788	75	14
27	42	6420	42	1931	1203	4455	4428	17869078	145510	393809	61	15
28	43	1617	12	404	301	1207	1216	4730066	23285	81661	50	22
29	45	4092	28	1250	780	2734	2515	12815529	78293	229104	56	20
30	46	2710	20	662	555	2057	2033	8769347	58472	185540	68	14
31	48	2060	24	818	642	1660	1907	8064312	41567	136891	66	15
32	51	785	8	178	190	580	724	2832176	11826	50397	64	12
33	52	1818	17	518	435	1473	1601	6099441	39728	125800	69	16
34	54	1741	18	690	546	1425	1563	8242764	50106	133008	76	16
35	55	4364	28	1435	734	3073	3123	11726395	97200	271411	62	27
36	57	479	7	120	135	465	576	1845739	8680	29395	61	16
37	58	2559	19	552	391	1320	1481	5185792	36400	109167	43	18
38	60	1800	15	437	358	1232	1597	5060988	32676	111911	62	15
39	61	3221	22	875	496	2521	2554	7810510	59980	200183	62	17
40	66	894	16	250	304	866	1075	3118985	15932	55490	62	12
41	67	2123	12	566	365	1445	1138	5581789	38458	124185	58	20
42	70	527	5	155	158	509	541	1921761	9917	33554	64	12
43	71	1116	7	307	157	739	1068	2330255	18025	51931	46	22
44	73	722	9	162	196	527	559	2365367	12099	44536	62	14
45	81	703	8	312	185	626	587	2982168	15431	51389	73	20

Table 4: Corrections to be made in not efficiency hospitals

Prv.	1	2	3	4	5	6	7	8	9	10	11
2	-85	-1	-29	-23	-282	-81	0	7519	0	6	5
3	-148	-11	-40	-30	-237	-254	0	3338	0	0,4	3
4	-179	-6	-47	-64	-149	-142	2773289	3175	0	14	2
5	0	0	0	0	0	0	0	0	0	0	0
7	-410	-15	-800	-99	-554	-1405	0	1254	0	12	0
9	-252	-5	-183	-59	-196	-177	0	27596	0	7	3
10	0	0	0	0	0	0	0	0	0	0	0
12	-190	-5	-6	-26	-219	-142	0	622	0	23	3
13	-77	-2	-5	-12	-53	-18	0	278	0	7	1
15	-151	-0,3	-5	-7	-121	-145	0	0	0	9	1
17	-114	-6	-43	-26	-183	-171	0	6958	4645	13	7
19	-524	-8	-44	-45	-308	-334	0	6117	0	27	0
21	-1206	-4	-288	-154	-978	-457	0	14010	0	24	4
23	-1246	-1	-123	-26	-161	-126	0	3015	0	31	0
24	-93	-7	-27	-22	-100	-104	0	2518	0	13	0
25	-1328	-9	-42	-29	-270	-229	1232143	0	38343	39	0

26	-833	-1	-151	-28	-456	-285	0	71	0	15	0
28	-381	-11	-31	-30	-354	-407	0	2776	0	17	1
29	-57	-3	-7	-9	-43	-71	0	1222	0	16	1
30	-154	-3	-6	-8	-72	-23	0	157	0	24	5
31	-147	-4	-98	-42	-298	-679	0	4715	0	3	0
35	-528	-3	-819	-287	-829	-1269	0	4220	23128	10	0
36	-291	-7	-74	-38	-106	-101	0	0	0	24	6
37	-384	-12	-5	-57	-243	-427	0	421	0	21	0
39	-31	-3	-9	-7	-24	-25	0	2892	0	0	8
40	-64	-2	-22	-19	-118	-237	0	2260	0	6	7
42	-1536	-19	-243	-151	-832	-1245	0	3577	0	20	2
43	-241	-1	-35	-26	-314	-170	0	5721	7371	15	0
45	-850	-5	-80	-50	-346	-161	0	3020	0	16	0
46	0	0	0	0	0	0	0	0	0	0	0
48	-382	-11	-214	-120	-373	-566	0	1939	0	12	10
51	-124	-4	-4	-4	-84	-165	0	458	0	6	11
52	-222	-5	-63	-53	-380	-381	0	0	0	8	0
54	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0
57	-11	-1	-3	-3	-61	-50	0	0	2227	6	3
58	-944	-8	-133	-94	-321	-357	0	0	0	23	1
60	-261	-5	-64	-52	-304	-537	0	3454	0	6	3
61	-709	-4	-80	-45	-766	-716	0	4957	0	14	0
66	-212	-8	-59	-72	-302	-373	0	0	0	10	5
67	-578	-2	-53	-32	-304	-98	0	4123	0	14	2
70	-78	-2	-23	-24	-140	-80	0	0	0	9	7
71	-374	0	-68	-2	-158	-447	31483	0	0	28	0
73	-148	-4	-14	-17	-105	-47	0	0	299	13	0
81	0	0	0	0	0	0	0	0	0	0	0
Total	-15458	-207	-4011	-1869	-10862	-12621	4036915	114864	76013	12,34	2,13

