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ABSTRACTING AND INDEXING

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CONTENT

A COMPARISON OF EMPLOYEES' PERCEIVED AND EXPECTED EMPLOYER BRAND ATTRIBUTES: EVIDENCE FROM TURKEY

Hande Sinem Ergun[1], Berivan Tatar[2]
[1]Marmara University, Göztepe Campus, 34722, Istanbul, Turkey.
  hsergun@gmail.com, ORCID: 0000-0003-3885-8902
[2]Gebze Technical University, 41400, Kocaeli, Turkey.
  btatar@gtu.edu.tr, ORCID: 0000-0002-0934-3734

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ABSTRACT

Purpose- The concept of employer branding has provided great convenience for creating a sense of "great place to work" in the war for talent in today's business world. In particular, employer brand perception meeting the employees' expectations has a critical prescription for retainment ability of employers. In this context, the aim of the study is to evaluate the congruence of the expected and perceived employer brand.
Methodology- Data gathered from 300 employees in the banking sector was analyzed through SPSS 21.0. Factor and reliability analysis and paired sample t-test were used to test hypotheses.
Findings- Results indicated that employers mostly provide social and application value while employees expected social and economic value from their ideal employer. Furthermore, highest difference occurs between perceptions and expectations of interest and economic value in the banking sector.
Conclusion- The study contributes to the comprehension of that using employer branding practices alone is not sufficient and the compatibility of attributes with employees' expectations is essential for employer attractiveness.

Keywords: Employer brand, employer brand attractiveness, banking industry, employer brand expectation, employer brand perception.
JEL Codes: M51, M12, L20

1. INTRODUCTION

Organizations, in today's business world, have experienced difficulties and challenges in attracting and retaining potential and current employees because of competition for the limited talented workforce. One of the important reasons for talent shortages is the aging of the population. Rosethorn (2009) stated that percentage of human population in the 15-64 age group will be 7% in Germany, 9% in Italy, 14% in Japan and It is likely that this problem will emerge, in the near future, because of the one-child policy in China. Besides, 500 US largest companies have faced the risk of losing half of their senior managers in the coming five years and workforce borning in baby-boomers' generations will leave off employment because of retirement. On the other hand, the US has a risk of experiencing 10 million labor shortages by 2010. This talent scarcity has revealed the fact that human capital is one of the most important sources of competitive advantage for organizations.

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A vast number of organizations have used employer brand concepts and practices in order to be able to cope with this scarcity and the war for talent. Through the differentiated and unique employer brand experience with these practices, retaining current employees and being the first choice of potential employees has been targeted by the organizations. In this context, another important point is fit, congruence and relevance of employer brand with the values and needs of target group audiences. Knox and Freeman (2006) revealed that congruence between external and internal employer brand image lead to attractiveness. However, there is no study examining the potential gap between experienced and expected employer branding. With this regard, the aim of this study is to be one of the first study comparing actual and ideal aspects of employer branding. In this context, studies on the employer brand has been summarized in the literature section of this study; in the next section, methods and findings have been revealed and the results have been evaluated. In the last part of the report, suggestions have been made for future studies.

2. LITERATURE REVIEW

The war for talent stemming from changes in demographic, economic and social factors has brought challenges for organizations in attracting and retaining the talented employees. With this regard, employer brand concept has been developed as a solution for the difficulty of finding a qualified employee as a result of a talent shortages through applying the brand concept to the field of human resources management.

Employer brand was firstly introduced by Ambler and Barrow (1996:188) and defined as "*the package of functional, economic, and psychological benefits provided by employment, and identified with the employing company*". In other words, organizations as an employer provides benefits as monetary inducements, developmental opportunities, good working environment and recognition in exchange for effort, labor and skills of employees based on the mutual agreement in an employee-organization relationship. Ewing et al. (2002: 12) defined employer brand as "*building an image in the minds of the potential labor market that the company*" and creating the perception of 'great place to work'. With this regard, the unique and differentiated values offered within the employer brand equity, referring *"a set of employment brand assets and liabilities linked to an employment brand, its name and symbol that add to (or subtract from) the value provided by an organization to that organization's employees" (p. 14)*, is the determinant of the performance and success of the employer brand.

Besides, Lievens and Highhouse (2003) adopted a symbolic and instrumental framework in marketing literature to determine the attractiveness of the employer side of the organization. Instrumental attributes refer to objective and tangible benefits creating utility for the employees while symbolic attributes denote the intangible and subjective side of the employer branding. Based on this classification, authors stated that instrumental and symbolic attributes, rather than traditional organizational attributes, have facilitated the differentiation and attractiveness. Backhous and Tikoo (2004) revealed the two assets created with the employer branding as employer brand associations and brand loyalty. According to their employer brand framework, associations gathered from different resources of knowledge have shaped the employer brand image including functional and symbolic attributes of the employer brand. Power of these associations and, hence, the image of the employer brand has shaped the attractiveness of the employer brand.

On the other hand, Moroko and Uncles (2005) accentuated the similarity of consumer and corporate brand characteristics with employer branding in terms of being noticeable and known, seen as relevant and resonant, differentiated from direct competitors. In this context, attractiveness and accuracy have defined as the key success factors for the employer branding. Awareness of target employees, differentiation from the competitors in terms of provided benefits and relevance of these benefits with needs and expectation of employees lead to attractiveness while consistency between promised and experienced employer branding contribute to accuracy. Besides, Davies (2008) investigated that employer brand personality affects the perceived differentiation of employer brand, loyalty and satisfaction of employees. Additionally, affinity and agreeableness aspect of employer brand personality is the most important determinant of these outcomes.

Employer brand, based on the reviewed literature, is the crucial conceptual framework by virtue of attracting and retaining the best talents. Benefits and core values provided through employer branding also contributes to satisfaction and commitment level of employees. High level of satisfaction and commitment leads to an increase in customer satisfaction and loyalty. With this regard, the investment and development of employer branding indirectly have enhanced the profitability of organizations (Gaddam, 2008).

In this context, organizations have been responsible for establishing employer branding in line with organizational goals, positioning employer brand and increasing involvements of managers, communicating and interacting with potential and current audiences, creating good relationship with each member of organizations having role in the employer branding activities and monitoring the potential gap between desired and experienced employer branding for the success and effectiveness of the concept (Barrow and Mosley, 2005).

3. HYPOTHESIS DEVELOPMENT

Attracting and retaining the best-talented employees is the crucial for gaining a competitive advantage in the war for talent and a large number of organizations need to work with employees having similar skills, knowledge, and abilities. With this regard, organizations have developed differentiated and unique strategies for increasing their attractiveness. Lievens and Highhouse (2003) stated that employer brand attractiveness of banks is mostly predicted by attributes of employer brand as innovativeness, competence, sincerity, advancement, and pay. Lievens (2007) investigated the employer brand perception of potential applicants, actual applicants, and current employees and found that symbolic attributes have an important role in employer brand attractiveness perception while instrumental attributes have no impact on the attracting current employees.

Lievens, Van Hoye and Anseel (2007) demonstrated that symbolic attributes of employer brand are the best predictors of employees' identification and their perception of employer brand image instead of instrumental attributed of employer branding. Maxwell and Knox (2009) focused on what makes organizations attractive and motivate employees for "living the brand" and revealed that specific attributes as employment, organizational successes, construed external image, and product or service characteristics are the predictors of attractiveness. Schlager et al. (2011) examined the role of the symbolic and instrumental attribute on the attracting the current employees and ideal employer of the respondents on their organizational outcomes. Findings showed that employees expect employer branding attributes based on social, diversity and reputation value for developing identification while their perception of social and reputation value are determinants of identification and economic, development, social and diversity value aspect of employer brand are predictors of their satisfaction. Similarly, Wahba and Elmanadily (2015) investigated that agreeableness, enterprising and chic effect the satisfaction level of current employees from their jobs and employers.

In another study measuring perception and expectation in terms of employer brand, Biswas and Suar (2014) defined the antecedents of strong employer brand as realistic job previews to applicants, perceived organizational support, equity in reward administration, perceived organizational prestige, organizational trust, leadership of top management, psychological contract obligation, and corporate social responsibility. Additionally, gap between desired and perceived value of these attributes adversely affect the employer branding. These research findings have also centered the necessity of a fit approach in the context of the employer branding. Person-organization fit refers mainly to value congruence between employees and organizations and this congruence perception leads to organizational attractiveness (Cable and Judge, 1996). In other words, employees tend to select the employers having the same value with their own (Lievens and Highhouse, 2003). In this vein, Charbonnier-Voirin, Poujol and Vignolles (2016) has addressed this issue in the context of value congruence and stated that perception of congruence between employees' values and organizations has formed the perception of being a member of strong employer brand. Furthermore, Elving et al. (2013) have defined employer brand as three step process comprising of developing employee value proposition, externally marketing the employer brand and integrating employer brand promise with the culture of the organization. As a result, congruence between perceived employer branding activities and expected value proposition attends to the long-term employee-employer relationship.

In this context, organizations should balance the actual and desired values for the effectiveness of the employer brand by designating desired values and comparing them with experienced value. Based on this benchmarking, organizations, as an employer, should develop strategies for closing the potential gap for effectiveness and improvement of employer brand. In a nutshell, the success of employer brand in terms of luring the best possible and current talents has mainly determined by creating the congruence and fit perception between employers and employees of the organization (Backhaus and Tikoo, 2004).

Based on these earlier findings, this study has focused on the determine the existence of gap or congruence the employer branding perception and expectation of employees for determining the attractiveness of the organization. Therefore:

H1: There is the difference between perception and expectation of application value aspect of employer branding.

H2: There is the difference between perception and expectation of economic value aspect of employer branding.

H3: There is the difference between perception and expectation of development value aspect of employer branding.

H4: There is the difference between perception and expectation of social value aspect of employer branding.

H5: There is the difference between perception and expectation of interest value aspect of employer branding.

4. DATA AND METHODOLOGY

4.1. Sample and Data Collection

Data used in the study have been collected through a self-administered questionnaire and convenient sampling technique. With this regard, the data obtained from 300 respondents in the banking sector were analyzed by using SPSS 21.0 Statistical Package Program. Descriptive statistics, factor analysis, reliability analysis and paired sample t-test were performed in the analyses of the data.

In terms of profile of respondents, participants' ages ranged from 22 to 51 years. The average age of the sample was 31,1. 45,8% of the participants were female (137) and 54,2% were male (162). In terms of education, 2,8% of respondents were graduated from high school (8), 8,7% of respondents were graduated from vocational high school (26), 49,5% of respondents were graduated from university bachelor's degree (139) and 31,7% of them have a master' degree (95) and 4,6 of them were graduated with a doctorate degree (13). The average of work experience of respondents in the current organization was 3,08 years and total job tenure of respondents was 5,57 years.

4.2. Measures

Data of research were collected through self-administrated questionnaire. The survey consisted of 55 items and three main parts as perceived and expected employer branding scales and questions to determine the demographic structure of the respondents. Six -point Likert scale was used for all scales ranging from "I totally disagree" to "I totally agree".

The 25-items Employer Attractiveness scale (EmpAt scale) developed by Berthon, Ewing and Hah (2005) has been used for measuring employer branding. EmpAt Scale has composed of five sub-dimensions as application value, economic value, development value, social value and interest value. Items in the scale adopted according to perception and expectation measurements. Sample items for measuring perception of respondents are "The organization I'm working for both values and makes use of my creativity" and "I Have a good relationship with my superiors". On the other hand, sample items for measuring the expectation of respondents from their ideal employer are "I want to work in an exciting workplace environment" and "I want to have a good relationship with my colleagues at the institution I work for".

5. FINDINGS

5.1. Factor and Reliability Analysis

Factor analysis was used to determine the construct validity of the scales used in the study. In the Exploratory Factor Analysis, the principal component analysis method and the varimax rotation technique were performed for determining the factor loadings for all scales. Factor and reliability analysis has been shown in Table 1 and Table 2.

Table 1: Result of Factor and Reliability Analysis for Expected Employer Branding

Factors	Loadings	Eigenvalue	%of Variance	Cronbach's α
Application Value				
Opportunity to teach others what you have learned	,740			
Opportunity to apply what was learned at a tertiary institution	,723			
Humanitarian organization - gives back to society	,666			
The organization produces innovative products and services	,657	10,821	20,731	,903
The organization is customer-orientated	,630			
The organization produces high-quality products and services	,629			
Innovative employer - novel work practices/forward-thinking	,602			
Economic Value				
An attractive overall compensation package	,704			
Happy work environment	,660			
Acceptance and belonging	,657	1,557	15,970	,884
An above average basic salary	,637			
Good promotion opportunities within the organization	,617			

Development Value				
Feeling good about yourself as a result of working for a particular organization	,752	1,067	15,589	,858
Feeling more self-confident as a result of working for a particular organization	,730			
The organization both values and makes use of your creativity	,683			
Recognition/appreciation from management	,569			
Social Value				
Having a good relationship with your colleagues	,816	,899	11,181	,787
Having a good relationship with your superiors	,709			
Job security within the organization	,540			
Interest Value				
A fun working environment	,740	,768	8,491	,767
Working in an exciting environment	,684			

As a result of the exploratory factor analysis applied to the employer branding scale used for measuring expectation of respondents, it was found that the value of Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is ,952 and the result of The Barlett Sphericity test was significant (p = 0,000). In the exploratory factor analysis, firstly, 5 factors structure emerged accounting for 70,427% of the total variance. A total of 4 items were extracted from the analysis because of cross-loading and lower loadings (<0.50).

Factor analysis with the remaining 21 items resulted in a 5-factor structure that accounts for 71,962% of the total variance. Finally, the KMO value of scale was ,946 and the Barlett Sphericity Test was significant (p = ,000). In the reliability analysis, Cronbach's alpha of factors ranged from ,767 to ,903.

Table 2: Result of Factor and Reliability Analysis for Perceived Employer Branding

Factors	Loadings	Eigenvalue	%of Variance	Cronbach's α
Economic Value				
A springboard for future employment	,741	12,540	26,768	,959
Good promotion opportunities within the organization	,721			
Humanitarian organization - gives back to society	,708			
Job security within the organization	,703			
An attractive overall compensation package	,701			
The organization produces high-quality products and services	,666			
The organization produces innovative products and services	,658			
Innovative employer - novel work practices/forward-thinking	,658			
Happy work environment	,618			
Having a good relationship with your colleagues	,566			
Development Value				
Feeling more self-confident as a result of working for a particular organization	,818	1,316	15,041	,909
Feeling good about yourself as a result of working for a particular organization	,787			
The organization both values and makes use of your creativity	,718			
Application Value				
Opportunity to teach others what you have learned	,836	,958	13,065	,797
The organization is customer-orientated	,757			
Opportunity to apply what was learned at a tertiary institution	,645			
Social Value				
Gaining career-enhancing experience	,771	,836	11,853	,869
Having a good relationship with your colleagues	,727			
Interest Value				
Hands-on inter-departmental experience	,803	,718	11,211	,821
A fun working environment	,712			
Working in an exciting environment	,550			

According to Table 2, it was found that the value of Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is ,954 and the result of The Barlett Sphericity test was significant (p = 0,000) for the employer branding scale used for measuring expectation of respondents. In the factor analysis, firstly, 5 factors structure emerged accounting for 75,849% of the total variance. A total of 4 items were extracted from the analysis because of cross-loading and lower loadings (<0.50).

Factor analysis with the remaining 21 items resulted in a 5-factor structure that accounts for 77,939% of the total variance. Finally, the KMO value of scale was ,949 and the Barlett Sphericity Test was significant (Sig. = ,000). In the reliability analysis, Cronbach's alpha of factors ranged from ,797 to 0.959.

5.2. Results of Paired Sample T-Test

As a result of factor and reliability analysis, the dimensions of factors affecting employer brand have been determined. The Paired Sample T-Test results for the perceived and expected state comparisons of the employer brand dimensions have been shown in Table 3.

Table 3: Paired Sample T-Test Analysis Results for Employer Branding

	Expectation		Perception		Mean dif.	T	P
	Mean	S.D.	Mean	S.D.			
Application Value	5,394	,716	4,675	,873	0,719	13,158	,000
Economic Value	5,622	,579	4,427	1,005	1,195	18,939	,000
Development Value	5,447	,738	4,513	,951	0,934	15,224	,000
Social Value	5,562	,719	4,985	,822	0,577	11,611	,000
Interest Value	5,487	,658	4,230	1,153	1,257	17,448	,000

According to the results of the Paired Samples t-test, there is a difference between the perceived and the expected aspects of employer branding (p<,001). It is observed that employees' perceptions have remained under their expectations of the employer branding.

For the expectation aspect of employer branding, results have shown that employees expect from employer branding to be based on economic value (Mean score =5,662) and social value (Mean score =5,562). As a result, employees want to be a part of organizations having economic and social value based employer branding. On the other hand, respondents have expected application value (Mean score =5,394) and development value (Mean score =5,6447) less than other aspects of the employer branding.

In terms of experienced employer branding, social value (Mean score =4,985) and application value (Mean score =4,675) have been becoming prominent in accordance with other factors. These results have shown that employees have experienced social and application value based employer brand in their organization. Conversely, respondents experienced interest value (Mean score =4,230) and economic value (Mean score =4,427) less than other aspects of employer branding.

Graph 1 has been formed to show the level of difference between perceptions and expectations about the employer branding.

Figure 1: Comparison of Expected and Perceived Employer Branding
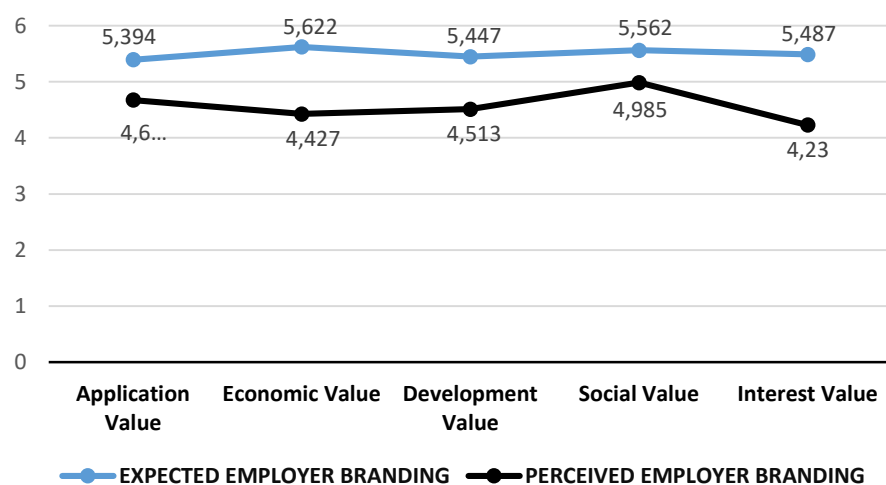
As seen in Figure 1, there have been differences between experienced employer branding aspects of their organizations and their expectations from their ideal employer and employer branding. In this context, it is seen that the greatest difference has existed between perceived and expected value of interest value (Mean difference=1,257) and economic value (Mean difference =1,195) factors of the employer brand. As a result, H1, H2, H3, H4, and H5 are accepted.

6. CONCLUSION

In today's business world, aging population, changes in social, demographic and technological factors have led organizations to a search for ways of retaining current employees as well as attracting the potential employees. In this context, organizations need to increase their attractiveness with differentiated and unique employer brand practices.

Besides, the needs, values, and personalities of the employees should be taken into consideration in the process of determining these employer brand practices and the existing employer brand attributes must be relevant with the needs and expectations of the employees for attracting and retaining them in the organization (Moroko and Uncles, 2005). Verquer, Beehr and Wagner, (2003) accentuated that similarities of values, goals personality of organizations and their employees may lead to desirable employees' outcomes. In this point, organizational processes such as inducements, promotions, decision making need to be relevant and complementary to the employees' needs with regard to needs-structure fit.

Study of Backhaus and Tikoo (2004) has supported this argument through stating that attracting the potential employees depend on the evaluation of the employer branding attributes and values provided through this concept and importance and priority of these aspects for the potential employees. In a similar vein, retention of the current employees will depend on the importance level of employer branding aspects. The lack of compliance and fit will create a gap and inconsistency between the ideal employer brand profile and the current employer profile they experience in the minds of employees.

In the light of all discussion mentioned above, this study aims to determine the potential gap between perceived and expected employer branding. Results of the study have shown that the expectation of employees from the employer branding has not been met by the organization because of existence of gap between two sides of employer branding. The greatest gap has occurred in interest value aspect of employer branding. Besides, employers are seeking to work with an ideal employer having economic value based employer branding while current employers are applying social value-oriented employer branding practices. As a result, organizations should consider the expectation of employees from the employer branding and prevent this gap for increasing effectiveness and attractiveness of employer branding.

This study has some limitations because of gathering data from only the Kocaeli and İstanbul province of Turkey. The research was not conducted on a large sample due to time constraints and some difficulties during the collection of data. This affects the generalization of the study. For the future research, the effect of this gap between expected and perceived employer branding on the employees' organization outcomes as an intention to leave, commitment and satisfaction can be examined for contributing the literature.

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LONG TERM UNDERPERFORMANCE ANOMALY AND ITS DTERMINANT FACTORS ON SEASONED EQUITY OFFERINGS: EVIDENCE FROM TURKEY

Mustafa Cikrıikci[1], Mustafa Ozyesil[2]
[1]Istanbul Aydin University, Istanbul, Turkey.
 mustafacikrikci@aydin.edu.tr, ORCID: 0000-0002-2805-6079
[2]Istanbul Aydin University, Istanbul, Turkey.
 mozyesil@aydin.edu.tr, ORCID: 0000-0002-4442-7087

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ABSTRACT

Purpose- This study investigates long term underperformance anomaly existence on Seasoned Equity Offerings (seos) conducted in Borsa Istanbul for the 2010 – 2015 period and analyzes its determinant factors.
Methodology- Raw and abnormal returns were calculated then t statistics were obtained for each type of returns. All returns were compared to market average and peer groups returns. The hypotheses were tested via the comparison t statistics and t values. Regression analysis were used to determine what kind of determinants affect long-term price performance. To find out underperformance anomaly's determinants regression analysis was used through Panel Dynamic OLS (PDOLS) method. The analysis was also conducted based on year and sector separately.
Findings- Long-term price performance of firms that performed seos during the 2010-2015 period were calculated lower than market average and peer groups and all findings were statistically significant. Same results were obtained when the analysis was conducted on the basis of year and sector.
Conclusion- Long-term underperformance anomaly was confirmed and it has been determined that Leverage Change Ratio, Private Placemet method and Volume variables have a positive effect on long-term price performance while all other variables have a negative effect.

Keywords: Seasoned equity offering, underperformance, capital increase, abnormal stock returns, price anomalies.
JEL Codes: C23, G10, G32

1. INTRODUCTION

There are two price anomalies seen in the seasoned equity offerings (seos). These anomalies in the literature are regarded as a short and long term. In short term there is an underpricing anomaly refers that share price performance will be higher than the market average in other words investor can obtain higher return (abnormal return) than the market. In the long term, there is underperformance anomaly suggests that long-term share price performance will be lower than market and peer groups companies that match sample firms by asset size and M/B ratio and don't issue shares during the analysis period.

According to this anomaly, the return of stocks issued offerings shows lower price performance than peer groups and market average in the middle and long-term after the issuance. Based on findings in the literature, most of the studies confirm long-term underperformance anomaly. The period to calculate underperformance anomaly was considered as 3 years in the previous studies. However, some studies have been carried out to investigate the existence of underperformance over a longer period. In some studies, it was researched how long the low performance lasted from the issuance, and it was found that the performance was generally lower around 5-7 years but then it turned to become higher. As in the initial public offerings literature, long-term underperformance anomaly was also seen in seasoned equity offerings (He et al., 2013: 1).

2. LITERATURE REVIEW

Particularly Ritter (1991), and many other studies focused on underperformance anomaly in the literature. Jegadeesh et al. (1993) analyzed 5 year period as a long-term and calculated the average adjusted return - 0.45% and confirmed underperformance anomaly. Spiess and Affleck (1995) examined 1,247 seos conducted during the period 1975-1985, and confirmed long - term underperformance anomaly. Loughran and Ritter (1997) examined a comprehensive sample of US firms by excluding financial firms and firms that have a lower asset size than 20 Million Usd. during the 1979 - 1989 period and observed underperformance anomaly. Loughran (1997) analyzed 5 year period as a long-term and calculated and decided that there was underperformance anomaly during the analysis period. Teoh et al. (1998) investigated the relationship between earning management practices performed in the financial statements through discretionary accruals and long-term share price performance. They determined that earning management practices causes underperformance in the long-term.

Dubois and Jeanneret (2000) studied on 358 seos and observed underperformance anomaly in Swiss and determined that the underperformance degree was lower than the USA for the analysis period. Eckbo et al. (2000) analyzed more than 7000 seos and confirmed this anomaly. They found that the reason of underperformance anomaly is decreasing the leverage ratio of the issuer firm. Ehrhardt et al. (2000) examined long-term underperformance in 584 seos in Germany during the period of 1960-1992 and calculated underperformance as - 6%. Denis and Sarın (2001) indicated that there was an underperformance anomaly and determined this was related to the announcement effect of the financial statements. Clarke et al. (2001) examined long-term stock performance in relation to completed and canceled seos. It was emphasized that insider information trading prior to the public offering for completed seasoned equity offerings is related to long-term stock performance following the completion of public offerings. Islam et al. (2002) pointed out that the firms performed seos in Bangladesh had good business performance before the issuance but a significant decrease was seen in the long term. They also found that decrease ratio is much more severe in smaller firms. Harris (2004) examined 77 seos in the UK during the period 1994-2002 and confirmed underperformance anomaly in the long run. Jeanneret (2005) investigated the long-term underperformance seen in seos in France through offering method company's announcements. In public placement method, there will be serious underperformance in the long run while in private placement he didn't realize any anomalies. Disclosures made by the company management regarding the use of seos revenue reduced underperformance degree.

Bessler and Thies (2006) analyzed the long-term performance of the offerings for the period between 1977 and 1995 in Germany. They found that firms with higher stock performance are much able to go to the public and have a higher chance of success. They stated that the management of the firm especially uses these findings in seos timing. Ngatuni (2007) examined the long-term performance of 818 seos conducted in the UK between 1986 and 1995 and observed seos performed lower in the long term. They found that an investor who received the shares on seos on announcement day would get an average of 41.8% lower return compared to market and peer groups. Jo and Kim (2008) investigated the relation between ethical behavior and comprehensive public disclosure (material disclosure, financial statement announcements, etc.) and the effect of this relation on seos performances in the long run. They found that comprehensive and accurate information disclosure is positively correlated with post-issue long-term performance. Allen and Soucik (2008) searched the long-term underperformance anomaly in the seos in Australia between 1984 and 1993. They emphasized that the long-term performance of seos will change according to the definition of long-term. They stated that when the long-term is defined as 12 years, long-term underperformance is not valid for seos and also they observed stated that the adjusted returns of stocks will begin to be positive particularly after the 6-7 years.

Virolainen (2009) conducted research on 543 seos in the UK for the period between 1999 and 2007 and found that the seos in the UK are performing poorly in the long run in accordance with the previous literature. But he didn't find underperformance degree calculated as big as in the literature. Bilinski et al. (2012) according to the authors, a seos could improve a firm's stock liquidity and reduce its cost of capital. They were also exploring the role of liquidity risk in explaining the long-term performance of seos. The return of issuer firms was calculated as 46.12% based on the total of 4,446 seos in the USA for the 5-year period after the issuance whereas it was %73,79 for the peer groups firms that match sample firms by M/B ratios. Seal and Matharu (2012) examined long-term performance of seos conducted between the 1999-2005 in Indian based on 5 year analysis period. They confirmed the underperformance anomaly.

Huang et al. (2014) they pointed out that the post-issuance underperformance is more prevalent especially among young issuers, and that this is due to their company risk profile. Gökkaya and Highfield (2014) examined the seos performed in the 1997-2009 period. They found that post-issuance long-term stock performance was negatively correlated with insider stock sales made by senior management (Ceo-Cfo).

3. METHODOLOGY

In order to calculate long-term price performance, 3 years is taken into account as a long-term in line with the previous studies. First, we calculated the raw returns of the stocks as follows :

$R_{it} = \frac{(P_{it} - P_{it-1})}{P_{it-1}}$ **(1)** R_{it}: the return of i stock at time t, P_{it}: the closing price of the stock i at time t, P_{it-1}: the closing price of the stock i at the time t-1 (day of effering). In order to calculate abnormal returns for each stocks, market return was calculated the following formula :

$R_{mt} = \frac{(P_{mt} - P_{mt-1})}{P_{mt-1}}$ **(2)** R_mt: The return of the BIST - 100 index at time t, P_mt: The closing price of BIST - 100 index at time t, P_ (mt-1): The closing price of the BIST - 100 index at time t-1.

Then, the adjusted returns are calculated by subtracting the returns of the BIST 100 National Index from the calculated raw returns.

We assumed that investors followed buy & hold strategy that means investors purchase stocks from the issuance and hold them during the long term. The abnormal return (AR) of the stocks are calculated by subtracting raw returns obtained in Eq. (1) from the market returns calculated in Eq. (2). AR value can be calculated by the following formula (Asquith and Mullins, 1986: 69):

$AR_{it} = R_{it} - R_{mt}$ **(3)**. AR_{it}: Abnormal return of stock i belonged to firm for at time t, R_{it} : The raw return of stock belonged to firm i at time t and R_{mt}; Market return (Bist 100 return) at time t.

If day t which is the first day of the offering is considered as 0 then the average abnormal return of n shares in any day after the public offering can be calculated via the following formula (Asquith and Mullins, 1986: 69):

$\overline{AR}_t = \frac{1}{N}\sum_{i=1}^{n} AR_{it}$ **(4)**. Another issue that needs to be examined in such analyzes is the calculation of Cumulative Abnormal Return (CAR) and the t statistic for this return which occur between day t_1 and day t_2 following offering (Asquith and Mullins, 1986: 69).

$CAR_{t_1}^{t_2} = \sum_{t=t_1}^{t_2} AR_t$ **(5)**. The average CAR value for each period is calculated using the following formula:

$\overline{CAR}_t = \frac{1}{N}\sum_{i=1}^{N} CAR_{it}$ **(6)**.

The compound abnormal return can be calculated by following Wu and Kwork (2007) as follows:

$BHAR_{(T_1,T_2)} = \left[\prod_{t=T_1}^{T_2}(1+R_{it})\right] - \left[\prod_{t=T_1}^{T_2}(1+R_{mt})\right]$ **(7)** R_{it} : the raw return of i stock at time t, R_{mt} : Market return (Bist 100 return) at time t

The average compound abnormal return can be calculated by following Wu and Kwork (2007) as follows:

$AvgBHAR_{(T_1,T_2)} = \frac{1}{N}\sum_{i=1}^{N}\left(\left[\prod_{t=T_1}^{T_2}(1+R_{it})\right] - \left[\prod_{t=T_1}^{T_2}(1+R_{mt})\right]\right)$ **(8)** R_{it} : the raw return of i stock at time t, R_{mt} : Market return (Bist 100 return) at time t. The expression $OrtBHAR_{(T_1,T_2)}$ here will be expressed as $\overline{BHAR}$ in terms of ease of use at later stages of the analysis.

In order to test the statistical significance of the average abnormal, cumulative abnormal and compound abnormal returns, by using standard deviations t statistics are calculated first and by comparing the t statistic and critic values obtained from t table following hypotheses were tested:

    $H_0: \overline{AR}_t, \overline{CAR}_t, \overline{BHAR}_t \leq 0$ Underperformance anomaly is valid according to average returns.

    $H_1: \overline{AR}_t, \overline{CAR}_t, \overline{BHAR}_t > 0$ Underperformance anomaly is not valid according to average returns.

Hypotheses were tested for each type of returns separately. The t-statistics required to test these hypotheses are calculated using the following formula: (The t-statistics calculated for each type of returns but here AR variable is shown)

$t_{ist.} = \frac{\overline{AR}_t,}{\bar{\sigma}(AR_t)}$ **(9)**. Here $\bar{\sigma}(AR_t)$; is the cross-sectional standard deviation at day t, calculated using the following formula:

$$\bar{\sigma}(AR_t) = \left[\frac{\sum_{i=1}^{n}(AR_{it} - \overline{AR}_t)^2}{n}\right]^{1/2} \quad \textbf{(10)}$$

4. RESULTS

4.1. Stock Price Performance of All Sample for the 36 Months

Long-term price performance of stocks for whole sample were calculated and findings are represented as follows:

Table 1: Price Performance of the Stocks for the 36 Months

Months	n	$\bar{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	50	-2,10	-0,64	-2,95	-0,90	-2,95	-0,90	-2,95	-0,90
2.	50	0,23	0,08	-0,14	-0,05	-3,09	-0,74	-3,60	-0,88
3.	50	-0,11	-0,07	-0,77	-0,55	-3,86	-0,88	-4,22	-0,99
4.	50	1,03	0,44	-0,18	-0,08	-4,05	-0,92	-5,51	-1,24
5.	50	-2,09	-1,13	-3,09**	-1,67	-7,13*	-1,60	-9,20**	-2,13
...									
11.	50	-0,86	-0,45	-1,54	-0,96	-12,32**	-1,71	-8,91	-0,99
12.	50	-0,82	-0,62	-2,41***	-2,38	-14,72**	-2,06	-12,19*	-1,42
13.	50	-1,52*	-1,35	-2,22***	-2,45	-16,95***	-2,40	-14,64**	-1,82
14.	50	-2,85**	-1,67	-1,94	-1,10	-18,89***	-2,77	-16,37**	-1,80
15.	50	-3,63***	-3,48	-2,67***	-3,08	-21,56***	-3,12	-18,03**	-2,04
...									
21.	50	-0,96	-1,03	-1,81**	-1,80	-28,44***	-3,63	-24,79***	-2,69
22.	50	-0,19	-0,13	-2,66**	-1,77	-31,10***	-3,94	-29,05***	-3,82
23.	50	1,64	0,92	-0,29	-0,17	-31,39***	-4,12	-32,66***	-5,20
24.	50	0,83	0,54	1,35	0,86	-30,04***	-3,82	-31,65***	-5,01
25.	50	-2,18*	-1,42	-2,77**	-1,97	-32,81***	-4,25	-34,41***	-5,52
...									
31.	50	-1,64	-0,69	-3,10*	-1,40	-40,53***	-4,66	-40,63***	-5,76
32.	50	-1,59*	-1,33	-2,96***	-2,64	-43,49***	-5,02	-43,93***	-6,32
33.	50	-0,55	-0,53	0,67	0,69	-42,82***	-4,94	-43,02***	-6,22
34.	50	0,33	0,26	0,79	0,66	-42,03***	-4,69	-41,58***	-5,65
35.	50	2,31*	1,37	2,24*	1,32	-39,79***	-4,23	-38,02***	-4,30
36.	50	1,11	0,81	0,22	0,15	-39,57***	-4,04	-36,14***	-3,64

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the findings in Table 1., the raw returns of stocks that were offered to the public in the following time during the period of 2010-2015 were negative and statistically significant at 13, 14, 15, 20, 25 and 32nd months. Positive and statistically significant raw returns were observed at 17 and 35 months. When the abnormal returns are examined, it is seen that the abnormal returns are negative and statistically significant at 5, 12, 13, 15, 20, 21, 22, 25, 26th months and it appears that it provides a positive and statistically significant abnormal return at 35th month. The average cumulative abnormal returns and average compound returns continuously cause losing for the investors. It is seen that an investor who took these shares and held them for 36 months lost between 36.14% and 39.57% on average, which is also statistically significant. Based on this finding, the H0 hypothesis can be accepted and it can be concluded that underperformance is valid for stocks that are offered in the period 2010-2015.

4.2. Stock Price Performance Based on Year and Sector

The first three-year stock price performance has also been analyzed on a yearly basis as follows:

Table 2: Price Performance of Shares Issued in 2010 During First 36 Months After Offerings

Months	n	$\bar{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	9	-6,86**	-2,20	-11,37***	-2,99	-11,37***	-2,99	-11,37***	-2,99
2.	9	13,15	1,04	11,21	0,94	-0,16	-0,01	0,19	0,01
3.	9	2,13	0,78	0,84	0,34	0,69	0,05	2,80	0,18
4.	9	7,35*	1,37	5,91	1,18	6,60	0,54	5,98	0,46
5.	9	-6,07*	-1,52	-6,04*	-1,35	0,56	0,05	-3,25	-0,32
...									

Months	n	R	t-ist.	AR	t-ist.	CAR	t-ist.	BHAR	t-ist.
11.	9	-8,88**	-2,13	-4,96**	-1,81	2,32	0,13	8,67	0,39
12.	9	-0,98	-0,18	-1,25	-0,28	1,08	0,06	1,73	0,11
13.	9	-3,48*	-1,37	-1,15	-0,76	-0,08	0,00	-2,48	-0,18
14.	9	-6,83	-0,97	-3,20	-0,45	-3,28	-0,27	-13,15**	-1,96
15.	9	-7,24***	-2,33	-5,05***	-3,04	-8,33	-0,69	-16,25**	-2,26
...									
21.	9	-2,20	-0,85	-4,81***	-2,96	-20,44*	-1,53	-27,42***	-2,97
22.	9	1,14	0,42	-2,77*	-1,55	-23,20**	-1,72	-31,40***	-3,39
23.	9	-2,24	-0,63	-4,50*	-1,30	-27,70***	-2,46	-37,31***	-5,72
24.	9	3,25	0,49	1,01	0,13	-26,69**	-1,76	-37,60***	-5,20
25.	9	-2,04	-0,89	-4,56**	-1,82	-31,24**	-1,92	-41,38***	-5,85
...									
31.	9	0,17	0,05	-3,27	-0,98	-52,24***	-3,35	-65,41***	-6,03
32.	9	1,39	0,70	-1,10	-0,62	-53,35***	-3,28	-68,13***	-5,57
33.	9	-4,19*	-1,62	-0,65	-0,36	-53,99***	-3,59	-66,09***	-6,13
34.	9	-3,79***	-3,01	-1,88*	-1,32	-55,88***	-3,88	-65,54***	-6,62
35.	9	-1,01	-0,76	0,41	0,18	-55,46***	-4,10	-64,91***	-8,50
36.	9	2,11	0,80	2,31	0,69	-53,15***	-3,56	-62,90***	-6,25

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the findings in shown Table 2, the average raw returns of stocks that were offered to the public for 2010 were negative and statistically significant in the first month, 5th, 11th, 13th, 15th, 20th, 33th and 34th months from the day when they started to trade in the stock market. Positive and statistically significant values were found in the month 4th, 7th and 28th months. Average abnormal returns were found to be positive and statistically significant at 7th month. By the way, AR, CAR and BHAR values were observed as negative and statistically significant in the first month and most of the other months. Given the fact that average cumulative abnormal returns and average compound abnormal returns have consistently negative and statistically significant values since the 14th month, it has been decided that the hypothesis H0 can be accepted and the underperformance for stocks that are offered to the public in 2010 are valid. It has been determined that investors who purchased these stocks and hold them for 36 months will loss around %53 - %63.

Table 3: Price Performance of Shares Issued in 2011 During First 36 Months After Offerings

Months	n	$\overline{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	15	4,96	0,60	5,81	0,76	5,81	0,76	5,81	0,76
2.	15	-10,91***	-3,37	-9,34*	-2,95	-3,52	-0,67	-6,85***	-2,55
3.	15	1,06	0,39	0,79	0,40	-2,73	-0,50	-6,25**	-1,87
4.	15	-3,95*	-1,59	-1,64	-0,81	-4,38	-0,86	-7,83***	-2,56
5.	15	0,19	0,06	0,44	0,17	-3,94	-0,77	-8,00***	-2,37
...									
11.	15	4,03	0,89	2,55	0,67	-5,17	-0,56	-12,67**	-1,74
12.	15	0,35	0,18	-2,94**	-1,98	-8,11	-0,91	-16,12**	-2,18
13.	15	0,53	0,29	-3,15*	-1,61	-11,26	-1,26	-20,05***	-2,76
14.	15	-5,34***	-3,07	-7,19***	-4,78	-18,46**	-2,00	-26,70***	-3,62
15.	15	-3,61**	-1,91	-5,84***	-4,44	-24,30***	-2,69	-31,73***	-4,48
...									
21.	15	0,88	0,39	-0,07	-0,03	-42,57***	-3,83	-45,90***	-4,92
22.	15	-3,09*	-1,36	-4,10*	-1,51	-46,67***	-3,92	-47,93***	-4,70
23.	15	0,09	0,05	-2,82*	-1,38	-49,49***	-4,04	-51,10***	-4,73
24.	15	-0,24	-0,11	1,00	0,55	-48,50***	-4,01	-49,15***	-4,57
25.	15	-3,81**	-1,68	-3,69**	-1,83	-52,19***	-4,57	-52,60***	-5,45
...									
31.	15	-3,32*	-1,64	-3,89***	-2,50	-55,57***	-4,21	-49,86***	-4,50
32.	15	-3,13	-1,07	-3,83*	-1,58	-59,41***	-4,30	-52,36***	-4,56
33.	15	0,91	0,36	1,19	0,46	-58,21***	-4,19	-52,11***	-4,45
34.	15	0,54	0,21	0,61	0,26	-57,61***	-4,14	-52,50***	-4,44
35.	15	0,46	0,32	0,39	0,22	-57,22***	-3,94	-52,32***	-4,43
36.	15	1,19	0,59	-0,35	-0,18	-57,58***	-3,96	-52,85***	-4,39

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the findings represented in Table 3; it is seen that the average compound return of stocks that were offered to the public in 2011 was negative and statistically significant. In this case, the H0 hypothesis was accepted and it was decided that underperformance would be valid. It has been seen that an investor who holds these shares for 36 months since the issuance date will suffer an average loss of more than 50%.

Table 4: Price Performance of Shares Issued in 2012 During First 36 Months After Offerings

Months	n	$\bar{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	11	-7,87**	-1,87	-12,21***	-3,15	-12,21***	-3,15	-12,21***	-3,15
2.	11	1,38	0,53	-2,16	-0,72	-14,37***	-2,39	-14,21***	-2,56
3.	11	-3,00**	-1,74	-5,84***	-3,62	-20,21***	-3,04	-19,87***	-3,33
4.	11	-2,87*	-1,63	-6,69***	-3,73	-26,90***	-3,48	-26,12***	-3,86
5.	11	-2,21	-0,52	-5,36*	-1,35	-32,26***	-3,54	-31,25***	-3,97
...									
11.	11	-5,17*	-1,44	-6,71**	-2,05	-52,60***	-3,49	-43,12***	-3,24
12.	11	-3,20	-1,04	-3,20	-1,04	-54,11***	-3,46	-44,13***	-3,53
13.	11	-4,77*	-1,62	-0,53	-0,35	-54,64***	-3,40	-41,45***	-3,30
14.	11	1,64	0,43	3,95	1,05	-50,69***	-3,33	-38,22***	-2,87
15.	11	-2,96	-1,26	0,69	0,33	-49,99***	-3,14	-35,62***	-2,65
...									
21.	11	-1,92***	-2,48	-1,65**	-2,13	-56,78***	-3,17	-41,80***	-3,12
22.	11	-0,76	-0,46	-2,61**	-2,01	-59,39***	-3,18	-42,97***	-2,97
23.	11	7,28**	1,83	4,36*	1,38	-55,03***	-3,03	-42,14***	-2,73
24.	11	1,63	0,88	-1,10	-0,66	-56,13***	-3,11	-44,58***	-2,92
25.	11	4,62**	2,31	1,17	0,74	-54,96***	-2,84	-42,67***	-2,48
...									
31.	11	-2,99*	-1,32	-3,50**	-1,72	-59,01***	-2,32	-39,02**	-1,77
32.	11	-0,95	-0,65	-1,30	-0,73	-60,31***	-2,37	-40,95**	-1,86
33.	11	-2,19**	-1,69	0,71	0,43	-59,60***	-2,39	-39,37**	-1,80
34.	11	-3,14**	-1,87	-2,13*	-1,32	-61,72***	-2,48	-40,11**	-1,80
35.	11	5,32*	1,55	4,14	1,21	-57,58**	-2,29	-34,67*	-1,31
36.	11	-2,07	-0,45	-0,58	-0,12	-58,16**	-2,17	-30,22	-1,02

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the findings in tables 4, it is seen that the average cumulative abnormal returns and the average compound abnormal returns (excluding the last month) of stocks that were offered in 2012 were negative and statistically significant. In this case, the H0 hypothesis was accepted and it was decided that underperformance for offerings performed in 2012 is valid. Although it is considered positive and statistically significant at 23, 25 and 35 months according to the average raw yields, it is seen that an investor who took these shares on the date of the public offering and held them for 36 months lost 30% - 58%.

Table 5: Price Performance of Shares Issued in 2013 During First 36 Months After Offerings

Months	n	$\bar{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	11	-6,20*	-1,59	-2,27	-0,56	-2,27	-0,56	-2,27	-0,56
2.	11	1,52	0,38	3,29	0,63	1,02	0,14	1,25	0,17
3.	11	0,54	0,11	2,83	0,61	3,85	0,43	5,03	0,55
4.	11	13,97***	3,36	10,34**	2,01	14,19*	1,40	15,96*	1,38
5.	11	-0,55	-0,13	-1,72	-0,36	12,47*	1,30	13,34	1,23
...									
11.	11	4,31**	1,78	1,83	0,74	13,78	0,87	27,46	0,94
12.	11	0,42	0,43	-3,24***	-3,03	10,53	0,65	24,81	0,83
13.	11	-0,47	-0,22	-5,34***	-3,56	5,19	0,32	18,15	0,64
14.	11	0,32	0,13	0,20	0,07	5,39	0,30	24,39	0,69

15.	11	-1,58	-0,84	-0,26	-0,14	5,13	0,28	23,47	0,69
…								
21.	11	-2,59**	-1,69	-1,82	-0,82	11,44	0,58	26,92	0,81
22.	11	-2,19	-0,71	-5,13*	-1,50	6,31	0,35	14,00	0,60
23.	11	-0,38	-0,07	-0,46	-0,08	5,85	0,37	4,45	0,34
24.	11	-1,83	-1,01	2,80*	1,64	8,65	0,55	6,63	0,52
25.	11	-6,62*	-1,64	-4,53	-1,16	4,12	0,29	-1,14	-0,10
…								
31.	11	-6,27*	-1,41	-8,43**	-2,17	-2,58	-0,18	-9,57	-0,81
32.	11	-3,68*	-1,41	-5,03**	-1,65	-7,61	-0,61	-15,49*	-1,59
33.	11	0,55	0,35	1,51	1,12	-6,10	-0,46	-13,92*	-1,41
34.	11	6,54**	2,04	6,78**	2,00	0,69	0,04	-5,64	-0,42
35.	11	6,76	1,09	7,46*	1,31	8,15	0,41	6,48	0,31
36.	11	3,91**	1,71	1,66	0,68	9,81	0,47	11,47	0,46

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the findings shown in Table 5, positive and statistically significant results were observed at 4th, 11th, 16th, 28th, 34th and 36th months although negative results were seen in the first months in 2013. Therefore, it can be concluded that the H0 hypothesis is rejected and over performance for stocks that are offered to the public for 2013 is valid.

Table 6: Price Performance of Shares Issued in 2014 During First 36 Months After Offerings

Months	n	$\bar{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	4	9,22	0,41	6,69	0,29	6,69	0,29	6,69	0,29
2.	4	6,27	1,08	4,92	0,76	11,61	0,39	15,93	0,50
3.	4	-3,35	-0,69	-6,22*	-1,44	5,39	0,21	5,15	0,21
4.	4	-19,42	-1,22	-19,47*	-1,29	-14,08	-0,99	-25,06**	-1,92
5.	4	-5,66	-0,75	-7,17	-0,83	-21,24*	-1,53	-28,43**	-1,69
…									
11.	4	-3,48***	-2,41	-4,25***	-2,36	-33,03**	-2,20	-40,37***	-2,63
12.	4	-1,67	-0,70	-3,18***	-2,58	-36,21***	-2,42	-42,73***	-2,93
13.	4	1,27	0,27	2,78	0,56	-33,44**	-1,90	-38,09***	-2,32
14.	4	-5,61**	-2,07	-1,54	-0,58	-34,98**	-1,88	-36,81**	-2,15
15.	4	-3,10*	-1,45	-1,32	-1,23	-36,30**	-1,91	-36,37**	-2,31
…									
21.	4	2,02	0,53	-1,98	-0,78	-25,22*	-1,48	-35,06***	-2,66
22.	4	14,71	1,26	9,70	0,86	-15,52	-0,64	-33,02***	-2,48
23.	4	6,20**	2,26	6,35*	1,64	-9,17	-0,34	-29,00**	-1,93
24.	4	4,52	0,68	6,16*	1,50	-3,00	-0,11	-22,39*	-1,39
25.	4	-2,91	-0,28	-1,34	-0,13	-4,35	-0,18	-19,33	-0,85
…									
31.	4	17,05	0,67	16,06	0,68	-11,38	-0,38	-40,04***	-5,07
32.	4	1,44	0,32	-2,69	-0,88	-14,07	-0,46	-44,23***	-5,73
33.	4	3,66*	1,36	-0,75	-0,23	-14,82	-0,44	-47,01***	-5,39
34.	4	1,25	0,25	-0,94	-0,34	-15,76	-0,48	-49,56***	-6,68
35.	4	-3,78	-0,69	-6,29	-1,10	-22,05	-0,74	-55,53***	-8,83
36.	4	-0,40	-0,19	-4,11***	-3,73	-26,16	-0,91	-60,48***	-9,64

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the findings represented in Table 6, while the average returns of the stocks that were offered in 2014 were positive and statistically significant at the 23rd and 33rd months, the average cumulative abnormal returns and the average compound abnormal returns were found to be generally negative and statistically significant. H0 hypothesis was accepted for this reason and it was decided that underperformance would be valid for stocks that were offered to the public in 2014. It has been seen that an investor who holds these shares for 36 months will suffer an average loss of 60.48%.

The first three-year stock price performance has also been analyzed on a sector basis as follows:

Table 7: Price Performance of Industrial Firms' Shares for the first 36 Months

Months	n	$\bar{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	22	3,14	0,48	1,13	0,18	1,13	0,18	1,13	0,18
2.	22	7,58*	1,28	7,32*	1,27	8,45	1,07	6,88	0,88
3.	22	0,99	0,32	0,01	0,00	8,46	1,05	6,60	0,81
4.	22	1,25	0,28	-0,52	-0,13	7,95	1,07	4,10	0,49
5.	22	-2,74	-0,86	-5,07*	-1,56	2,88	0,43	-2,87	-0,40
...									
11.	22	1,62	0,45	-0,40	-0,13	1,19	0,10	6,19	0,34
12.	22	-3,31*	-1,54	-3,64***	-2,35	-2,45	-0,20	0,98	0,06
13.	22	-0,91	-0,54	-1,94*	-1,54	-4,39	-0,36	-2,84	-0,17
14.	22	-4,11*	-1,31	-3,96*	-1,27	-8,35	-0,69	-6,60	-0,34
15.	22	-4,37***	-2,43	-2,29**	-1,83	-10,64	-0,87	-7,96	-0,42
...									
21.	22	0,46	0,32	-0,61	-0,38	-14,59	-1,09	-15,60	-0,81
22.	22	-1,22	-0,44	-1,74	-0,65	-16,33*	-1,28	-21,57*	-1,49
23.	22	-2,46	-0,86	-2,15	-0,75	-18,49*	-1,61	-29,15***	-3,07
24.	22	1,14	0,40	1,32	0,44	-17,16*	-1,48	-29,33***	-3,26
25.	22	-2,24	-0,73	-3,75*	-1,41	-20,92**	-1,92	-33,61***	-3,85
...									
31.	22	2,99	0,64	0,73	0,17	-29,71***	-2,46	-40,89***	-4,02
32.	22	0,37	0,24	-1,30	-1,01	-31,01***	-2,52	-42,74***	-4,13
33.	22	-0,94	-0,78	-0,53	-0,47	-31,54***	-2,51	-43,15***	-4,08
34.	22	-1,32	-1,02	-0,54	-0,40	-32,07***	-2,55	-42,64***	-3,90
35.	22	0,58	0,33	0,98	0,52	-31,10***	-2,45	-39,25***	-3,02
36.	22	3,16***	2,42	2,72*	1,54	-28,38**	-2,26	-36,04***	-2,45

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the findings in shown table 7, the averages returns of the industrial sector companies, which were offered to the public again in 2010 - 2014 period, were positive and statistically significant for the second month and fluctuated in the following months. In this case, it would be sensible to buy these stocks and sell them at the end of the second month. Average cumulative abnormal returns and average compound abnormal returns are generally negative, and these values are statistically significant since the 21th month. In this case, the hypothesis H0 was accepted and it was decided that underperformance would be valid for stocks of industry sector. It has been seen that investors who hold these shares for 36 months have lost between 28% and 36% on average.

Table 8: Price Performance of Financial Firms' Shares for the first 36 Months

Months	n	$\bar{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	14	-6,75**	-2,08	-5,25*	-1,57	-5,25*	-1,57	-5,25*	-1,57
2.	14	-6,85***	-2,67	-5,23***	-2,62	-10,49**	-2,11	-9,91**	-2,16
3.	14	-1,28	-0,56	-2,18	-1,18	-12,67**	-2,17	-11,54**	-2,23
4.	14	0,79	0,22	0,53	0,13	-12,14*	-1,59	-11,15**	-1,71
5.	14	-2,74	-0,80	-1,11	-0,31	-13,25*	-1,35	-11,29*	-1,29
...									
11.	14	-1,92	-0,64	-1,32	-0,51	-21,67**	-1,75	-17,51**	-1,78
12.	14	1,89	0,90	0,51	0,23	-21,15**	-1,67	-17,75**	-1,71
13.	14	-1,92	-0,97	-3,17**	-1,86	-24,32**	-1,94	-19,57**	-2,17
14.	14	0,90	0,27	1,54	0,41	-22,78**	-1,98	-19,26***	-2,38
15.	14	-1,91	-0,97	-2,45	-1,14	-25,22**	-2,28	-20,70***	-2,68
...									
21.	14	-1,07	-0,47	-1,98	-0,89	-39,90***	-2,68	-31,23***	-2,94
22.	14	-2,54	-0,99	-4,78*	-1,62	-44,68***	-2,78	-33,73***	-2,72

23.	14	5,70*	1,47	0,96	0,25	-43,72***	-2,65	-34,99***	-2,51
24.	14	2,88	0,94	3,09*	1,29	-40,63***	-2,40	-32,53**	-2,31
25.	14	-2,10**	-1,95	-0,33	-0,21	-40,96***	-2,41	-31,90**	-2,29
...								
31.	14	-8,97***	-2,56	-8,97***	-2,56	-49,86***	-2,53	-36,27***	-2,36
32.	14	-6,41**	-2,10	-5,69**	-1,85	-55,55***	-2,89	-40,98***	-2,82
33.	14	-0,21	-0,14	0,76	0,56	-54,79***	-2,80	-39,11***	-2,69
34.	14	5,26**	1,68	4,22*	1,43	-50,57***	-2,44	-35,32**	-2,26
35.	14	1,99	1,20	1,01	0,48	-49,56**	-2,29	-34,91**	-2,12
36.	14	-1,47	-0,36	-3,16	-0,80	-52,72**	-2,27	-35,28**	-1,95

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the findings shown in Table 8, the average returns of stocks in the financial sector, in 2010 - 2014 period, are generally negative and statistically significant. Especially cumulative abnormal returns and compound abnormal returns are negative for 36 months and statistically significant. In this case, the H0 hypothesis was accepted and it was decided that the underperformance for the financial sector stocks in the period 2010-2014 was valid. It has been seen that investors who hold these shares for 36 months will suffer losses on an average of 35% to 53%.

Table 9: Price Performance of Service Firms' Shares for the first 36 Months

Months	n	$\bar{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	6	-1,41	-0,27	-5,10	-0,67	-5,10	-0,67	-5,10	-0,67
2.	6	-4,66**	-1,85	-7,85**	-1,82	-12,94**	-1,81	-12,98**	-1,84
3.	6	-1,08	-0,51	-0,30	-0,07	-13,24**	-1,84	-12,83**	-1,80
4.	6	2,83	0,46	1,52	0,23	-11,73*	-1,30	-12,17*	-1,45
5.	6	-1,44	-0,33	-2,43	-0,83	-14,15*	-1,30	-14,26*	-1,39
...									
11.	6	-7,10**	-1,82	-7,38***	-2,45	-23,22	-1,19	-26,21*	-1,37
12.	6	-2,92	-0,95	-4,14***	-5,23	-27,36*	-1,44	-28,83**	-1,71
13.	6	3,24	0,96	0,45	0,12	-26,92*	-1,38	-27,35*	-1,51
14.	6	-4,38***	-2,99	-2,47	-1,05	-29,38*	-1,54	-28,19*	-1,62
15.	6	-2,61	-1,26	-5,68***	-3,43	-35,07**	-1,74	-33,65**	-1,87
...									
21.	6	-2,64**	-1,74	-2,85*	-1,40	-26,23	-1,22	-21,84	-1,19
22.	6	2,26	0,92	-2,76	-0,95	-28,99*	-1,28	-24,61*	-1,28
23.	6	-0,10	-0,06	1,39	0,46	-27,61	-1,11	-21,60	-0,99
24.	6	-0,30	-0,19	0,63	0,20	-26,97	-0,97	-19,54	-0,78
25.	6	-2,10	-0,35	-3,68	-0,75	-30,65	-1,09	-24,73	-0,98
...									
31.	6	-1,00	-0,41	-5,75**	-2,20	-54,69**	-1,97	-53,21**	-2,32
32.	6	-0,27	-0,18	-1,93	-0,84	-56,62**	-2,01	-54,91**	-2,29
33.	6	-3,85**	-1,80	0,54	0,22	-56,08**	-2,05	-52,54**	-2,31
34.	6	-1,72	-0,37	-0,58	-0,12	-56,65**	-1,84	-50,57**	-1,83
35.	6	12,20	1,03	11,00	0,96	-45,66	-1,23	-35,93	-0,84
36.	6	1,73	0,49	-0,81	-0,39	-46,47	-1,20	-31,26	-0,64

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the findings in table 9, the average returns of the stocks in the services sector, which were offered in the period of 2010-2014, are generally negative and statistically significant, but the negative returns calculated at the 36th month cannot be fully confirmed in terms of statistically. In this case, it would be impossible to accept the H0 hypothesis under the assumption that the investor holds the stock for a period of 36 months. It may be the rational investment decision to buy these shares at the date of issuance and sell them at the end of the 7th month may be a rational investment decision. However, it seems that an investor who holds these shares for 36 months will suffer an average loss of more than 50%.

Table 10: Price Performance of Construction Firms' Shares for the first 36 Months

Months	n	$\bar{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	3	-22,25**	-1,90	-22,14*	-1,62	-22,14*	-1,62	-22,14**	-1,62
2.	3	-8,85***	-5,45	-8,13***	-2,98	-30,28**	-2,03	-28,71*	-2,04
3.	3	-5,15*	-1,35	-3,96	-1,01	-34,24***	-3,11	-31,71***	-2,86
4.	3	3,08	0,89	-1,01	-1,03	-35,25***	-3,26	-32,89***	-3,23
5.	3	3,76	0,36	3,97	0,52	-31,27**	-1,94	-29,30**	-2,18
...									
11.	3	-4,88	-0,52	-3,76	-0,99	-46,13***	-2,70	-40,22***	-3,03
12.	3	-2,25*	-1,44	-5,80***	-2,46	-51,94***	-3,15	-44,99***	-3,66
13.	3	-3,84*	-1,38	-4,31**	-1,68	-56,25***	-3,72	-47,67***	-4,79
14.	3	-4,67**	-2,20	-1,37	-1,18	-57,62***	-3,59	-46,82***	-4,42
15.	3	-6,24***	-3,06	-1,58	-0,65	-59,20***	-3,26	-44,80***	-4,14
...									
21.	3	-4,29	-1,18	-4,81	-1,16	-54,50***	-4,99	-44,16***	-5,99
22.	3	5,37**	2,29	-2,40*	-1,41	-56,90***	-5,61	-49,01***	-6,32
23.	3	9,70***	5,62	5,67***	4,47	-51,23***	-5,02	-48,12***	-5,34
24.	3	-5,36**	-1,67	-1,25	-0,20	-52,48***	-3,83	-46,29***	-4,38
25.	3	-4,59***	-5,78	-3,78**	-1,70	-56,26***	-3,99	-48,19***	-4,49
...									
31.	3	1,32	0,31	0,16	0,04	-62,33***	-5,27	-56,94***	-5,12
32.	3	3,16*	1,49	3,16*	1,49	-63,51***	-4,47	-60,48***	-4,25
33.	3	-4,01	-0,81	-1,96	-0,94	-65,48***	-4,86	-59,14***	-5,20
34.	3	0,44	0,12	0,32	0,14	-65,16***	-4,75	-59,01***	-5,31
35.	3	0,67	0,27	2,58	0,98	-62,59***	-5,33	-56,95***	-5,26
36.	3	0,34	0,12	-2,38	-0,93	-64,97***	-4,60	-59,72***	-4,74

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the findings shown in Table 10, the average returns of the stocks in the construction sector are generally negative and statistically significant. Particularly cumulative abnormal returns and compound abnormal returns were negative for 36 months and statistically significant. In this case, the H0 hypothesis was accepted and it was decided that the underperformance anomaly for construction sector stocks, which were re-offered in 2010-2014, was valid. Although it may seem logical decision to buy these stocks and selling them at the end of the 7th month, it seems that investors who hold these stocks since on the date of issue for 36 months have lost more than 60% on average.

Table 11: Price Performance of Energy Firms' Shares for the first 36 Months

Months	n	$\bar{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	5	-0,93	-0,11	-0,39	-0,05	-0,39	-0,05	-0,39	-0,05
2.	5	-0,94	-0,22	-4,69	-0,92	-5,07	-0,92	-5,68	-1,10
3.	5	2,52*	1,47	1,10	0,29	-3,97	-0,54	-4,56	-0,65
4.	5	-2,71	-0,79	-2,25	-0,85	-6,22	-0,99	-7,62	-1,24
5.	5	-1,73	-0,50	-4,90*	-1,60	-11,12**	-1,89	-13,08**	-2,16
...									
11.	5	1,11	0,42	1,15	0,48	-12,18	-0,71	-11,78	-0,75
12.	5	5,98	1,16	-1,02	-0,28	-13,21	-0,90	-15,00	-0,99
13.	5	-7,43**	-1,73	-2,79	-0,79	-15,99*	-1,33	-17,63*	-1,60
14.	5	-4,88**	-1,90	-2,56	-0,78	-18,55*	-1,49	-18,79**	-1,77
15.	5	-4,86*	-1,44	-2,03	-0,91	-20,57**	-1,66	-20,02**	-2,10
...									
21.	5	-2,91**	-1,85	-3,56**	-1,80	-44,31***	-3,30	-39,09***	-4,15
22.	5	4,58***	1,01	-0,76	-0,25	-45,07***	-3,35	-42,16***	-4,17
23.	5	5,58**	1,72	-1,19	-0,40	-46,26***	-3,24	-45,56***	-4,21
24.	5	-1,17	-0,55	-0,99	-0,47	-47,25***	-3,07	-45,16***	-4,09
25.	5	-0,83	-0,26	-3,59	-1,06	-50,84***	-2,96	-48,34***	-4,15

...								
31.	5	-4,02	-1,07	-5,93*	-1,36	-31,96	-1,13	-26,78	-1,12
32.	5	-1,18	-0,46	-4,92*	-1,61	-36,88*	-1,39	-34,25*	-1,54
33.	5	6,26	0,91	7,45	1,11	-29,43*	-1,32	-32,24*	-1,54
34.	5	-3,84*	-1,43	-1,04	-0,41	-30,48*	-1,42	-33,19**	-1,76
35.	5	-0,06	-0,03	0,52	0,30	-29,95*	-1,36	-32,47**	-1,65
36.	5	-0,98	-0,33	1,45	0,58	-28,50*	-1,28	-30,72*	-1,52

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the findings shown in Table 11., the average returns of stocks in the energy sector during the 2010 - 2014 period, are generally negative and statistically significant. In this case, the H0 hypothesis was accepted and it was decided that underperformance for energy sector stocks, which were re-offered in 2010-2014, is valid. It seems a rational decision to buy these stocks and selling them at the end of the third month. However, it seems that investors who hold these stocks for 36 months on average during lost more than 30% on average.

4.3. Peer Group Analysis

In this part of the study, stocks performance of the firms that made offering to the public in the periods following initial public offerings for the period of 2010-2015, with their peer firms that match sample firms by asset size and M/B ratio will be compared. Thus, it will be tried to reveal the effects of the making seasoned equity offerings on the returns of the stocks. For this purpose, while the peer group of the companies included in the sample; firms that took place in the same sector and with a similar asset size and PD / DD multiply were selected.

Here, the average raw returns, the average abnormal returns, the average cumulative abnormal returns, and the average compound abnormal returns are calculated for the first 36 months after the public offering. For this purpose, the closing prices of the stocks and BIST National 100 index at the end of the month were used.

The hypotheses used at this stage of the analysis are;

$H_0: \bar{R}; \overline{AR}; \overline{CAR}; \overline{BHAR} \leq 0$ Underperformance anomaly is valid according to average returns.

$H_1: \bar{R}; \overline{AR}; \overline{CAR}; \overline{BHAR} > 0$ Underperformance anomaly is not valid according to average returns.

In order to test these hypotheses, the average t-statistics are calculated by using standard deviations and the findings are presented in Table 12.

Table 12: Peer Group Analysis Results

Months	n	$\bar{R}$	t- ist.	$\overline{AR}$	t- ist.	$\overline{CAR}$	t- ist.	$\overline{BHAR}$	t- ist.
1.	20	-6,09**	-1,72	-7,16**	-1,92	-7,16**	-1,96	-7,16**	-1,92
2.	20	-1,33	-0,80	-1,15	-0,55	-8,42**	-1,83	-7,77**	-1,72
3.	20	-1,41	-0,77	-0,45	-0,33	-8,87**	-1,98	-8,22**	-1,88
4.	20	3,88*	1,37	3,66*	1,39	-5,21	-0,95	-4,49	-0,82
5.	20	2,91*	1,32	1,15	0,64	-4,06	-0,70	-3,35	-0,55
...									
11.	20	0,43	0,15	-1,36	-0,61	-2,11	-0,32	-2,90	-0,41
12.	20	0,89	0,66	-0,30	-0,19	-2,41	-0,33	-2,15	-0,26
13.	20	0,42	0,23	-0,70	-0,39	-3,11	-0,38	-1,43	-0,15
14.	20	-2,11**	-1,70	-1,76*	-1,30	-4,86	-0,56	-2,59	-0,27
15.	20	-0,97	-0,70	-0,39	-0,29	-5,25	-0,55	-2,26	-0,21
...									
21.	20	0,76	0,78	-0,79	-0,76	-0,29	-0,03	2,85	0,24
22.	20	1,05	0,72	0,71	0,51	0,42	0,04	4,39	0,34
23.	20	2,53	1,26	1,76	0,97	2,18	0,23	7,02	0,49
24.	20	2,52*	1,43	3,32**	1,85	5,50	0,54	11,34	0,77
25.	20	0,22	0,19	-0,10	-0,10	5,40	0,51	11,70	0,79
...									
31.	20	2,80***	2,58	0,96	0,75	0,10	0,01	6,49	0,43

32.	20	1,75	1,09	0,67	0,44	0,78	0,07	7,32	0,47
33.	20	-0,55	-0,47	0,95	0,83	1,72	0,15	8,97	0,59
34.	20	2,09	1,05	1,50	0,78	3,22	0,26	11,48	0,72
35.	20	2,05	1,16	0,94	0,54	4,16	0,32	12,82	0,77
36.	20	1,84	1,15	0,54	0,37	4,70	0,35	14,68	0,81

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

According to the results shown in Table 12, the average raw returns and average abnormal returns were found to be negative and statistically significant in the first month. Average cumulative abnormal returns and average compound abnormal returns were found to be negative and statistically significant in the first three months. In this case, H_0 hypotheses were accepted at the level of 5% significance level for the first 3 months and it was determined that underperformance anomaly is valid for sample firms compared to the peer group. When the average raw returns are examined; 4th, 5th, 6th, 16th, 17th, 24th, and 31st months returns were found to be positively and statistically significant. Average abnormal returns were positive and statistically significant at the 4th, 8th, 9th and 24th months.

It is possible to reject the H_0 hypotheses related to abnormal returns and raw returns observed in these months, and it can be said that the high price-performance case was experienced in those months. However, these results are not supported by cumulative abnormal returns compound abnormal returns.

Comparative results of long-term price performance analysis for the companies that perform seos in the main sample and those that do not soes in the peer group are presented in Table 13.

Table 13: The Effect of Seasoned Equity Offerings Conducted During The 2010-2014 Period on the Long-Term Share Price Performance

Months	Main Group				Peer Group			
	R	*AR*	*CAR*	*BHAR*	*R*	*AR*	*CAR*	*BHAR*
1.	-2,10	-2,95	-2,95	-2,95	-6,09**	-7,16**	-7,16**	-7,16**
2.	0,23	-0,14	-3,09	-3,60	-1,33	-1,15	-8,42**	-7,77**
3.	-0,11	-0,77	-3,86	-4,22	-1,41	-0,45	-8,87**	-8,22**
4.	1,03	-0,18	-4,05	-5,51	3,88*	3,66*	-5,21	-4,49
5.	-2,09	-3,09**	-7,13*	-9,20**	2,91*	1,15	-4,06	-3,35
...								
11.	-0,86	-1,54	-12,32**	-8,91	0,43	-1,36	-2,11	-2,90
12.	-0,82	-2,41***	-14,72**	-12,19*	0,89	-0,30	-2,41	-2,15
13.	-1,52*	-2,22***	-16,95***	-14,64**	0,42	-0,70	-3,11	-1,43
14.	-2,85**	-1,94	-18,89***	-16,37**	-2,11**	-1,76*	-4,86	-2,59
15.	-3,63***	-2,67***	-21,56***	-18,03**	-0,97	-0,39	-5,25	-2,26
...								
21.	-0,96	-1,81**	-28,44***	-24,79***	0,76	-0,79	-0,29	2,85
22.	-0,19	-2,66**	-31,10***	-29,05***	1,05	0,71	0,42	4,39
23.	1,64	-0,29	-31,39***	-32,66***	2,53	1,76	2,18	7,02
24.	0,83	1,35	-30,04***	-31,65***	2,52*	3,32**	5,50	11,34
25.	-2,18*	-2,77**	-32,81***	-34,41***	0,22	-0,10	5,40	11,70
...								
31.	-1,64	-3,10*	-40,53***	-40,63***	2,80***	0,96	0,10	6,49
32.	-1,59*	-2,96***	-43,49***	-43,93***	1,75	0,67	0,78	7,32
33.	-0,55	0,67	-42,82***	-43,02***	-0,55	0,95	1,72	8,97
34.	0,33	0,79	-42,03***	-41,58***	2,09	1,50	3,22	11,48
35.	2,31*	2,24*	-39,79***	-38,02***	2,05	0,94	4,16	12,82
36.	1,11	0,22	-39,57***	-36,14***	1,84	0,54	4,70	14,68

Note: n represents the number of observations. Like Tarı's study (2012: 500), critical values for the t-test were taken as 1,282, 1,645 and 2,326 for the significance levels of %10, %5 and %1 respectively.

When the results in Table 13 are compared, it is seen that there are significant differences between the long-term price performances of the two groups' stocks. In the first quarter, the stocks of the firms in both groups were also damaged, while the results of the main group were statistically insignificant. In the fifth, eighth and ninth months, the peer group provide profits to

its investors while investors in the stocks of the main group of companies had a loss. The average cumulative abnormal returns and the average compound returns in the main group were negative and statistically significant, while the returns of the peer group were wavy and statistically insignificant. In general, it is observed that the peer group firms' long-term stock performance is significantly higher than the stock performance of the firms included in the sample. This supports long-term underperformance anomalies during seos. For all these reasons; it has been decided that performing seos is an important determinant of the long-term price performance of equities.

4.4. Determinants of the long-term price performance of equities

At this stage of the analysis, regression analyzes were performed using AR and CAR values calculated in previous analyzes as dependent variables and other relevant data as independent variables.

Variables and hypotheses used in these analyzes are shown in Table 14.

Table 14: List of Independent Variables

Offering Price (LnOP)	Prices the stocks are offered to the public
Public Offering Frequency (POF)	Frequency of the offering during the period.
Volatility (V)	Standard deviations of stocks
Asset Size (LnASSET)	Assets of the firms based on IFRS.
Offering Method ($_{OM}$)	Public & Private placement.
Volume (LnVol)	Total revenues come from the trading of the shares during
Difference (DF)	Difference between obtained income and target income
Leverage Change (LC)	Total Liabilities / Total Assets
Capital Increase Rate (CIR)	The increase as % change compared to previous capital.
Market to Book Value Ratio (M/B)	Market Value / Book Value

In order to prevent the problem of varying variance as a result of the analysis, the offer price, asset size and volume variables were included in the analyzes by taking the natural logarithm. AR and CAR values were used as dependent variables in this analysis. Volatility change was used as the standard deviation (V_AR) of the AR and standard deviation (V_CAR). The econometric models that are used in the analysis through AR and CAR dependent variable are shown below. The models were set up as one explanatory variable to test the effects of all variables separately.

$$\text{Model (1): } AR_{it} \& CAR_{it} = \beta_0 + \beta_1 HAF_{it} + e_{it} \tag{11}$$

$$\text{Model (2): } AR_{it} \& CAR_{it} = \beta_0 + \beta_1 HAA_{it} + e_{it} \tag{12}$$

$$\text{Model (3): } AR_{it} \& CAR_{it} = \beta_0 + \beta_1 LnASSET_{it} + e_{it} \tag{13}$$

$$\text{Model (4): } AR_{it} \& CAR_{it} = \beta_0 + \beta_1 K_{HAM1_{it}} + e_{it} \tag{14}$$

$$\text{Model (5): } AR_{it} \& CAR_{it} = \beta_0 + \beta_1 K_{HAM2_{it}} + e_{it} \tag{15}$$

$$\text{Model (6): } AR_{it} \& CAR_{it} = \beta_0 + \beta_1 LnIH_{it} + e_{it} \tag{16}$$

$$\text{Model (7): } AR_{it} \& CAR_{it} = \beta_0 + \beta_1 FARK_{it} + e_{it} \tag{17}$$

$$\text{Model (8): } AR_{it} \& CAR_{it} = \beta_0 + \beta_1 KOD_{it} + e_{it} \tag{18}$$

$$\text{Model (9): } AR_{it} \& CAR_{it} = \beta_0 + \beta_1 SAO_{it} + e_{it} \tag{19}$$

$$\text{Model (10): } AR_{it} \& CAR_{it} = \beta_0 + \beta_1 PD/DD_{it} + e_{it} \tag{20}$$

$$\text{Model (11): } AR_{it} \& CAR_{it} = \beta_0 + \beta_1 V\_AR_{it} + e_{it} \tag{21}$$

Since the time dimension is enough models are estimated by panel data analysis method.

The steps followed in the analysis are as follows:

* Panel unit root test used to determine stationarity level of the series,

* In order to see the existence of the interaction between the series in each model, panel causality test was conducted,

* Panel cointegration test was performed to determine whether the series was moving together in the long run,

* Finally according to previous analysis results panel regression analyzes were performed.

In this context, firstly, the panel unit root test was performed and it was tested whether the series were stationary. The stability of the series was examined by Im, Pesaran and Shin (2003) (IPS). These tests are based on the following model:

$$\Delta Y_{i,t} = \delta_i Y_{i,t-1} + \sum_{j=1}^{p_i} \beta_{ij} \Delta Y_{i,t-j} + X_{i,t}' \theta + \varepsilon_{i,t} \tag{22}$$

p_i; represents the optimum lag length,

$X_{i,t}'$; refers to external variables that contain any fixed effect or individual trend component.

In the panel unit root tests, it is tried to determine how the value of the series at the time t is affected by the value at the time t-1. In IPS (2003) test, it is accepted that δ_i, which is a unit root parameter, may be different between the series.

IPS panel unit root test was performed in the study and the results obtained are presented in Table 15.

Table 15: Panel Unit Root Test Results

Independent Varible	*Original Level Values*		*First Differences of the Series*	
	Test Statistic	*Prob.Value*	*Test Statistic*	*Prob.Value*
AR	-1.12	0.13	-45.27***	0.00
CAR	0.25	0.60	-27.99***	0.00
LnOP	The unit root test cannot be performed because the series has the same values throughout the analysis period, therefore, it is accepted that the series is stationary because it is composed of fixed values.			
POF	The unit root test cannot be performed because the series has the same values throughout the analysis period, therefore, it is accepted that the series is stationary because it is composed of fixed values.			
LnASSET	The unit root test cannot be performed because the series has the same values throughout the analysis period, therefore, it is accepted that the series is stationary because it is composed of fixed values.			
Public Placement	The unit root test cannot be performed because the series has the same values throughout the analysis period, therefore, it is accepted that the series is stationary because it is composed of fixed values.			
Private Placement	The unit root test cannot be performed because the series has the same values throughout the analysis period, therefore, it is accepted that the series is stationary because it is composed of fixed values.			
LnVol	-1,27	0.10	-17.95***	0.00
DF	The unit root test cannot be performed because the series has the same values throughout the analysis period, therefore, it is accepted that the series is stationary because it is composed of fixed values.			
LC	The unit root test cannot be performed because the series has the same values throughout the analysis period, therefore, it is accepted that the series is stationary because it is composed of fixed values.			
CIR	The unit root test cannot be performed because the series has the same values throughout the analysis period, therefore, it is accepted that the series is stationary because it is composed of fixed values.			
M/B	The unit root test cannot be performed because the series has the same values throughout the analysis period, therefore, it is accepted that the series is stationary because it is composed of fixed values.			
V_AR	1.40	0.92	-22.59***	0.00
V_CAR	2.62	0.99	-30.09***	0.00

Note: *, ** and *** indicate stationary at the level of significance of 10%, 5% and 1%, respectively. Fixed and trendy model was used for the test for the original level of the series, and the fixed model was used for the test for the first differences. The ideal lag length is determined according to the Schwarz information criterion.

According to the findings in Table 15, all series are not stationary in their original levels and become stationary at the %1 significant level when the first differences are taken. Therefore, it is available to infer that even in a 36-months period, the series contained significant fluctuations. In this case, the regression analyzes that performed with the original level values of these

series may contain the spurious regression problem. For this reason, it is necessary to perform the cointegration test before performing to the regression analysis. Before performing the cointegration test, a panel causality test was conducted to measure the interaction between the series that were found to be non-stationary in the unit root tests. In this study, the existence of causality relations among the series was examined by Granger (1969) panel causality test and findings are shown in the 16 Table.

Table 16: Panel Causality Test Results

Model	H_0 Hypothesis	F-statistic	Prob.Value
Model 6	$LnIH \nrightarrow AR$	3.29**	0.03
Model 11	$V\_AR \nrightarrow AR$	1.69	0.18
Model 6	$LnIH \nrightarrow CAR$	4.32**	0.01
Model 11	$V\_CAR \nrightarrow CAR$	2.12	0.12

Note: * and ** indicate causality relation from the first variable to second one at the level of significance of 10% and 5%, respectively. The ideal lag length is determined according to the Schwarz information criterion.

According to the results represented in Table 16, we observed causality relationship between transaction volume and abnormal returns at 5% significance level while we couldn't find causality relation between volatility and abnormal returns. Panel cointegration test was applied to determine whether the non-stationary series move together in the long run. In this study, the existence of cointegration among the series was examined by the Perdroni (2004) test.

Table 17: Panel Cointegration Test Results for Model (6) (Dependent Variable AR)

	Test Statistic	Prob. Value	Weighted Test Statistic	Prob. Value
Panel v	0.47	0.31	-1.25	0.89
Panel ρ	-9.92***	0.00	-11.76***	0.00
Panel t	-9.26***	0.00	-11.04***	0.00
Panel ADF	-9.01***	0.00	-10.88***	0.00
Group ρ	-7.14***	0.00	-	-
Group t	-9.05***	0.00	-	-
Group ADF	-8.47***	0.00	-	-

Note: *** and ** indicate cointegration relationship at the level of significance of 1% and 5%, respectively.

According to the results shown in table 17, there is a cointegration relationship between volume and abnormal returns at the level of 1% significance. In other words, these series are moving together in the long run, and the model predictions to be made with the original level values of these series will not contain the spurious regression problem.

Table 18: Panel Cointegration Test Results for Model (11) (Dependent Variable AR)

	Test Statistic	Prob. Valu	Weighted Test	Prob. Valu
Panel v	4.36***	0.00	-1.13	0.87
Panel ρ	-28.75***	0.00	-25.34***	0.00
Panel t	-26.60***	0.00	-24.16***	0.00
Panel ADF	-26.58***	0.00	-24.69***	0.00
Group ρ	-22.45***	0.97	-	-
Group t	-31.92***	0.00	-	-
Group ADF	-29.86***	0.00	-	-

Note: *** indicate cointegration relationship at the level of significance of 1%.

According to the results shown in table 18, there is a cointegration relationship between volatility and abnormal returns at the level of 1% significance. In other words, these series are moving together in the long run, and the model predictions to be made with the original level values of these series will not contain the spurious regression problem.

Table 19: Panel Cointegration Test Results for Model (6) (Dependent Variable CAR)

	Test Statistic	Prob. Valu	*Weighted Test*	Prob. Valu
Panel v	0.003	0.49	-1.35	0.91
Panel ρ	-2.49***	0.00	-2.19**	0.01
Panel t	-3.45***	0.00	-3.29***	0.00
Panel ADF	-3.66***	0.00	-3.83***	0.00
Group ρ	0.25	0.60	-	-
Group t	-1.89***	0.02	-	-
Group ADF	-2.47***	0.00	-	-

Note: *** and ** indicate cointegration relationship at the level of significance of 1% and 5%, respectively.

According to the results shown in table 19, there is a cointegration relationship between volume and cumulative abnormal returns at the level of 1% significance. In other words, these series are moving together in the long run, and the model predictions to be made with the original level values of these series will not contain the spurious regression problem.

Table 20: Panel Cointegration Test Results for Model (11) (Dependent Variable CAR)

	Test Statistic	*Prob. Valu*	*Weighted Test*	*Prob. Valu*
Panel v	2.73***	0.00	2.59	0.00
Panel ρ	-2.49***	0.76	-3.00***	0.00
Panel t	-2.98***	0.00	-3.25***	0.00
Panel ADF	-3.39***	0.00	-3.83***	0.00
Group ρ	-0.30	0.37	-	-
Group t	-1.70**	0.04	-	-
Group ADF	-3.15***	0.00	-	-

Note: *** and ** indicate cointegration relationship at the level of significance of 1% and 5%, respectively.

According to the results shown in table 20, there is a cointegration relationship between volatility and cumulative abnormal returns at the level of 1% significance. In other words, these series are moving together in the long run, and the model predictions to be made with the original level values of these series will not contain the spurious regression problem.

At this stage of the analysis, regression analysis will be performed. The regression analyzes were performed using the Panel Dynamic Ordinary Least Squares (PDOLS) method, which considers cointegration relations between the series and avoids the problems by using pre and lag values in the estimating model. The results of modeling the dependent variable AR and CAR are presented in Table 21 and Table 22 respectively.