In the following Table, among 1533 hospitals, for 758 hospitals, identified that they do not efficiently work, to work efficiently, the amounts of adjustments (increasing/reducing) that has to be done are put in order according to the provinces (Table 4).

As seen in Table 4, in the hospitals of 45 provinces, identified that they do not efficiently work, the amounts that have to be increased (positive values)/reduced (negative values) were calculated by taking the difference of the existing values and targeted values.

As seen in Table 4, among the existing 1533 hospitals in 81 provinces across Turkey, for being able to make efficient 758 hospitals, identified that they do not efficiently work, across the country, it is necessary to reduce a total number of bed by 15458, reduce the number of hospital by 207, reduce the number of attending physician by 4011, reduce the number of general practitioner by 1869, reduce the number of nurses by 10,862, reduce the number of other health personnel by 12621, increase a total number of treated patients by 4,036,915, increase the number of surgical operation by 114,864, increase the number of inpatients by 76013, raise bed turnover to a rate of 12.34, and bring crude mortality rate into a rate of 2.13.

4.1.3. The effect of input/output variables on efficiency values

In this part of the study, the efficiency values of 6 input variables used in efficiency study and 5 output variables and correlation between them will be examined.

Table 5: Correlation between Input / Output Variables and Efficiency Values

Variables	X	S	Technic efficien.	Number pat.tr.	Number of surg.	Bed. tur. rate	Rough dea rate
Technical efficiency	0,94420	0,070130	1				
Number of patient treated	8107877	1,414	0,115	1			
Number of surgical	58891	111995	0,116	0,993**	1		
Bed turnover rate	65,94	13,93	0,232*	0,012	0,004	1	
Rough death rate	16,12	5,72	0,168	0,198	0,183	-0,313**	1

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

As a result of correlation analysis carried out between the technical efficiency values and input and output variables, it was identified that: 1) there was a correlation between technical efficiency and a total number of bed in the rate of 0.082, 2) the number of bed, in the rate of 0.050, 3) the number of attending physician, in the number of 0.099, 4) general practitioner, in the rate of 0.074, 5) the number of nurses, in the number of 0.083. 6) the other health personnel, in the rate of 0.073; 7) a total number of treated patient, in the rate of 0.115, 8), the number of surgical operation, in the rate of 0.116, 9) the number of inpatients, in the rate of 0.117, 10) bed turnover, in the rate of 0.232 and 11) crude mortality, 0.168.

As seen in Table 5, it is seen that the correlation value between technical efficiency level and bed turnover is positive and significant at the level of $p < 0.05$ (r = 0.232). According to these results, bed turnover, among 11 input and output variables, affect the technical efficiency level the most (23%). That is, as bed turnover increases, the efficiency of hospital also increases, depending on this. According to these results, for increasing the efficiency of hospitals, first of all, it is necessary to increase bed turnover and, after that, crude mortality rate, the number of surgical operation, and a total number of patient treated, in order.

5. CONCLUSION AND SUGGESTIONS

Managing the institutes presenting health services having critical importance in terms of human quality of life and labor effectiveness with understanding of efficiency and effectiveness is considerably important to the businesses of today surviving in the advanced competitive environments. That hospitals presenting health services to society can effectively and efficiently sustain their activities depends on their doing cost optimization and increasing their competitive powers. Especially, the rapid increase of the number of health organizations that alternatively develop to public

hospitals in Turkey has also increased the importance given to this issue much more and improved service quality and competition in favor of customer.