Table 21: First 36-Months Price Performance Analysis Results (Dependent Variable – AR)

Independent Varible	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
LnOP	-0.84*** [-3.30]	-	-	-	-	-	-	-	-	-	-
POF	-	-1.08*** [-3.89]	-	-	-	-	-	-	-	-	-
LnASSET	-	-	-0.05*** [-3.77]	-	-	-	-	-	-	-	-
Public Placement	-	-	-	-0.87*** [-2.90]	-	-	-	-	-	-	-
Private Placement	-	-	-	-	0.87*** [2.90]	-	-	-	-	-	-
LnVol	-	-	-	-	-	0.48* [1.56]	-	-	-	-	-
DF	-	-	-	-	-	-	-0.45* [-1.48]	-	-	-	-
LC	-	-	-	-	-	-	-	0.02* [1.27]	-	-	-
CIR	-	-	-	-	-	-	-	-	-0.04*** [-2.94]	-	-
M/B	-	-	-	-	-	-	-	-	-	-0.002*** [-2.43]	-
V_AR	-	-	-	-	-	-	-	-	-	-	-0.09*** [-3.60]
R^2	0.10	0.06	0.36	0.10	0.10	0.21	0.09	0.08	0.48	0.05	0.10
$\bar{R}^2$	0.10	0.06	0.36	0.09	0.09	0.15	0.09	0.08	0.48	0.05	0.10

Table 22: First 36-Months Price Performance Analysis Results (Dependent Variable – CAR)

Independent Varible	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
LnOP	-3.29*** [-6.68]	-	-	-	-	-	-	-	-	-	-
POF	-	-23.37*** [-18.25]	-	-	-	-	-	-	-	-	-
LnASSET	-	-	-1.25*** [-9.90]	-	-	-	-	-	-	-	-
Public Placement	-	-	-	-17.97*** [-6.76]	-	-	-	-	-	-	-
Private Placement	-	-	-	-	17.97*** [6.76]	-	-	-	-	-	-
LnVol	-	-	-	-	-	10.46*** [6.19]	-	-	-	-	-
DF	-	-	-	-	-	-	-1.03** [-1.75]	-	-	-	-
LC	-	-	-	-	-	-	-	0.77*** [3.82]	-	-	-
CIR	-	-	-	-	-	-	-	-	-0.01*** [-6.95]	-	-
M/B	-	-	-	-	-	-	-	-	-	-0.38*** [-3.92]	-
V_CAR	-	-	-	-	-	-	-	-	-	-	-0.49*** [-10.88]
R^2	0.09	0.17	0.03	0.09	0.09	0.76	0.19	0.16	0.18	0.16	0.37
$\bar{R}^2$	0.09	0.17	0.03	0.09	0.09	0.73	0.19	0.16	0.18	0.16	0.37

Note: *, **, and *** indicate that the relevant parameters are statistically significant at 10%, 5% and 1% significance level, respectively. Figures in the square brackets refer to t statistics while figures in the normal brackets represent probability values.

5. CONCLUSION

In this study, the existence of long-term underperformance anomaly was investigated in Borsa Istanbul during the period of 2010-2015. For this purpose, the 3-year share price performance of companies that carried out seasoned equity offerings was analyzed in comparison with the market average return and peer groups' return. As a result of the analysis, the long-term underperformance anomaly was confirmed in Borsa Istanbul for the analysis period. Underperformance anomaly was observed during on basis of all years and sectors. It was determined that the return of investors who bought a share from the issuance and hold them during the 3-year period would be lower than the return of market average and peer group firms that match sample firms by assets size and M/B ratio. Abnormal returns that adjusted according to market and peer group average confirm underperformance anomaly in Borsa Istanbul for the analysis period.

When long term price determinants are analyzed;

In the analysis that abnormal return (AR) was used as the dependent variable, long-term price determinants were; The effects of private placement method, volume and firm leverage ratio are positive while offer price, offering frequency, asset size, public placement method, capital increase ratio, volatility, M/B ratio and the difference between obtained income and targeted income have a negative effect on the long-term share price performance.

In the analysis that cumulative abnormal return (CAR) was used as the dependent variable, long-term price determinants were;

The effects of private placement method, volume and firm leverage ratio are positive while offer price, offering frequency, asset size, public placement method, capital increase ratio, volatility, M/B ratio and the difference between obtained income and targeted income have a negative effect on the long-term share price performance.

The effect of the determinant factors on the long-term stock price performance of sample firms is summarized in Table 23 below.

Table 23: Long Term Determinant Factors of Share Price Performance

Independent Variable / Period	AR	CAR
OP	-	-
POF	-	-
V	-	-
LnAsset	-	-
Public Placement	-	-
Private Placement	+	+
LnVol	+	+
DF	-	-
LC	+	+
CIR	-	-
M/B	-	-

In the long run, it appears that the vast majority of the variables have a negative effect on stock price performance. It was determined that the remaining 8 variables have a long-term negative effect on the share price, except for the private placement method, transaction volume and leverage ratio.

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ANALYSING THE PERFORMANCES OF ASSET MANAGEMENT COMPANIES OPERATING IN TURKEY BY USING MULTIMOORA METHOD

Burcu Gurol[1], Adalet Hazar[2], Cem Bahadir[3]
[1]Baskent University, Faculty of Commercial Sciences, Banking and Finance Department, Ankara, Turkey.
 bgurol@baskent.edu.tr, ORCID:0000-0001-9974-2351
[2]Baskent University, Faculty of Commercial Sciences, Banking and Finance Department, Ankara, Turkey.
 ahazar@baskent.edu.tr, ORCID: 0000-0002-1483-8360
[3]Baskent University, Banking and Finance Department Student

ABSTRACT
Purpose- In this study, performance improvement of the asset management companies operating in Turkey between 2012 and 2016 is aimed.
Methodology- By analysing the rates calculated with a multi criteria decision making technique, Multimoora, the change in the sectoral performance during 2012,2013,2014,2015 and 2016 is examined.
Findings- As a result of the analysis, it is observed that the sector of asset management companies obtained the highest performance result in 2012, while 2016 has the lowest.
Conclusion- In the years examined, it is clearly seen that the performance level has gone back regularly. No relations have been observed between purchasing rates and performance results of the asset management companies.

Keywords: Asset management companies, performance, multi criteria decision-making techniques, MULTIMOORA.
JEL Codes: G20, G22, G23, M40, M49

1. INTRODUCTION

Despite the evaluation processes, part of the credits that are given by financial institutions are not paid at due time or in full and become non-performing loans. Since increasing number of non-performing loans leads to the destruction of balance sheet structures and decrease in shareholder's equity, having liquid credits and preventing the increase in non-performing loans are significant for financial institutions. The biggest financial institutions providing credits for those in need are banks. Supervisory and regulatory authorities monitor the degrees of non-performing loans in order to prevent the failure of banks' financial structures that undertake the fund-raising function in the economy. Moreover, they try to ensure that the degrees of non-performing loans stay under certain levels.

Banking Regulation and Supervision Agency (BRSA) has the authority to regulate and supervise the banks in Turkey. The Agency determines the principles related to credit management and makes regulations in order to delimitate non-performing loans. Non-performing loan is a concept that needs to be followed and monitored under certain levels by banks as well as the other funding institutions such as financial leasing companies, factoring companies and financing companies. Although those companies include it as a part of their activities, the management of non-performing loans is a process that requires labour and time. The non-performing loan volumes that increase especially during crisis periods can turn to a threat for the future of financial institutions.

For funding financial institutions, it is quite difficult to turn non-performing loans to liquid again. Therefore, they can prefer to distract those credits from their financial tables. One way to do that is to transfer the non-performing loan portfolio to an

asset management company. Asset management companies are such institutions that can purchase, sell, collect the receivables they bought, liquidate, restructure and sell their assets with their receivables coming from the relevant services of banks, Saving Deposit Insurance Fund, other financial institutions and insurance companies that provide credit insurance service. Asset management companies ensure the payment of debt by getting in contact with the obligors of non-performing loan portfolios they bought, granting discounts in the obligation of funds, as well as providing a payable redemption plan for the obligor. In this way, obligations that have no/low possibility of being received are collected and obligors are saved from the legal restrictions originating from their unpaid obligations.

The first regulation regarding the establishment and activities of asset management companies in Turkey was made in 2002 by Banking Regulation and Supervision Agency. The reasons of that regulation were the financial crisis in Turkey leading to the increase in non-performing loan balances in bank balance sheets and that was the negative situation's turning into a threat for the regulation of banks. With this regulation, banks decided to reduce the pressure among themselves by selling their non-performing credit portfolios to the established asset management companies. The number of asset management companies, which were established and came into operation after the regulation in 2002 have increased within the process.

2. LITERATURE REVIEW

In literature, the first studies related to the asset management companies concentrate upon the effects of asset management companies on deferred credit rates. In his study by acquiring data from reports regarding Asset Management Companies, annual company reports and World Bank Reports, Klingebiel examines whether asset management companies in 7 countries have accomplished their goals or not. In the end of the study, it is declared that in Spain the results are positive while being negative in Mexico. In the remaining part of the study, no clear finding regarding the accomplishment of goals was obtained (Klingebiel, 2001). Mesutoğlu studies the liquidation of non-performing loans by asset management companies with examples. In addition, he states that the asset management companies' chance of success would increase by internal as well as external factors (Mesutoğlu, 2001).

Hagiwara and Pasadilla concluded that while the existence of asset management companies have increased the non-performing loan rate in Thailand, Thailand Asset Management Company- which is a government institution- has decreased the non-performing loan rates of the banks. In the same study, they observe that the new legal proceedings against banks and other financial institutions have decreased significantly (2004). In their study Fung, George, Hohl and Ma (2004) examine the common features of and the differences between the public asset management companies in Asia. The study deals with the establishment of asset management companies in each country, the transfer of troubled assets to those companies, solutions regarding the troubled assets and financing. As the final outcome, it is emphasized in the study that the asset management companies are significant for the stability of financial system and the solutions of problems related to the banking system (2004). In the study conducted by Selimler, the liquidation of non-performing loans by asset management companies in Turkish banking sector is examined and the practices of asset management companies in chosen countries and Turkey are evaluated. It is concluded that the countries examined have succeeded in achieving their goals in general by means of the asset management companies. In addition, it is stated that those assets troubled in terms of pricing constitute a new value between their purchase and sale prices (2006).

Inogucci concludes that in Malaysia and Thailand, with the establishment of asset management companies by the state following the crisis, non-performing loan rate has decreased, Macro-Economic conditions affected their decline and the banks performing well had low rates of non-performing loans during the crisis (Inogucci, 2012). Hazar and Babuşcu suggest a method of calculating the net present value of receivables portfolio during the sale of receivables to the asset management companies (2013). No studies regarding the performance measurements of asset management companies have been found in the literature.

3. DATA AND METHODOLOGY

3.1. Data

This study was conducted with data obtained from the financial statements of asset management companies, operating between 2012 and 2016 in Turkey. **Table 1** demonstrates the list of the asset management companies operating in the years examined by this study.

Table 1: The List of Asset Management Companies Operating Between 2012 and 2016 in Turkey

2012	2013	2014	2015	2016
Anadolu	Anadolu	Artı	Artı	Bebek
Bebek	Bebek	Bebek	Atlas	Birleşim
Efes	Deniz	Destek	Bebek	Destek
Final	Efes	Efes	Destek	Efes
Girişim	Final	Final	Efes	Final
İstanbul	Girişim	Girişim	Final	Güven
LBT	İstanbul	İstanbul	Güven	Hayat
RCT	LBT	RCT	İstanbul	Hedef
	RCT	Turkasset	Mega	İstanbul
	Turkasset	Vera	RCT	Mega
	Vera		Sümer	RCT
			Turkasset	Sümer
			Vera	Turkasset
				Vera
				Yunus

Source: https://www.bddk.org.tr

It is observed that together with the rise in the number of asset management companies, total assets balance of the sector has also increased. The active developments of operating asset management companies are shown in **Table 2**.

Table 2: Total Size of Assets of the Asset Management Companies That Operate in Turkey

2012	2013	2014	2015	2016
1.429.609.000	1.853.465.000	2.546.470.000	2.770.548.000	3.211.002.000

In this study, financial performance development of asset management companies operated between 2012 and 2016 in Turkey is analysed by using a decision-making method, MULTIMOORA.

3.2. Multi Criteria Decision Making and MULTIMOORA Method

Multi criteria decision making is a structure that combines methods where multiple disciplines such as mathematics, management, informatics, psychology, social sciences and economics come together and provide the opportunity to evaluate and decide on multiple decision problems to the researcher (Turan, 2015).

The name of MOORA method, which is one of the multi criteria decision-making techniques, comes from the first letters of the following words: "Multi Objective Optimization by Ratio Analysis". The method was developed by Willem Karel M. Brauers and Edmundas Kazimieras Zavadskas and was published with an article in 2006.

Karaca specifies the distinguished features that bring MOORA method forward in three items in her Master Thesis:

- Taking all goals into consideration and evaluation,

- Considering all the interactions between alternatives and goals not in parts, but simultaneously,

- Using nonsubjective scalar values instead of subjective weighted normalization (Karaca, 2011).

MOORA method starts with the composition of the decision matrix. The decision matrix consists of alternatives as well as the factor values related to these alternatives. The factors are the criteria determined by the person who applies this method and wants to identify the alternatives.

$$x_{ij} = \begin{bmatrix} x_{11} x_{12} \dots x_{1n} \\ x_{21} x_{22} \dots x_{2n} \\ . \\ . \\ . \\ x_{m1} x_{m2} \dots x_{mn} \end{bmatrix}$$

MOORA method starting from the composition of the decision matrix is completed by interpreting the rankings obtained via ratio system and reference point approach described below.

In 2010, Brauers and Zvadskas added the full multiplicative form to the existing MOORA method and developed the MULTIMOORA method where the real result is obtained by evaluating the results of reference point approach as well as the full multiplicative form. **Figure 1** represents the MULTIMOORA method.

Figure 1: MULTIMOORA (Bekar, 2014).
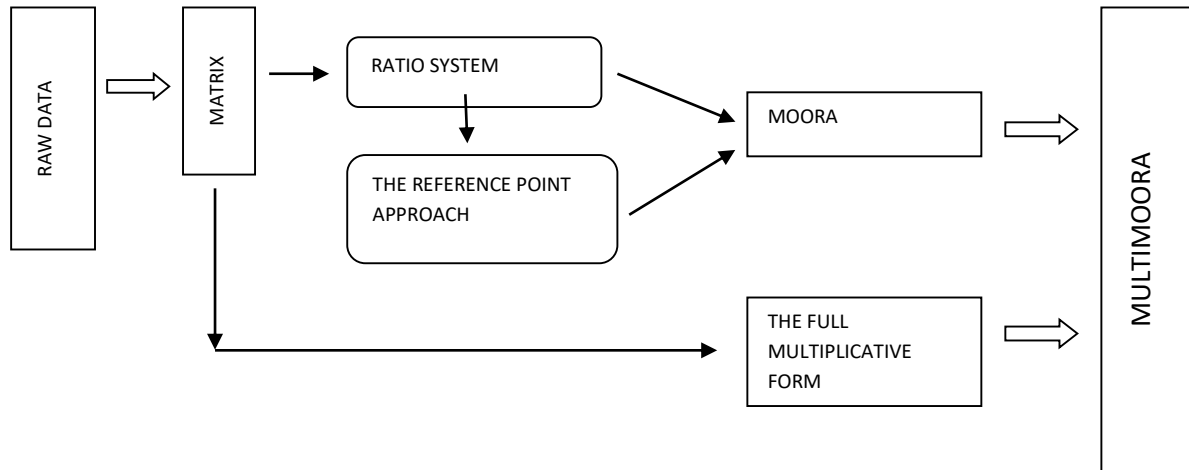
As it can be seen from **Figure 1**, MULTIMOORA Method gives the opportunity to rank the alternatives to the researcher by considering the results of Ratio System, Reference Point Approach and The Full Multiplicative Approach.

3.2.1. Ratio Method

In Ratio System, a new matrix is created by calculating the ratio of each value in the decision matrix to the value found by taking the square root of the sum of the squares of each value in the relevant criterion.

$$\frac{X_{ij}}{\sqrt{\sum_{i=1}^{m} x_{ij}^2}}$$

In this way, every value partaking in the decision matrix is normalized. Normalization is done in order to prevent the differences between values from affecting the results in a misleading way.

$$x_{ij}^* = \frac{x_{ij}}{\sqrt{\sum_{i=1}^{m} x_{ij}^2}}$$

The researcher wants to include some of the criteria in the normalized matrix as maximum and some others as minimum.

For example, if the study is conducted in order to decide to purchase the fittest one among different houses, the decision maker would prefer the distance from the centre at a minimum, house size to the utmost and the price at a minimum. For this reason, we need to determine how to include each criterion to the decision, namely to the utmost or at a minimum.

Following this step, the sum of criteria included at a minimum are subtracted from the sum of criteria included to the utmost for each alternative. By this, results showing the place of each alternative in the final ranking is obtained.

$$y_i = \sum_{j}^{g} x_{ij}^* - \sum_{j=g+1}^{n} x_{ij}^*$$

3.2.2. The Reference Point Method

The reference point approach is based on the ratio system approach. In addition to the ratio system, here the maximum goal reference point approach is valid and this approach has a realistic and nonsubjective structure (Çelebi, 2014).

While applying reference point method, for each factor among the values in the normalized matrix, we determine the highest value if it is a value to be maximized or the lowest one if it is a value to be minimized as a reference value (r_j).

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After determining reference values, we use the distance from the determined reference point for the criterion of each value partaking in the normalized matrix as a base in order to determine its place in the ranking according to the reference point method.

$$(r_j - x_{ij}^*)$$

$$min_i \left(max_j |rj - x_{ij}^*| \right)$$

3.2.3. The Full Multiplicative Form Method

In the full multiplicative form, the values to be maximized and the values to be minimized partaking in the decision matrix are multiplied by themselves for each alternative.

$$A_j = \Pi_{i=1}^{g} x_{ij}$$

$$B_j = \Pi_{i=g+1}^{n} x_{ij}$$

With the results obtained through the division of the multiplication of the values to be maximized by the multiplication of the values to be minimized, the place of each alternative in the final ranking is determined.

$$U_j^i = \frac{A_j}{B_j}$$

3.2.4. Making MULTIMOORA Ranking

In MULTIMOORA method, the results obtained from ratio system, reference point approach and the full multiplicative form are ranked. According to the dominance comparison, via the rankings of these 3 methods, the final MULTIMOORA ranking results are obtained.

4. ANALYSIS

The financial ratios demonstrated in **Table 3** are included in the calculation during the application of this method. By summing the balances of relevant booking items partaking in the independent audit reports of the institutions that operate as asset management companies in the relevant year, sector averages are obtained. In addition, the ratios are calculated by using these balances.

Table 3: Financial Ratios Used in This Study

Receivables/Shareholders Equity: This ratio shows how much receivables is created with current equity
Interest Income/ Interest Expense: This ratio shows how much interest is paid when interest income is gained.
Operating Income/Total Assets: This ratio shows how much operating income is earned with total assets.
Net Interest Income/ Shareholders Equity: This ratio shows how much net interest income is earned with current equity
Loans/ Shareholders Equity: This ratio indicates the ratio of bank loans to equity
Banks/ Shareholders Equity: This ratio shows how much of the equity is in liquid assets
Loans/Total Assets: This ratio indicates the ratio of bank loans to total assets
Receivables/Total Assets: This ratio indicates the share of receivables in total assets
Banks/Total Assets: This ratio indicates the share of bank deposits in total assets
Net Profit /Operating Income: This rate shows how much of the operating income is earned as profit.
Net Profit /Total Assets: This ratio shows how much profit is made with total assets.

The values of the ratios in **Table 3** by years are formed into a decision matrix in **Table 4.**

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Table 4: Decision Matrix

	Max	Max	Max	Max	Min	Max	Min	Max	Max	Max	Max
	Receivables/Shareholders Equity	Interest Income/ Interest Expense	Operating Income/Total Assets	Net Interest Income/ Shareholders Equity	Loans/ Shareholders Equity	Banks/ Shareholders Equity	Loans/Total Assets	Receivables/Total Assets	Banks/Total Assets	Net Profit /Operating Income	Net Profit /Total Assets
2012	2,54	5,59	0,90	0,65	1,97	0,42	0,64	0,82	0,14	0,32	0,09
2013	2,97	5,64	0,92	0,97	2,56	0,56	0,69	0,80	0,15	0,10	0,02
2014	3,54	4,40	1,00	0,96	3,33	0,41	0,75	0,80	0,09	0,16	0,04
2015	2,80	4,02	0,92	0,81	2,39	0,29	0,68	0,80	0,08	0,15	0,04
2016	2,93	4,21	0,85	0,80	2,48	0,18	0,69	0,81	0,05	0,12	0,03

Normalization is applied in order to prevent differences between the values in the decision matrix from changing the results of analysis in a misleading way. After that, the normalized matrix represented by **Table 5** is obtained.

Table 5: Normalized Matrix

	Receivables/Shareholders Equity	Interest Income/ Interest Expense	Operating Income/Total Assets	Net Interest Income/ Shareholders Equity	Loans/ Shareholders Equity	Banks/ Shareholders Equity	Loans/Total Assets	Receivables/Total Assets	Banks/Total Assets	Net Profit /Operating Income	Net Profit /Total Assets
2012	0,38	0,52	0,44	0,34	0,34	0,48	0,41	0,46	0,56	0,76	0,81
2013	0,45	0,52	0,45	0,51	0,44	0,64	0,45	0,44	0,62	0,24	0,22
2014	0,53	0,41	0,49	0,51	0,58	0,47	0,49	0,44	0,38	0,38	0,31
2015	0,42	0,37	0,45	0,43	0,41	0,33	0,44	0,44	0,34	0,36	0,35
2016	0,44	0,39	0,41	0,42	0,43	0,20	0,45	0,45	0,20	0,30	0,26

According to the ratio system-the first method in Multimoora-the ratio value of each year is calculated by subtracting the sum of values to be minimized from the sum of values to be maximized and the ranking according to the ratio system is obtained. See **Table 6.**

Table 6: **Values for Each Year Calculated by Ratio Method and Ranking Results**

2012	3,9944	**1**
2013	3,1913	**2**
2014	2,8561	**3**
2015	2,6504	**4**
2016	2,2019	**5**

In order to rank according to the reference point approach, each year's reference value should be determined. Our references are the highest values for the rates to be maximized in the normalized matrix and the lowest ones fort he rates to be minimized. The reference values based on the values in normalized matrix are demonstrated in **Table 7.**

Table 7: Reference Points

	Receivables/Shareholders Equity	Interest Income/ Interest Expense	Operating Income/Total Assets	Net Interest Income/ Shareholders Equity	Loans/ Shareholders Equity	Banks/ Shareholders Equity	Loans/Total Assets	Receivables/Total Assets	Banks/Total Assets	Net Profit /Operating Income	Net Profit /Total Assets
Reference Points	0,53	0,52	0,49	0,51	0,34	0,64	0,41	0,46	0,62	0,76	0,81

By calculating the absolute value of the distance of each year's value in the normalized matrix from the relevant reference value, a new matrix is created. In this matrix, by subtracting the minimum distance from the reference point from the maximum for each year, value and ranking of each year according to the reference point approach are obtained. The values calculated according to the reference point approach and the ranking results are shown in **Table 8**.

Table 8. Values by the years according to the reference point method and ranking results

2012	0,1675	**1**
2013	0,5980	**5**
2014	0,5005	**3**
2015	0,4610	**2**
2016	0,5560	**4**

In order to get the results of the full multiplicative form, which is the last approach of Multimoora method, multiplication of the values of the decision matrix to be maximized is rated to the multiplication of the values to be minimized. For the values of each year obtained s a result of that proportioning and the ranking results, see **Table 9**.

Table 9. Values by the years according to the full multiplicative form and ranking results

2012	0,0088	**1**
2013	0,0013	**2**
2014	0,0010	**3**
2015	0,0006	**4**
2016	0,0001	**5**

See **Table 10** for 3 performance ranking results that are obtained by applying ratio, reference point and the full multiplicative approaches for the years examined .By Multimoora method, in order to reach to the final ranking, the results should be sorted by their dominance first. Those results are shown in **Table 10**, as well.

Table 10: Ranking Results Obtained from the Approaches Applied and the Results Of Multimoora Method

	Ratio Method Ranking	Reference Method Ranking	The Full Multiplicative Method Ranking	Multimoora Ranking
2012	1	1	1	1
2013	2	5	2	2
2014	3	3	3	3
2015	4	2	4	4
2016	5	4	5	5

5. FINDINGS AND DISCUSSIONS

In this study, by using balances that are the sum of the relevant account balances in the independent audit reports of asset management companies operating in Turkey, the financial rates of the sector are calculated. By analysing the rates calculated with a multi criteria decision making technique, Multimoora, the change in the sectoral performance during 2012, 2013, 2014, 2015 and 2016 is examined. As a result of the analysis, it is observed that the sector of asset management companies obtained the highest performance result in 2012, while 2016 has the lowest. In the years examined, it is clearly seen that the performance level has deteriorated regularly. The reasons could be the increase in the number of the asset management companies, which started to operate in 2002 in our country, the increase in the level of competition accordingly and asset management companies' doing their purchases with higher ratios. Therefore, **Table 11** is created to show the sale values that the sector have paid for the given amounts of receivables.

Table 11: **Amounts of Troubled Receivables Purchased by the Asset Management Companies During the Years Examined and Purchasing Rates**

	Total Amount of the Receivables	Sale Value of the Receivables	Purchasing Rate
2012	2.117.780.005,00	306.408.060,00	0,145
2013	2.745.307.991,00	409.426.511,00	0,149
2014	4.449.734.770,83	668.315.595,00	0,150
2015	1.670.847.157,00	269.431.000,00	0,161
2016	5.447.215.926,00	547.826.909,00	0,101

While the sector purchased the non-performing receivables by paying 14, 5% on average in 2012, the rate increased to 16% in 2015. For this reason, it is thought that there can be a relationship between the purchasing rates and the decrease in performance results. On the contrary to this situation, although purchasing by the lowest rate was in 2016, the performance results of 2016 was the poorest.

6. CONCLUSION

In this study, the performance of asset management sector in Turkey was examined and has the following conclusions were reached. It is observed that the sector of asset management companies obtained the highest performance result in 2012, while 2016 has the lowest. In the years examined, it is clearly seen that the performance level has derogated regularly. The sector has purchased in increasing rates in 2012, 2013, 2014 and 2015 while purchasing the non-performing receivables. While the sector purchased the non-performing receivables by paying 14, 5% averagely in 2012, the rate increased to 16% in 2015.

For this reason, it is thought that a relationship can be found between the purchasing rates and the decrease in performance results. On the contrary to this situation, although purchasing by the lowest rate was in 2016, the performance results of 2016 was the worst. Therefore, it is not possible to demonstrate this relationship with the existing data. Because there are multiple, internal and external factors effecting the performances of the financial institutions. Among those factors, besides competition, we could count such elements as the progress in market interest rates, inflation, growing of the economy, technological factors etc. conducting the analysis by taking these factors into account, can take this study to a further level.

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AN ANALYSIS OF VOTERS' PERCEPTION OF VISUAL ADVERTISEMENTS WITH RESPECT TO NEUROMARKETING APPROACH

Ahmed Al-Burai[1], Sebnem Burnaz[2], Yener Girisken[3]
[1]Istanbul Technical University.
 ahmedalburai@gmail.com, ORCID: 0000-0001-8959-2046
[2]Istanbul Technical University.
 burnaz@itu.edu.tr, ORCID: 0000-0002-4845-4031
[3]Altinbas University.
 yener.girisken@altinbas.edu.tr

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ABSTRACT

Purpose- The study aims to offer better understanding of individuals' perceptions in term of their eye gazes and fixations toward printed advertisements' design in political marketing context. It is targeted to investigate both 'focus selection' -what the voter chooses to gaze at- and 'focus engagement' -the time a voter spends gazing at the components of the advertisement-.
Methodology- The study uses eye-tracking techniques in gaze plots' measurement as novel methods that may radically change tendencies in the political advertising field mainly when designing the logo, claim, and photo of printed advertisements.
Findings- The findings highlight that voters have significant difference in their visual attention on areas of interests (AOI) as claim, logo, and photo of the printed political advertisements based on their gender.
Conclusion- The participants have a clear tendency to quickly gaze at the claim of the visual stimuli, then at the photo of the leader and lastly to the logo of the party. Also, it is found that the participants have a tendency to focus their gazes at the claim of the visual stimuli more than the photo and logo.

Keywords: Political advertising, eye tracking, logo, claim, photo.
JEL Classification: M30, M31, M37

1. INTRODUCTION

Once John Wanamaker, a merchant and founder of one of the first American department stores, known for his successful use of advertising; he was one of the first major merchandisers to employ advertising agencies in 1889. He said "Half the money I spend on advertising is wasted; the trouble is I do not know which half." Wanamaker's saying constituted an urging motivation to both academics and practitioners to devote more effort to analyze and understand how to select the most appropriate design and channel of advertising that matches their target groups and help them manipulate their strategies so that they can achieve their objectives and meet their goals without missing the budget limitations of their businesses. It is evident that advertisements have a substantial and undeniable impact on various customers so that their medium, design and delivery should have been effectively and professionally conducted to attract customers' attention emotionally and behaviorally (Breuer and Brettel, 2012).

Choosing the incorrect design of the advertisement or selecting the inadequate channel or medium to deliver the message may cause a serious failure of a company to realize its objectives. Wrong choices with poor results may even lead to an entire failure to convince top management to save the appropriate marketing budgets (Breuer and Brettel, 2012). Therefore, it has been an unpretentious challenge for advertisers to practically try to measure the influence of different designs of advertisements' displays on several media channels such as TV, radio, magazines newspapers and even websites (Hyun and Sunkyu, 2006; Tellis and Thaivanich, 2011). All these trials and maneuvers intend to achieve the effectiveness of the medium to promote business products or services. The aim is to reach the right target groups through the most effective medium of communication and with the most appropriate message and image.

Advertisements are not only limited for business field. In modern representative democracies, political parties employ their optimum capabilities through a variety of tools i.e. public relations, social media activation and various advertising campaigns. All these tools are used to achieve political success by attempting to affect the voters' attention especially during an election campaign. They do tend to maintain their success by choosing and producing the best influential advertisements (Berger, Wagner, and Schwand, 2012). Advertising as a direct communication tool, is one of the most prominent interest for campaigners; it is undoubtedly tempting for researchers and marketing analysts to devote their effort to understand the mechanisms and determinants that could be utilized so that electoral campaign can effectively influence the mass of voters and their behavior. There is a great number of studies focusing on the search of the best methods and approaches to draw the attention of voters in a race of election (Russell and Barrett, 2013 and Taylor, 2013).

In the light of all these research, the primary objective of the study is to analyze the effect of advertisement schematic design on viewers' attention. In other words, it measures how the arrangements and positions of the advertisements' elements such as their claim, photo and logo may alter voter's gaze plots and fixations. The study aims at measuring these differences based on eye-tracking technology not self-reporting or traditional research tools such as questionnaires and focus groups. The eye-tracking technique is unique because it gives precise and abstract findings that are not affected by personal judgement of the subjects of the study. Eventually the results will help campaigners and political parties in Turkey get deeper insight of their voters' preferences and gaze attention so that they can design their advertisements accordingly. The study is organized as follows: the literature of political marketing and advertising is reviewed, previous studies utilizing eye tracking approach were thoroughly reviewed. Based on the literature review, conceptual model and hypotheses are formulated and the rationale is discussed. Then, a brief review of the literature of eye tracking approach and its relations to customers' mental attitude based on their age, gender is presented. Then the rationale for the experimental study of eye tracking is conducted then hypotheses and variables are tested. Finally, discussion, findings and conclusions are presented.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. Advertisements and Eye Tracking Technique

It is well accepted that the first and most commonly used source of information in recognizing any identity of any visual materials is the eye of the viewer. According to Bayliss et al. (2013) there is a wide range of studies validating that eye gaze route and fixations may lead to a better adjustment to the investigated materials (Wilkinson and Mitchell, 2018) Attention is differently and inevitably concerned with the sensation and the pursuit of eye gaze path (Driver et al., 1999; Shepherd, 2010). Furthermore, gaze track appears to instantaneously control viewers' mental perception (Conty et al, 2007). For instance, a straight look influences face memorization equally at the encoding and at the retrieval levels (Hood et al., 2003; Vuilleumier et al., 2005) whereas a straight gaze may result in a deferred alignment of the attention toward marginal objects (Senju and Hasegawa, 2005). Moreover, it is proven that our eyes have dynamic role in social recognition and they are the main face feature of interaction between the brain and the external investigated factors. Recently, Pfeiffer et al's (2013) concluded that in cognitive neurosciences there are neural regions inside the human brain that is activated in response to the processing of a human eye gaze.

In the field of marketing, gaze direction draws viewer's attention, which is of great importance to affect the frequency of recalling the perceived product and keeping it in memory. Both the studies of Hutton and Nolte (2011) and Sajjacholapunt and Ball (2014) concluded that customers spend more time gazing at a printed advertisement of a product more than any advertisement in another channel. Moreover, they proved that gaze privileged a direct influence over memorization of the content of the advertisement.

Tracking eye gazes and determining their fixations have become a progressively prevalent tool for observing customer's attention and measuring his concentration. It has also become an urgent effective method that political campaigners and marketing practitioners are highly interested in its implications and recommendations (Atalay, Bodur, and Rasolofoarison, 2012; Chandon, Hutchinson, Young, and radlow, 2009; Janiszewski, 1998; Lohse and Wu, 2001; Maughan, Gutnikov, and Stevens, 2007). Eye tracking technique has been efficiently applied for promoting planning and developing novel advertising designs and formats in numerous fields (Krugman, Fox, Fletcher, Fischer, and Rojas, 1994; Pieters and Wedel, 2007; Rayner, Miller, and Rotello, 2008; Wedel and Pieters, 2004).

Although eye tracking has been applied in previous studies to measure and reflect consumers' focus to different types of advertising stimuli to the knowledge of the researcher, few studies have applied this technique on scrutinizing the role of attention in the efficiency and appropriateness of political campaigns' printed advertising materials (Fox, 1998). Political advertisements' designs and productions are, indisputably, key dynamics leading to an election victory, so it is crucial that they have to be designed to reach their communication objectives professionally and effectively. Therefore, this study aims to analyze how printed electoral advertisements' designs may succeed to affect voters' gaze and attract their attention based on a number of variables such as their gender and age.

The ability to track eye activities has existed for over a long period of time though it was limited to academic field because the technology was not validly manageable or flexible. Lately, nevertheless, eye tracking technology has stretched to be feasible in marketable developments. Eye tracking is now flexibly and straightforwardly applied and used in marketing settings, that many unique applications are obtainable, principally those that can study phenomena in ordinary setting rather than a laboratory. In the domain of marketing, eye tracking technology is a novel but recognized field of study identified as visual marketing. Pieters (2004) and Wedel (2008) carried out quite a few number of research on magazine advertisements investigating the effect of each advertising component: brand name, the image and the text. Similarly, Lohse and Rosen (2013) commenced a substantial research study ascertaining which yellow page advertisements were most effective, and finally Holmqvist and others (2011) examined newspaper advertisements. The present research aims to add to the accumulative conclusions of these studies.

Contemporary research has revealed noteworthy evidences for the instinctive premises that 'Customers' gaze at what they like', and 'They like what they stare at'. The fundamental path of this association is still unidentified, if this connection is causative or not, nevertheless the very being of the bond between connection has vital consequences for marketing. In a study of Boerman, Reijmersdal, and Neijens (2013) eye tracking experiment sampled 149 participants to investigate the impact of dissimilar ways of releasing brand location on spectators' visual consideration, the use of inducement awareness, and brand responses. The outcomes displayed that the amalgamation of text, "product placement", and or the brand image was most effective in strengthening the appreciation of promoting that product and that logo alone was least effective. It also concluded that this result was interceded by observers' visual attention to the revelation and brand positioning. Also, it asserted that the perception of advertising subsequently amplified product memory and directed to more desirable brand attitudes.

On the other hand, the study of Purucker, Landwehr, Sprott and Herrmann (2013) tried to analyze eye-tracking data in marketing research and relied upon regions of interest (ROIs) methodology and the use of heat-maps. Unfortunately, both these two methods have some unblemished drawbacks. Tackling this gap, the aforementioned researchers tried to apply spatiotemporal scan statistics to the investigation and picturing of the eye tracking records and the outcomes of their experimentations that utilized anthropomorphic car faces validated numerous benefits provided by the new technique. On the contrary to the old-fashioned methods, scan statistics offered a measurement to scan eye tracking records mechanically both in space and time with divergent gaze collections, with outcomes able to be expansively envisaged and statistically evaluated.

The present study is mainly interested in the three AOI when monitoring eye movements; these regions are prominent factors to assess the advertisements impact on voters' gaze plots. According to Aribarg, Pieters, and Wedel (2010), these areas save the researcher the opportunity to examine the voter's focus and level of involvement. There are three elements to measure the viewers' eye gazes. The first that comprise the length of the time of the voter first fixation on the AOI (Time to First Fixation, TFF). The second is how many times viewers return to gaze on that AOI (Fixation Count, FC). The third measures the total time spent gazing at that AOI (Total Visit Duration, TVD).

2.2. Gender Variances in Human Cognitive Functioning

Gender differences in human cognitive functioning are a controversial issue. A number of studies have investigated differences between females and males in visual selective attention, working memory, anticipation time, and auditory reaction time. Some researchers have repeatedly reported gender differences in cognitive abilities and brain organization, men's higher scores on spatial task. It has been reported that males tend to have larger brain volume, while the gray-to-white ratio tends to be grater in

females (Shikhman, 2007). Others found males and females do not differ in spatial or identity negative priming (Koshino and others, 1991).

Gender differences in reaction time have been demonstrated in several studies (Dane and Erzurumluoglu, 2003; Der and Deary, 2006; Riccio et al., 2001). Males have faster reaction times than females and female disadvantage is not reduced by practice (Noble et al., 1964; Welford, 1980; Adam et al., 1999; Dane and Erzurumluoglu, 2003; Blough and Slavin, 1987). Women had slower simple reaction times than men (Der and Deary, 2006), whereas other research suggests that while male were faster than female at aiming at a target, the female were more accurate (Barral and Debu, 2004). Spierer et al. (2010) indicated that male athletes respond faster as compared with female athletes to both visual and auditory stimuli, which involved gross motor movement, whereas Silverman et al. (2007) indicated that such differences were relatively small. Lambourne (2006) indicated that no statistically significant differences were found in working memory capacity as a function of gender. Jausovec (2009) indicted that gender differences were observed on the behavioral level only for the visual tasks; females display shorter reaction times than males.

Previous studies concluded that women's ability to decode a nonverbal emotion outweighs men's capability (Hall, 1978; 1984). Yet, the studies have not introduced a sharp mechanism that clarify this advantage. Recent studies used eye tracking techniques to measure the male and female's attention to the eye (Hall, Hutton, and Morgan, 2010). In their study, they examined eye gazes of 19 males and 20 females during a facial expression recognition activity. The study concluded that female participants were faster and more precise in the recognition task that men. It also concluded that female subjects looked more at the eyes than male subjects. The researchers also realized that there is a positive relationship between total time and number of fixations to the eyes. Those conclusions and findings strengthen the hypothesis that the women advantage in facial expression recognition is related to greater women attention to eyes.

The results of other studies supported women advantage in decoding nonverbal messages. Female subjects show better judgement of facial expressions and quicker reaction times to appropriately distinguish different sentiments (Hall & Matsumoto, 2004; Kirouac & Dore, 1985; Rahman, Wilson, & Abrahams, 2004; Rotter & Rotter, 1988). Baron and Cohen (2002) argued that male and female participants differed in their 'empathizing' capability. They claimed that women are more likely to be high empathizers compared with males and that in the case of autism the male bias towards low empathizing is exaggerated. One aspect of empathizing is the ability to decode the internal states of others from facial expression.

Based on the introduced literature, and as illustrated in the research model Figure 1. the variables can be summarized and the hypotheses can be predetermined. It is expected that voters of both genders will presuppose that advertising design does not make any difference. This will lead them to avoid attending to display locations that have a high probability of containing ads. The right side of printed advertisement is the most common location for the party's logo. The center locations rarely contain the logo but rather contain the motto or message, while the left side generally contains the photo of the party's leader. In free-viewing tasks, some voters may still consider advertising irrelevant to their objective but less so. Other voters may be fully open to advertising when in a free-viewing task. Thus, the following hypotheses are proposed:

First Hypothesis: Voters will have significant difference in their visual attention on AOI (claim, logo, and photo) of the printed political advertisements based on their gender.

H1a: Voter's Time to First Fixation (TFF) to AOI (claim, logo, and photo) of the printed political advertisements will be different based on their gender.

H1b: Voter's Fixation Count (FC) to AOI (claim, logo, and photo) of the printed political advertisements will be different based on their gender.

H1c: Voter's Total Visit Duration (TVD) to AOI (claim, logo, and photo) of the printed political advertisements will be different based on their gender.

2.3. Age Differences in Human Cognitive Functioning

When voters, due to the progress in age, develop familiarity with the different parties' advertisements, they become more aware of how the advertisement is designed and where each component is located and become better able to avoid attending to advert locations where that advertising is positioned. This relationship will be strongest for goal-directed tasks where avoiding advertising is most important. As they age, teenagers become increasingly contingent on advertising as an information source (Haddix and others, 1997) and there is defensible worry about the advertising messages, predominantly those involving

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cigarettes and alcohol goods. Adulthood is a period of physical and intellectual development, a time of changeover from being a teenager to playing the role of independence manhood (Rutter,1994).

The exclusive nature of teenage years makes teens more sensitive than other age groups to advertising imagery and advertising messages. Young people are predominantly vulnerable to image-based publicity, which is used expansively in the advertising of alcohol and tobacco products (Strasburger 1995). Pollay (1996) established that adolescents were much more exposed to advertising than grownups; Evans et al. (1995) and Hastings and Aitken (1995) concluded that marketing and advertising campaigns of tobacco companies were very effective in motivating teenagers and young people to embark on new experiences of smoking. The research of Hastings and Aitken (1995) involved the use of eye tracking to monitor adolescents' viewing behavior for five selected print advertisements, including two ads for cigarettes and one ad for beer. After discussing the importance of warnings and the difficulty of warning adolescents, we describe the use of eye tracking to investigate warning effectiveness. We then report results on adolescents' viewing of ads for tobacco, beer, sunscreen, and a soft drink, and on attention to mandated warnings and voluntary disclosures within the context of print advertising. Thus, the following hypotheses are proposed:

Second Hypothesis: Voters will have significant difference in their visual attention on AOI (claim, logo, and photo) of the printed political advertisements based on their age group.

H2a: Voter's Time to First Fixation (TFF) to AOI (claim, logo, and photo) of the printed political advertisements will be different based on their age.

H2b: Voter's Fixation Count (FC) to AOI (claim, logo, and photo) of the printed political advertisements will be different based on their age.

H2c: Voter's Total Visit Duration (TVD) to AOI (claim, logo, and photo) of the printed political advertisements will be different based on their age.

- Time to First Fixation (TFF): The duration, in seconds, from the outset of the advertisement "stimulus" recognition until the voter fixated on the AOI for the first time.

- Fixation Count (FC): The number of times the voter fixated on an AOI.

- Total Visit Duration (TVD): The overall duration of all fixations within an AOI.

3. DATA AND METHODOLOGY

The research model developed using the hypotheses based on theoretical foundations is visualized in Figure 1. The overall objective of this research is to determine if the design, layout and positioning of the advertisements in terms of three main components or Areas of Interest (AOIs), i.e. photo, claim, and logo particularly in electoral campaign context have an effect on a voter's gaze plot and gaze fixation times. The three elements comprise the length of time of the voter first fixation on the AOI (time to first fixation: TFF), how many times they return to gaze on that AOI (fixation count: FC), and the total time spent gazing at that AOI (total visit duration: TVD). The study will examine whether these visual metrics help in identifying which rudiments of the advertisements' segments were most probably to influence the choice of the voters to change their gaze plots. Although the prior advertising studies that utilized eye tracking techniques have investigated these three AOI related metrics in commercial advertisements, this study uniquely applies this technology to a political electoral campaign setting.

To test the model and uncover the relationships between the variables, a thorough research was conducted to choose the political advertisements of the four main Turkish political parties, namely CHP: Republican People's Party, AKP: Justice and Development Party, MHP: Nationalist Movement Party and HDP People's Democratic Party. Then, a questionnaire was developed to filter the selected advertisements. Later a convenient sample of 80 participants was invited to conduct the eye tracking study in a well-equipped laboratory. Then results were taken and analyzed.

Figure 1: Proposed Model
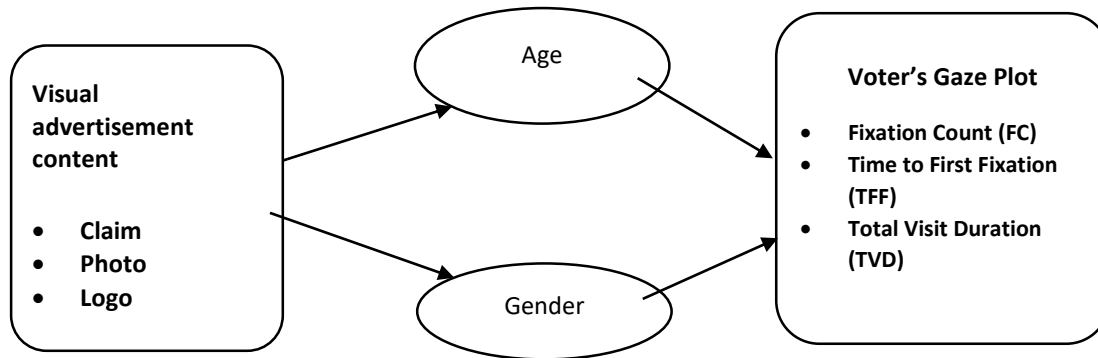
3.1. Data Collection and Sample Selection

The sample composition has been 50% female and 50% male, distributed among age groups of (25-35) almost 16% of the total population, (36–45) almost 15% and (46 above) nearly 15% as shown in Table 1. All subjects are supposed to have clear vision because one of the main limitations of an eye-tracking study is that not all eyes can be tracked. Contact lenses, glasses, and pupil color can all impact the eye-tracking camera's ability to record eye movements (Ooms et al, 2015). The subjects were not aware of the study's hypotheses.

Table 1: Demographic Profile of the Sample Age Group (N=80)

AGE * GENDER

		GENDER		Total
		MALE	FEMALE	
AGE	25-35	16	16	32
	36-45	12	12	24
	46-ABOVE	12	12	24
Total		40	40	80

To select the main printed political advertisements, four main political parties' websites were examined and 8 advertisements for each were selected – totally 32 printed advertisements (See Appendix) The number of the advertisements was mainly 8 simply because it was rather difficult to find more appropriate printed advertisements in equal numbers among the four selected parties. All the above mentioned 32 chosen advertisement were supposedly chosen to contain the advertisements' three main components or Areas of Interest (i.e. image, text, and logo).

An initial questionnaire was developed and distributed among university students as an accessible population. The questionnaire aims at solidifying the authenticity of the examined advertisements by letting parts the potential voters themselves select the advertisements to be examined and the researcher tended to relatively balance a number of variables such as the ratios of the respondents' gender and age. Initially it has been contacted with 370 students whom the researcher visited on campus and personally attended their classes displaying the questionnaire that was translated into Turkish language to facilitate understanding and communication. All the measures were explained in details and respondents were repeatedly informed to scientifically and objectively deal with the research task. Almost 120 questionnaires were excluded due to respondents' failure to meet the standards of the selection procedure. For instance, the questionnaire of any respondent who ranked all advertisements in one scale or chose to rank a particular party's advertisement in a clear biased way was rejected.

The main objective of the questionnaire is to filter the advertisements previously collected from the websites of political parties and reduce the number to 16, so that each party will have only 4 advertisements. This process will provide feasibility when

conducting the eye tracking experimental study. The questionnaire includes two sections: the first part focuses on gathering demographic information of the participants and the second part presents the 32 advertisements that needed to be filtered and reduced into 16 based on the likeability scores of the participants.

There is a wide spread perception among the researchers of the eye tracking field that a valid and solid study should have at least thirty participants to be conducted reliably. However, the literature of eye tracking simply states that this would be designated as an oversimplification. In different studies, the sample size considerably differs (Ooms et al, 2015) and few number of participants would be appropriate for some eye tracking studies. As in any other type of study, the sample size depends on multiple factors including research objectives and study design. Thirty participants are more than sufficient for a qualitative study in which the eye movement data are used to demonstrate certain usability findings.

Therefore, sample size is determined based on the following elements:

- The subgroups that will be analyzed autonomously like gender and age

- The degree of risk involved in the decisions being made based on the results

- The amount of available resources (time and money)

- The statistical tests that will be used to analyze the data

- Margin of standard error of the mean and significance levels accepted in the results

3.2. Procedure

When starting the process of recruitment of the participants, a host of expected challenges surfaced. Subjects were initially interviewed through a telephone call and when introducing the nature of the research, they tend to refrain from participation and politely decline the invitation. With further clarification and asserting the academic and scientific nature of the study, a number of participants have decided to take part.

The participants have been received in the place where the facilities for eye tracking experimentation are installed and the entrance survey is offered. The main objective of first part of the questionnaire is to record the personal information of the participants like their gender, age, occupation, political affiliation and educational levels. It has been distributed in Turkish language. A facilitator gave an introductory clarification of the whole process and made sure that every step is clear.

The respondents have initially signed an informed consent form clarifying the objectives of the study and the steps and procedures used to collect the printed advertisements. The entrance survey was given to each participant and later they were invited to the experimentation room. The study has been conducted in a dedicated room accommodating the Tobii eye tracker. The respondents have been allowed to sit approximately 60 cm away from the screen. The so-called eye tracker was calibrated using five points on the screen and takes approximately one minute. The 16 selected printed advertisements have sequentially displayed. Each advertisement was displayed for 5 seconds. Then a short break of 5 seconds between each advertisement. The aim of this short break is to diminish the likelihood of confusion and give the eye a short pause before handling another visual material. The 16 advertisements were originally selected out of 32 advertisements of the political parties in a filtering questionnaire that was conducted earlier of the study.

4. FINDINGS AND DISCUSSION

It is well-established that gender differences in human cognitive functioning is questionable due to conflicting findings of various research studies. This study shows that female subjects tend to look faster than male subjects to one of the AOI (i.e. the claim) of only one advertisement AKP: D as in Figure 2, out of the total 16 visual materials. The findings also indicate that female subjects tend to look faster than male subjects to the claim of only one advertisement, namely HDP: D Figure 2. Thus, the results indicated difference in only one advertisement and that could be attributed to the fact that it was the only visual material that contains mainly the images of two leaders of the political parties.

Figure 2: Respondents' TFF to the Claim of the Visual Materials

AKP: D	HDP: D

On the other hand, the findings of the study show that female subjects tend to look faster than male subjects to the logo of only two advertisements (AKP: A and MHP: D) out of the total 16 advertisements. This suggests that gender does not have a significant effect on Time to First Fixations of the participants. The result only showed difference in one advertisement and that could be attributed to the location of the position and simplicity of the claim.

Based on the analysis of the independent t-test, male subjects tend to focus more than female subjects in their fixation counts to the claim for only two advertisements (HDP: C&E) out of the total 16 advertisements. The only difference where men looked faster than women was in the MHP: D advertisement. As it is shown at Figure 3, male participants looked at the logo of the party faster than female participants. Men gazed at the logo after 1,2 seconds while women waited for almost 1,7 seconds to fix their gaze on the logo of the party displayed.

Figure 3: Respondents' TFF to the AOI of the Advertisements According to Their Gender
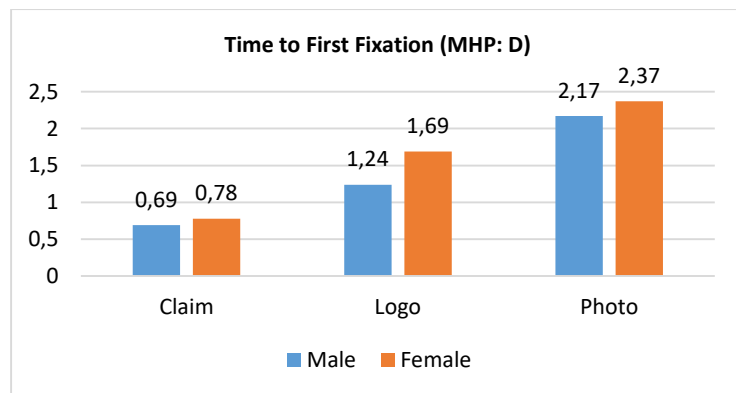
An independent-samples t-test was conducted to measure the differences between male and female voters' Fixation Count on the claim of the advertisements. The result concludes that there was a significant difference between male and female participants'' Fixation Count to the claim of the advertisement in only these two advertisements (HDP: C&E) Figure 4 and that could be attributed to the location of the position and simplicity of the claim; the claim is written in the middle of the posts.

Figure 4: Respondents' FC to the Claim of the Visual Materials

HDP: C	HDP: E
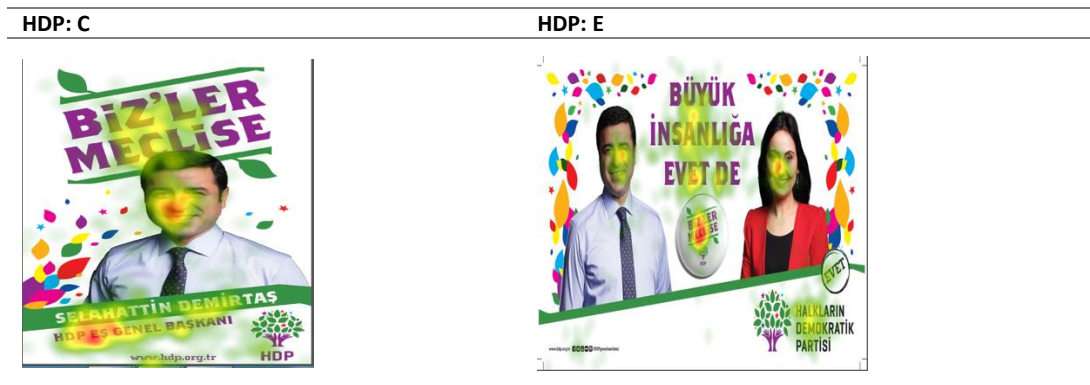
Figure 5 clearly shows that female participants focused more than male participants on the claim of HDP: C advertisement. Women gazed at the claim for almost 5.5 counts, whereas men fixated their gaze for almost 4.5 counts.

Figure 5: Respondents' FC to AOI of the Advertisement According to Their Gender
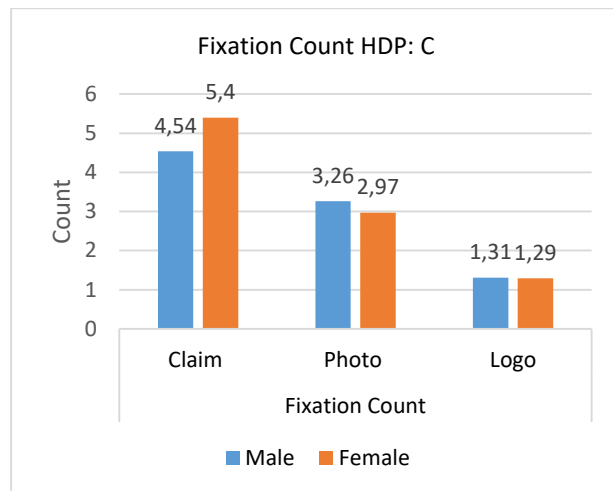
Likewise, Figure 6 illustrates that female individuals focused more than male participants on the claim of HDP: E advertisement. Women gazed at the claim for almost 7.92 counts, whereas men fixated their gaze for 6.7 counts.

Figure 6: Respondents' FC to the AOI of the Advertisement According to Their Gender
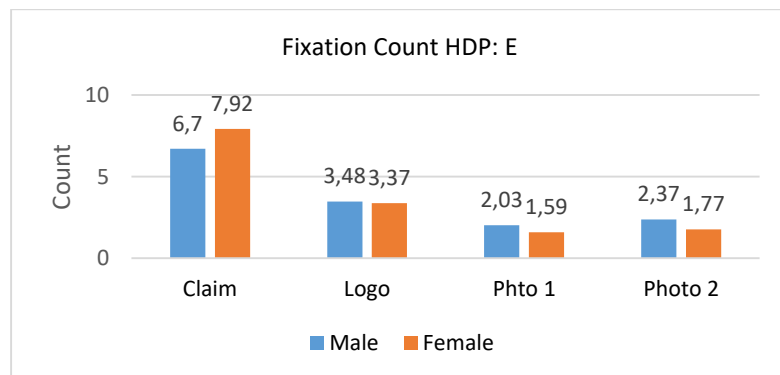
As shown in the results of t-test Table 2, there is a significant difference in the scores for of male (M=4.4, SD=2.341) and female (M=4.7, SD=3.02) variables; t(78)=-0.496, p = 0.048. Similarly, the results of (HDPFCCLAIME) demonstrates that there was a significant difference in the scores for of male (M=7.4, SD=4.67) and female (M=4.7, SD=3.02) variables; t(78)=-1.208, p = 0.014

Table 2: Results of Independent Samples Test of Respondents' FC to the claim of the advertisements

Independent Samples Test									
	Equality of Variances		t-test for Equality of Means 95% Confidence						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Interval of the Lower	Upper
HDP-FC-CLAIM-C*	4,029	,048	-,496	78	,621	-,30000	,60434	1,50314	,90314
HDP-FC-CLAIM-E**	6,382	,014	-1,208	78	,231	-1,10000	,91076	2,91319	,71319

* HDP: the name of the political party- FC (Fixation Count) Claim – C: the letter of the advertisement

** HDP: the name of the political party- FC (Fixation Count) Claim – E: the letter of the advertisement

The result suggests that gender does not have a significant effect on fixation count (FC) of the participants on the claim of the advertisements. It is also concluded that there was a significant difference between male and female participants' fixation count to the claim of the advertisement in only these two advertisements, which could be attributed to the location of the position and simplicity of the claim; the claim is written in the middle of the posts.

Based on the findings of the study, women tend to focus more than men in their fixation counts to the photo of only 3 advertisements (CHP: B), (MHP: E), (HDP: E) out of the total 16 advertisements. Overall, these findings suggest that gender does not have an effect on fixation count (FC) of the participants on the photo of the political parties' leaders on printed advertisements. Therefore, the only interpretation that might explain the results is that men tend to focus more on the photos of smiling faces and unusual postures like the shape of the heart presented by the leader of MHP in ads E&G and HDP (E). On the other hand, male participants tend to focus more than female subjects in their fixation counts to the logo of only 6 advertisements (AKP: D&E; MHP: D&H; HDP: D&E) out of the total 16 advertisements. The overall result suggests that gender does have an effect on fixation count (FC) of the participants on the logo of the political parties in printed advertisements. It can be interpreted that women tend to focus more on the logo when placed in the margins of the printed advertisements, whereas men tend to focus their fixations more on the logo when it tends to be centralized in the middle of the printed advertisements.

Also, the study found that male and female individuals tend to spend dissimilar time durations or total visit duration on the claim of two advertisements (HDP: E&C) and that represents 12.5% of the total 16 advertisements. Therefore, gender does not have an effect on the total visit duration (TVD) of the participants to the claim of the political parties in printed advertisements. It can be explained that men tend to visit the short claims less than women do; one of the claims included only 2 words while the other only 3 words.

Based on the analysis of the independent t-test, male and female individuals tend to spend different times or total visit on the photo of three advertisements of MHP (E&G) and HDP (E) as can be seen at Figure 7.

Figure 7: Respondents' TVD to the Photo of the Visual Materials According to Their Gender

Table 3 gives the results of t-tests for independent-samples conducted to measure the differences between male and female voters' total visit duration (TVD) of the photo on the advertisements. It shows a significant difference in the scores for male and female participants' TVD in three different advertisements.

Table 3: Results of Independent Samples Test of Respondents' TVD to the Photo of the Advertisements According to Their Gender

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence	F
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
*HDP-TVD-PHOTO-E	Equal variances assumed	4,283	,042	1,602	78	,113	,09750	,06088	-,02369	,21869
	Equal variances not assumed			1,602	74,927	,113	,09750	,06088	-,02377	,21877
**MHPTVDPHOTO-G	Equal variances assumed	7,856	,006	1,664	78	,100	-,25900	,15564	-,56885	,05085
	Equal variances not assumed			1,664	66,526	,101	-,25900	,15564	-,56970	,05170
***MHP-TVD-PHOTO-E	Equal variances assumed	5,162	,031	2,302	29	,029	-,111	,048	-,209	-,012
	Equal variances not assumed			2,430	25,593	,022	-,111	**,046**	**-,204**	**-,017**

* HDP: the name of the political party- TVD (Total Visit Duration) Photo – E: The Number of the advertisement

** MHP: the name of the political party- TVD (Total Visit Duration) Photo – G: The Number of the advertisement

*** MHP: the name of the political party- TVD (Total Visit Duration) Photo – E: The Number of the advertisement

The overall result suggests that gender does not relatively have an effect on the total visit duration of the participants on the photo of the political parties in printed advertisements.

As Figure 8 shows, both male and female participants tend to have different times of eye fixations on the photo of the advertisements of two political parties (HDP: E and MHP: E&G). Male individuals spend less time gazing on the photos of the leaders for the examined advertisements. However, it cannot be generalized as the participants' TVD was differently only for these 3 advertisements out of 16 advertisements.

Figure 8. Respondents' TVD to the Photo of the Advertisements According to Their Gender
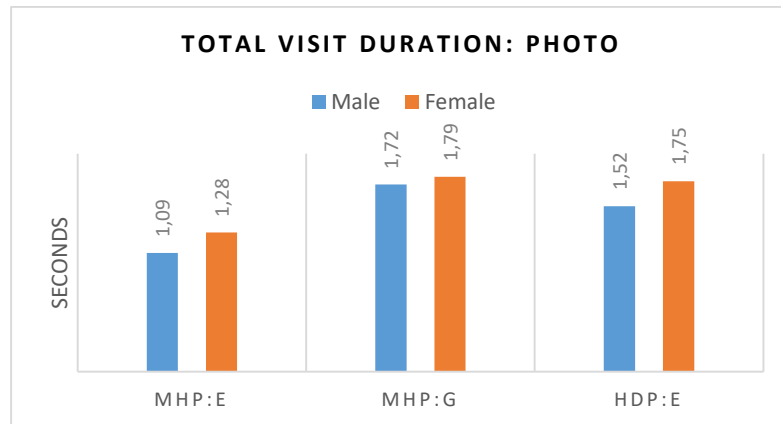
It can be explained that men tend to visit the short claims less than women do. One of the claim includes only 2 words while the other include only 3 words.

Based on the results of the independent t-test, male and female individuals tend to gaze more on the logo of 6 different advertisements of (AKP: E & H) and (MHP: D & H) and (HDP: C & E). The overall result suggests that gender has relatively an effect on the Total Visit Duration of the participants to the logo of the political parties in printed advertisements. It can be explained that men interestingly tend to visit the logos in the center of the printed advertisements more than women do. While women tend to look more on the logo if it was located on the corners or the margins of the printed advertisements.

In a nutshell, it can be concluded that the first hypothesis, voters will have significant difference in their visual attention on AOI (claim, logo, and photo) of the printed political advertisements based on their gender is supported. There were differences in 12 out of 16 images based on gender.

4.1. Age Differences in Human Cognitive Functioning

Based on the results of one-way between subjects- ANOVA test, young generations tend to look faster than older generations to the claim of only two advertisements (MHP: G) and (HDP: C). Specifically, the results suggest that young participants tend to look at the claim of the advertisements faster than the middle aged, adults and elderly people. According to the results, the more the individuals grow up the slower they consider looking at the claim of the political advertisements. Nonetheless, the results cannot be generalized as this conclusion was just observed in 2 displayed advertisements. A possible interpretation could be that the claims of the two advertisements is composed of only two words and that make young people look faster than older.

The study found that old generations tend to look faster than young participants to the photos of political leaders of 5 political advertisements (AKP: A & D) (CHP: B), (HDP: C) and (MHP: H) (Figure 9). The overall results suggest that old participants tend to look at the photo of the advertisements faster than the middle aged, young individuals. It was fond that the more the individuals grow up the faster they consider looking at the photo of the political advertisements. Nonetheless, the results cannot be totally generalized as this conclusion was observed in 5 displayed advertisements. In almost all the observations, the participants who are aged more than 45 tend to gaze at the photo in less than a second. While some of the individuals aged 25 to 35 may wait for 3.18 seconds to consider looking at the photo of the (MHP: H) and 2.37 seconds to look at (AKP: A) and the explanation could be than young generation consider looking faster at the image of the leader if it was relatively in the middle of the printed advertisement and relatively big.

Figure 9: Results of Respondents' (TFF) to the Photo of the Visual Materials According to Their Age

AKP: A	AKP: D

CHP: B	**MHP: H**

HDP: C	

A one-way between subjects - ANOVA Table 4 was conducted to compare the effect of age group on the participants' Time to First Fixation to the photos used in the displayed advertisements. Age groups were classified into three main groups (25-35), (36-45) and (46-above). According to the results, there was a significant effect of age on (TFF) at the $p<0.05$ level for the three age groups to five advertisements.

Taken together, these results suggest that individuals from different age groups relatively have significant difference in their Time to First Fixation towards the photos of the leaders in the displayed materials. Nonetheless, it cannot be overgeneralized to the rest of the sample simply because the results do not overwhelmingly include all the advertisements. Still, the results show that old generation appeal to the images of the leaders faster than young generation.

Table 4: Group Statistics of ANOVA: Respondents' TFF to the Photo According to Their Age

		Sum of Squares	df	Mean Square	F
*AKPTFFPHOTOA	**Between Groups**	18,149	2	9,075	4,024
	Within Groups	105,991	47	2,255	
	Total	124,140	49		
**AKPTFFPHOTOD	**Between Groups**	6,701	2	3,351	3,302
	Within Groups	78,126	77	1,015	
	Total	84,827	79		
***CHPTFFPHOTOB	**Between Groups**	8,272	2	4,136	2,769
	Within Groups	115,003	77	1,494	
	Total	123,275	79		
****MHPTFFPHOTOH	**Between Groups**	25,587	2	12,794	5,122
	Within Groups	192,344	77	2,498	
	Total	217,931	79		

*****HDPTFFPHOTOC	**Between Groups**	12,020	2	6,010	5,508
	Within Groups	84,011	77	1,091	
	Total	96,031	79		

*AKP: the name of the political party- TFF (Time to First Fixation) Photo – A: The Number of the advertisement

**AKP: the name of the political party- TFF (Time to First Fixation) Photo – D: The Number of the advertisement

***CHP: the name of the political party- TFF (Time to First Fixation) Photo – B: The Number of the advertisement

****MHP: the name of the political party- TFF (Time to First Fixation) Photo – H: The Number of the advertisement

*****HDP: the name of the political party- TFF (Time to First Fixation) Photo – C: The Number of the advertisement

The study also concluded that middle aged participants tend to look faster than young participants and much faster than the old generations to the logo of only one political advertisement (MHP: D) and that represents 6.5% of the total advertisements. The overall result suggests that participants aged 36 to 45 spend almost 0.8 seconds till they consider looking at the logo of the (MHP: D) advertisement. Undoubtedly, the result cannot be generalized as this conclusion was observed only in one displayed advertisements. The outstanding feature of the logo of this particular advertisement is that it comes typically in the center of the post and that may indicate that middle aged individuals often consider the middle of the displayed advertisements rather than the corner and the margins.

All the results showed that there is not any difference between the various participants Fixation Counts to the claim or the photo of the displayed advertisements based on their age differences. The only significant difference was observed in one advertisement (AKP: A) and that was related to the photo of the advertisement. Also, it was found that old participants tend to fixate their gaze on the photo of one advertisement (AKP: A). they for 2 counts where middle aged gazed for only 1.2 counts. Still, it is hard to overgeneralize the findings.   In a nutshell, it can be concluded that the second hypotheses, voters will have significant difference in their visual attention on AOI (claim, logo, and photo) of the printed political advertisements based on their age group was not strongly supported because only age factor has shown that it affects participants gazing only on 7 out of 16 images and that is not a substantial difference.

In a nutshell, hypotheses were tested as briefed in table 5, the first hypothesis (Voters will have significant difference in their visual attention on AOI (claim, logo, and photo) of the printed political advertisements based on their gender) was supported while the second hypothesis (Voters will have significant difference in their visual attention on AOI (claim, logo, and photo) of the printed political advertisements based on their age group.) was not strongly supported.

Hypotheses		Results
First Hypothesis:	**Voters will have significant difference in their visual attention on AOI (claim, logo, and photo) of the printed political advertisements based on their gender.**	**Supported** **There were differences in 12 out of 16 images based on gender**
H1a:	Voter's Time to First Fixation (TFF) to AOI (claim, logo, and photo) of the printed political advertisements will be different based on their gender.	4 out of 16 advertisements
H1b:	Voter's Fixation Count (FC) to AOI (claim, logo, and photo) of the printed political advertisements will be different based on their gender.	11 out of 16 advertisements
H1c:	H1c: Voter's Total Visit Duration (TVD) to AOI (claim, logo, and photo) of the printed political advertisements will be different based on their gender.	11 out of 16 advertisements
Second Hypothesis:	**Voters will have significant difference in their visual attention on AOI (claim, logo, and photo) of the printed political advertisements based on their age group.**	**Not strongly supported** **7 out of 16 images have differences based on their age.**
H2a:	Voter's Time to First Fixation (TFF) to AOI (claim, logo, and photo) of the printed political advertisements will be different	8 out of 16 advertisements

	based on their age.	
H2b:	Voter's Fixation Count (FC) to AOI (claim, logo, and photo) of the printed political advertisements will be different based on their age.	1 out of 16 advertisements
H2c:	Voter's Total Visit Duration (TVD) to AOI (claim, logo, and photo) of the printed political advertisements will be different based on their age.	0 out of 16 advertisements

5. CONCLUSION

The study tries to elaborate more specifically on the effects of various variables like gender and age of the participants and its effects on subjects' TTF, FC and TVD. It aims to measure whether there are any differences among different participants and how they perceive the various visual stimulations. In general, it is clearly shown, according to the results of the eye-tracking experiment, that the participants have a clear tendency to quickly gaze at the claim (TFF) of the visual stimuli. Then they tend to gaze at the photo of the leader and lastly to the logo of the party. There are some exceptions in the advertising posters of (CHP: A&E), (MHP: D,E&G).

Predominantly, it is clearly shown, according to the results of the eye-tracking experiment, that the participants have a tendency to focus their gazes (FC) at the claim of the visual stimuli more than the photo and logo. Then they tend to fixate their gaze on the photo of the leader and lastly to the logo of the party. There are some exceptions in two advertising posters of MHP: E and HDP: D. It is also seen that according to the results of the eye-tracking experiment, the participants have a tendency to spend more time gazing (TVD) at the claim of the visual stimuli more than the photo and logo. Then they tend to spend more time gazing on the photo of the leader and lastly to the logo of the party. There are some exceptions in two advertising posters of MHP: D& E and CHP: B.

The results correspond with the findings of the study of both Pieters and Wedel (2004) and Poole and Ball (2005) Time of First Fixations (TFF) was the indicator of the visual stimulation impact on participants. Their studies have concluded that there is a significant direct relational association between TFF and certain parts of the AOI. In other words, when the viewer first fixates his or her eye on a visual material, it means that stimulus is the most prominent among other AOI. Furthermore, the research of Calvo and Lang (2004) and Rayner et al. (2001) found that the Total Visit Duration (TVD) essentially represents the respondents' association, attention, or commitment with the visual materials. Nonetheless, the Fixation count (FC), demonstrates the impact of the visual materials on the AOI that mainly encourages or minimally draws the attention of the viewers as in the study of both Janiszewski (1998) and Maughan et al. (2007).

On the other hand, the findings of the study conclude that young participants tend to look at the claim of the advertisements faster than the middle aged, adults and elderly people. Nonetheless, the results cannot be generalized as this conclusion was just observed in 2 displayed advertisements. A possible interpretation could be that the claims of the two advertisements are composed of only two words and that make young people look faster than older. It was discussed in the literature review that due to the progress in age, people develop familiarity with the different parties' advertisements, they become more aware of how the advertisement is designed and where each component is located and become better able to avoid attending locations where advertisements'' elements are displayed. The overall results suggest that old participants tend to look at the photo of the advertisements faster than the middle aged, young individuals. It was fond that the more the individuals grow up the faster they consider looking at the photo of the political advertisements. Nonetheless, the results cannot be totally generalized as this outcome was observed in 5 displayed advertisements

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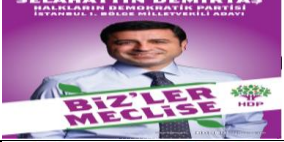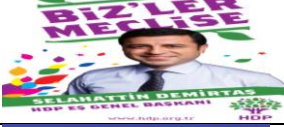
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Appendix

Ad. Number	CHP Advertisement
A	
B	
C	
D	
E	
F	
G	
H	

Ad. Number	AKP Advertisement
A	
B	
C	
D	
E	
F	
G	
H	

Ad. number	MHP Advertisement
A	
B	
C	
D	
E	
F	
G	
H	

Ad. number	HDP Advertisement
A	
B	
C	
D	
E	
F	
G	
H	

UNDERSTANDING THE CHALLENGES OF MULTICULTURAL TEAM MANAGEMENT[1]

Nusret Sogancilar[1], Husniye Ors[2]
[1]Gazi University, Faculty of Economics and Administrative Sciences, Ankara, Turkey.
 nsrtsgnclr@gmail.com, ORCID: 0000-0002-9729-5372
[2]Gazi University, Faculty of Economics and Administrative Sciences, Ankara, Turkey.
 ohusniye@gmail.com, ORCID: 0000-0002-8319-3340

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ABSTRACT

Purpose- This study aims to explore the challenges confronted by executive managers while managing multicultural teams, and the solutions they deliver to cope with these matters. What is aimed to accomplish is to comprehend these challenges from the standpoint of managers. While trying to understand the problems and exhortations related to multicultural team management, culture and core cultural dimensions were utilized in the study.
Methodology- Criterion sampling method, which is a kind of purposive sampling method, was employed in the study. The data for the study was collected through 14 in-depth interviews directed to executive managers of MNCs operating in Turkey. The questions that generate our data consist of open-ended questions. The statements of managers were analyzed by content analysis and sorted into corresponding categories. These categories and solutions based upon manager's experiences were presented accordingly.
Findings- Implications indicate that most frequently confronted challenges are ineffective communication and misunderstandings, different working styles and expectations of group members, and intolerance and lack of knowledge related to diversity. On the other hand, in order to cope with these challenges, managers state that it is significant to embrace diversity and encourage group members to acknowledge it as well as become approachable and eager to learn more. Last but not least communicating in the simplest form has been accentuated.
Conclusion- To sum up briefly, successful managers are expected to possess the competency to adapt different management styles and they are also expected to be flexible enough to switch from one to another.

Keywords: Multicultural teams, core cultural dimensions, cross-cultural management, international business, multinational companies.
JEL Classification: F23, M12, M16

1. INTRODUCTION

Having multicultural teams in today's globalized business world is quite widespread for companies. The reason behind this phenomenon is considered to be the increasing mobility of people and labor on a global scale. Within this context, multicultural work groups have become prevalent and rapidly changing work environment has set novel challenges both for managers and for employees. Therefore, the role of managers as to effectively leading multicultural teams as well as understanding and handling the challenges arising for this reason is pretty significant (Matveev and Milter 2004).

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[1] This paper is a revised and expanded version of a paper presented at the Global Business Research Congress in 2018.

Simply put, it is considered that multinational companies (MNCs) prefer directly investing in foreign markets for certain reasons including market-seeking (desire to find new buyers), resource-seeking (desire to access to cheaper inputs),

strategic asset-seeking (desire to build distribution networks and acquire cutting-edge technologies) and efficiency-seeking (Dunning, 2002). Along with that, mergers and acquisitions performed between foreign and domestic companies are considered to influence the number of foreign employees working for the company and consequently the number of multicultural teams in international organizations. Studies conducted to investigate MNCs exhibit that one of the serious issues faced by these companies is the management of cross-cultural differences. This is because culture profoundly influences the attitudes of managers, relations in the company, technology transfer, and many other activities (Helvacıoğlu and Özutku, 2010). Within this context, it may be regarded that major problems arise in work environments where people from diverse cultural backgrounds are working together. Previous studies conducted in this realm, mainly focuses on either proper leadership styles that are required to adopt to manage culturally diverse teams or the issues confronted by team members and how they handle these problems including language differences, misunderstandings and miscommunication (Mäkilouko, 2004; Behfar et al., 2006; Ramthun and Matkin, 2012; Aritz and Walker, 2014; Lisak and Erez, 2015). Also, there are studies conducted to comprehend the challenges of virtual teamwork (Heimer and Vince, 1998; Jarvenpaa and Leidner, 1999; Oertig and Buergi, 2006).

In this study, instead of concentrating on the differences of individual team members and their cultural backgrounds, it has been aimed to address the challenges faced by executive managers while managing multicultural teams as well as the solutions delivered by them. In other words, our goal is to develop an understanding of the challenges faced by managers and the way they handle these challenges. This study is going to concentrate on managers who work for MNCs operating in Turkey since they are more likely to work with people from diverse cultures and confront challenges stemming from these differences that are common in multicultural teams. Comprehending these challenges from the standpoint of managers is what we aim to accomplish. The outline of this study is charted as follows. Following section presents the literature review focusing on the definition of culture, the dimensions of culture, multicultural teams and the advantages and disadvantages of having multicultural teams in the organization. Section 3 will present the methodology, including sample selection, data collection and data analysis method. In Section 4, the findings of the study will be given and discussed through core cultural dimensions lens. It will cover descriptive findings, the challenges faced by managers in managing multicultural teams and the solutions proposed by them. Finally, Section 5 will provide concluding remarks. Limitations of the study and avenues for future research will also be outlined in the last section.

2. LITERATURE REVIEW

2.1. Defining Culture

Since the concept of culture has been approached by myriad of researchers as well as disciplines including sociology, psychology, anthropology, history and so on, it is difficult to come up with an exact definition of culture. Therefore, it can be said that because looking for a definition that does not overlook the richness of culture and that encompasses all the definitions proposed related to culture is tricky and complicated, one may encounter various definitions and approaches related to the concept of culture. Even though not-having-a-specific-definition-of-culture view is the position on which there is a consensus, by Browaeys and Price (2008: 3), it is put forward that there is a concrete feature of culture which is that "it is something all human learn in one way or another.'' Despite the complexity and richness of the notion of culture, Hofstede (1980: 25) defines culture as "the collective programming of the mind which distinguish the members of one human group from another." The definition proposed by Hofstede is frequently used in the cross-cultural studies.

In their study, Schneider and Barsoux (2003) give a visual picture of an ocean that contributes to the interpretation of culture's levels. At the top, behaviors (architecture, language, cuisine and so on) take place, which correspond to the surface of the ocean and are visible and observable. Beliefs, norms and values (rules, what is right or wrong and so on) fall in the middle, which can be determined through surveys and interviews. And undermost, assumptions which are not easy to explore and where inferences can be made through interpretations, take part.

In addition, Chao and Moon (2005) define culture as a "Cultural Mosaic" that encompasses the dimensions including demography (age, gender, race), geography (climate, urban-rural) and association (family, religion). Following these definitions, it can be said that culture is open to change and serves as a glue which is made of both observable and unobservable commonly shared ingredients, which holds people together and enables them to interpret the world surrounding them as well as differentiates them from others with its distinctive characteristics.

2.2. Core Cultural Dimensions (CCDs)

In the literature, there are multiple models that attempt to explain national cultures and that also have been frequently used and cited in cross-cultural studies. This divergence or lack of convergence deriving from the multiplicity refers to "culture theory jungle". In their study, Nardon and Steers (2009) integrate the six most commonly utilized models that are proposed by Kluckhohn and Strodtbeck, Hofstede, Hall, Trompeenars, Schwartz and GLOBE study. Then, they suggest,

based on their assessment, five common themes referring to core culture dimensions (CCDs) that include Hierarchy-Equality, Individualism-Collectivism, Mastery-Harmony, Monochronism-Polychorism, Universalism-Particularism (see Table 1 for the summary). Therefore, in order to hold a comprehensive understanding and make more meaningful comparisons, CCDs are employed in the study. In addition, it is highly recommended that readers get to the original paper for more detailed information and comprehension related to CCDs.

Table 1: Core Cultural Dimensions (CCDs)

CCDs	Focus of Dimensions
Hierarchy-Equality	*Power distribution in organizations and society:* Extent to which power and authority in a society are distributed hierarchically or in a more egalitarian and participative fashion.
Individualism-Collectivism	*Role of individuals and groups in social relationships:* Extent to which social relationships emphasize individual rights and responsibilities or group goals and collective action; centrality of individuals or groups in society.
Mastery-Harmony	*Relationship with the natural and social environment:* Beliefs concerning how the world works; extent to which people seek to change and control or live in harmony with their natural and social surroundings.
Monochronism-Polychronism	*Organization and utilization of time:* Extent to which people organize their time based on sequential attention to single tasks or simultaneous attention to multiple tasks; time as fixed vs. time as flexible.
Universalism-Particularism	*Relative importance of rules vs. relationships in behavioral control:* Extent to which rules, laws, and formal procedures are uniformly applied across societal members or tempered by personal relationships, in-group values, or unique circumstances.

Source: Nardon and Steers (2009: 10).

Moreover, based on the countries' central tendencies in cultural characteristics, Nardon and Steers (2009) determine country clusters in their study. These include nine clusters which are Anglo, Arab, East European, East/Southeast Asian, Germanic, Latin American, Latin European, Nordic, and Sub-Saharan Africa (Nardon and Steers, 2009: 17-19). In our study, CCDs and these country clusters will be utilized to make comparisons, interpretations and interference.

2.3. What is a Multicultural Team?

Human beings have been experiencing collaboration and cooperation to safeguard the continuity of their existence ever since they existed. Cooperation and collaboration, in this sense, may be regarded as worthwhile and helpful not only for survival but also for efficiency and satisfaction. Hence, emergence and creation of teams can be attributed to this notion (Halverson and Tirmizi, 2008).

Globalization and recent developments in technology have profoundly influenced societies, businesses and the work environment. This is because increasing mobility of labor and entrepreneurs along with capital movements, spread of information & technology and foreign trade activities peaked in recent years. Changes in the work environment stemming from globalization have brought about some practical concerns regarding the management of multicultural teams (Thomas, 1999). According to Jarvenpaa and Leidner (1999), multicultural teams can be formed in three ways. Firstly, a team may consist of members from diverse cultural backgrounds including expats or ethnic minorities working together in the same country. Secondly, it may possess members who are dispersed across many countries but occasionally meet up in person. And thirdly, virtual teams that possess members from various countries, working together via electronic devices and medias and not meeting in person. It is important to mention right here that we are going to focus on the first type of teams in this study.

Multicultural teams are defined as "task-oriented groups comprising people of different cultural backgrounds" by Marquardt and Horvath (2001). In addition, in their study, Halverson and Tirmizi (2008: 5) define multicultural teams as

    "a collection of individuals with different cultural backgrounds, who are interdependent in their tasks,   who share responsibility for outcomes, who see themselves and are seen by others as an intact social entity embedded in one or more larger social systems, and who manage their relationships across   organizational boundaries and beyond".

2.4. Pros and Cons of Having Multicultural Teams

In the literature, there are several studies accentuating the advantages and disadvantages of having multicultural teams. Brannen and Salk (2000) suggest that cultural diversity doesn't impact team performance in a negative way. In other words, it is claimed that what creates a conflict in a team is not the differences of team members. A review completed by William and O'Reilly (1998) conclude that diversity has no predictable effect on team performance. In addition, cultural diversity in

an organization is asserted to serve as an asset instead of liability (Williams and O'Reilly, 1998; Stahl et al., 2010). Some studies show that heterogenous teams outperform homogenous teams. It is suggested that multiple perspectives, varied experiences, different problem-solving and decision-making styles and smart ideas prevail in multicultural teams (Adler, 2002).