Nowadays, together with the material and economic possibilities of people, service expectations of customers have also increased and, depending on this, the sectorial value of this service reached important dimensions. When the experience that EU countries take health services to forefront but excessively increase costs, excessively spending, is considered, effectively giving this service, increasing service efficiency, and providing cost minimization by reducing excessive expenditures have become an important focus point for today service presenters.

In this context, examining many relevant applications made at international level, a large literature review was conducted, and an application study covering all Turkey was carried out. The aim of this application study carried out is to obtain the data that will enable a total of 1533 public hospitals that are existent in 81 provinces of Turkey to operate in high performance and effectively. Therefore, first of all, the current situations, deficiencies, surpluses, and problems of the hospitals and, later, those being to be done were determined for the problems identified to be solved and hospitals to work more effectively.

According to the study results, the technical efficiency of 1533 hospitals being active in 81 provinces and presenting similar health services was measured by means of DEA and that 775 present in 36 provinces work efficiently and 758 present in 45 provinces do not work efficiently. Since the businesses that are efficient from technical point view present service in lower cost compared to ineffective businesses, this case provides an important cost advantage to the businesses. When evaluated in terms of cost advantage, that the costs of hospitals not being able to produce service technically are higher will prevent them from being active in se-

ctor for longer time in the same way. For this reason, it is necessary for ineffective hospitals to absolutely increase service outputs they present with a certain amount of input in the proceeding periods. Increasing the number of hospitals that are technically efficient in health sector means that the similar services in market can be presented more cheaply, and this case will increase competition in health sector. In the following years, just as the fact that similar studies proliferate and become widespread can increase the efficiencies of hospitals in respect of year, it can produce more benefit to all parts utilizing this service.

In the study, for inefficient hospitals to be able to make efficient, the amounts of input and output that hospitals have to increase or decrease by using the values in reference sets, were calculated by means of DEA package program. Of 1533 hospitals in 81 provinces analyzed across Turkey, for 758 hospitals, identified that they are not efficient, to be able to become efficient, it is necessary to reduce a total number of bed by 15458, reduce the number of hospital by 207, reduce the number of attending physician by 4011, reduce the number of general practitioner by 1869, reduce the number of nurses by 10,862, reduce the number of other health personnel by 12621, increase a total number of treated patients by 4,036,915, increase the number of surgical operation by 114,864, increase the number of inpatients by 76013, raise bed turnover to a rate of 12.34, and bring crude mortality rate into a rate of 2.13.

In this part of the study, as a result of correlation analysis between 6 input and 5 output variables, used in efficiency study, and efficiency values of hospitals, it was identified that there was the most relationship between technical efficiency level and bed turnover (at the significant level of 5% and in the rate of 23%). According to this result, among 11 input and output variables, bed turnover affect technical efficiency level the most. *Namely, as bed turnover increases, efficiency of hospital also increases*. In a study, carried out in Taiwan in a quality supporting this finding, Hu and Huang

(2004) expressed that bed turnover significantly increased efficiency of hospitals.

Again, according to the findings obtained from the study, for increasing efficiency of hospitals, what is necessary to be done after increasing bed turnover is to increase the number of surgical operation and a total number of treated patients in order. A study in the direction supporting this finding was carried out in Ontario, Canada, between the years of 2003-2006 and Chowdhury and Zelenyuk (2016) put forward that a total number of outpatient and inpatient was determinant in increasing hospital efficiency.

In the scope of these results obtained, some identification that stands out to be able to suggest to the relevant researchers and practitioners. International information infrastructure should be developed, and its sharing should be increased. For increasing hospital efficiency, it is necessary the required legal and political arrangements without delaying to standardize, store, and share the data; to strengthen infrastructure (Oderkirk et al., 2013: 9); to reorganize and improve the management and resource distribution (Dimas et al., 2012); to standardize assessment criteria and data at international level (Davis et al., 2013); to increase technology investments (Gholami vd., 2015); and to increase bed turnover, the number of surgical operation made, and the number of patient treated.

That the hospitals in the rural and urban regions show similarity to each other in the dimension of effectiveness-performance and that the hospitals in rural sector better performance but relatively (Garcia-Lacalle and Martin, 2010) support the suggestion that several reforms should be done in service strategies of the businesses of interest and costs should be reduced.

This study was conducted to determine the performance level of health services in Turkey, it could be improved with more comprehensive studies to be conducted in the future. For example, the contribution of the study to the literature can be increased by making comparisons and evaluations with the performance levels of health services provided in EU countries.

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