Due to diversity, multicultural teams are more prone to face difficulties including language barriers, ineffective communication and differences in communication styles (Adler, 2002). When heterogeneity in groups increases, it is considered that cultural differences bring about miscommunication in the group and undermine the development of group norms (Bettenhausen and Murnighan, 1985; Jehn et al., 1999; Ely & Thomas, 2001; Behfar et al., 2006). Diversity is likely to create a propensity toward conflict and subconsciously-held cultural differences and sources of conflict are tough to detect and annihilate (Kirchmeyer and Cohen, 1992). According to De Dreu & Weingart (2003), conflicts in multicultural teams are negatively related to team performance.

As it can be understood, there are certain advantages and disadvantages of having multicultural teams or diversity in the organization. The attitude of an organization towards diversity may be considered to be influenced by the way a manager handles them and perceives the pros and cons of these differences. While some managers underestimate cultural diversity, and try to remove it in the organization, some might deem these differences as an advantage enhancing company performance and try to support and encourage this diversity in the organization. Therefore, view of the organization on this matter is likely to be impressed by the managers working for the organization.

3. DATA AND METHODOLOGY

For this study, data was collected from primary and secondary sources. Secondary sources consisted of books, articles and magazines which were used to constitute the theoretical parts of the study. Main data for the study was collected through in-depth interviews directed to executive managers of MNCs operating in Turkey. The objective of the interviews was to explore the problems of managing multicultural teams and identify the solutions, within this context, recommended by executive managers. The data was obtained from answers given to open-ended questions. The statements of managers were analyzed by content analysis.

As mentioned, study focused on the executive managers working for MNCs operating in Turkey. However, it was not easy to access to a list indicating the name of MNCs in Turkey. Therefore, it was made use of the list published by Fortune Magazine that revealed the biggest 500 companies of 2017 in Turkey. Purposive sampling method, which is one of the most commonly used and the fittest sampling techniques in qualitative researches (Marshall, 1996; Palys, 2008: 697; Sekaran and Bougie, 2016: 248), was employed in the study. Based upon the objective of the studies, purposive sampling method is classified into certain kinds. Taken this into consideration, appropriate sampling method for this study was considered to be criterion sampling (Palys, 2008: 697). In this sense, companies in the sample of the study were selected from the list based upon their country-origins. It was aimed to get an appointment from the first 50 foreign corporations in the list and ultimately 14 in-depth interviews were conducted by appointment.

First part of the questionnaire concerns about the personal background of the participators. Demographic or general information that executive managers were requested to answer was determined as gender, age, nationality, educational background and work experience (years). Lastly, main questions of the study consisted of "As compared to homogeneous teams, what are the challenges confronted while managing multicultural teams?" and "How do you address or manage these challenges?".

4. FINDINGS AND DISCUSSIONS

4.1. Sample Profile

The sample of the study consisted of 14 individuals with multicultural team management experience. While 64 percent of the participants were male, the rest, namely 36 percent, were female participants. Ages of the participants ranged from 26 to 39, with an average of about 32 years. Almost three out of four (72 percent) of the participants were from two countries, Turkey and Germany. In addition, 43 percent (six out of 14) of participants in the sample had a master's degree while 57 percent (eight out of 14) participants had a bachelor's degree. On the basis of work experience, while the maximum year was 12, the minimum year was 3 with an average of about 7 years (see Table 2 and Table 3).

Table 2: Demographic Characteristics of Respondents

Demographic Variables		Frequency	Percentage
Gender	Female	5	36
	Male	9	64
		14	**100**
Age	26-32	8	57
	33-39	6	43
		14	**100**
Education Level	Undergraduate	8	57
	Graduate	6	43
		14	**100**
Work Experience (year)	3-7	10	71
	8-12	4	29
		14	**100**

Besides, as can be seen in Table 3, participants were mainly from countries that value hierarchy (64 percent), collectivism (64 percent), harmony (57 percent), monocronism (57 percent) and particularism (64 percent), respectively.

Table 3: Distribution of Respondents Based on Nationality and CCDs

		Hierarchy/ Equality		Individualism/ Collectivism		Mastery/ Harmony		Monochronism/ Polychronism		Universalism/ Particularism	
Country	Percentage	H	E	I	C	M	H	M	P	U	P
Turkey	43	6			6		6		6		6
Germany	29		4	4		4		4		4	
Poland	7	1			1	1		1			1
S. Korea	7	1			1		1	1			1
China	7	1			1		1	1			1
The USA	7		1	1		1		1		1	
Total	7	9	5	5	9	6	8	8	6	5	9
Percentage	100	64	36	36	64	43	57	57	43	36	64
		100		100		100		100		100	

4.2. Research Findings

As a result of content analysis obtained from primary data, the challenges that managers confront, and the solutions they have come up with are identified as follows. The challenges grouped under three headings including ineffective communication and misunderstandings, different working styles and expectations, and intolerance and lack of knowledge related to diversity. On the other hand, the solutions that managers come up with are also categorized under three headings. They include embracing diversity and encouraging team members to acknowledge it, becoming approachable and eager to learn more, and communicating in a simple and straightforward way. In the following sections, both the problems and advices related to multicultural team management will be detailed and discussed. Furthermore, taking into account the cultural characteristics of the participants presented in Table 1 and Table 3, Table 4 and Table 5 respectively indicate the challenges that managers confront and the solutions they come up with as well as the managers' cultural dimensions.

4.2.1. The Challenges

Ineffective Communication and Misunderstandings: 71 percent (ten out of 14) of the participants state that the most significant challenge they face in multicultural team management is ineffective communication and misunderstandings. Since they come from diverse cultural settings, it is very likely for team members to have different communication styles. Different communication styles of group members are likely to create controversy about certain issues including the deadlines of the assignments and due dates of the projects. So, one of the problems that managers face within this context is the controversy among group members about the deadline of a task or a project. For instance, when it is said that the task must be submitted at the end of the day; some people are likely to regard it as the end of the shift whereas the interpretation of 'at the end of the day' is likely for others to be the beginning of a new day or midnight. Therefore, it can be said that communication is harder, and misunderstandings occur very easily. Besides, the way you talk and say is important because some group members expect to be addressed directly whereas others expect it to happen indirectly. In other words, some nations value directness whereas others see this being rude. Also, it occupies more time to explain the

assignments and tasks in heterogeneous teams. In homogenous teams, members are more willing to share their ideas and debates are less superficial. For instance, if more than two members of the team come from different countries, the language they use is always English unless they have another common language they better express themselves. Therefore, communication is harder and requires efforts to avoid misunderstandings due to language barriers. In this context, not sharing the same language is likely to create misunderstandings and disagreements among team members. Some reasons including inadequate language skills are the obstacles to clearly and assertively express what they want or think even though team members exactly know what is required to do. Therefore, inadequate language skills of some team members prevent them from expressing themselves clearly and assertively. This kind of challenge is likely to occur especially during brainstorming sessions or meetings. And because of misunderstandings, multicultural teams face a lot more problems than teams that are homogenous. These problems cause such issues including mistrust, lack of motivation, misunderstanding of the tasks and schedules, and absenteeism.

Less than half of the participants addressing ineffective communication and misunderstandings as a problem come from cultures that value equality. Failures of team members in assertively expressing themselves and avoidance from participating in decision-making processes are some of the problems that managers confront. The reason that managers consider it as a problem might be that they stress low power distance in the saddle. In other words, it can be attributed to managers' willingness to manage their teams in a participative style which implies the distribution of authority and responsibility among team members. In addition, most of the managers value a collectivist structure due to their cultures. They tend to communicate in a subtle and indirect way. This is more likely to create problems for team members who are from individualistic cultures in which both sending and receiving the message in a straightforward way are prevalent. On the other hand, universalist cultures can be simply defined as rule-based cultures and managers from these cultures are more prone to adopt management styles based on rules, strict deadlines and schedules in order to be able to control unexpected events and minimize uncertainty (Nardon and Steers, 2009). Misunderstandings among team members related to deadlines, schedules and due dates might be interpreted as both managers' tolerance for rule-breakings and team members' tendency to do things formally due to their cultural backgrounds (see Table 4).

Different working styles and expectations: Approximately 36 percent (five out of 14) of the participants accentuate that the second most important problem in the multicultural teams is different working styles and expectations of team members stemming from diverse cultural backgrounds. The way team members require directions to achieve tasks varies based on cultures. For instance, while some of the members expect to have autonomy on their task, others are likely to expect explicit directions from the team manager in order to set to work. Attitudes, values and the way of building relationship differ from culture to culture. Working styles and ethics among multicultural team members are very likely to differ as well. While some cultures more emphasize on private time and work-life balance, in some cultures it might be more acceptable and will not be perceived as exploitation to ask employees to work more than eight hours a day. In addition, perception of responsibility and authority will be different. Moreover, the way people are motivated is likely to be different based upon their culture. Some people are likely to get motivated with a suitable compensation system in a stable environment. On the other hand, for some people, a reasonable salary and a working environment in which relationship matters would be more motivational. Nevertheless, Chinese, Korean and Indian people will be much happier to follow instructions from their superiors compared to those who are accustomed to working independently and do not request instructions or guidance.

All the managers, who regard work-life balance as a problem in the team, have the characteristics of polychronic cultures in which there is no significant lines between personal life and work. Therefore, for the team members who pay regard to work-life balance and appreciate the separation of these two, attitudes of the managers, in this respect, are likely to create difficulties and unlikely to avert frictions. In 'harmony' and collectivist cultures, quality of life, relationship-based work environment and loyalty to a group are comparatively prevalent characteristics. For the managers and team members who internalize these characteristics, people from individualist and 'mastery' cultures, in which personal goals, achievement, loyalty to oneself are highly acknowledged, will be the reason of disturbance and rage (see Table 4).

Intolerance and lack of knowledge related to diversity: About 28 percent (four out of 14) of the participants reckon that intolerance and lack of knowledge related to diversity is a problem that must be addressed. In the words of a manager, when you approach someone in your team, the very first thing you should keep in mind is that you must respect for diversity. In your team, there might be people who come from different countries, speak different languages, believe in different Gods or have different skin tones. Do not use these differences to banter or start a conversation. Also, the way people do their jobs and behave under different circumstances will not be the same. Team members, if they are not trained about diversity along with cultural tendencies, will be more irritated and less tolerant about the differences. Intolerance and lack of awareness of team members and managers about these issues lead to frictions and conflicts in the team. Then, team members will underperform under these circumstances unless the manager knows how to tackle these issues.

As seen in Table 4, managers considering intolerance and lacking in diversity understanding as a problem come from cultures in which harmony and collectivism are valued. In these cultures, welfare of the in-group members and coherence are strictly accentuated. Also, suppressing, ostracizing and assimilating the differences are considered to be quite widespread in these cultures. A Japanese proverb 'The nail that sticks out gets banged down' emphasizes that the individualistic tendencies of people is not a good thing and will not be welcomed in a collectivist society (Markus and Kitayama, 1991).

Table 4: Challenges That Managers Confront and the Managers' CCDs

	Hierarchy/ Equality	Individualism/ Collectivism	Mastery/Harmony	Monochronism/ Polychronism	Universalism/ Particularism
Ineffective Communication and Misunderstandings	Both	Both	Both	Both	Both
Different working styles and expectations	Hierarchy	Collectivism	Harmony	Polychronism	Particularism
Intolerance and lack of knowledge related to diversity	Hierarchy	Collectivism	Harmony	Polychronism	Particularism

4.2.2. Solution Offers

Embrace diversity and encourage group members to acknowledge it: About 86 percent (12 out of 14) of the participants suggest embracing diversity and encouraging group members to acknowledge it. A work environment in which managers embrace diversity while encouraging group members to acknowledge it is quite significant. Group members need to be trained about cultural diversity and working in a multicultural team. They should know that they must embrace this diversity and respect the differences. So, the manager should be aware of and alert to conflicts among team members and provide knowledge and encourage members to learn about cultural differences. Openness to new things and unfamiliar cultures as well as high level of tolerance is important. Therefore, it is stated the importance of always reminding oneself that attitudes coming from another culture might mean different than in your own culture and ethnocentrism will not serve the purpose in this context. Also, learning the way of building relationships regardless of the differences is important if one wants to succeed in a multicultural team. Change in a team starts with the manager. Listening to and respecting the opinions of other members, accepting differences and reacting appropriately toward tricky situations are good points for managers as role models and leaders. Being aware of cultural differences in the team, listening and understanding the problems of team members and providing support and encouragement mean a lot.

Regardless of their cultural tendencies or in which cultural dimension they take place, appreciating the differences and taking the right steps for the acknowledgement of it by the team members is one of the solutions that is highly recommended by the managers in the sample. Education level and work experience may be the reasons behind this notion. First, it may be regarded that education is a must for personal developments of individuals. Individuals will be exposed to diverse ways of thinking and values through their education which is likely to influence the way they view and interpret the world around them. Hence, it is possible that they differently approach the problems when they are compared to people in the same culture. On the other hand, people confront certain problems in different settings during the business life. Working long years may be the indicative of getting some more experience and adopting new patterns to amend the mistakes made earlier (see Table 5).

Become approachable and eager to learn more: Almost 36 percent (five out of 14) of the participants highlight the importance of being approachable and eager to learn as to resolving the problems in multicultural teams. A manager must be accessible and assure that team members can talk about their problems whenever they need even after team meetings. It is important because some team members think that they should not bring some issues up in group meetings and they prefer privately talking about these issues or maybe even not talking at all. Being proactive is important at this point that letting members feel free to mention their concerns privately. Managers must be approachable, considerate, consultative and tolerant in this respect. Sense of humor is also an important skill for managers to have. It is vital to be able to build a relationship and better grasp the problems in the team.

This solution offer was made by managers classified in hierarchical cultures (see Table 5). It is likely that they frequently deal with the issues arising from their high propensity toward power distance and authority. Instead of keeping team members at arm's length or exerting control and authority over them, importance of being consultative, approachable or even paternalistic was emphasized by participants.

Communicate in a simple and straightforward way: Nearly 29 percent (four out of 14) of the participants state that communicating in a simple and straightforward way mostly hinders the debates and conflicts in the team. Managers need

to be simple when it comes to communication. When it is simple and straightforward, it enables parties to build a sound relation and understanding. This is important because team members are likely to interpret the transmitted message in a wrong way if the message is not delivered straightforwardly. Therefore, communicating in a way that makes the expectations and problems clear and obvious is a milestone for an effective communication to avoid misapprehensions.

Compared to individualist cultures, it is avowable that collectivist cultures harbor high context in communication. In collectivist cultures the message is delivered in a subtle and indirect way and the way the message is transmitted is as significant as the words or, in some cases, more important than the words itself. The importance of establishing an open communication is stressed by managers coming from both collectivist and individualist cultures. The reason for this might be that collectivist managers face communication problems with 'low-context culture' team members or that individualist managers observe the source of conflicts related to communication in their teams and regard this as a problem that needs to be addressed. Either way, they are likely to think that the best way of handling this problem is straightforward communication (see Table 5).

Table 5: Solutions That Managers Come Up With and the Managers' CCDs

	Hierarchy/ Equality	Individualism/ Collectivism	Mastery/H armony	Monochronism/ Polychronism	Universalism/ Particularism
Embrace diversity and encourage group members to acknowledge it	Both	Both	Both	Both	Both
Become approachable and eager to learn more	Hierarchy	Collectivism	Harmony	Polychronism	Particularism
Communicate in a simple and straightforward way	Both	Both	Both	Both	Both

5. CONCLUSION

Results of the study is expected to provide managers with a guideline about how to effectively manage multicultural teams and solve the conflicts arising within this context. Effective communication in multicultural teams is a big issue because misunderstandings may happen easily. Besides, working style and expectations slightly differ among the cultures. Managers must be aware of these differences to better understand, motivate team members and intervene when it is required. In addition, intolerance and lack of awareness of team members and managers about diversity is likely to lead to frictions and conflicts in the team. Therefore, team members are likely to underperform under these circumstances unless the manager knows how to handle them. It is because the manager is the only one who is in charge of setting the things right.

A work environment in which managers embrace diversity and encourage group members to acknowledge this diversity is quite significant. Multicultural teams are more prone to confront difficulties than homogenous teams. A manager must be approachable, considerate, consultative and tolerant and reassure that members can talk any problem whenever they need. Last but not least, in order to avoid any conflict and misunderstandings, a manager is expected to be simple and straightforward while communicating. There is no absolute accuracy when it comes to managing multicultural teams. However, when the manager embraces diversity and creates an environment that enables team members to appreciate each other's views while increasing the awareness of differences, the performance of team will be enhanced. A manager will be what his or her team is. If the team is a poor performer, the manager of the team will be viewed as a poor performer or vice versa. Successful managers are expected to possess the competency to adapt different management styles. They are also expected to be eager to learn more, and flexible enough to switch from one management style to another. This is significant to benefit multiple perspectives, different experiences, different problem-solving and decision-making styles and innovative ideas which prevail in multicultural teams.

This study, like any study, has some limitations. First of all, the study was conducted with a relatively small sample. Therefore, enlarging the size of the sample and reaching more participants will provide a more comprehensive understanding as to identifying the challenges and remedies in multicultural team management. In addition, it may be created scales to test the relationship between cultural dimensions and the challenges confronted in multicultural teams. Hence, in order to improve accuracy, surveys along with interviews may be used to complement the data.

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A SYSTEMATIC LITERATURE ANALYSIS ON ENTREPRENEURIAL ORIENTATION AND BUSINESS PERFORMANCE

Hewa Kumbalgoda Gamage Sriyani Ranasinghe[1], Mohd Shukri Abd. Yajid[2], Ali Khatibi[3], S. M. Ferdous Azam[4]

[1]Management & Science University, Shah Alam, Malaysia.
 hksri@sjp.ac.lk, ORCID: 0000-0002-7205-4783
[2]Management & Science University, Shah Alam, Malaysia.
 shukri@msu.edu.my
[3]Management & Science University, Shah Alam, Malaysia.
 alik@msu.edu.my
[4]Management & Science University, Shah Alam, Malaysia.
 drferdous@msu.edu.my

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ABSTRACT

Purpose- Entrepreneurial Orientation (EO) has received substantial attention in entrepreneurship research in recent years. However, this aspect has not been fully considered in relation to graduate entrepreneurs in the university systems. This article aims to investigate the relationship between Entrepreneurial Orientation and Business Performance.
Methodology- 15 empirical research and 126 articles published in relevant journals were selected through major indexes: ISI, SCOPUS and Google Search. The methodology incorporated theses and articles which showed a relationship with the two constructs from 2000 to 2018. This article proposes a conceptual model consisting of some specific dimensions of EO: entrepreneurship desire, innovativeness, proactiveness, risk-taking and networking capability.
Findings- The limited number of research conducted in this area previously does not cover the issues of graduate entrepreneurs and numerous doubts on EO remain unanswered.
Conclusion- The proposed recommendations strongly advocate for future empirical research of this topic, whereby it would add new pragmatic knowledge to the existing.

Keywords: Entrepreneurship, entrepreneurial orientation, business performance, graduate entrepreneur, systematic analysis.
JEL Classification: I23, A23

1. INTRODUCTION

Measuring Business Performance (BP) through the impact of Entrepreneurial Orientation (EO), in today's economic environment is a critical issue for academic scholars and practicing entrepreneurs. In the recent years numerous disciplines have shown a keen interest in the two main constructs which have been used in many empirical research. EO can be considered as a new tendency to evaluate the performance of a new venture (Kraus, Burtscher, Vallaster & Angerer, 2018) as well as a continuing study area that takes place in existing organizations throughout the world (Sok, Snell, Lee, & Sok, 2017). The available characteristics combine and act together to form an environment where entrepreneurial players get the opportunity: I) to grab current markets in some cases while generating new ones in others, II) to capture market share from competitors who are less forceful and innovative, and III) to acquire the customers, assets and also the employees of demure present businesses (Hamel, 2000; Lackeus, 2018). Improving the entrepreneurial business is a prominent factor required for the progress of any country irrespective of the fact that it is developing or developed. Information is generated

in the present, much more than earlier, through research with regard to the entrepreneurial businesses and improvement of methodologies in social sciences (Kraus, Burtscher, Vallaster & Angerer, 2018, Memon, Ting, Ramayah, Chuah & Cheah, 2017). Besides, it is highlighted in entrepreneurship literature that there is a huge gap in some developing countries when compared with the developed countries. (Kumara, 2012).

The present view point of EO can be regarded as the processes accountable for strategic decision making and the method of entrepreneurial activities involved in a business (Omisakin, Nakhid, Littrell, & Verbitsky, 2016). In the competitive business world, EO is recognized as a strategic practice (Rae & Ruth, 2013) which allows creative method of entrepreneurial behavior and practice (Beliaeva, 2014). In this article the selected dimensions of EO are entrepreneurship desire, innovativeness, proactiveness, risk-taking and networking capability (Taatila, 2012). Further, it is defined as a precise concept which has an effect on the BP and a notion with considerable contribution to the success of the venture (Mahmood & Hanafi, 2013).

BP is identified as the most suitable option to evaluate efficiency and effectiveness of the level of business within a given period by using the income, return on sales, customer satisfaction and goals attainment (Afrifa, & Padachi, 2016). Further, it is considered to fluctuate based on the type of the business and it is understood that mainly due to multidimensional nature, different tools and techniques are used to measure it (Gerba & Viswanadham, 2016). Construct of BP can be explained in terms of effectiveness, efficiency, relevance and the financial viability too (Arham, 2014). BP is sometimes described as the successful phase of action or collection of the actions or intention by the Small and Medium Enterprises (SMEs) in a country (Raimond, 2016) while it is acknowledged as the best criteria for evaluation and measurement of the efficiency and effectiveness of the SMEs within a given time period. It is stated that especially in Europe, SMEs serve a vital role (Mudalige, Ismail & Malek, 2016) with nearly 23 million that amounts to 99% of all running businesses, employing 75 million employees representing more than 80% of the employment rate in certain sectors (Priyanath & Premaratne, 2014). Statistics indicate that SME sector of Sri Lanka as a developing country also has a contribution of 80% of all business categories, to the established businesses (Gamage, 2014). Therefore, SMEs are considered as the back bone of the many economies too (Mudalige, Ismail & Malek, 2016). Hence, this discussion is very important in the current context, exposing an outstanding alertness for the sustainable growth of most of the countries.

EO supports the use of existing knowledge to move forward to the performance of any businesses run by the SMEs (Weerakoon, 2014). Alongside, different perspectives of theories have been considered by many authors to highlight the relationship between EO and its numerous dimensions (Taatila, 2012) in building up the business environment. However, in the Sri Lankan context only a limited number of studies had been done earlier to examine this important aspect of EO using several dimensions within specific theoretical backgrounds (Kasturiratne, 2012; Ranasinghe, 2008). In spite of the many empirical studies carried out on the subject of EO during the last several decades, still there are research gaps which need to be tackled (Miller 2011; Wales, Gupta, & Mousa. 2011). This article selected the available literature from 2000 to 2018 for a Systematic Literature Review (SLR) and some vital gaps concerning EO and BP are highlighted based on the relevant literature. It is seen that although EO has numerous dimensions, only a few were applied in many of these studies relating to this field. Out of these Innovativeness, Proactiveness and Risk-taking were prominent EO dimensions, most authors used in their research. (Al-Ansari, 2014; Aloulou & Fayolle, 2005; Beliaeva, 2014; Bigliardi, 2013; Ejdys, 2016; Hult, Hurley & Knight, 2004; Karyotakis & Moustakis, 2016; Kropp & Zolin, 2005; Lee, Lee & Pennings, 2001; Morris, Kurato, & Covin. 2008; Ofem, 2014; Omisakin, Nakhid, Littrel, & Verbitsky, 2016; Rauch, Wiklund, Lumpkin & Frese, 2009; Runyan, Droge, & Swinney, 2008; Wiklund & Shepherd, 2005; Yang, 2008). Further, it was observed that other popular EO dimensions were Innovativeness, Proactiveness, Risk-taking, Competitive Aggressiveness and Autonomy (Duru, Ehidiamhen & Chijioke, 2018; Kaunda, 2012; Lumpkin & Dess, 2006; 2001; Sriprasert, 2013). In addition, it has been found that many EO related studies were conducted with the use of EO dimensions in different combinations (Soininen, 2013; Covin & Slevin, 2001). Hence, the dimensions of Entrepreneurial Desire and Networking Capability of EO were selected for this study as it was revealed from the literature that these dimensions play a vital role and rarely used in empirical studies (Taatila, 2012) in relation to the graduate entrepreneurs in the university system.

Although, many research had been carried out using innovativeness, Proactiveness and Risk-taking of EO studies in different perspectives for various disciplines, it is noted that in the university system the application is minimal. This study attempts to focus on the gap of these three dimensions along with the above Entrepreneurial Desire and Networking capability in relations to EO for constructing the proposed model. Besides, it is apparent from literature that most studies have been conducted using the common, traditional views (Al-Ansari, 2014; Beliava, 2014; Kaunda, 2012; Lumpkin & Desks, 2001,2006; Sriprasert, 2013; Taatila, 2012). Hence, it is fitting at this juncture to adopt novel theories, concepts, models and frameworks in innovative methods as highlighted in Entrepreneurship Theory, Learning Theory, and Competency Theory.

Further, it is evident that many relationships and conceptualizations that could be investigated with regard to EO had not been considered due to inadequate awareness, unwillingness to test new concepts due to the fear of unsuitability resulting from cultural, social and environmental issues of some countries (Gamage, 2014; Weerakoon, 2014; Wijesekara, Kumara &

Gunawardena, 2014). This situation needs to be conquered enabling sustainable development of the countries and the present study intends to contribute towards this exercise through systematic literature analysis. The systematic literature analysis supported in examining the background related to the questions which were formulated, explaining that at present there is no appropriate EO system or framework in the university system which enables the success of graduate businesses (Wedathanthrige, 2014). Therefore, it is important to examine how the graduate entrepreneurs could overcome contemporary issues in their businesses using the best practices within the EO system (Buckley & Park, 2014; Fani, 2015). Hence, the conditions under which these dimensions have an impact on EO among the graduate entrepreneurs in USJ and in what ways, are are the questions handled in this article.

Therefore, the aim of this article is twofold and the first is to study the dimensions with respect to EO among the graduate entrepreneurs of the University of Sri Jayewardenepura (USJ) in Sri Lanka. At the outset, theoretical concepts of EO were studied in order to discover the different types of dimensions on the basis of the appropriate theories, approaches, and models to meet this requirement. The second aim is to develop a conceptual framework indicating the association EO bears with the dimensions especially selected for this article, on examining extensive systematic literature analysis on the subject.

2. LITERATURE REVIEW

2.1. Development of Theoretical Review

It has been stated that the development of entrepreneurial theories can be acknowledged from diverse perspectives (Callaghan & Venter, 2011). Theories are incorporated to understand the basic concepts which become necessary to have results and actions bearing a clear mind in an advanced method, avoiding repetition without any clarification. Theories can fundamentally have impact at all feasible levels, on influencing a conclusion. It is noted that the various points of view arise as a result of the differences in descriptions due to the theories that need further testing (Amolo & Migiro, 2014). This section provides a brief explanation on literature in relation to EO giving priority to the selected dimensions relevant to graduate entrepreneurs in the USJ involved in SMEs. The systematic literature review is the style of literature used to prepare the article extracting the enormous knowledge on the existing topic.

2.2. Theoretical Perspectives of Entrepreneurial Orientation

The importance of entrepreneurial process in the development of the society is conspicuous (Omisakin, Nakhid, Littrell, & Verbitsky, 2016) which proceeded to the literature. Different, theories, perspectives and models have been used to express EO for a considerable time period as shown in it. Some of the processes which are relevant to the topic have been reflected in this article to make this attempt complete. Learning Theory, Theory of Planned Behavior (TPB), Contingency Theory, Lumpkin and Dess model, Taatila Model along with Kaunda model supported to the theory development procedure in the article. In order to recognize the behavior representing different dimensions in relation to the graduates' EO environment, this article uses Learning Theory depicting their entrepreneurship experiences, and TPB focusing on entrepreneurial intention. Moreover, Learning Theory expresses that entrepreneurship is a collection of activities that consist of learning, while theory of learning is included in entrepreneurship (Minniti & Bygrave, 2001). The prominent relative learning styles of business setting concentrates on learning from peer groups, by doing work, responses from customers and suppliers, by experiment, by problem solving, opportunity taking and learning from making mistakes by the learner (Minniti & Bygrave, 2001).

TBP could be used in the case of new comers who start new ventures, who are expected to practice proactiveness by having intentions showing the behaviour. The attention of many researchers was drawn to EO concerning the attributes of graduates during 1990s(Poon, 2013). Researchers study entrepreneurship to find answers to what, how and why, and generally collect information on EO (Cope, 2011). It is highlighted that in relation to EO, a business can succeed or fail (Kaunda, 2012) depending on the entrepreneurship nature of the individual and the process of EO which is not similar between two individuals. TBP provides the basis for the theoretical approach where EO activity certainly symbolizes the model. It is worthwhile to note that the field of entrepreneurship has generally ignored TPB in their research but this theory has been used to a great extent in many other disciplines for their research as highlighted in the literature.

Besides, the contingency approach expresses as to how a third variable affects the relationship between two variables and it mainly considers the adequate position of entrepreneurship. The behavioral manner suitable for successful implementation of the business at an adept level in different perspectives and the effect of a variety of issues in relation to EO is shown by the Contingency approach. This article is based on the model of Lumpkin and Dess which is interpreted from the above theories, while concentrating on the specific dimensions of EO (Kaunda, 2012). The five dimensions were selected for the present article from Taatila model where the empirical study of the above theory and model is presented. The prime importance of the above dimensions of EO in dealing with entrepreneurial characteristics was shown by many studies (Taatila, 2012) based on the identified gaps of the study. It is of great concern to overcome this awkward situation in view of the sustainable development of the country, which is what this study aims to attain in this exercise. Therefore, it

would be appropriate that this study need to be examining the relevant theories, concepts, models and frameworks, to investigate on the relationship between EO and BP leading the selected respondents in the above study area of the article in the university system. Hence the following figure 1 given below, presents the EO structure indicating the relationship between EO and its dimensions through systematic literature analysis. (Source: Taatila, 2012).

2.3. Definitions of Entrepreneurial Orientation

It is not possible to find a universally accepted definition for entrepreneurship that has received agreement (Carland, Carland, & Carland, 2015). Entrepreneurship is considered as a mindset which is of great interest to the academic researchers and accountable resource persons in a country such as policymakers, economic institutions universally and it is generally a preferred career path for sustainable developed and developing countries. Intensification of entrepreneurship is considered as important for any business venture that is reaching out to global and changeable environment in the current persevering business setting (Arham, 2014). It is evident that research findings led to discover the main components in relation to EO environment (Lumpkin & Dess., 2001) indicating that Entrepreneurship could be applied to many areas such as social, economical, cultural , family, education and government sectors which are of interest in the society (Buckley & Park, 2014).

2.4. The Structure of the Entrepreneurial Orientation

Entrepreneurial Desire, Innovativeness, Proactiveness, Risk-taking and Networking Capability are the selected dimensions of this study. The construct of the modified multidimensional model of EO that comprises its dimensions are shown in the figure 1 as follows: (Source: Taatila, 2012).

Figure 1: Modified Multidimensional Structure of EO
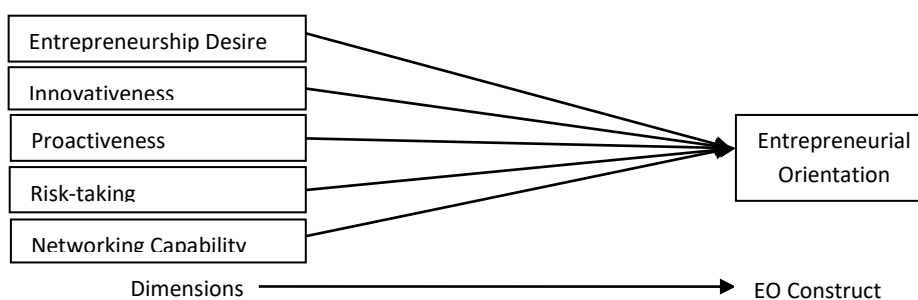
(Source: Taatila, 2012).

The dimensions that contribute to the modified multidimensional model of EO that was created in this study are explained as follows:

Entrepreneurial desire

The first dimension, entrepreneurial desire is selected as a main driving force behind the successful business environment, as it is considered to be one of the vital dimensions of EO in business (Boohene, Marfo-Yiadom & Yeboah, 2012). Moreover, it is clear that entrepreneurial desire is controlled by the specific and professional cultures of EO (Mazzarol, Volery, Doss & Thein, 2000). Therefore an entrepreneur who realizes opportunities and uses them for a profit potential invariably exhibits this (Shane & Venketaraman, 2000, 2001).

Entrepreneurship desire is regarded as the common denominator which has a powerful   force among entrepreneurs. Two kinds of entrepreneurial desires can be identified where the first is the entrepreneur and the second is to achieve something entrepreneurial. Although both may direct to success, the difference is that the former thinks to provide achievement. An empirical study in relation to entrepreneurs and non-entrepreneur graduates titled as impact of entrepreneurship education on intention and desire for venture creation that was carried out in Pakistan with a sample of 160 participants concluded that desire for venture creation is one of the variables that become helpful for entrepreneurial intention (Ilyas, Zahid, & Rafiq, 2015).

Innovativeness

The second dimension of EO is innovativeness which is explained as essential ways through which businesses identify new opportunities and it is also known as a business tendency to get involved in new processes and actions in order to generate new solutions to problems in the business, and considered as a major constituent of EO (Ofem, 2014). It further mentions that innovativeness provides a hint whether a business venture is handling things in improved new ways. Hence, the major role played by innovativeness in business enterprises in the modern society is elaborated and a study was developed on innovation practices as a path to business growth performance. This study which used a sample of 600 Small and medium sized businesses in the emerging UAE market revealed that there is a positive relationship between innovative practices and business growth progress in SMEs (Al-Ansari, 2014). The fact that innovativeness is the ability of the business to ascertain new ideas, new products and new processes fruitfully supports this view (Bigliardi, 2013).

Proactiveness

The third dimension of EO is proactiveness which can be defined as the activities, the businesses carryout with a view to avoid future problems, requirements and changes that are suitable in detection and judgment of new opportunities (Kropp, Lindsay, & Shoham, 2008 as cited in Omisakin, Nakhid, Littrel, & Verbitsky, 2016). The finding of a comparative cross-country study carried out in Russia and Finland on antecedents and performance outcomes of entrepreneurial orientation, applying samples of 101 in Russia and 109 in Finland confirmed this view (Beliaeva, 2014). The results revealed that international BP is supported by the presence of EO. It was also shown that having an aggressive business environment was an obstacle to entrepreneurial situation and not a facilitator while proactiveness of EO depends on the circumstances and not universal. Furthermore, it is mentioned that a proactive business has a forward-looking nature and new opportunities are associated with proactiveness and innovative actions and regarded as a leader rather than a follower (Lumpkin & Dess, 2006).

Risk-taking

The fourth dimension of EO is risk-taking which is explained as the willingness of the businesses to shift from the original business venture into the unknown (Chua, 2014; Perz-Luno et al., 2011 as cited Ejdys, 2016). The increasing insecurity that exists in the internal and external business environments signifies the importance of risk-taking (Karyotakis & Moustakis, 2016). This view is supported by a research study carried out in Thailand using a sample of 179 entrepreneurs to find the effect of entrepreneurial orientation on the success of community enterprise (Sriprasert, 2013). Innovative, proactive and autonomous entrepreneurs showed a high job satisfaction while risk taking entrepreneurs got more life satisfaction which were the findings of the study.

Networking capability

The fifth dimension of EO is networking capability. Since a business is not a singular unit of the environment, networking capability is a very powerful dimension of EO and this has been in existence for many years which indicates sharing resources among partners, assisting entry to market and new technologies that a business cannot achieve in isolation. A networking capability refers to the direct ways and means leading to additional competence and resources of the business in order to conquer competitiveness (Taatila, 2012) and it is stated that there is a relationship between networking capability and BP (Rutten & Boekema, 2007; Jensen & Greve, 2002). This point of view which states that networking capability can serve the purpose of obtaining and increasing the level of EO and BP, was supported by earlier research studies (Gathungu, Aiko, & Machuki, 2014). The results of an empirical study that was performed using a sample of 291 small businesses in Sweden on new ventures and small businesses under the title of exploring the effects of network configuration on entrepreneurial orientation and business performance indicated that networking is positively linked to EO and BP on small businesses.

The five dimensions of EO relevant to this study have been explained above. Next section describes the other main construct of this article which is BP.

2.5. Theoretical Perspectives of Business Performance

It is intended to present a review of the past and present research and BP theories as the next step. Since BP shows a multidimensional nature, use of single performance indicators in measuring the BP may provide biased results. Hence it is evident that in earlier studies, diverse instruments were used as an option for BP (Engstrom, & McKelive, 2016). Small businesses generally measured BP in economic perspectives (Amolo & Migiro, 2014). Nonetheless, the outcomes of entrepreneurship extend beyond economic feature and it is required to study the social wealth effects or social contribution as a result of entrepreneurship, not only economic wealth creation. Personal satisfaction is also an important reward of entrepreneurship which is obtained through the process of creating value by devoting time, effort and resources and not limited to monetary gains (Kaplan & Norton, 2010; Rauch, Wiklund, Lumpkin & Frese, 2009). Another view is that

the key success factors for businesses were spiritual perspectives but not measured in terms of financial aspects since financial perspective is a comprehensive framework which considers elements that create value such as the way of looking at shareholders, customer perspectives, internal business processes which must be excelled at, learning and growth perspective (Salehia & Ghorbanib, 2011). There are different approaches in relation to measurement systems of BP. Many specialists and other persons who have a variety of interest observe this concept in different perspectives. It is evident from literature that there are several theoretical frameworks (Goal Approach, System approach) that support assessment of the efficiency on measuring the use of resources in a business. Furthermore, in the Sri Lankan context traditional and new methods have been identified for the measurement of BP (Zsido & Fenyves, 2015).

Modern business performance measurements approaches

The changes that happen in competitive environment and plans of current businesses cannot be revealed by traditional performance measures which makes it appropriate to use application methods differently (Zsido & Fenyves, 2015).

An individual who is in a position to manipulate actions leading to accomplishment of organizational objectives or a person who is a part of it, can be identified as a stake holder. In the mid 1980s it was proved by theories and scientific investigations that sustainable accomplishment and continued existence of businesses cannot be attained only by concentrating on the shareholder value. It was made clear that there exists several stakeholders in businesses who make it indispensable to assign their worth as well. The social changes that determine the image of the business venture and other social views that surfaced are associated with the stakeholder theory to a greater extent. Different business ventures use numerous methods of measurements in evaluation of BP and the selection depends on the type of activities of the business (Zsido & Fenyves, 2015).

Measurement of business performance

The multidimensional nature of BP makes it difficult to find one model to measure BP of SMEs individually and diverse tools have been used to measure it based on the purpose of the business (Gerba & Viswanadham, 2016). It is evident that many empirical research conducted on BP concept have been dealt with the point of view of investigating the consequences of EO. All these empirical research are categorized into specific areas such as present discussion fields, application of theory to research and classification by countries where research were conducted (Beliaeva, 2014).

The results of an empirical study carried out on the financial literacy and business performance in informal economy businesses in Ecuador using a sample of 750 micro enterprises resulted in showing that both financial literacy and role models are very important in envisaging BP for some but not all (Engstrom & McKelvie, 2016). Another study done in the USA on Entrepreneurial Orientation, Learning Orientation and Firms Performance with a sample of 213 medium to large businesses in UK indicated that learning orientation has a mediating effect on the relationship between EO and BP. Hence these findings highlight that in order to maximize the influence of EO on BP, it is necessary to have learning orientation to successful progress in a changing economy (Wang, 2008). A study carried out in Malaysia using a sample of 284 has proved that produce innovation significantly influenced BP where the effect of the product was stronger than that of the services. Hence innovativeness is identified as an important dimension in the present entrepreneurial activities for SMEs and policy makers (Rasli, Khan, Malekifar & Jabeen, 2013).

Although performance is a major consideration in all areas and processes, it is convenient to determine the performance of some activities while it is not so simple in others (Zsido & Fenyves, 2015). Indicators such as effectiveness, efficiency, relevance and the financial viability (Lusthaus, Anderson, Carden & Montalvan, 2014; Arham, 2014) are used in many research to define BP. A study on exploratory research carried out using a sample of 178 SMEs, on relationship between EO dimensions and BP along with growth of fast and slow growing small and medium enterprises in Bosnia and Herzegovina revealed that in large businesses, EO dimensions are more visible than in small businesses. Further, it has been found that BP of large and small businesses indicates little and moderate significant relationship with EO dimensions (Palalic & Busatlic, 2015). Furthermore, it is also stated that any variation in sales growth and employee growth were associated with changes of innovation, risk taking and the age of the business. Another factor highlighted was that SMEs are required to be innovative, proactive and taking risks to effect significant business growth and expand faster. In addition it is also important to note that business age of the SME is responsible for having an opportunity to accomplish enhanced BP. A similar study done in Nigeria titled as Knowledge management, entrepreneurial orientation and business performance concerning the role of business culture with a sample of 640 entrepreneurs in SMEs, found that knowledge management and EO has a significant and positive relationship with BP. Further it is highlighted that there is a requirement for continuous improvement of knowledge management and EO practices to enhance BP by investing resources and time (Aliyu, Rogo, & Mahmood, 2015).

2.6. Definitions of Business Performance

When examining any definition of BP it appears to be nonexistent unless there is something to be benchmarked. Therefore, finding a universally acceptable general definition for BP is not an easy task (Gavrea, Ilies & Stegerean, 2011). Although the dimension of BP is frequently used in the intellectual documentation, it is complicated to define BP since it has many explanations (Gavrea, Ilies & Stegerean, 2011). Further objectives of the organization and policies are often used to interpret BP. National and international literature specifies that many researchers define BP in terms of efficiency, effectiveness and economic efficiency (Bocskei & Fekete, 2012). It is worthwhile to note that items such as value creating, quality, productivity, innovation and changing ability serve a supplementary task. Some researchers have explained BP as the accomplishment of a mission that could be measured in comparison with a predetermined known value of precision, totality, expenditure, and the rate of achieving the financial and non financial results of the venture (Hudson, Smart & Bourne, 2001).

2.7. Relationship of Entrepreneurial Orientation and Business Performance

Literature enumerates that the impact of EO on BP is illustrated by using different types of perspectives. The relationship between EO and BP is presented in the figure 2 as follows: **(**Source: Journal of Small Business & Entrepreneurship, 2015).

Figure 2: The relationship between Entrepreneurial Orientation and Business Performance
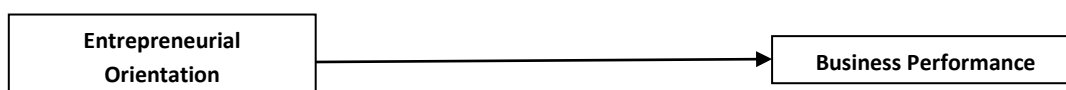
(Source: Journal of Small Business & Entrepreneurship, 2015).

Research indicates that BP is associated with EO of the business to a greater extent. The attention of numerous scholars, was focused on the relationship between EO and BP (Schepers, Voordeckers, Steijvers & Laveren, 2014) arguing that an enhanced level of EO results in increased performance (Al-Nuiami, Idris, Al-Ferokh & Hussein, 2014; Schepers, Voordeckers, Steijvers & Laveren, 2014; Van Doorn, Van Jansen & Van den Bosch, 2013; Vij & Bedi, 2012). The view that a positive relationship exists between EO and BP is supported by many researchers (Alarape, 2013; Laukkanen, Nagy, Hirvonen, Reijonen & Pasanen, 2013; Wiklund & Shepherd, 2005). Using a sample of 500 SMEs, an empirical study carried out in South Africa titled as Entrepreneurial orientation: A case of Gauteng province revealed that EO can be considered as having a high significant relationship with BP (Radipere, 2015). Another study conducted using 209 big family businesses in Malaysia, showed that owners displayed risk-taking. It was also found that among the big family businesses innovativeness was common (Arham, 2014). A similar research study conducted with 599 small businesses in US indicated that EO has a positive relationship with BP and marketing competencies. Further, the study performed in Portugal using 168 small businesses, found that the businesses proved active in using their innovativeness, risk-taking and proactiveness (Azevedo, 2008). Moreover, a study conducted with 181 big businesses in the US revealed that EO is positively related to BP while EO plays a major role in business growth (Hult, Hurley & Knight, 2004). Based on the above discussion the present study predicts the significant impact of EO on BP. This relationship between EO and BP is the main theme in this study. The relationship between EO and BP is considered to have multidimensional perspectives (Kaunda, 2012) when considering the aggressive situations dealt by businesses in the present context of global economy. Dimension of EO and its impact on the BP is presented in the figure 2 (Source: Omisakin, Nakhid, Littrell, & Verbitsky, 2016; Radipere, 2015; Kaunda, 2012).

Figure 3: Impact of Entrepreneurial Orientation Dimensions on Business Performance
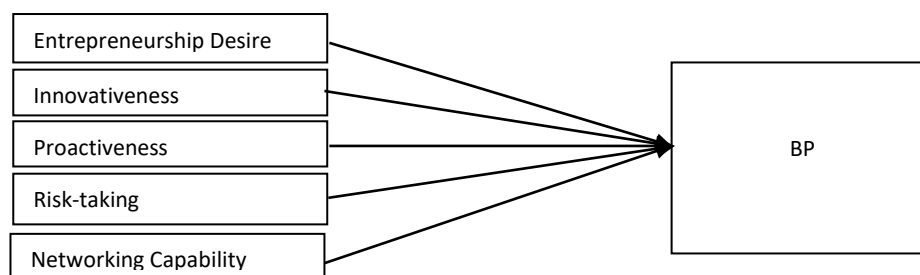
(Source: Omisakin, Nakhid, Littrell, & Verbitsky, 2016; Radipere, 2015; Kaunda, 2012)

It is also argued that EO cannot be considered as correspondently suitable in all circumstances as resulted by some practical and theoretical views. By having more research with redefined dimensions, the basic procedures of entrepreneurial actions and multidimensional type of EO would enhance the awareness of EO and its relationship with BP. Hence major attention has been given to the relationship between EO and BP with due consideration to the favorable perspectives of entrepreneurial actions that have on business development and performance. EO is regarded as an essential element for businesses with the objective of competing in aggressive business circumstances. On the other hand, there are points of view that suggest positive association of the EO on BP depend on the situation and could change autonomously within a given business framework.

Therefore, BP indicates an association with entrepreneurship desire, innovativeness, proactiveness, risk-taking and networking capability of the business, which are identified as EO dimensions for this study. There has been a greater discussion on this concept (Lumpkin & Dess, 2006) and empirical point of view (Omisakin, Nakhid, Littrell, & Verbitsky, 2016; Radipere, 2015) with regard to the relationship between EO and BP. Although many queries remain unsolved (Moreno & Cassilas, 2008), EO is identified as a concept that can be used to measure BP, as some investigations indicate improved BP in businesses that practice EO (Brown, Davidsson, & Wiklund, 2001). A study conducted on Nepalese handicraft enterprises, to examine the relationship between EO and BP of handicraft industry using a sample of 196, indicated that autonomy, risk-taking, pro-activeness and competitive aggressiveness were positively correlated with business performance but innovativeness had no association with it (Gautam, 2016).

Another empirical research carried out to study entrepreneurial orientation, uncertainty avoidance and firm performance which is an analysis of 478 Thai and Vietnamese SMEs, proved that Thai SMEs are more innovative and proactive than the Vietnamese ventures, while Vietnamese SMEs prone to increased risk-taking. At the same time Thai SMEs indicated to have higher perceived business growth, job creation and net profit than Vietnamese SMEs (Swierczek & Ha, 2003). Using a sample of 94 business units a research performed in the USA on Linking two dimensions of entrepreneurial orientation to firm performance to assess the moderating role of environment and industry life cycle, found that two of the dimensions of EO have a tendency to vary independently of each other, and also their effect on performance depend on moderating variables. Hence it is stated that future research could benefit by taking into account the independence of other dimensions of EO and considering EO from the perspective of multidimensional view in order to investigate these complex issues (Lumpkin & Dess 2001). It is interesting to note that the leadership behavior and EO play a major role as predictors for the progress of SMEs which was the outcome of a study on the relationship between leadership behaviour, entrepreneurial orientation and organizational performance done using 384 Malaysian small and medium enterprise (Arham, 2014) An empirical research on proposing and validating a five-dimensional scale for measuring entrepreneurial orientation conducted in China with a sample of 408, found that EO as a second-order reflective model on which many researchers agreed upon (Zhang, Zhao & LeCun, 2015).

A comparative analysis of corporate entrepreneurial orientation between selected firms in the Netherlands and the USA was done which revealed noteworthy disparities between the Netherlands firms and the US counterparts in entrepreneurial orientation. These comparative differences were observed among three key dimensions of strategic management as they relate to corporate entrepreneurship. A relationship between corporate entrepreneurship and three measures of firm performance was also observed and the important finding was that culture could play a facilitating role on corporate entrepreneurship and adaptable organizational practices (Kemelgor, 2002). With a sample of 764 a study was performed in the USA to investigate the role of entrepreneurship in building cultural competitiveness in different organizational types which found that specifically, large and young organizations indicate a direct relationship between powerful performance and entrepreneurship while other organizational types show an indirect effect of entrepreneurship on performance. Further it is enumerated that large and old organizations carry out efficiently by paying attention to organizational learning and on the other hand small and old organizations get advantage from a market orientation while small and young organizations become successful by having a unbiased approach on cultural competitiveness (Hult, Snow & Kandemir, 2003)

Another addition to the prevailing literature was a study carried out on entrepreneurial orientation and perceived financial performance with an aim to find out whether environment always moderate EO performance relation in Turkey, with a sample of 107 SMES, which depicted that although a relationship between EO and perceived financial performance of the businesses exists, it is not effective. Therefore, the nature of the relationship between EO and performance along with the moderating role of environment is queried (Kurtulmuşa & Warnerb, 2015). An empirical research study done in Austria on obtaining information from 266 businesses to investigate the impact of entrepreneurial orientation on firm performance which is a comparative study of Finnish and German SMEs, highlighted that the SMEs of both countries demonstrate increased levels of all EO dimensions. Further it showed that, the Finnish SMEs display enhanced intensity of innovativeness, proactiveness and EO when compared with German equivalents, while no considerable disparity was shown in the levels of risk-taking. In addition, innovativeness appeared to be the construct that had the highest contribution to firm performance in the SMEs of both countries and it is fascinating to note that the impact of

innovativeness by itself was greater than that of the combined EO concept. Lastly, there was no major difference between the strength of the impact on performance with any of the existing dimensions between the Finnish and German firms (Piirala, 2012). Another vital addition to the existing knowledge is the findings of a replication study conducted on entrepreneurial orientation and business performance, using 266 units as the sample in Austria. Although a positive relationship indicated between EO and business performance according to Wiklund and Shepherd's study (2005) this replication study showed a negative link not statistically significant between EO and business performance in certain configurations (Frank, Kessler & Fink, 2010). A research study done in order to find out the relationships of entrepreneurial orientation and small business orientation (SBO) have on firm performance in USA with a sample of 267 revealed that the links of EO and SBO to performance are not similar in these groups as EO clearly connects to performance among the younger group while SBO is responsible in the case of the older group (Runyan, Droge, & Swinney, 2008).

Another quantitative study performed in the Netherlands using 164 units as sample to investigate the link between entrepreneurial orientation and the business performance of SMEs indicated that proactiveness of firms have a positive contribution to SME performance within the economic crisis. It was also revealed that SMEs with innovativeness, carry out in an improved manner in unstable environments if risk is avoided (Kraus, Rigtering, Hughes, & Hosman, 2012).

Using 149 manufacturing companies an empirical research was conducted to analyze entrepreneurial orientation of SMEs, product innovativeness, and performance in Greece where two opposite groups were recognized as the active entrepreneurs and the passive entrepreneurs. It also highlighted that product innovators in these groups share the responsibility of reducing customers' load such as time, effort and purchase risk, in implementing new products. Nevertheless, the entrepreneurial attitude of active entrepreneurs mainly reflect in new products demonstrating a higher uniqueness, as compared with passive entrepreneurs which is responsible for product performance (Avlonitis, Salavou, 2007).

Further, dimensions of EO has recently been recognized as the most important attributes for measuring the growth of a business and profitability while at the same time research has shown that high growth of business is associated with EO (Zainol & Ayadurai, 2011). Entrepreneurship desire, innovativeness, pro-activeness, risk-taking and networking capability of the business have the possibility of adopting EO.

Entrepreneurial desire and business performance

The desire for independence in relation to entrepreneurship is generally considered as an important inspiration for entrepreneurial business (Hanafiah, Yousaf & Hashim, 2016). A study performed using entrepreneurs in Venezuela on the problems they face, and success factors of business, denoted that their desires to become one's own boss in a business and to increase the income of a business are vital motivators and there is a relationship between them (Zimmerman & Chu, 2013). Further findings of another research exposed that entrepreneurship capacity of university students should be made strong through developing entrepreneurship education, allowing more entrepreneurship opportunities and enhancing the entrepreneurship desire by a relevant financing system to persuade graduates to begin new ventures and become entrepreneurs (Quinlan, 2011). It was also a vital finding that although all the students consider intention of recognition as important, individual factors for the desire of becoming entrepreneurs are diverse and it is required to promote more graduates to initiate and manage businesses (Friedman, Aziz, Keles & Sayfullin, 2012) which was the outcome of a research study carried out in Georgia, Kyrgyzstan and USA, with a sample of 305 undergraduate business students.

Measuring entrepreneurial orientation in university students was the objective of a study performed in Finland and significant differences were indicated between academic programs in their entrepreneurial desire but no variations were observed in the sub variables of EO. However students who were already entrepreneurs obtained high statistical significance in all of the five dimensions of EO (Taatila, 2012).

Innovativeness and business performance

Innovativeness is regarded as the pathway to success for any activity including newly started small businesses. The small businesses generally depend on traditional methods for products, services and distribution, if these lack innovativeness (Lee, Lee & Pennings, 2001). Hence, innovativeness is acknowledged as a characteristic which provides a positive affiliation to BP (Hult, Hurley & Knight, 2004; Kreiser, Marino & Weaver, 2002; Avlonitis & Salavou, 2007). It was pointed out by a study done in Sri Lanka that innovativeness indicates a positive, significant relationship with BP (Fairoz, 2010). Another important revelation was that innovativeness is the most significant dimension of EO which indicates a consequence for BP which was the result of a study conducted in Australia among four different industries (Coulthard, 2007). Further, another empirical finding was that there is a positive relationship between innovativeness and product performance (Baba & Elumalai, 2011).

Innovativeness: Its antecedents and impact on business performance was the title of a research carried out in USA using 181 businesses where the proposed model consisting of market orientation, entrepreneurial orientation and learning

orientation were taken as key antecedents to innovativeness along with testing the direct relationship between innovativeness and business performance in general and in the situation of different market turbulence. The outcome confirmed the validity of the model and highlighted several insights on the role of market turbulence in the proposed relationships (Hult, Hurley & Knight, 2004).

A research study carried out in Sri Lanka using 57 SMEs to investigate entrepreneurship orientation, business performance as an appraisal of small and medium scale enterprises with reference to Hambanthota District found that innovativeness and proactiveness have a clear effect on business performance. Further, innovativeness was regarded as a vital construct in measuring business performance which increased as the number of employees increased (Gamage, 2014).

Another similar study done in Malaysia with 284 SMEs to analyse the impact of innovation on the performance of small and medium manufacturing enterprises depicted that BP has a significant connection with produce innovation when the effect of the product was stronger than the services. It was also highlighted that innovation is a very important factor for SMEs and policy makers in the present entrepreneurial activities (Rosli & Sidek, 2013).

Proactiveness and business performance

The proactiveness dimension can also be considered as of utmost importance for the success of small business (Arham, 2014). A study carried out in Sri Lanka on SMEs revealed that proactiveness bears a positive affiliation on the overall BP (Fairoz, 2010). This fact was further confirmed by an empirical study performed in the Netherlads with 94 businesses which divulged that proactiveness has a strong relationship with BP (Kraus, Burtscher, Vallaster & Angerer, 2018). A similar study conducted in Malaysia using 210 SMEs supported this finding that proactiveness and BP has a significant relationship (Awang et al., 2009).

A research study performed in South Africa with 103 businesses to investigate entrepreneurial orientation, age of owner and small business performance in Johannesburg, South Africa, showed that in comparison to other dimensions the proactiveness of the entrepreneur has an effect on EO, while risk taking and innovativeness did not indicate a major link on the relationship between EO and BP. It was also found that the age has an negative relationship with EO and BP (Kaunda, 2012).

Another research which analyzed the effects of entrepreneurial orientation on business performance in South Africa with a sample of 466, revealed that proactiveness, innovativeness and risk taking have positive effects on small business performance. It was also clear that in developed businesses, possessing greater financial resources, EO helps to overcome environmental and resource limitations. The results of a study done in USA with 292 units to analyze entrepreneurial orientation, collaborative networks and nonprofit performance, indicated that nonprofit organizations that have limited social resources get more advantage from EO. When innovativeness, risk taking and proactiveness are operating at the same time, businesses with smaller and high homogeneous collaboration, get benefitted over opposite counterparts. Further EO did not indicate any clear relationship with collaborative network size or tie heterogeneity (Ofem, 2014).

Risk-taking and business performance

Taking actions that would result in uncertainty and heavy borrowings are recognized as risk-taking (Rauch, Wiklund, Lumpkin & Frese, 2009). Using 236 family businesses, a study was conducted in UK and results denoted that a significant relationship was observed between risk-taking and entrepreneurial business performance (Wang & Poutziouris, 2010). Furthermore, two different studies carried out in Taiwan (Yang, 2008) and Sri Lanka (Fairoz, 2010) also revealed a significant relationship between risk-taking and BP. It is interesting to note that the recent findings of a study launched in the Netherlands using 164 businesses, pointed out that there is no direct relationship between risk-taking and financial performance in businesses (Kraus, Burtscher, Vallaster & Angerer, 2018). In contrast to this, the results of another set of studies indicated that risk-taking has a positive relationship on BP, only up to a limit and beyond that increase of risk-taking resulted a decline on BP. The diverse effects of this dimension are confirmed by a study done in Malaysia which revealed that risk-taking indicated a negative connection with objective measure of performance of the business (Awang et al., 2009).

EO in small and medium-sized enterprises during economic crisis was analyzed in Finland with a sample of 193 and it was found that EO shows a positive relationship on the growth of a business over a long period of time. Further, EO does not have any link to the profitability of the business. The contradictory role of risk taking and innovativeness, proactiveness was also surfaced. Risk taking was found to have a negative relationship on profitability and growth (Soininen, 2013).

A study carried out in Sri Lanka with a sample of 109 businesses to investigate Entrepreneurial competencies and entrepreneurial orientation of tea manufacturing firms revealed that background characteristics of owner/managers indicate a direct effect on entrepreneurial competencies. EO showed a direct positive link with entrepreneurs' strategic

and commitment competencies while innovativeness was also shown to be greatly influenced by owner/managers competencies but risk taking nature was minimum affected by competencies (Wickramaratne, Kiminami & Yagi, 2014).

Networking capability and business performance

Literature clarifies that businesses linked by networks have indicated an improved BP (Baum, Locke, & Smith, 2001). Networking is important due to the fact that the entrepreneurs generally depend on the information, raw materials, technology and new knowledge in advancing their businesses on a regular basis in order to get recognition from the society. Consequently, it is evident that many researchers acknowledged the fact that networking has numerous benefits including enhance of business success. Literature designates that the endurance of a business has a positive relationship with networking (Mulatu, 2014).It has also been clearly enumerated that having network capability with financial institutes and businesses, maintaining the quality of the connections with the network, shows a significant positive relationship with BP (Mulatu, 2014).

Further evidence for the positive relationship networking has with BP is submitted by a study done with a sample of 227 businesses (Ge, Hirsch & Dong, 2009) in China. Another example that supports this point of view is provided by an empirical study which resulted that electronic social network has a significant influence on BP. In agreement another research disclosed that in the case of new ventures, networking show a positive relationship with financial benefits and growth of these businesses (Hite & Hesterly, 2001).

Further, literature explains that Uses and Gratification theory offer a suitable framework giving reasons for entrepreneurs to join a relevant network to obtain benefits of the business. Among many empirical research that are in agreement with this view, is another study carried out in Malaysia using 150 SMEs that proved networking is positively related to BP and greater attention is given in the literature for business networking along with knowledge and information sharing which enhances BP (Harvie, 2010).

A study carried out in USA with 70 SMEs to study networking strategy of boards with correlates, performance effects, and implications for small and medium-sized enterprises, supported the view that firms with a networking strategy achieve better performance with higher return on assets (ROA) and higher return on expenditure (ROE) when compared with those that did not actively participate in networks (George, Wood & Khan 2001).

An empirical research conducted on entrepreneurial orientation, managerial networking, and new venture performance in China and USA with a sample of 300, interpreted that political networking has a negative moderating effect on the positive relationship between EO and new venture performance. Further it was revealed that financial networking shows an reverted U-shaped link, while business networking has a positive effect. The findings add to the   existing knowledge of the impact of managerial networking on the progress assumption of EO in new businesses, and also advocate support on the use of EO and different types of managerial networking in new ventures for enhanced progress in shifting economy of China. (Su, Xie & Wang, 2013).

3. DATA AND METHODOLOGY

Scientists generally accept that online information is resourceful and give leads to many data bases that allow widespread assessment of specific fields within the academic and subject environments (Dahlander & Gann 2010). However among these high quality publications found in databases, only few articles could be located on the subject of EO on ISI data base. Therefore, another search was made using the same key words on SCOPUS database for appropriate literature. Further, Google Scholar and few other data bases were explored in order to obtain information in relation to EO. Subsequently, after scrupulous examination of around hundred and twenty six articles, fifteen thesis studies and seven books from different data bases were selected for gathering information with utmost care for this specific article.

Proposed Conceptual Model

The proposed conceptual model applicable to the research question specified in this article, was developed after meticulous consideration of the selected dimensions and relationships highlighted through the literature review. The background of Entrepreneurship Theory, Learning Theory, TPB, Contingency Theory, the models of Kaunda, Tatila along with Lumpkin and Dess, in respect of EO dimensions that relate to the graduate entrepreneurs were given priority in developing the proposed conceptual framework for this article. Hence the following figure 4, demonstrates the proposed model displaying the relationship between EO, its dimensions and BP through systematic literature analysis.

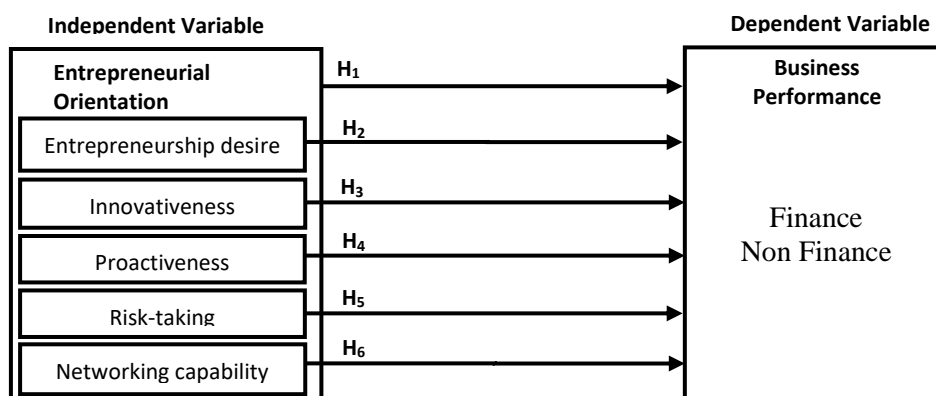**Figure 4: Conceptual Framework**

Figure 4 shows the relationship between EO and BP as well as the link between the specific selected dimensions of EO and BP. This proposed model indicates the collective viewpoints based on the systematic literature analysis for this study.

4. FINDINGS AND DISCUSSIONS

The primary objective of this article is to describe, analyze and synthesize the information sorted out in relation to EO, with a view to propose a conceptual model focusing on the relationship between EO, its dimensions and BP. This was fulfilled after a scrupulous literature review, in order to have a link to the upcoming Sri Lankan graduate entrepreneurs. It was done with the intention of the contemporary requirement to examine entrepreneurial capacities and mindset which provide the graduates with creative thinking, efficient problem solving, communicating, networking with each other and managing the work which are the applicable tools (Ernest, Matthew & Samuel, 2015). It is understood that there is only few empirical research in the field of business enterprises which examines the concept of EO among SMEs, especially in developing economies (Haider, Asad & Fatima, 2017). Although many empirical studies have proved the positive link between EO and performance (Tang, Tang, Marino, Zhang & Li 2008; Rauch, Wiklund, Lumpkin & Frese 2009; Madsen, 2007; Stam & Elfring, 2008b) there still remains the lack of generally accepted standard performance measures in relation to small businesses (Akinleye, 2016). By careful examination of the related literature, five major dimensions of EO were selected as important in relation to the businesses of the graduate entrepreneurs. In the contemporary situation, it is essential that any research which relates to the university system, need to focus on the selected dimensions rather than other factors, as found from the literature analysis and have a vital contribution to the national economy.

When considering the innovativeness, a study conducted in Portugal with a sample of 42 businesses demonstrated that EO, especially innovativeness enhances export performance in the SMEs concerned (Rua & Franca, 2016). The findings of a study done in Pakistan highlighted the importance of EO construct empirically in relation to BP of manufacturing sector SMEs in Punjab. It was revealed that if the manufacture sector SMEs could increase their efforts on innovation, performance improves and similarly, if they try to be pro-active to market changes their performance is sustainable by maintaining their position in the market. Further the risk taking factor was shown to be vital for the growth and performance of SMEs in the manufacturing sector (Haider, Asad & Fatima, 2017). Another interesting exposure of this study was that when the SMEs spend resources on innovation they could face risk which appears to be helpful for the survival and growth of the business. A conclusion arrived on conducting an empirical research on EO level of SMEs in Mexico with a sample of 318 businesses was that risk-taking has a positive effect in the level of EO adopted and implemented (Maldonado-Guzman, & Castro, 2016). After a study carried out in relation to social network sizes and risk disposition entitled social networks and entrepreneurial orientation among students in Nigerian Universities using a sample of 94 students, it was recommended that African student entrepreneurs' relationship of networking having a particular focus should be promoted as it serves as an gathering point (Amodu & Ama, 2016). Although EO studies have been conducted in various business settings and environments it is evident that there exist a scarcity of studies conducted in the Asian countries such as Sri Lanka when compared with the rest of the world. (Wijesekara, Kumara & Gunawardana, 2014; Priyanath & Prematatne, 2014; Wedathanthrige, 2014; Nath, 2013; Kasturiratne, 2012).

Therefore, with a view to fill the gap due to lack of research, this article tries to bring up a range of specific dimensions namely, entrepreneurship desire, innovativeness, proactiveness, risk taking and networking capability, implying a conceptual model which promotes phenomenal development of this important topic. This model shows the likelihood of five selected dimensions having an impact on BP. In general, it is assumed that this article would attract the attention of various stakeholders in the field of entrepreneurship as a potential study area. It is highly recommended that the proposed

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model could be used as a device to improve the businesses of the graduate entrepreneurs and encourage them to be outstanding business performers. All these dimensions in the developed model have been clarified and exist in entrepreneurship literature, but the model is yet to be empirically tested. Therefore, this article plans to bridge these identified gaps of EO which represents an area that has little previous research. As a result, this article will help to determine whether EO allows individuals to be strong in their minds with intentions towards entrepreneurship in a positive way. Hence, the conceptual model put forward in this article, will direct scholars on a new path for future studies and investigate to reveal whether these dimensions have a connection related to EO for the upcoming graduate entrepreneurs in the Sri Lankan context.

5. CONCLUSION

The conceptual model that is proposed, can be considered as critical for studies to be carried out in the field of entrepreneurship and the suggested constructs should be empirically tested to verify the theoretical assumptions demonstrated in this article. In order to assess the EO, attention was focused on the theories and models along with the previous work of this field. This modified version is made up of the five dimensions of EO model that includes entrepreneurship desire, innovativeness, proactiveness, risk taking and networking capability (Taatila, 2012) all of which have an association with BP as deemed in this article. These major components are considered with the aim of focusing on the future exploration of new research. Entrepreneurial desire is the most frequently used dimension which is considered to have a very strong influence on the business. To be a qualified entrepreneur and act upon it, are the difficult tasks, the business owners usually face. Further, it is their wish to accomplish something entrepreneurial, when doing the businesses. Potential entrepreneurs who have an orientation for growth are likely to be influenced by desire to a great extent, as a business needs much higher commitment and little time for work satisfaction (Judge & Douglas, 2013). In the recent times the concept of desire has received more attention in entrepreneurship literature. It is clear by the statement "if anything remains constant throughout the journey of entrepreneurship, it is the desire" (McMullen & Dimov, 2013). Therefore it is notable that in the absence of entrepreneurial desire any investigations on the concept of EO would be incomplete.

The next component, innovativeness is considered as the path of success to any process including new small businesses which has been used as a measure in many empirical studies (Hove & Goliath, 2016; Kraus, Burtscher, Vallaster & angerer, 2018; Belgacem,2015; Duru, Ehidiamhen1 & Chijioke, 2018). It is also one of the key components in the three dimensional model. Since innovativeness is recognized as an essential attribute it is included in unidimensional as well as multidimensional models of EO. It is evident that in today's dynamic business environment with constant rapid changes, effecting appropriate innovations could serve as an important method for achieving competitive advantage which is the main reason for selection. In order to measure the different types of innovation, like form and the degree as well as the heterogeneity of procedures, practices and levels of engagement of businesses, a number of scales are used in empirical research (Belgacem, 2015). It shows the importance of this vital factor in the business which is classified into technological innovativeness, product-market innovativeness and administrative innovativeness (Lumpkin & Dess, 2006) and lack of it in assessing any of these areas could result in negativity in future research implications. The third constituent of this conceptual model is proactiveness which is also a component considered under three dimensional model. The importance of proactiveness which indicates forward-looking nature of taking initial action in anticipation of future requirements in the existing or emerging markets to create an advantage over competitors (Wiklund & Shepherd 2005) is shown by using it in many empirical studies (Hove & Goliath, 2016; Kraus, Burtscher, Vallaster & angerer, 2018; Belgacem, 2015; Duru, Ehidiamhen1 & Chijioke, 2018)

The fourth component which is risk taking is the last component of the three dimensional model and used in numerous studies (Zahra & Garvis 2000; Kemelgor 2002; 2006, Hove & Goliath, 2016; Kraus, Burtscher, Vallaster & angerer, 2018; Belgacem,2015; Duru1, Ehidiamhen1 & Chijioke, 2018). Generally the moderated and calculated risk-taking is focused rather than intense and uncontrolled risk-taking (Morris, Kurato, & Covin. 2008) but it is of importance to note that having the risk-taking dimension in assessments provides information on the firm orientation towards the assimilation of uncertainty in contrast to enormous fear of it (Kraus, Burtscher, Vallaster & angerer, 2018). Hence, it is believed that risk-taking actions within a business, can be considered as an aspiration to be the leader in trying to creatively meet the demand in a rising market and indicates a high level of EO (Frank, Kessler, & Fink, 2010). The final component is networking capability which has been used to measure EO in a few empirical research. (Taatila, 2012; Rutten & Boekema, 2007; Jensen & Greve, 2002). It is evident that use of networks for SMEs has been increasing in the recent past and it is regarded as an element which shows a relationship in the growth of entrepreneurial processes. The importance of networks in the survival and success of individual firms has been an area that has received very little research attention. Previous research indicates insufficiency of networking capability of a business venture can create a possible difficulty to grow while association between networking capability and BP has not been fully expressed but need to be demonstrated (Mu & Di Benedetto, 2012). Hence it is worthwhile to assess the networking capabilities of the graduate entrepreneurs and its effect on EO.

It is universally accepted that in the present economy, SMEs are the driving force of the economic growth of a country (Weimei & Fenge, 2012). The importance of entrepreneurship has been recognized by many countries and the governments are focusing on promoting small businesses which involve in job creation and income generation, as a solution to unemployment (Sunter, 2000). However, for the new ventures to be successful it is required that these businesses are entrepreneurially oriented (Hove & Goliath, 2016). On examination of related articles from 2000 to 2018, the importance of studying the dimension of EO for enhanced BP was exposed. Hence, this article proposed the conceptual framework consisting of the above five dimensions that are considered as important among many others that come under EO. Therefore the overall picture of this article is to implement future research based on this model with a view to add new knowledge to the existing literature making the valuable thoughts for novel research world.

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THE RELATIONSHIP BETWEEN CASH GAP AND PROFITABILTY: AN EMPIRICAL STUDY FROM TURKEY

Bengu Vuran[1], Burcu Adiloglu[2]

[1]Istanbul University, Avcılar Campus, Faculty of Business Administration, Finance Department, Istanbul, Turkey.
 benguv@istanbul.edu.tr, ORCID: 0000-0002-2428-1543

[2]Istanbul University, Avcılar Campus, Faculty of Business Administration, Accounting Department, Istanbul, Turkey.
 adiloglu@istanbul.edu.tr, ORCID: 0000-0001-9680-1408

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ABSTRACT

Purpose- Cash gap or cash conversion cycle refers to the time interval between the date when a company pays cash out for the inventory it purchases and the date it receives cash from customers for the same inventory. That interval must be financed. Management of cash conversion cycle is vital issue in corporate financial management since it directly affects the profitability of the firms. The purpose of this study is to analyze the relationship of cash gap and corporate profitability.
Methodology- The data set includes all manufacturing firms listed in Borsa Istanbul (BIST) for the year 2017. The financial sector firms are excluded since their financial statements have different aspects. Regression and correlation analyses are conducted to examine the relationship between the cash gap and profitability.
Findings- The results of the study evaluate how cash conversion cycle affects the profitability and show if there is a statistical significance between profitability the cash conversion cycle.
Conclusion- Managers of the companies that handle the cash conversion cycle correctly and keep each different component (accounts receivables, accounts payables, inventory) to an optimum level can create profits and seems successful from the views of investors. The study also contributes to the literature on the issue of relationship between cash gap and the firm's profitability.

Keywords: Cash gap, working capital management, profitability, Borsa Istanbul, cash cycle.
JEL Classification: G30, G32, M41

1. INTRODUCTION

Cash gap or cash conversion cycle refers to the time interval between the date when a company pays cash out for the inventory it purchases and the date it receives cash from customers for the same inventory. Management of cash conversion cycle is vital issue in corporate financial management since it directly affects the profitability of the firms. The longer the time lag, the larger the investment in working capital. However, corporate profitability might decrease with the cash conversion cycle, if the costs of higher investment in working capital rise faster than the benefits of holding more inventories and /or granting more trade credit to customers.

The time between paying and receiving cash (the gap) needs to be financed in some way. It can either come from cash generated inside the firm or borrowings from financial institutions. If the firm uses the cash generated within the business it limits the possibilities of investing that cash in other areas. And, of course, borrowing money costs more money in the form of interest. So it will be an advantage for every firm to keep the cash gap as small as possible. Even though it is rare, there are some companies who actually have a negative cash gap. That is ideal case. But it depends on the type of business the company operating in.

There are some implementations for the companies to be considered to reduce the cash gap to the fewest number of days. These are;

- Billing immediately on completion of job.

- Considering the billing on a more frequent interval.

- Giving a one percent or two percent discount for those who pay early.

- Charging interest for those who pay late.

- Systematically tracking over due receivables and actively pursuing collections.

- Reducing inventory by using low inventory trigger points.

- Buying inventory on consignment and paying only when sold.

- Negotiating longer payment terms from vendors.

The purpose of this study is to analyze the relationship of cash gap and corporate profitability of Turkish manufacturing companies operating in Borsa Istanbul for the year 2017. The rest of the paper is organized as follows: Section 2 provides a detailed survey of past studies. Section 3 explains the data (variables employed) and methodology while the results are presented in Section 4. Finally, Section 5 gives the conclusion.

2. LITARATURE REVIEW

Lazaridis and Tryfonidis (2006) conducted a cross sectional analysis by using 131 firms listed on Athens Stock Exchange for the period 2001-2004. They found statistically significant relationship between profitability measured through gross profit margin and cash conversion cycle and its components (accounts receivables, accounts payable, inventory). Garcia and Martinez (2007) tested the effect of working capital management on SME profitability using panel data methodology by 8,872 observations covering the period 1996-2002. The results demonstrated that managers could create value by reducing inventory level and shortening the cash conversion cycle improves the firm's profitabilty. Mathuva (2009) examined the influence of working capital management components on corporate profitability by using 30 listed firms on Nairobi Stock Exchange for the periods 1993-2008 using pooled ordinary least square (OLS) and the fixed effect regression models. He found that there is a highly significant negative relationship between average collection period and profitability,and there is a highly significant positive relationship between the days in inventory , average payment period and profitability.

Gill, Biger and Mathur (2010) examined 88 American firms listed on NYSE for the period for 2005-2007. They found statistically significant relationship between the cash conversion cycle and profitability measured through gross profit margin. Ebben and Johnson (2011) investigated the relationship between cash conversion cycle and levels of liquidity, invested capital, and performance in small firms over time. In a sample of eight hundred and seventy-nine small U.S. manufacturing firms and eight hundred and thirtythree small U.S. retail firms, cash conversion cycle was found to be significantly related to all three of these aspects. Firms with more efficient cash conversion cycles were more liquid, required less debt and equity financing, and had higher returns. The results also indicated that small firm owners/managers may be reactive in managing cash conversion cycle. The study highlighted the significance of cash conversion cycle as a proactive management tool for small firm owners. Napompech (2012) studied the effects of working capital management on profitability using regression analysis based on a panel sample of 255 companies listed on Stock Exchange of Thailand from 2007 through 2009. The results revealed a negative relationship between the gross operating profits and inventory conversion period and the receivables collection period.

Uwuigbe, Uwuigbe and Ben-Caleb (2012) empirically investigated the relationship between cash management and profitability in listed manufacturing companies in Nigeria. Cash conversion cycle is used as the measure for cash management. Current ratio,debt ratio and sales growth were used as control variables. The study utilized secondary data while Pearson's correlation and regression analysis were used in analyzing the data for a sample of 15 listed manufacturing companies in Nigeria between 2005-2009.The results of the empirical findings showed that there is a strong negative relationship between cash conversion cycle and profitability of the firms. It meant that as the cash conversion cycle increased it led to decreasing profitability of the firms. The study therefore recommends that managers can create a positive value for the shareholders by reducing the cash conversion cycle to a possible minimum level and also accounts receivables should be kept at an optimal level.

Muscettola (2014) studied the impacts and all the influences of the cash conversion cycle on the profitability of firms. Using data from an extensive sample of Italian manufacturing firms (4,226 Italian SMEs), the study was concerned about evaluating how cash conversion cycle affected the profitability. Results showed that average receivables period was having significantly positive association with profitability indicating that it was not necessary that always the moral of the story must be: lesser the cash conversion cycle, greater the profitability. The study took EBITDA on net sales as measures of profitability to represent dependent variables.

Akınyomi (2014) examined the relationship between cash management and profitability in the Nigerian manufacturing firms. Correlation and regression analysis were carried out. The results revealed a positive and significant relationship between CCC and ROE on one hand and a nonsignificant negative relationship between CCC and ROA. From the results of the study, it was recommended that future researchers should expand the scope of their studies to include multiple sectors of the economy. Zakari and Saidu (2016) empirically tested the effect of cash conversion cycle on corporate profitability (ROA) of the firms listed on Nigerian Stock Exchange using multiple regression analysis for the period from 2010 to 2014. The findings indicated significant positive relationship between cash conversion cycle and corporate profitability.

3. DATA AND METHODOLOGY

This study aims to investigate the relationship between the length of cash conversion cycle (cash gap) and corporate profitability of Turkish manufacturing companies. The formula to compute the cash gap is given below.

Cash Gap (in days) = Receivables Period + Days in Inventory – Payables Period

The data used in this study is obtained from financial statements of corporations which are taken from www.kap.gov.tr website. The sample is comprised of 168 manufacturing companies listed in Borsa Istanbul. Multiple regression analysis is conducted for the year 2017. Table 1 exhibits the definition of the data.

Table 1: Data Set

	Variable Name	Calculation
Dependent Variables	Return on Asset (ROA)	EBIT / Total Assets
	Return on Equity (ROE)	NPAT / Total Equity
Independent Variables	Cash Conversion Cycle (CCC)	Average Collection Period + Days in Inventory – Average Payment Period
	Current Ratio	Current Assets / Current Liabilities
	Debt Ratio	Total Debt / Total Assets
	Growth in Total Assets	(Total Assets $_{t+1}$ / Total Assets $_t$) -1

Growth in total assets is used as the proxy for firm growth. Current ratio, debt ratio, firm growth are used as control variables. The descriptive statistics for the sample are reported in Table 2. All variables are calculated using financial statement values. Hence, they are relied on "book values" as of the date of the financial reports.

Table 2: Descriptive statistics of the variables

	N	Minimum	Maximum	Mean	Standart Deviation
Return on Asset (ROA)	168	-0,11	0,37	0,0873	0,0788
Return on Equity (ROE)	168	-0,92	0,86	0,0902	0,2139
Cash Conversion Cycle (CCC)	168	0,25	8,02	1,7051	1,1782
Current Ratio	168	0,00	2,21	0,2723	0,2350
Debt Ratio	168	-0,18	1,30	0,2062	0,1922
Growth in Total Assets	168	-89,00	462,85	113,23	95,9899

Table 3 provides Pearson Correlation for the variables. It is intrinsically used to see the sign of multicolliniarity between the independent variables. Although another test is used to detect multicolliniarity more seriously, in the first instance, pearson correlation can also give an idea for the existence of multicolliniarity.

Table 3: Pearson Correlation Statistics

ROA		ROA	ROE	Current Ratio	Debt Ratio	gtotal_assets
	Pearson Correlation	**1**	0,586**	0,265**	0,048	0,202**
	Sig. (2-tailed)		0,000	0,000	0,538	0,008
	N	168	168	168	168	168
ROE	**Pearson Correlation**	0,586**	**1**	0,236**	-0,122	0,210**
	Sig. (2-tailed)			0,02	0,113	0,006
	N	168	168	168	168	168
Current Ratio	**Pearson Correlation**	0,265**	0,236**	**1**	-0,482**	-0,072
	Sig. (2-tailed)	0,000	0,002		0,000	0,353
	N	168	168	168	168	168
Debt Ratio	**Pearson Correlation**	0,048	-0,122	-0,482**	**1**	0,027
	Sig. (2-tailed)	0,538	0,113	0,000		0,724
	N	168	168	168	168	168
gtotal assets	**Pearson Correlation**	0,202**	0,210**	-0,072	0,027	**1**
	Sig. (2-tailed)	0,08	0,06	0,353	0,724	
	N	168	168	168	168	168

** Correlation is significant at the 0,001 level (2-tailed).

It is important to examine the correlation coefficient between independent variables. As it is shown in Table 3, there is 48,2 % correlation between current ratio and debt ratio and it is significant at 1 %. There seems to be multicollinearity but the existence of multicollinearity is examined by using VIF statistics in further section. The correlation matrix table reveals also positive and moderate correlation between ROA and ROE, since they are dependent variables this correlation is not meaningful.

4. FINDINGS

In order to investigate the effect of cash conversion cycle on the corporate profitability multiple regression analysis has been performed for 168 companies for the year 2017. The regression analysis finds out the effect and the relationship of explanatory variables with profitability of companies. In this study ROA and ROE are the dependent variables and regression model is conducted for these variables separately.

Model I: Dependent Variable ROA

In the first model, return on asset (ROA) is used for the profitability measure for the companies and it is the dependent variable for the first model. This model aims to explain the effect of above-mentioned variables on corporate profitability. Before presenting the regression outputs, the assumptions of regression analysis are tested. In order to actually be usable in practice, assumptions of linear regression should be conformed. Table 4 displays the results of model summary.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin-Watson
1	0,419	0,175	0,155	0,07241	2,030

Durbin Watson test is a measure of autocorrelation in residuals of regression analysis. As it is seen in Table 4,since the Durban Watson test statistic is 2, there is no autocorrelation in residuals. The R-Square, coefficient of determination, indicates how well the model fits the data. It indicates the proportion of variance in the dependent variable that is explained by the independent variables. In this model, it is seen that 17.5 % of change in ROA is explained by the independent variables in the model.

The second step of the regression analysis is ANOVA table. The significance F is the probability that the null hypothesis in the regression model cannot be rejected. In other words, it indicates the probability that all the coefficients in our regression output are actually zero. Table 5 shows the ANOVA results.

Table 5: ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	0,183	4	0,046	8,725	0,000
Residual	0,860	164	0,05		
Total	1,043	168			

ANOVA results reveal that significance of F statistic is lower than 5 % which indicates that the model is meaningful.

To understand which independent variables should be added in the regression model, it is better to analyze the next table.

Table 6: Coefficients of the model

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
Constant	0,014	0,018		0,754	0,452		
Current Ratio	0,028	0,006	0,420	5,084	0,000	0,735	1,360
Debt Ratio	-0,073	0,027	-0,217	-2,672	0,008	0,760	1,316
gtotal_assets	0,087	0,029	0,211	2,954	0,004	0,984	1,017
CCC	0,000	0,000	-0,128	-1,721	0,087	0,906	1,104

The variance inflation factor (VIF) identifies correlation between independent variables and the strength of that correlation. A value of 1 indicates that there is no correlation between this independent variable and any others. It can be concluded that there is no multicollinearity between the independent variables.

Table 6 also gives the resut of the model to form the regression equation. The regression model can be written as follows:

ROA = 0,014 + 0,028 Current Ratio - 0,073 Debt Ratio + 0,087 gtotal_assets

As it is seen in the table; cash conversion cycle is not a significant variable on the profitability of manufacturing companies as measured by return on asset.

Model II: Dependent Variable ROE

In the second model, return on equity (ROE) is used for the profitability measure for the companies and it is the dependent variable for the second model. As it is employed in the first model, before presenting the regression outputs, the assumptions of regression analysis are   tested. Table 7 exhibits the results of second model in which ROE is used as dependent variable.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin-Watson
1	0,333	0,111	0,089	0,20415	2,114

As it is seen in Table 7, Durban Watson test statistic is nearly 2, so there is no autocorrelation in residuals. The R-Square indicates that 11,1 % of change in ROE is explained by the independent variables of the model.

Table 8 displays the ANOVA results. ANOVA results reveal that the significance of F statistic is lower than 5 % and this indicates that the model is meaningful.

Table 8: ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	0,854	4	0,213	5,122	0,001
Residual	6,835	164	0,042		
Total	7,689	168			

Table 9 gives the result of the model to form the regression equation.

Table 9: Coefficients of the model

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
Constant	-0,020	0,051		-0,399	0,691		
Current Ratio	0,047	0,016	0,261	3,044	0,003	0,735	1,360
Debt Ratio	-0,014	0,077	-0,016	-0,184	0,855	0,760	1,316
gtotal_assets	0,247	0,083	0,222	2,991	0,003	0,984	1,017
CCC	0,000	0,000	-0,062	-0,801	0,424	0,906	1,104

By using the data in Table 9, the regression model can be written as follows:

> **ROE = -0,020 + 0,047 Current Ratio + 0,247 gtotal_assets**

As it is seen in the table; cash conversion cycle is not a significant variable on the profitability of manufacturing companies as measured by return on equity.

5. CONCLUSION

Regression analysis generates an equation to describe the statistical relationship between one or more predictor variables and the response variable. Regression analysis is used to produce an equation that will predict a dependent variable using one or more independent variables. The purpose of this study is to analyze the relationship of cash gap and corporate profitability. Regression and correlation analyses are conducted to examine the relationship between the cash gap and profitability. The data set includes all manufacturing firms listed in Borsa Istanbul (BIST) for the year 2017. It is found in this study that; there is a positive significant relationship between ROA and current ratio, debt ratio and growth rate in total assets for 5 % significance and positive relationship with cash conversion cyle for 10 % significance level. But the coefficient of CCC is near to zero. There is a positive significant relationship between ROE and current ratio and growth rate in total assets for 5 % significance level. There is no relationship between CCC and ROE. A possible further research can be done for larger periods by comparing Turkish companies with the companies from other countries. it is also recommended that future researchers should expand the scope of their studies to include multiple sectors.

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DETERMINATION OF SOCIAL SUSTAINABILITY LEVEL WITH QUANTITATIVE INDICATORS: A RESEARCH ON NON-METALLIC MINERAL COMPANIES LISTED ON BORSA ISTANBUL

Cuneyd Ebrar Levent
Istanbul Aydin University, Institute of Social Sciences, Istanbul, Turkey.
cuneydlevent@aydin.edu.tr, ORCID: 0000-0003-1494-3029

ABSTRACT

Purpose- The purpose of this research, is to create a framework of social sustainability expressed as quantitative indicators and to analyze the social sustainability level of the companies listed on Borsa Istanbul (BIST) in non-metallic mineral industry sector.
Methodology- In this study, social sustainability is measured by 8 categories and 22 criteria considering the literature. Social sustainability data were obtained from publicly available sources in 2017, such as the annual report, the corporate governance compliance report, and the minutes of the general meeting. The social sustainability levels of companies are analyzed by frequency analysis technique. The calculated category and criteria scores were also examined on the basis of the market values of the companies.
Findings- As a result of the research, the level of social sustainability in the non-metallic mineral industry was determined as 46.97. Within the social sustainability categories, the highest score was found in the ethics category, and the lowest score was found in the philanthropy category. The results are also analyzed according to the market capitalization of companies. According to the results, in all social sustainability categories, companies with high market value have a higher social sustainability score than others.
Conclusion- The results show that the social sustainability level is inadequate for the non-metallic mineral industry. In general, it is thought that this study contributes to the literature on social sustainability by providing a new perspective by suggesting measurable, comparable criteria.

Keywords: Social sustainability, social responsibility, corporate governance, disclosure, market value.
JEL Codes: M14, Q01, O16

1. INTRODUCTION

Although sustainability is generally defined differently in various disciplines and there is no consensus on it, sustainability generally refers to protecting assets or resources and moving it to the future. In the early definitions of sustainability, the concept was often associated with sustainable development. According to the definition of the United Nations World Commission on Environment and Development, also known as the Brundtland Report, sustainable development is a development that ensures that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). The sustainable development paradigm focuses on limiting the consumption of economic, social and environmental resources, contributing to the prosperity of present and future generations, and exploring how development is applicable to local, regional, national and international levels on the basis of political will (Glavič and Lukman, 2007).

The consideration of sustainability at the business scale is described as corporate sustainability (Salzman et al., 2005). The concept of corporate sustainability is closely related to the stakeholder approach. Stakeholder theory considers the interests of all stakeholders that affect the achievement of company goals or that are affected by company activities (Freeman, 2010). The stakeholder approach argues that a company is responsible not only to shareholders but also to all stakeholders, and rejects the

view of Friedman (1982) that "there is one and only one social responsibility of business to increase its profits". Corporate sustainability also includes a perspective on continuity and future beyond the concepts of stakeholder approach and social responsibility.

Corporate sustainability has economic, environmental and social dimensions (WCED, 1987; Searcy and Elkhawas, 2012; Docekalová and Kocmanová, 2016.) Economic sustainability refers to the economic performance of a company while maintaining its current activities and ensuring that these activities continue in the future. Besides, the characteristics of the industry in which the company operates and the macroeconomic developments are examined in economic sustainability. Economically sustainable companies can be described as companies that provide a return above average to their shareholders while guaranteeing sufficient cash flow when the firm needs it (Dyllick and Hockerts, 2002). The second component of corporate sustainability is environmental sustainability. Environmental sustainability is related to avoiding business practices that damage human life and the ecosystem in the production process of goods and services. Environmental sustainability includes basic issues such as water, air, soil and noise pollution prevention, and parameters such as climate change, biodiversity, renewal capacity, reusing, recycling and carbon footprint (Pullman et al., 2009; Morelli, 2011; Searcy and Elkhawas, 2012; D'Amato et al., 2015). Social sustainability is the third dimension of corporate sustainability. Social sustainability can be defined as being respectful to stakeholders, such as employees, customers, suppliers and the society, based on human rights fulfilling the responsibilities and making it permanent. Just as it is in other components of corporate sustainability, social sustainability is also essential to consider not only today but tomorrow (future generations).

In this study, social sustainability is considered at the business level within the context of corporate sustainability. In the second section of this paper after this introduction section, literature review on social sustainability is given. In the literature section, the scope of social sustainability and the studies carried out in this area are presented. Also, the indicators that represent social sustainability are addressed. Then, a research on determination of the level of social sustainability is taking place. In the final section, conclusions and suggestions are included. In summary, the following questions are searched for in this paper:

1-What should be measurable and comparable indicators representing social sustainability?

2-What is the level of social sustainability both in total and in categories in the industry covered by the research?

3-Does the market value of companies make a difference on social sustainability?

2. LITERATURE REVIEW

Social sustainability addresses how social problems can be managed to survive in the long term (Mani et al., 2016). McKenzie (2004) identified social sustainability as a process within communities that could provide a positive condition. According to the author, this process can be completed by realizing such indicators as "equality in basic services", "equality between generations", "consideration of the positive aspects of different cultures", "political participation of citizens", "the presence of sense of community ownership and responsibility" and "establishment of a system for transmitting awareness of social sustainability between generations". McKenzie also emphasized the importance of the existence of mechanisms for a community to collectively identify its strengths and needs, in the definition of social sustainability.

These definitions and explanations show that social sustainability is an approach which has community and organizational culture dimension. As stated in the Brundtland Report (WCED, 1987), for sustainability to take place, priority needs to be given to people and countries lacking in meeting basic needs. Three out of 17 goals (hunger, health and clean water) stated at the United Nations Sustainable Development Goals (UN, 2016) consist of tangible elements that must be urgently addressed. Failure to meet these vital needs will not make other elements meaningful. Equality must be ensured after basic needs are met. This can be manifested in economic indicators such as income inequality between countries, regions or communities, as well as racial, linguistic, religious or gender discrimination. However, there is also the time component of the concept of equality. As mentioned earlier equality in the sustainability approach includes future dimension. In addition the state or international organizations should try to ensure equality for current and future generations.

In the perspective of sustainable development, components of social sustainability such as equality, people, society, and social responsibility should address numerical and as measurable as possible, not with ambiguous expressions or wishes. Therefore, all these elements need to be defined correctly. The identification of measurable targets such as "proportion of population living below $ 1 a day", "adult literacy rate", "percent of population with access to primary health care facilities" will certainly contribute to ensuring social sustainability comparing to ambiguous statements such as "poverty problem will be resolved soon".

However, it cannot be enough to achieve social sustainable development goals on a global scale or country scale. Business enterprises, one of the most important elements of the economic system, should also contribute to this issue.

Business relations between companies and stakeholders (e.g. employees, suppliers) determine the scope of social sustainability. As an organization, businesses and employees are mutually dependent. This dependency occurs with a vertical and horizontal

communication process. Van Marrewijk (2003), stated that; businesses are supporting them by establishing a vertical relationship with their employees in order to achieve their goals, and they are constantly interacting with each other at the same time by establishing horizontal relations with their stakeholders. Concepts such as employee rights and customer satisfaction can be regarded as components of social sustainability, which is the result of these relationships.

The stakeholders of the companies are not only employees and customers. Freeman (2010) divides the stakeholders into internal and external stakeholders; internal stakeholders include company owners, employees, customers, suppliers; and external stakeholders exemplify the state, competitors, consumer associations, environmental organizations, the media and various interest groups. The most important stakeholder in the social sustainability approach is society. A company that respects employee rights and meets the principles of occupational health and safety actually fulfills some of its responsibilities. From this point of view, concepts such as human rights, health, gender equality can be considered as important elements of social sustainability (Ahmadi et al., 2017). The problem of quantifying the concepts encountered in sustainable development parameters can also be a topic of social sustainability at the business level. Besides, some of the elements of economic, environmental and social sustainability are related to each other. CO_2 emissions of a cement plant and wastewater discharge in m^3 are accepted as environmental sustainability criteria, but can also be interpreted as an element of social sustainability.

This confusion can only be achieved by defining sustainability criteria and standardizing them. There are various organizations operating on the global scale in this regard. One of the most important of these organizations is the Global Reporting Initiative (GRI). GRI is an organization that develops standards for the economic, environmental and social components of sustainability (Global Reporting, 2018). GRI also identifies these standards and publishes them on how to implement or report these standards.

Globally, especially public companies annually report on sustainability reports based on the GRI methodology. In Turkey, there are also many companies which have been preparing sustainability reports. In Turkey, 181 corporate sustainability reports were prepared between the years 2005-2014, of which 130 were arranged according to the GRI methodology (Önce et al., 2015).

GRI addresses social sustainability in four categories. These categories consist of "Labor Practices and Decent Work", "Human Rights", "Society" and "Product Responsibility" (Figure 1).

Figure 1: Social Sustainability Categories According to GRI Methodology

Category	Social			
Sub-Categories	Labor Practices and Decent Work	Human Rights	Society	Product Responsibility
Aspects [III]	• Employment • Labor/Management Relations • Occupational Health and Safety • Training and Education • Diversity and Equal Opportunity • Equal Remuneration for Women and Men • Supplier Assessment for Labor Practices • Labor Practices Grievance Mechanisms	• Investment • Non-discrimination • Freedom of Association and Collective Bargaining • Child Labor • Forced or Compulsory Labor • Security Practices • Indigenous Rights • Assessment • Supplier Human Rights Assessment • Human Rights Grievance Mechanisms	• Local Communities • Anti-corruption • Public Policy • Anti-competitive Behavior • Compliance • Supplier Assessment for Impacts on Society • Grievance Mechanisms for Impacts on Society	• Customer Health and Safety • Product and Service Labeling • Marketing Communications • Customer Privacy • Compliance

Source: Global Reporting Initiative G4 Sustainability Reporting Guidelines (Global Reporting, 2013)

According to the GRI methodology, social sustainability category consists of sub-categories, which include several aspects. In these aspects, companies are required to submit information, declarations or numerical information instead of ambiguous expressions. For example, the "Human Rights" sub-category consists of 10 aspects. In the aspect Non-Discrimination, "the total number of incidents of discrimination during the reporting period" criterion is included and it is requested that the results of the investigation against this case and the remediation plans applied are reported. Similarly, sub-other categories include such quantitative, measurable, and comparable indicators.

Sustainability reports based on GRI methodology in the literature and the results obtained from these reports have been subject to many researches (Hedberg and von Malmborg, 2003; Skouloudis et al., 2010; Toppinen et al., 2011). However, the fact that the GRI methodology is very comprehensive, especially in developing countries, even for many large companies, leads to these companies avoiding the preparation of a sustainability report. This situation only causes GRI-based research to exclude other companies so that real sustainability levels can not be determined. Therefore, many researchers have tried to measure sustainability with the scales they have developed, covering all companies.

Hutchins and Sutherland (2008) proposed a general strategy for social sustainability measures and identified various indicators in their work on measuring social sustainability and applying them to supply chain decisions. These indicators were; "labor equity", "healthcare", "safety" and "philanthropy". The authors demonstrated how these indicators could be applied to supply chain decision making processes.

Pullman et al. (2009) investigated the environmental and social sustainability practices and performance outcomes of companies in the food sector in the United States. In the research social sustainability was addressed in five criteria: quality of life, skill development, job satisfaction, fair compensation and employment status verification. The results show that the food industry managers perceive the direct and indirect effects of sustainability practices on performance.

Mani et al. (2016) from India took into consideration the dimensions of social sustainability not only for the central company but also for the first-tier suppliers and customers. In the research, social sustainability in manufacturing companies was examined in 11 main categories as society, health and safety, ethics, equity, labour rights, philanthropy, child and bonded labour, wages, education and housing. In the study, the results were analyzed by frequency analysis. One of the remarkable results of the survey is that the discrimination is high at a rate of 70%.

Bamgbade et al. (2017) examined the relationship between organizational innovation and social sustainability in Malaysia's construction sector firms, using seven criteria representing social sustainability performance in the construction sector. These were health and safety, customer comfort and satisfaction, community welfare, accessibility, social involvement, workers' welfare and aesthetics. The authors found a strong relationship between innovation and social sustainability performance.

Ahmadi et al. (2017) investigated the social sustainability practices in the supply chains in their studies covering firms in the manufacturing industry in Iran. In the study, social sustainability was determined by the criteria of "work health and safety", "training education and community influence", "contractual stakeholders' influence", "occupational health and safety management system", "the interests and rights of employees", "the rights of stakeholders", "information disclosure" and "employment practices".

Mani et al. (2018) developed taxonomy on social sustainability practices in companies. The authors studied a sample of 55 manufacturing industry companies listed in the Portuguese Stock Exchange. Social sustainability was researched in 21 criteria such as safety, human rights, product responsibility, philanthropy, education, unethical practices, working standards, skills development and child labor. The results of the research were presented by frequency analysis.

Popovic et al. (2018) pointed out that there was lack of information for the social assessment. In this context they proposed 31 quantitative social sustainability indicators to evaluate of the whole supply chain. The authors developed these indicators based on literature review and validated by a content analysis of 141 sustainability reports. Some of the indicators used in the research included human rights implementation, employee wellfare and occupational health and safety. The authors emphasized that the proposed indicators could be used for both performance assessment, as well as for periodical monitoring of the supply chains.

3. DATA AND METHODOLOGY

3.1. Scope of the Research

The scope of the research constitutes companies operating in non-metallic mineral industry, which are listed in the Borsa Istanbul (BIST). At present, BIST has created a separate Non-metallic Mineral Industrial Index (XTAST) for companies in this sector. Before selecting companies, the company list in the XTAST index was compared with the list published by the Public Disclosure Platform (KAP). Since it is more comprehensive, the list published by the KAP was taken as a basis for the research.

Non-metallic mineral industry has an important place in Turkey's economy. The industry employs thousands of people and also makes a large contribution to the growth of Turkey's economy. The most important sector in this industry is the cement sector. When analyzed cement production between the years 2012-2017, Turkey was the largest producer in Europe, while in the world ranked at fifth, after China, India, the United States and Vietnam (Statista, 2018). The other sector included in the non-metallic mineral industry is the glass production sector. The glass production sector requires high capital investment. Outputs of the industry are the inputs of the basic industries such as automotive, construction, white goods, cosmetics, food, medicine. With 916 million USD export, the sector is located an important position in Turkey (Denizli Cam, 2018). Besides cement and glass,

non-metallic mineral products include ceramic and lime production. The distribution of the companies in the research according to the sub-sectors is given in Figure 2.

Figure 2: Distribution of Companies in the Research by Sub-sectors
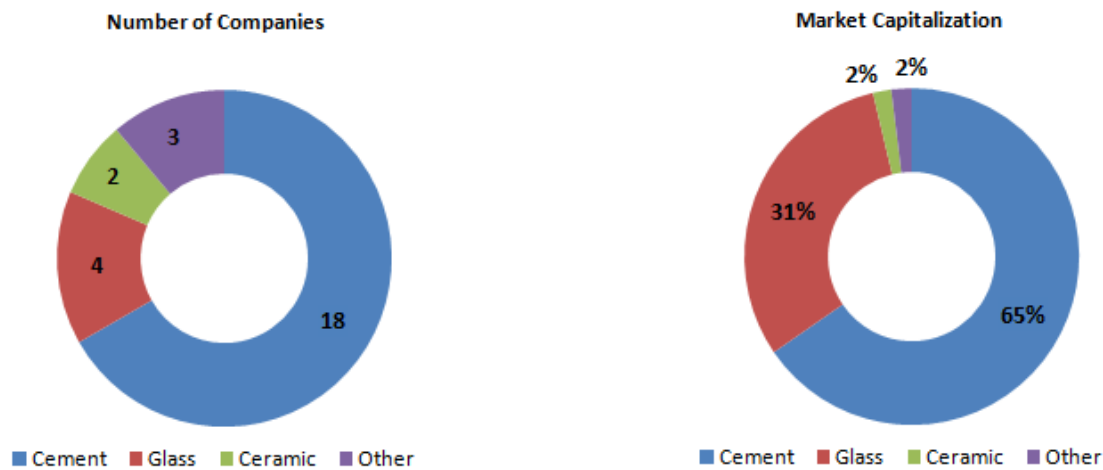
As of the end of 2017, there are 27 non-metallic mineral product companies which are listed in Borsa Istanbul. All of these companies have been included in the research and no companies have been eliminated. The list of companies is given in Appendix 1.

As presented in Appendix 1, non-metallic mineral product companies have an asset size of 32.9 billion TL and a market value of 25.6 billion TL. The data are based on financial statements and market values published at the end of 2017. The first three companies with the highest market value are Trakya Cam, Aslan Çimento and Akçansa Çimento.

3.2. Data and Methodology

As stated in previous chapters, the selection of criteria is a critical issue, while determining the level of social sustainability. Because of the lack of a generally accepted scale for social sustainability, the development of criteria has been preferred. In this context, the methodology applied by Popovic et al. (2018) was followed in the setting of the criteria. According to this, firstly literature was reviewed and social sustainability indicators were defined, then these indicators were classified and categories were created. In the next step, all the indicators were revised and some indicators were eliminated. In the development step, each criterion was clearly defined to avoid misinterpretation. It was also checked whether the social sustainability criteria were relevant, understandable, measurable and accessible. Finally, with the application step, the design of the indicators completed. In line with this methodology, social sustainability is divided into 8 main categories (Table 1).

Table 1: Social Sustainability Categories Selected for the Assessment.

Category	Reference
Combating bribery and corruption (BC)	(Delai and Takahashi, 2013; Global Reporting, 2013; Mani et al. , 2016; Engida et al., 2018)
Human rights (HR)	(Global Reporting, 2013; Engida et al., 2018; Mani et al., 2018; Popovic et al., 2018)
Employee rights (ER)	(Pullman et al., 2009; Global Reporting, 2013; Mani et al., 2016; Ahmadi et al., 2017; Bamgbade et al., 2017; Mani et al., 2018; Popovic et al., 2018)
Ethics (ET)	(Mani et al., 2016; Engida et al., 2018)
Education (ED)	(Global Reporting, 2013; Mani et al., 2016; Ahmadi et al., 2017; Mani et al., 2018)
Philanthropy (PH)	(Mani et al., 2016; Mani et al., 2018)
Occupational health and safety (OH)	(Global Reporting, 2013; Mani et al., 2016; Ahmadi et al., 2017; Bamgbade et al., 2017; Mani et al., 2018; Popovic et al., 2018)
Product responsibility (PR)	(Global Reporting, 2013; Engida et al., 2018; Mani at al., 2018)

Below these categories are the criteria that represent social sustainability. Social sustainability in this research is measured by 22 criteria according to the categories determined based on the literature. Care has been taken to ensure that these criteria have quantitative, measurable and comparable qualities. Because a majority of the social issues are subjective and qualitative (Hutchins and Sutherland, 2008). For example, "philanthropy issue" can cause different interpretations.

What is sought in the criteria needs to be clearly stated. Thus, a research form has been developed, which is given in Table 2. Information on whether the 27 companies provided the relevant social sustainability criteria within the scope of the research were obtained from public sources because all companies are publicly listed companies. In this research, the sources used to determine the level of social sustainability of companies are as follows:

- Annual reports that companies are obliged to prepare and publicize to legal regulations

- Sustainability reports

- Integrated reports,

- Corporate governance compliance reports,

- Code of ethics

- Corporate internet sites,

- Disclosures to Public Disclosure Platform (KAP)

- Annual ordinary general meeting minutes

It has been investigated by public sources that each company fulfills the social sustainability criteria given in Table 2. If the company has provided the relevant criterion, it receives 1 value for the criterion if it can not, it is given 0 value, so that the data is quantified. For example, there are two criteria in the "Combating Bribery and Corruption" category. In the criterion BC1, it is questioned whether the company's public resources refer to a statement on bribery and corruption. This is explored by checking all the public sources one by one. If such an explanation is found, the BC1 variable has a value of "1", otherwise "0". Similarly, this query is repeated for all criteria.

Table 2: Social Sustainability Research Form

Criteria Code	Criteria Description
CATEGORY: COMBATING BRIBERY AND CORRUPTION (BC)	
BC1	Is there any disclosure on anti-bribery and anti-corruption?
BC2	Is the company's "anti-bribery and anti-corruption policy" disclosed?
CATEGORY: HUMAN RIGHTS (HR)	
HR1	Is there any disclosure that there is no discrimination among employees? (age, race, language, religion, ethnicity)
HR2	Is there any disclorure that there is no gender discrimination among employees?
HR3	Is there any disclorure about child labor risk?
CATEGORY: EMPLOYEE RIGHTS (ER)	
ER1	Is there any disclosure that employees are provided with healthy working conditions?
ER2	Is there any disclosure that objective criteria have been applied in recruitment & promotion?
ER3	Is there any disclosure that objective criteria have been applied to compensation?
ER4	Are detailed information disclosed on employee training and career development?
ER5	Is the company's "human resources policy" disclosed?
CATEGORY: ETHICS (ET)	
ET1	Is the company's "code of ethics" disclosed?
ET2	Are grievance mechanisms for ethics established?
CATEGORY: EDUCATION (ED)	
ED1	Is the level of education of employees disclosed?
ED2	Does the company cooperate with educational institutions (university, high school, etc.)?
ED3	Is there any disclosure on employees' training with numerical data ? (e.g. training hours)
CATEGORY: PHILANTHROPY (PH)	
PH1	Are donations to civil society organizations disclosed in details?
PH2	Are donations to educational institutions disclosed in details?
CATEGORY: OCCUPATIONAL HEALTH and SAFETY (OH)	
OH1	Has the company OHSAS 18001 certificate?
OH2	Are numerical data on work accidents disclosed?
CATEGORY: PRODUCT RESPONSIBILITY (PR)	
PR1	Are customer satisfaction survey results shared with the public?
PR2	Are the quality certificates of the company disclosed?
PR3	Is the company's information security policy diclosed ?

After searching for the existence of 22 criteria for a company, this method has been applied to other companies (27 companies in total) as part of the research. After all these operations were completed, a data set consisting of 594 data (22 criteria x 27 companies) was obtained. Since the public source of companies (especially annual reports and corporate internet sites) is not standardized, a large number of reports and documents had to be examined for each criterion.

After the data set was created, the social sustainability level was calculated based on the criteria first and then on the category basis. The social sustainability levels were actually analyzed by frequency analysis as they are similar studies in the literature. But in this study, the level was also calculated on category basis.

Criteria-based social sustainability level is calculated as follows:

$$SSL_{cr} = \left((\sum_{i=1}^{n} X_i)/ n \right).100$$

where

    - SSL_{cr} = social sustainability level of the criteria, range 0 -100, the higher the better (criteria score)

    - i = company subscript

    - n = number of companies (n = 27)

    - X = The value of the relevant criteria (0 or 1)

The category-based social sustainability level is calculated as follows:

$$SSL_{ct} = \left((\sum_{j=1}^{m} \sum_{i=1}^{n} X_i) \right).100/(n.m)$$

where

- SSL_{ct} = social sustainability level of the category, range 0 -100, the higher the better (category score)

    - i = company subscript

    - j = category subscript

    - n = number of companies (n = 27)

    - m = number of categories

    - X = The value of the relevant criteria in the category (0 or 1)

For calculation of the social sustainability level of the industry, the same method in the category score was applied. While the category score and the industry score were calculated, the criteria were not assigned different weights, and each criterion was given equal weight.

The results of the research were also examined on the basis of market values of social sustainability level. In this context, companies were divided into two, with market values greater than or equal to 1 billion TL and less than 1 billion TL. The market value was calculated by multiplying the number of stocks and the price traded by the stock. Price data was obtained from the Borsa Istanbul (BIST) and stock data from the Public Disclosure Platform (KAP). All of the financial information was used by the end of 2017 financials of companies.

4. FINDINGS AND DISCUSSIONS

With the methods described in the previous section, the social sustainability levels of companies were first calculated. The frequency distributions resulting from these calculations are given in Table 3.

Table 3: Frequency of Social Sustainability Scores of Companies

Social Sustainability Score	Frequency	Percentage
90 - 100,00	1	3,70%
80 - 89,99	3	11,11%
70 - 79,99	4	14,81%
60 - 69,99	3	11,11%
50 - 59,99	3	11,11%
40 - 49,99	3	11,11%
30 - 39,99	1	3,70%
20 - 29,99	5	18,52%
10 - 19,99	2	7,41%
0 - 9,99	2	7,41%
Total	27	100,00%

It is determined that only 1 out of the 27 companies has a social sustainability score above 90. On the other hand, it is seen that the score of 2 companies is below 10. The highest frequency is in the range of 20-29.99. The results given in Table 3 show that the frequencies are relatively balanced, not concentrated in a certain range. The social sustainability score of one third of the companies is below 30, and the score of about half is below 50. Considering that all these companies have thousands of shareholders and are relatively large companies, it can be said that this result is inadequate in terms of social sustainability.

In Table 4, the social sustainability levels of companies in the non-metallic mineral industry are analyzed on a category basis. The highest category score is in the ethics category with 64.81, followed by human rights with 62.96 and occupational health and safety with 57.41. It has been determined that there is no category other than these three categories with a category score higher than 50.

Table 4: Results of Social Sustainability Scores Based on Category

Category Code	Category Name	Category Score
BC	Combating bribery and corruption	37,04
HR	Human rights	62,96
ER	Employee rights	47,41
ET	Ethics	64,81
ED	Education	37,04
PH	Philanthropy	20,37
OH	Occupational health and safety	57,41
PR	Product responsibility	45,68
	Social Sustainability Score (industry overall)	46,97

The lowest scoring category is the philanthropy category with 20.37. The other two low-scoring categories are education and the bribery and corruption with 37.04 scores. The score of product responsibility category is 45.68 and the employee rights category with 47.41 score, both scores are below the 50 level.

It should be emphasized that the ethics category takes the first place. All of the publicly listed companies in Turkey have to prepare and disclose corporate governance compliance report to the public. In corporate governance compliance reports, it is recommended that companies disclose code of ethics, and if they do not, they have to explain the reasons. It should be noted that even though there are legal requirements, 64.81 scoring in the study is not actually inadequate.

The lowest scoring philanthropy category, in fact, refers to the perspective in this study. That is, in the criteria in this category, companies were not asked whether they participated in social responsibility activities. Instead, the study investigate the details of the philanthropic activities of the companies. Approximately 80% of companies were found to refrain from disclosing donations in detail. When the annual reports of the companies are examined for this study, it turns out that the companies are not very honest about philanthropy. It is seen that some of the companies have included their social responsibility activities in previous years in the annual reports of the year 2017 as well.

In Table 5, the social sustainability levels of companies are given in terms of both category and market value. The companies in the non-metallic mineral industry are divided into two groups considering their market value. The total social sustainability score of the group of companies with a market value of more than 1 billion TL is 63.13 whereas it is 38.89 in companies whose market value is less than 1 billion TL.

Table 5: Results of Social Sustainability Scores Based on Category and Market Value

Category Code	Category Code	Category Score	
		Market Value < 1 billion TL	Market Value >= 1 billion TL
BC	Combating bribery and corruption	27,78	55,56
HR	Human rights	59,26	70,37
ER	Employee rights	37,78	66,67
ET	Ethics	58,33	77,78
ED	Education	25,93	59,26
PH	Philanthropy	19,44	22,22
OH	Occupational health and safety	41,67	88,89
PR	Product responsibility	38,89	59,26
	Overall	38,89	63,13

The results in Table 5 show that companies with high market value in all social sustainability categories have higher score than the companies with low market value. The biggest difference is seen in the category of occupational health and safety (OH). Companies with a market value of over 1 billion TL has the OH score of 88.89, while the other group has the score of 41.67. It has also been found that in the bribery-corruption (BC) and education (ED) categories, the difference between groups is about two times. On the other hand, in the philanthropy category, due to the reasons mentioned above, the low scores are seen in both groups.

Figure 3 is particularly striking in terms of the relevance of companies' social sustainability scores to market values. The X axis represents the social sustainability level of companies. On the Y axis, the market values of the companies are in logarithmic value. When each company is plotted on the social sustainability score and the market value, a remarkable relationship is observed.

Figure 3: Social Sustainability Score and Market Value Graph of Companies
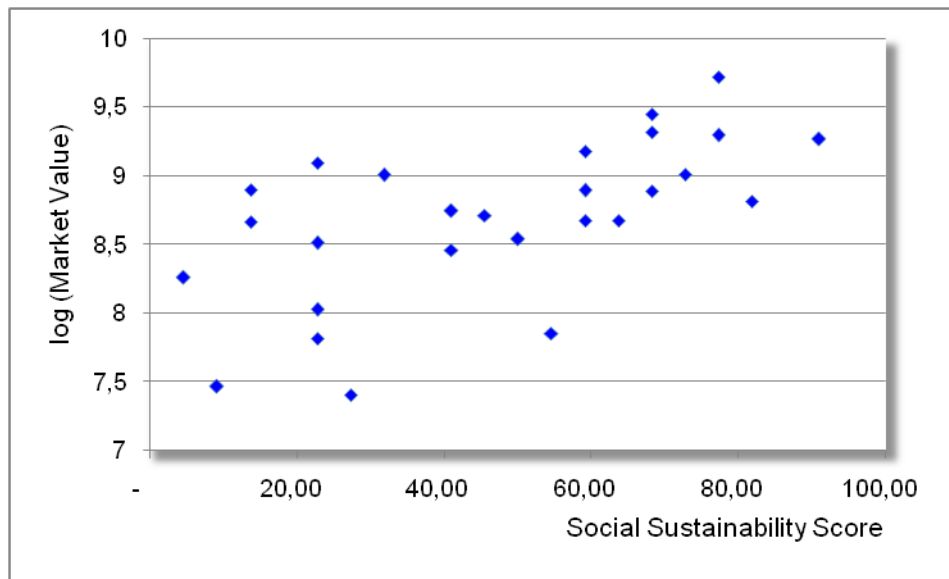
In Table 6, social sustainability scores are presented on both criteria and market values. In the overall column, the relevant criteria scores are given for the entire industry. The highest criterion score is the HR1 variable in the human rights category. This is followed by the HR2 variable in the same category and the OH1 variable in the occupational health and safety category. The lowest criterion score is the ED1 in the education category. These results, which are shown in Table 6, are analyzed one by one below.

In the criterion BC1, it is researched whether the companies disclose on "combatting bribery and corruption" issue in public sources. The score for this criterion is 51.85. In the same category, the other criterion is questioned whether there is a anti-bribery policy and the score falls to 22.22. Especially companies which have low market value seem to be unable to create a policy in this regard. In developing countries such as Turkey, bribery and corruption issues are discussed in more state and government level. Bribery and corruption in private companies are unfortunately handled adequately. The scores can be interpreted as a consequence of this.

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The results of the HR1 criteria in the human rights category concern whether there is discrimination among employees. Gender discrimination (HR2) is considered as a separate criterion. The results of the two criteria can also be considered sufficient. As a critical issue in terms of social sustainability, it has been investigated child labor as a risk factor. Child labor is prohibited except in cases specified by law in Turkey. The criterion expressed by HR3 includes not only the companies themselves but also their suppliers. In the study, it is questioned whether the company has made a statement about this risk. It was determined that only 22.22% of the companies disclosed about this issue and the remaining 78% did not disclose child labor risk. Another result of the research shows that companies with more than 1 billion TL market value in all the criteria (HR1, HR2 and HR3) considered in the human rights category provide criteria higher than others.

Table 6: Results of Social Sustainability Scores Based on Criteria and Market Value

Criteria Code	Criteria Score		
	Market Value < 1 billion TL	Market Value >= 1 billion TL	Overall
BC1	44,44	66,67	51,85
BC2	11,11	44,44	22,22
HR1	83,33	88,89	85,19
HR2	77,78	88,89	81,48
HR3	16,67	33,33	22,22
ER1	66,67	77,78	70,37
ER2	33,33	33,33	33,33
ER3	27,78	66,67	40,74
ER4	33,33	100,00	55,56
ER5	27,78	55,56	37,04
ET1	66,67	77,78	70,37
ET2	50,00	77,78	59,26
ED1	11,11	11,11	11,11
ED2	44,44	88,89	59,26
ED3	22,22	77,78	40,74
PH1	22,22	22,22	22,22
PH2	16,67	22,22	18,52
OH1	72,22	100,00	81,48
OH2	11,11	77,78	33,33
PR1	0,00	55,56	18,52
PR2	72,22	88,89	77,78
PR3	44,44	33,33	40,74

The issue of employee rights is addressed in five criteria. In the first three criteria, disclosures have been sought about whether the companies apply objective criteria in healthy working conditions (ER1), recruitment & promotion (ER2) and compensation issues (ER3). The score for the variable ER1 is 70.37. In ER2 and ER3 criteria, these scores decrease to 33.33% and 40.74% respectively. According to the regulations in Turkey public companies are required to explain the remuneration principles of board members and executives. But at lower levels there is no such requirement. The low-scoring ER2 and ER3 criteria can be explained by this. The fourth criterion (ER4) that is sought in the employee rights category concerns whether or not concrete information on employee training and career development is presented. In the study it is not accepted vague expressions such as "we attach importance to improving the skills of our employees". Instead, detailed information such as "internal mentoring", "skill development", "determining the objective and taking the initiative" programs for employees are evaluated as more concrete data. In summary, it is seen that 55.56% of the companies covered by the ER4 criteria provide this criterion. The final criterion for employee rights concerns the public disclosure of the human resources policy (ER5), with a score of 37.04. It has been determined that the companies which have high market value in terms of employee rights provide higher values in four criteria than others, and they are at the same level in a criterion. It is noteworthy that all of the companies with a market value of more than 1 billion TL, in particular, have worked seriously in the development of the training and abilities of employees, as expressed by ER4.

The results of the criteria in the ethics category are presented in Table 6. The disclosure of the code of ethics of the companies is expressed by the ET1 variable and it is seen that the score is realized as 70.37. The second criterion in this respect is the existence of grievance mechanisms against unethical behavior (ET2). 59,26% of the companies disclose that they establish such mechanisms. The issue of publishing the ethical rules of all public companies on corporate internet sites is taken place in the Capital Markets Board (CMB) Corporate Governance Communiqué in Turkey. The Communiqué states that, while not obliging companies to do so, the company must disclose the reasons for their failure to publish. There is no obligation to establish a

mechanism against unethical behaviors. The difference between the two criteria in the ethics category can be explained by this. it is seen that the companies with higher market value pay more attention to the ethical issue and share it with the public.

In the education category, the score for the ED1 variable is 11.11, indicating that the vast majority of companies do not provide information about the level of education of their employees. In ED2 criterion, it is questioned whether the company cooperates with educational institutions and the score is 59.26. In this regard, it is seen that some companies cooperate with educational institutions in their research and development activities and some companies offer internships, education and other activities to high school and university students. Cooperation of companies with universities contributes to both sides, but it is also a matter to be considered in terms of achieving sustainable development at the macro level. The last criterion in this category is related to the numerical expression of the training given to employees (ED3). While the ED3 score in the companies with a market value of over 1 billion TL is 77.78, this score decreases to 22.22 in other companies.

As mentioned earlier, the philanthropy category is the lowest scored category in the sector. Disclosure of donations of public companies is mandated by regulations. In the context of this research, it has been seen that the donations made when the minutes of the general meeting of the companies are examined are stated as a separate item on the agenda of the general meeting. However, it has been found that companies generally disclose donations as a total amount without detail. As a social sustainability criterion, it has been researched whether these amounts are given in detail, and it is evaluated that the companies which explain donations as only total amount do not satisfy the criterion.

Occupational health and safety is not only a matter of social sustainability but also a matter of law. 81,48% of the companies have OHSAS 18001 certificate on occupational health and safety (OH1) and mostly shared this document on their internet pages. It has been found that all of the companies which have above 1 billion TL market value provided this criterion. For other companies, the OH1 criterion score is 72.22. Numerical explanations about the work accidents of the companies are expressed by OH2 variable and it is determined that this score is 33.33 in the industry. The results can be interpreted as the fact that the companies avoided sharing information about the work accident with their stakeholders.

Companies are also responsible for the products and services they produce. This issue is represented by three criteria in the product responsibility category. In the criterion expressed by the PR1 variable, it was researched whether companies share the customer satisfaction survey results with their stakeholders. The results are noteworthy that no company with a market value of less than 1 billion TL provided this criterion. But for companies with a market value higher than 1 billion TL, the PR1 criterion score is 55.56. In the PR2 criteria, it was questioned whether the company disclosed quality documents. The results of this criterion can be evaluated adequately. In the PR3 criteria, it is related to the information security policy of the company. The industry average at this criterion was 40.74. This result indicates that there are significant deficiencies in information security or personal data protection.

5. CONCLUSION

The social dimension of corporate sustainability has long been neglected compared to its economic and environmental components. In recent years it appears that interest in social sustainability has increased significantly. However, a most of the studies address only a few components of social sustainability, which can not fully define social issues. On the other hand, the number of studies dealing with social sustainability as a holistic approach is not sufficient. Therefore, this study aims to fill this gap in the literature.

The purpose of this research is to create a framework of social sustainability and to analyze the social sustainability level of the companies listed on Borsa Istanbul (BIST) in non-metallic mineral industry. The level of social sustainability is also analyzed according to the market values of the companies. In this context, social sustainability is addressed in 8 categories and 22 criteria. These categories consist of anti-bribery and anti-corruption, human rights, employee rights, ethics, education, philanthropy, occupational health and safety and product responsibility.

Results reveal that level of social sustainability is 46.97 in the non-metallic mineral industry sector in Turkey. Considering that the companies researched in the study are large companies with thousands of investors, hundreds of employees and millions of dollars in sales volume, it is easy to say that this level of sustainability is not adequate.

When the results are analyzed on a category basis, it is determined that the lowest score is in the philanthropy category. The companies have responsibilities not only for their shareholders but also for their stakeholders. Although not only in the non-metallic mineral industry in general in Turkey appeared to be a growing interest in social responsibility, it is observed that these activities are not systematic. It is the right of all stakeholders, especially shareholders, to know where and how much donations are made by publicly listed companies.

The results show that there are significant inadequacies in the "combating bribery and corruption" and in "education" categories. Only 22% of companies have a policy to anti-bribery and anti-corruption. In the field of education, it is expected that

collaboration with universities and systematic training of employees will contribute to development and economic sustainability.

It is determined that the highest level of compliance is achieved under the ethics category. 70% of the companies have published their ethical code on their corporate internet sites and announced it to the public. However, it is believed that more companies will benefit from the effectiveness of complaints mechanisms against unethical behavior. The fact that most of the companies involved in the research disclose that they do not discriminate on the basis of language, religion, race and gender among the employees can be interpreted as a positive result. However, the findings show that companies' concerns about child labour risk are not sufficient. All companies involved in the research are publicly listed companies and are strictly controlled. Therefore, it is estimated that they do not employ child labour. However, it is expected that companies should be more sensitive to the child labour risks of their suppliers.

The results indicate that 81.48% of companies have Occupational Health and Safety OHSAS 18001 certification. But only one third of them disclose the data about job accidents to their stakeholders. Similarly, more than 80% of companies do not share the results of customer satisfaction surveys. It is expected that transparency in all social sustainability criteria, not just these two issues, could make the companies more sensitive to the issues concerned.

In the study, the results are also analyzed by considering the market values of the companies. The average level of social sustainability in the sector is determined as 63.13 for companies with a market value above 1 billion TL, and 38.89 for companies with a market value below 1 billion TL. In all of the eight categories examined, it is determined that high-market valued companies have a higher social sustainability score than the others.

The most important contribution of this research to the literature is to give a new perspective by suggesting quantifiable indicators for social sustainability. The criteria and categories suggested in the research can be applied in various industries especially in developing countries. Expressing social sustainability quantitatively will help comparison of companies, industries and countries. It is expected that the research will shed light on researchers, companies, sector representatives and regulatory agencies that will study in the field of social sustainability. However, there are several limitations of the study. First, in this study only the non-metallic mineral industry was examined. Secondly, it should be noted that this study only covers one country (Turkey) as another limitation. Finally, only publicly traded companies are examined in the research. This is largely due to the fact that non-public companies do not have the obligation to prepare information such as the comprehensive activity report, corporate governance compliance report. In spite of the fact that the results of the study give us an idea about social sustainability level of the industry, the results should not be generalized because of these limitations. There are several potential areas for further study on social sustainability. By following the methodology in this study, more quantitative indicators can be developed. Furthermore, it is also recommended that future studies include more industries and more countries.

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Appendix 1: List of Companies Covered by the Research

BIST Code	Company	Total Assets (TL)	Market Value (TL)
ADANA, ADBGR, ADNAC	ADANA CIMENTO (A, B and C)	1.166.984.719	1.016.812.764
AFYON	AFYON CIMENTO	789.193.877	778.000.000
AKCNS	AKCANSA	1.916.195.842	2.082.944.100
ANACM	ANADOLU CAM	4.183.064.000	1.972.500.000
ASLAN	ASLAN CIMENTO	610.313.346	2.788.600.000
BASCM	BASTAS BASKENT CIMENTO	649.813.051	323.635.435
BTCIM	BATI CIMENTO	2.234.190.774	790.400.000
BSOKE	BATISOKE CIMENTO	1.072.159.165	462.800.000
BOLUC	BOLU CIMENTO	777.105.271	770.606.075
BUCIM	BURSA CIMENTO	872.751.956	555.532.992
CMBTN	CIMBETON	116.038.036	65.348.400
CMENT	CIMENTAS	1.567.200.000	1.009.628.080
CIMSA	CIMSA	3.242.449.563	1.849.306.011
DENCM	DENIZLI CAM	92.254.381	71.220.000
DOGUB	DOGUSAN	21.304.637	29.200.000
EGSER	EGE SERAMIK	421.956.267	345.000.000
GOLTS	GOLTAS CIMENTO	775.127.419	470.160.000
IZOCM	IZOCAM	331.704.096	648.682.741
KONYA	KONYA CIMENTO	433.034.171	1.242.727.200
KUTPO	KUTAHYA PORSELEN	398.644.311	286.203.456
MRDIN	MARDIN CIMENTO	334.704.347	469.857.960
NIBAS	NIGBAS NIGDE BETON	67.608.395	25.380.000
NUHCM	NUH CIMENTO	1.751.892.336	1.497.629.592
TRKCM	TRAKYA CAM	8.021.325.000	5.220.600.000
USAK	USAK SERAMIK	510.307.076	106.173.031
UNYEC	UNYE CIMENTO	384.034.452	514.119.470
YBTAS	YIBITAS INSAAT MALZEME	188.426.834	182.000.000
	TOTAL	**32.929.783.322**	**25.575.067.307**

Source: Created by the author based on the data published in BIST and KAP, at the end of 2017.

THE EFFECTS OF INTERNAL MARKETING ACTIVITIES ON THE SATISFACTION AND PERFORMANCE OF SALESPEOPLE

H. Nur Basyazicioglu[1], M. Sukru Akdogan[2]
[1]Erciyes University, Faculty of Economics and Administrative Sciences, Management Department, Kayseri, Turkey.
 nur@erciyes.edu.tr, ORCID: 0000-0001-5076-6870
[2]Erciyes University, Faculty of Economics and Administrative Sciences, Management Department, Kayseri, Turkey.
 akdogans@erciyes.edu.tr, ORCID: 0000-0001-6811-706X

ABSTRACT

Purpose- This study firstly aims to explore the organization of business's implementation of internal marketing activities toward their sales-force and the determinants of job satisfaction of sales personnel. Secondly, it aims to investigate the relationship among internal marketing activities, job satisfaction, and perceived performance of the sales team.
Methodology- A face-to-face questionnaire was given to 158 sales personnel employed in malls. The collected data was examined by confirmatory factor analysis and path analysis.
Findings- It is understood that enterprises in the retail sector have done internal marketing activities such as education, communication, internal market research, and incentives. It is seen that the satisfaction of the employees is related to job qualification, colleagues, corporate image, and financial situation. In the second part of the research, it is understood that the satisfaction level of employees affects their performance. Finally, the study displays that there is a positive relationship between internal marketing activities and employees' performance
Conclusion- This study shows that internal marketing activities have both direct and indirect effects on the performance of employees.

Keywords: Internal marketing, salespeople, satisfaction, performance, path analysis.
JEL Classification: M12, M30, M31

1. INTRODUCTION

Marketing activities in businesses, which have a customer-focused marketing approach, are based on two pillars, namely satisfaction of customers and the continuity of relationship established with the customers. It has been understood that with a highly competitive environment, that it is not enough for customers' satisfaction to provide them with reasonable prices for products in line with their wishes and needs.

Being mindful of acquiring new customers is a costlier strategy than retaining current customers. Businesses have searched for different ways to develop long-term relationships by satisfying existing customers. For this reason, researchers have been trying to identify the factors that affect customer satisfaction. Among these factors, service quality is seen in the forefront (Parasuraman et al., 1988). It is observed, especially in service sectors such as education, tourism, and health that the service quality of the employees has an important influence on customer satisfaction. This is because employees have direct contact with customers in these sectors (Fortenberry and McGoldrick, 2016; Sohail and Jang, 2017; Walter et al., 1994). Research indicates that consumers evaluate the quality of services based on ten different characteristics. These are namely physical conditions, reliability, sensitivity, communication, credibility, safety, competence, kindness, understanding, and accessibility (Parasuraman et al., 1985). When these elements of service quality are carefully examined, it is understood that two factors especially affect perception of the service quality of customers. These are the knowledge of employees about the products they sell and the attitudes of employees towards customers, colleagues, and the institution. This is why

businesses have begun to pay more attention to issues related with employment, training, and motivation of employees in order to satisfy their targeted customers (Fortenberry and McGoldrick, 2016). These activities, which are implemented by the enterprises, are considered as internal marketing and they play an important role on the performance of the enterprises (Nyasha et al., 2015).

There are many studies investigating the implementation of internal marketing activities in the service sector (Fortenberry and McGoldrick, 2016; Sohail and Jang, 2017; Walter et al., 1994; Nyasha et al., 2015; Caruna and Calleya, 1998) since the service cannot be separated from the employee who performs it (Parasuraman et al., 1988). However, there have been few studies on internal marketing focusing on the salespeople, who communicate directly with customers, inform, and persuade them to buy (Berry et al., 1976; Bell et al., 2004). For this reason, this study aims to contribute to the related literature.

Considering the significant influence of sales staff on business performance and customer satisfaction, the main purpose of this study is to examine the effect of internal marketing activities on both the job satisfaction and performance of the sales team. For this purpose, both organizations' implementation of internal marketing activities toward their sales teams and the factors affecting the satisfactions of the salespeople are firstly analyzed by confirmatory factor analysis in order to determine their sub-dimensions. Then, the relationship among internal marketing activities, employee satisfaction, and perceived performance are analyzed with path analysis.

2. LITERATURE REVIEW

Berry, Hensel, and Burke (1976) are the first researchers who investigated the influence of internal marketing activities on the degree of customers' satisfaction. Their study contributed the conception of internal marketing into literature. Their study implies that customers are divided into two parts, internal and external. According to this separation, buyers of products are referred to as external customers whereas the employees of the company at all levels are defined as internal customers. Internal customers also have particular needs and desires, just as external customers. Therefore, businesses are able to satisfy external customers thanks to fulfilling the needs and desires of their internal customers with internal marketing activities.

In related literature, many scholars have defined internal marketing differently since its first explanation, and they have studied it in different dimensions (Walter et al.,1994; Varey, 1995; Bell et al., 2004). For instance, Gummesson (1995) defined internal marketing as the implementation of the same marketing activities, which the organization applies to its external customers, towards its employees. Whereas, Kotler and Keller (2006) defined internal marketing as a strategy which covers the education and motivation of employees, with the aim of customers' satisfaction.

In the broadest sense, internal marketing is defined as a set of activities that directs current employees to ensure external customer satisfaction in order to enable the business to realize its mission by organizing its activities to provide internal and external customer satisfaction by making use of education, communication, and motivation of employees (Yaprak and Özer, 2001).

As the definition of internal marketing implies, the scope of such activities is so broad that it prompts questions about the specific department of the organizations in charge of internal marketing activities. It is stated that internal marketing activities are closely related to the marketing department because of the definition of employees as internal customers and the business activities, which ensure the needs and requests of the internal customers as well as those of the external customers (Ahmed and Rafiq, 1995). Hence the interested field of marketing departments widen from external customer to internal customers. This means the marketing department's responsibilities in the business have increased (Collins and Payne, 1991). Additionally, internal marketing activities are regarded as the missing half of marketing (Piercy and Morgan, 1991). Therefore, it is thought that marketing activities for both internal and external customers are important in terms of the completeness of marketing strategies.

Internal marketing activities are too crucial and important to leave the entire responsibility to only marketing departments. (Ewing and Caruana, 1999). Having reviewed the literature, it is seen that internal marketing activities are examined on the basis of internal market research and different applications of business activities such as education, communication, rewards and support of leadership (Sohail and Jang, 2017; Huang and Rundle-Thiele, 2014; Thomson and Hecker, 2001; Paraskeves, 2001). Internal marketing is not totally under responsibility of a sole department in an organization. The department of human resources arguably has a congruent responsibility of internal marketing activities, since internal marketing includes the activities of employing, training, and career planning of qualified workers. (Joseph, 1994).

Internal marketing has a noteworthy relationship with such activities as increasing the quality of service and standardization of service quality. In addition to departments of marketing and human resources, considering the effect of employees' performance on service quality, it is seen that internal marketing is closely related to total quality management (Nyasha et al., 2015). Therefore, internal marketing is suggested to be a contributor to the establishment of quality culture in

organizations (Gummesson, 1987). Instead of leaving the entire responsibility of internal marketing activities to only one department, it is a more accurate approach for businesses to consider internal marketing as a kind of strategic partnership among the human resources management, marketing, and total quality management departments, (Rafiq and Ahmet, 1993).

Internal Marketing and Satisfaction of Internal Customers

Like other marketing activities, internal marketing surely aims to satisfy external customers too. The difference between other marketing activities and internal marketing activities arises from the methods chosen in order to achieve the target. Within the scope of internal marketing strategy, business organizations focus on their employees rather than their customers (Bailey et al., 2016). Enterprises believe that if they fulfill the needs and wishes of their internal customers and satisfy them, they can orient their employees towards the satisfaction of external customers, so that the businesses can achieve their mission. For this reason, enterprises aim to increase their employees' performances through internal marketing activities such as education, communication, internal market research, and incentives.

In order to increase performance, employees must first be competently informed about their work responsibilities so that they may completely accomplish their tasks. Training is the first possible method to increase employees' occupational abilities. Training affects the performance of employees (Lee et al., 2012). Thus, organizations get a competitive advantage by training their employees (Tseng, 2009). For this reason, education is considered as first among all the priorities in internal marketing. Employees regard business training as an indicator of the value and importance given them by their organizations. In addition, employees evaluate training activities as an opportunity to improve their occupational skills. Therefore, training has been discussed to have a positive impact on the satisfaction of internal customers (Navimipour and Zareie, 2015).

Communication within an organization is the second important component of internal marketing strategy. Communication is an important tool to transfer information related with the needs and desires of employees to the upper management. Thus, an effective communication within an organization makes employees feel confident and generates commitment to the organization (Mishra et al., 2014). Because one of the most significant topics of internal marketing is to satisfy internal customers by determining and meeting their needs and desires, an effective and strong communication within an organization facilitates the goal of internal marketing strategy. Hence, it is predicted that organizations can satisfy their internal customers with effective communication (Men, 2014).

Internal market research is another activity within the internal marketing strategy. Internal market research aims to improve the quality of products and services by taking into consideration the opinions of employees. Assuming that the employees have the same expectations as external customers, the evaluation of the performance of the business by the internal customers is supposed to give guidance to businesses related to the satisfaction of external customers (Paraskevas, 2001). For this reason, it has been observed that the marketing activities implemented by the opinions of employees are more successful (Sohail and Jang, 2017). Aside from practicing successful marketing activities, conducting internal market research and getting the opinions of employees makes them feel that they are contributing to the decision-making process in the organizations. Therefore, internal market research does indeed affect internal customer satisfaction (Huang and Rundle-Thiele, 2014).

In addition to these business applications, businesses encourage their employees to increase their job performance with financial incentives such as a higher salary, extra payments and premiums, and with emotional incentives such as choosing an employee of the month, hanging photos of selected employees on a workplace wall, and giving plaques to employees. These kinds of internal marketing activities seem to both motivate employees and increase employee satisfaction (Nyasha et al., 2015). Thus, internal marketing activities such as training, communication, internal market research, and incentives are thought to have a significant impact on internal customer satisfaction and employee performance.

Internal Marketing and Sales Personnel

In literature, the efficiency of internal marketing activities evaluated are concentrated in service sectors such as tourism (Huang and Rundle-Thiele, 2014; Nyasha et al., 2015), education (Alghamdi, 2016; Hemsley-Brown and Goonawardana, 2007), and health (Fortenberry and McGoldrick, 2015; Peltier et al., 2008), since service is one sector, where workers have become a part (Caruna and Calleya, 1998). However, it is proposed that internal marketing activities also affect businesses in the retail sector (Berry et al., 1976).

In the retail sector, stores are important selling points where businesses display their products for consumers to examine and buy. It is implied that sales staff working in these stores are a bridge between business and customers and consequently they undertake sales activities (Yükselen, 2010). These employees are also internal customers.

Examining the purchasing behaviors of consumers, it is understood that the purchasing decision of the consumers is determined by store features such as appearance, location, the arrangement of vitrines, internal decorations, the music that is played, the atmosphere, and cleanliness (İslamoğlu and Altunışık, 2009). Furthermore, it must be added that the assessment of information is related with product quality, price, delivery conditions, and payment facilities (Karafakıoğlu, 2012). However, the most important factor leading consumers to buy something during their visit and to leave the store in a satisfactory manner is the physical, visual, and behavioral characteristics of the sales personnel (İslamoğlu and Altunışık, 2009). This is why the performance of sales personnel plays a key role in business performance and customer satisfaction. Businesses aim to increase the knowledge and skills of their sales team by educating sales staff in order to improve their sales force performance and to satisfy their customers (Yükselen, 2010). At the same time, business organizations have an interest in learning the information employees obtain from consumers via communication. Furthermore, businesses benefit from salespeople's experience in improving business performance by doing internal market research. Finally, businesses encourage their salespeople with financial and emotional incentives to ensure that their employees work more willingly to achieve their sales targets (İslamoğlu and Altunışık, 2009).

Based on the view that the performance of salespeople has a significant influence on customer satisfaction and business performance in the retail sector, businesses undertake internal marketing activities for their sales force to have a positive impact on both the satisfaction level and the performances of their employees. This positive effect is supposed to raise the customer satisfaction level and therefore, also the performance of the company. Within this theoretical framework, this study aims to test the hypotheses given below:

H_1: Internal marketing activities have a positive effect on the satisfaction of salespeople.

H_2: Satisfaction of salespeople has a positive effect on their perceived performance.

H_3: Internal marketing activities have a positive effect on their perceived performance.

3. DATA AND METHODOLOGY

This study has two main goals. Firstly, it aims to investigate businesses' implementation of internal marketing activities for salespeople in the retail sector and to explore the determinants that factor in the satisfaction of these employees. Secondly, this study tries to comprehend the relationship among internal marketing, job satisfaction of salespeople, and the perceived performance of these employees. Hence, the research begins with determining sub-dimensions of internal marketing and satisfaction of employees with a confirmatory factor analysis. Then, the relationship among internal marketing, satisfaction and perceived performance of salesforce is to be examined with path analysis. In accordance with the objectives of the study, the research model, which is used to test the hypothesis of this study, is shown in Figure 01 below.

Figure 1: Research Model
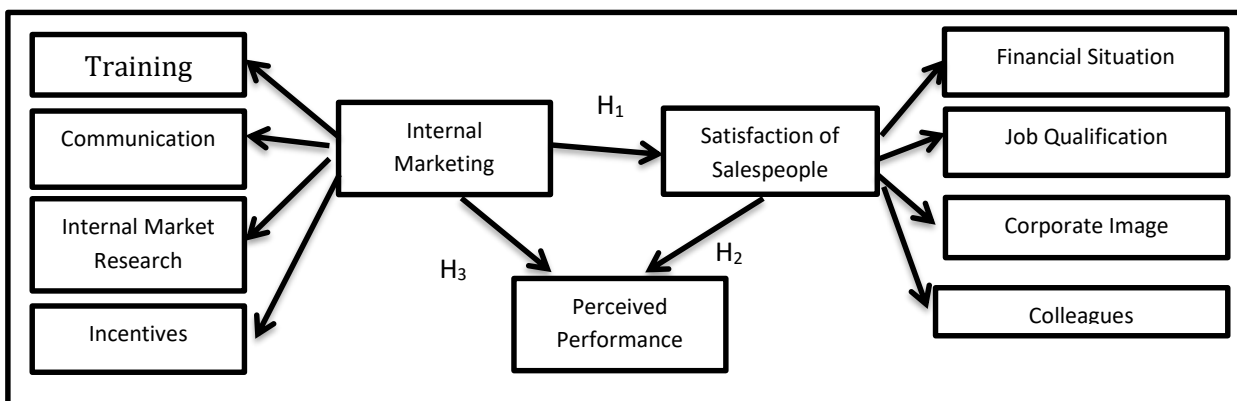
The research model, shown in Figure 01, has its foundation in literature (Sohail and Jang, 2017; Huang and Rundle-Thiele, 2014; Bell et al., 2004; Nyasha et al., 2015; Gummesson, 1987; Fortenberry and McGoldrick, 2016; Panigyrakis and Theodoridis, 2009).

Data Collections and Sampling Method

In this research, the sample was determined based on convenience sampling. Convenience sampling is a non-probability sampling technique and it is conducted according to the judgement of the researcher. It is thought that organizations with well-known brands having completed construction of their corporate identity are assumed to give more attention to internal marketing. Therefore, the sample of this research consists of salespeople working at organizations that have well-known brands in the retail sector. It is not possible to reach each salesperson within the time and financial limitations of research. Additionally, it is known that almost all almost all organizations with a well-known brand in retail sectors have stores in big malls. Consequently, it was decided to conduct the survey, based on convenience sampling, at three big malls in Kayseri.

Data collection was completed with 158 surveys. Among these participants, 53% of the respondents were female and 47% were male. 43% of salespeople were under the age of 25 and 50% were between the ages of 26 and 33. When age statistics are examined, it is understood that salespeople working at shopping malls are young and are still at the beginning of their careers. 52.5 % of the participants were high school and/or primary school graduates. In terms of income distribution, only 2.5 % of the salespeople participating in the survey receive higher than the minimum wage, 70.9 % earn minimum wage, and 26.6% of them earn below the minimum wage. The main reason for the low salaries of the sales staff is that young people are either employed part-time or hourly in shopping malls.

Measures

Data collected consisted of four main parts: a "5-point Likert Type Scale" was used for the first three parts of the survey. The first part, consisting of 15 questions was designed to evaluate internal marketing activities based on previous research (Money and Foreman, 1996). The second part, with 18 questions, was calculated to measure the satisfaction of employees based on literature (Yazıcıoğlu, 2010). The third part included 9 questions to measure the perceived performance of salespeople. The last section consisted of demographic questions.

4. FINDINGS AND DISCUSSIONS

Before analyzing the data derived from the sample, a reliability analysis was performed to determine whether the data was meaningful as a whole. According to this analysis, the values of Cronbach's Alpha for three scales are shown in Table 1.

Table 1: Reliability Statistics of Scales

Scales	Cronbach's Alpha
Internal Marketing	0.934
Satisfaction of Salespeople	0.942
Perceived Performance	0.961

As shown in Table 1 above, all values of Cronbach's Alpha are larger than 0.8. This indicates that the scales are reliable. In addition to reliability analysis, the Hoteling T^2 Tests for all scales were significant at 0.0001. These statistics indicate that the difference between the data is statistically significant, and it is concluded that the data is suitable for use in various analysis.

The adequacy of the sample size and the compliance of the data to factor analysis was first analyzed by KMO and Bartlett Test. The value of the KMO analysis for internal marketing was 0.934 and the value of the KMO analysis for satisfaction of salespeople was 0.942. The Bartlett test result of both scales was significant at 0.0001. Thus, it is understood that the relationship between the variables in each scale is meaningful and these scales are compatible with the factor analysis. Two main types of factor analysis exist namely, Explanatory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). EFA is generally used when researchers have a general idea about a research topic, but they have not predicted how many factors exist or which variables will most likely load onto which factor so that they have not composed specific hypotheses CFA is used in cases where researchers have prior knowledge about the factors (Hurley et al., 1997). Since a review of internal marketing literature shows that researchers divide internal marketing strategies into different activities such as of training, communications, market research, and financial and psychologic incentives, in this research, the internal marketing activities of the enterprises and the satisfaction of salespeople were divided into groups by confirmatory factor analysis. Table 2 displays the results of the confirmatory factor analysis.

Table 2: Confirmatory Factor Analysis for Internal marketing and Satisfaction of Salespeople

Latent Variables for Internal Marketing	Std. Path Values	t-Test	R²
Factor 1: Training			
The organization prepares its employees to perform well in their jobs.	0.78	0.84	0.57
The organization thinks development of employees' skill and knowledge as an investment	0.76	0.61	0.48
The skill and knowledge of employees improve in job processes.	0.72	0.74	0.56
The organization teaches employees why they should do their job besides how.	0.72	0.67	0.48
The organization trains its employees beyond education.	0.87	1.29	0.6
The employees are trained appropriately to do their jobs in the organization.	0.83	1.08	0.58
Factor 2: Incentives			
The organization's performance measurement and reward systems encourage employees to work together.	0.74	0.78	0.42
The organization often measures and rewards the performance of employees who contribute to the organization's vision.	0.98	2.46	0.7
Employees who provide excellent service at the organization are rewarded for their efforts.	0.84	0.12	0.52
The organization is flexible enough to supply the different needs of employees.	0.71	0.32	0.46
Factor 3: Internal Market Research			
The organization gathers information from its employees to improve the duties of employees and improve the organization strategy.	0.72	0.9	0.43
The organization gives opportunity to new thoughts and behaviors	0.93	1.91	0.67
The suggestion made by employees about the business is considered.	0.8	0.29	0.54
Factor 4: Communication			
The organization provides a vision for their employees to believe.	0.83	0.71	0.55
The organization conveys its vision to its employees in an appropriate way.	0.75	1.86	0.64
The organization transmits the importance of service roles to the employees.	0.84	1.94	0.52
Communication with employees is very important in organization.	0.71	0.18	0.29
Latent Variables for Satisfaction of Salespeople	**Std. Path Values**	**t-Test**	**R²**
Factor 1: Job Qualification			
The responsibilities and authorization in the job are determined clearly.	0.83	0.82	0.58
I do a job that fits the skills and talents.	0.75	0.56	0.49
My job contributes into my personal improvement.	0.71	0.06	0.45
My job meets my job expectations.	0.86	0.2	0.53
I can use my creativity in my job.	0.66	0.41	0.32
Factor 2: Colleagues			
My colleagues help me in case of a problem.	0.82	0.8	0.57
I have a good relationship with my colleagues.	0.82	1.57	0.63
My colleagues specialize in their job.	0.82	1.06	0.59
I feel as a team member when I am with my colleagues	0.83	1.45	0.62

Factor 3: Corporate Image			
I regard working in the organization as a source of prestige.	0.86	1.97	0.69
I think the organization has a good reputation in its sector.	0.78	0.78	0.59
Factor 4: Financial Situation			
All employees are equally benefiting from the resources of organizations.	0.82	0.96	0.43
I believe I receive the salary I deserved.	0.98	3.49	0.76
I am satisfied with the extra payment of the organization.	0.99	3.5	0.76
I am satisfied with the sale opportunity of organization which are provided only to employees of organization	0.96	1.28	0.6
I am satisfied with the gift given by the organization.	0.97	2.72	0.7

As shown in Table 2 above, internal marketing activities are divided into four factors, namely training, incentives, internal market research, and communication. It is understood that the satisfaction of the sales staff is also divided into four factors as satisfaction from the job qualification, colleagues, corporate image, and financial situation.

When Table 2 is examined, it is seen that the standardized path values and the determination coefficients (R^2), which determine the relationship between expressions and latent variables, are high. Although these results provide information that the expressions are distributed correctly in the factors, it is necessary to look at the results of the χ2 test and the fit indices of the analysis to evaluate the statistical significance of the confirmatory factor analysis. The χ2 test is found to be significant at the level of 0.0001, taking the value of 1370.61 in 783 degrees of freedom. When examining the indices that assess the statistical significance of the confirmatory factor analysis, the value of RMSEA is 0.069, the value of SRMR is 0.071, the values of CFI, NCFI and NNFI are 0.97, and the value of NFI are 0.94. These statistics indicate that confirmatory factor analysis has a good fit. Thus, it is found appropriate to continue the analysis with these factors.

After analyzing internal marketing activities and the satisfaction of salespeople in detail with confirmatory factor analysis, whether there are statistically significant relationships among internal marketing activities, satisfaction of salespeople, and their perceived performance were determined by path analysis. The results of path analysis are shown in Table 3.

Table 3: The Relationship Between Factors and The Value of Paths

The relationship between factors	Std. Path values	t- Test	R^2
Internal Marketing- Training	0.93	10.17	0.87
Internal Marketing- Communication	0.98	10.33	0.95
Internal Marketing- Incentives	0.92	8.25	0.84
Internal Marketing- Internal Market Research	0.89	8.46	0.79
Satisfaction of Salespeople- Qualification of Job	0.92	9.79	0.84
Satisfaction of Salespeople- Colleagues	0.9	9.56	0.81
Satisfaction of Salespeople- Corporate Image	0,91	11.09	0.83
Satisfaction of Salespeople- Financial Situation	0,68	6.74	0.46
Internal Marketing-Satisfaction of Salespeople	0,8	9.54	0.64
Internal Marketing- Perceived Performance	0,34	2.75	0.38
Satisfaction of Salespeople- Perceived Performance	0,34	2.8	0.42

When Table 3 is examined, it is seen that there are positive and strong correlations between the factors and t-test values that test these correlations are significant at level 0.0001. Thus, it is understood that all relations shown in Figure 1 are meaningful. However, the validity of the research model shown in Figure 01 as a whole is understood after the evaluation of the χ2 test and model fit indices. Therefore, when the χ2 test is evaluated, it is seen that the χ2 test has a value of 2087.96 in 857 degrees of freedom and this value is significant at level 0.0001. According to the model's fit indices, RMSEA is found to be 0.096, SRMR is 0.076, NFI is 0.93, and NNFI and CFI are 0.96. Other fit indices, except for the RMSEA value,

indicate that the model has good fit. The RMSEA value shows that the model is an acceptable model. Thus, the research model is accepted as a whole.

As for the validity of the t-test values evaluating the acceptance of the research model and measuring the significance of the relationships between the variables in the research model, all hypotheses tested in the study are accepted. In terms of the relationship focused in the first hypothesis, displayed on Table 3, the standardized path value between internal marketing and satisfaction of salespeople is 0.8. It means that there is a positive and strong correlation between these two variables. In addition, by looking at the equation of structural equation that characterizes the relationship between these two variables, it is seen that the coefficient of determination is 0.64. This statistic indicates that 64% of salespeople's satisfaction can be explained by internal marketing activities. Thus, it is understood how important internal marketing activities are in terms of the satisfaction of sales staff.

When Table 3 is examined together with the relationship between satisfaction and perceived performance of salespeople tested in the second hypothesis, it is seen that there is a positive correlation between these two variables. In accordance with the structural equality equation for these variables, the determination coefficient is 0.42. It means that 42% of the performance is related to the satisfaction of salespeople. This statistic confirms that the more the employees are satisfied, the better they perform.

Finally, when the relationship between internal marketing and perceived performance in the third hypothesis is evaluated, it is seen that there is a positive correlation between the two variables. The coefficient of determination in the structural equality equation of the relationship between variables is 0.38. It displays that 38% of salespeople's performance can be explained by internal marketing activities. Thus, it is understood that internal marketing activities have a strong direct effect on the satisfaction of employees and it has both a direct and an indirect effect on the perceived performance, by affecting the satisfaction of the salesperson

5. CONCLUSION

This study examined internal marketing activities executed by enterprises and the effect of these activities on the satisfaction and performance of salespeople in the retail sector. In accordance with this purpose, 158 randomly selected salespeople working in three big shopping malls in Kayseri were given a face-to-face survey in order to gather data within the time and financial constraints of this research. The data collected from the sales staff were analyzed with a two-step process. In the first step, it was planned to reveal the sub-dimensions of the internal marketing activities and the satisfactions of the sales staff with confirmatory factor analysis. As a result of confirmatory factor analysis, it was determined that the internal marketing activities of the enterprises are divided into four factors, education, communication, internal market research, and incentives. It has been seen that these results are consistent with the research related to internal marketing activities in the service sector. (Lee, 2012; Tseng, 2009; Mishra et al. 2014; Paraskevas, 2001; Huang and Rundle-Thiele, 2014). However, this study has differed from other studies by focusing on the retail sector. Thus, it has been understood that the internal marketing activities in the service sector are also used in the retail sector. Businesses have motivated their sales team to improve their knowledge and skills in order to encourage their employees to perform better.

In addition to internal marketing activities, when the satisfactions of salespeople were examined with a confirmatory factor analysis, four sub-dimensions of satisfaction of employees were retained, namely job qualification, colleagues, corporate image, and financial situation. It has been noteworthy to mention that the employees' satisfaction is generally discussed as a whole and its sub-dimensions are not examined in literature (Alghamdi, 2016; Bernhardt et al., 2000; Huang and Rundle-Thiele, 2014). For this reason, it believed that this study differs from other studies existing in the literature since it examines the factors affecting the satisfaction of the sales staff.

In the second part of the study, the relationship between internal marketing activities, satisfaction, and perceived performance of salespeople were examined with path analysis. As a result of the path analysis, it was determined that there is a strong positive relationship between internal marketing activities and the satisfactions of salespeople. Thus, similar to the service sector (Sohail and Jang, 2017), it is understood that internal marketing activities have affected employee satisfaction positively in the retail sector. Furthermore, as a result of the path analysis, it is seen that there is a positive relationship between satisfaction and the perceived performance of salespeople. Therefore, it is understood that the satisfaction level of employees affects their performance. Finally, this study displays that there is a positive relationship between internal marketing activities and employees' performance. Parallel to the results of the research on internal marketing activities in different sectors (Panigyrakis and Theodoridis, 2009), it is seen that internal marketing activities affect employees' performance in the retail sector as well. However, unlike other studies, this study has concluded that internal marketing activities have both direct and indirect effects on the performance of the employees attributable to affecting the satisfaction of the employees.

It is not possible to generalize the results of this study in order to cover other sectors since the work was only done on employees, who are employed as sales personnel in shopping malls within Kayseri. Nevertheless, what makes this study important is that it reveals factors of internal marketing activities and employee satisfaction. Moreover, this study presents that internal marketing activities are important not only in the service sector but also in the retail sector.

It is predicted that if businesses satisfy their internal customers with internal marketing activities, that the employee turnover rate will decrease. In addition, employees can own part of the business and thus feel trust and loyalty to the business. Hence, employees provide better service to the customers and this gives rise to the satisfaction of external customers as well. For this reason, this study can provide a starting point for future work to examine the effect of internal marketing activities on turnover rate and loyalty of employees.

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FORECASTING OF CLAIM BY COMBINING PROBABILITY DISTRIBUTIONS

Elif Makbule Cekici[1], Hakan Aydogan[2], Serkan Eti[3]

[1]Marmara University, Faculty of Business, Department of Quantitive Methods, Istanbul, Turkey.
 ecekici@marmara.edu.tr, ORCID: 0000-0002-1603-9896
[2]Kastamonu University, Faculty of Forestry, Department of Forest Industrial Engineering, Kastamonu, Turkey.
 hakanaydogan@kastamonu.edu.tr, ORCID: 0000-0002-4791-4091
[3]Istanbul Medipol University, İstanbul, Turkey.
 seti@medipol.edu.tr, ORCID: 0000-0001-9482-9888

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ABSTRACT

Purpose- The purpose of this study is to focus on forecasting the total claim distribution of fire-disaster and transportation insurances by combining probabilities of claim distribution using the data for 2014 and 2015.
Methodology- In this study, the combination of Weibull and Gamma distributions of fire-disaster and transport policies are discussed. By combining two different probability density function (PDF), a single PDF is derived and thus it is aimed to provide convenience in calculations.
Findings- Two probability distributions were combined with mathematical methods. As a result, a single probability density function was obtained. This probability density function can represent the total claim distribution.
Conclusion- In conclusion, we used the data regarding fire-disaster and transportation insurances for 2014 and 2015. Insurance firms that offer these two policies to their customers need to determine their risk taking into consideration the total claim distribution from the policies. Since Weibull and Gamma distributions have a PDF, it is necessary to integrate the multiplication of the characteristic functions for combining these two distributions. The PDF obtained as a result of mathematical operations is the PDF of the total claim distribution.

Keywords: Claim distributions, combining probability distributions, insurance, total claim distribution, actuarial models.
JEL Codes: G22, C46, C13, E17, C02, C69

1. INTRODUCTION

Businesses and individuals need to take out an insurance policy for daily risk that are unlikely to occur but could cause massive losses if happened. Thus, they aim to reduce the effect from the risks to the minimum level (Inel & Çekici, 2013). In Turkey, there are many insurance policies in the field, especially health. Insurance firms offer policies in many different areas such as health, life, travel, goods, natural disaster, private pension. Through these policies, individuals and firms transfer their risks to insurance companies. Insurance companies make claims payments in case of the realization of the risks they bear against the premiums. Insurance firms need to be able to control their liquidity to minimize the ruin probabilities that may arise from claims payments. For this reason, it is necessary to forecast the claim payments stemmed from the risks that the premiums occurred. Claim payments for these risks depend on the severity and the amount of claim. Moreover, the severity and the amount of claim depend on the case defined and have a mathematical probability distribution.

Since the claim has a probability, it may be possible to forecast the claim payments using probability density function (PDF). Thus, insurance companies can plan their liquidity by forecasting the total claim payment. However, the PDFs of independent claim payments may be different from each other. This makes it difficult to obtain total claim distribution. Hence, many methods have been proposed in the literature to overcome this issue. In this paper, it is aimed to forecast the total claim distribution of fire-disaster and transportation insurances by combining probabilities of claim distributions using the data for 2014 and 2015. For this purpose, we shall discuss claim distributions. We shall then show that methods of combining claim distributions in the literature. Finally, we present an application of the combining of Weibull and Gamma PDFs which correspond to the claim distributions. The probability distribution of claim occurring at a specified time interval is called the claim distribution. Furthermore, it has a feature of continuous random variable and especially, the claim distribution of operational risk losses often shows a positive skewness and high kurtosis. When an appropriate distribution for any random variable is considered, the heavy-tailed distributions are the distributions commonly used due to the nature of the financial data. Moreover, it has been seen in the literature that some commonly used distributions are as follows: Normal, Lognormal, Exponential, Pareto, Burr, Weibull and Gamma distributions.

Risk statistics require urgency whey they have been done against time, and it is not possible to complete until all losses have been recognized and/or all claims have been paid. In some fields, as the incurred but unreported claims, actuaries may need to forecast past losses. In particular, it may seem insignificant as this issue can easily observe in fire insurance; but the payment for large claims can be considerably delayed.

For a future time interval, If S denotes the sum of claims and n denotes the number of claims, then it may be expressed as:

$$S = n.\frac{S}{n}$$

When all information about the policy is taken into consideration, the distribution function P(y) of the individual claim needs to be forecasted to obtain the best information about the S/n. Not only for the application of the collective risk theory, but also for daily decisions with regards to deductibles, initial losses, retentions, loadings and other reinsurance issues, the P(y) is a fundamental function. Since these decisions depend on the tails of the distribution, forecasting is based on as large statistics as possible is necessary. Therefore, the forecasting of P(y) is quite appropriate for the cooperation of competing firms (Benckert and Jung, 1974).

At any time, the sum of the payments made for claim or losses in the insurance company's portfolio is regarded as the total amount of claim. The distribution of the total amount of claim is theoretically calculated by multiplying the distributions of the number of claim and the amount of claim. Moreover, different methods have been developed in the literature to calculate the distribution of the total claim amount.

2. LITERATURE REVIEW

Studies on the combining of probability density functions have not existed much due to the mathematical difficulty. It is seen that the studies are frequently evaluated in a theoretical framework rather than in practice. There are different approaches in the literature on combining probability distributions. While some of these suggest combining characteristic functions of PDFs, the others suggest the Bayesian approach. Apart from these, it is used few methods such as the way of assigning importance to the distributions with the expert opinion or weighting method providing that sum of the distributions is one. The combination of probability distributions is used in many sectors, primarily in the field of finance and insurance. In determining of risks, the combining processes of probability distribution are applied in radar systems as well.

Winkler (1981) has stated that uncertainty may be represented officially with regard to probability, and for the uncertain amount of interest, the crucial purpose of a consensus procedure is to reach at a probability distribution. Additionally, he has claimed that the consensus distribution entirely shows the information that is provided by the experts. Ranging from a simple average of probability distributions to the transition to Bayesian as common ideas of scholars such as Eisenberg and Gale (1959), Stone (1961), Roberts (1965), Winkler (1965), and Morris (1974). While Winkler proposed a consensus model for this process, some experts suggest that a Bayesian approach is a more appropriate choice. Genest and Zidek, in their study, benefited from a Bayesian approach as other academics. Winkler and Clemen, on risk analysis combined the density functions of the risks with experts' opinions. Thus, they determined the risk analysis more precisely. An important feature of information obtained by different sources is the probability of stochastic dependency. The developed model expresses the dependency between faulty estimations of experts.

Expert opinions can be represented by PDFs. Hence, a PDF can be reduced to the combined distribution or consensus distribution. Particularly, when the information is inadequate, the process of decision making can be risky. In order to solve this issue, Liu et al. (2012) presented a proposal. (1) the problem is formulated as an optimization problem, and (2) the overlapping fields of the PDFs are combined with an expert opinion and the level of the expert evaluation is then used to determine the weight of the stated opinion. On the other hand, Lui et al. (2012) presented a novel approach that is about combining the set of PDFs or the distributions. Their approaches are based on the idea that the weight of a decision maker is related to the overlapping field between the PDFs of decision makers and the combined PDF. The combined PDF is represented by a weighted average model. Thus, determining of a combined PDF is reduced to determining the weight for each expert.

In a study on combining the distributions of independent data sets for the same quantity by Hill and Miller (2010), they have first discussed the common method of averaging the probabilities (For each data set of A: P(A)= (P1(A) + P2(A)/2), however this method has many important disadvantages. Instead, as an alternative to averaging the data or averaging the probabilities, Hill (2008) announced a mathematical method called "conflation". McMillan and Kohlberg (2017) has studied the combining PDFs regarding radar and communication systems, and on the combining statistically well-defined distributions of system problem that are independent of each other in these systems. In their paper, they use PDF calculated for a sum of normal and exponential distributions by using a characteristic function. However, they have claimed that it is quite difficult to combine these distributions using numerical techniques. In fact, it has been stated that in the case of normal and lognormal in the paper, it is even more difficult to combine due to the characteristic function of the lognormal distribution. Hence, they have used the convolution or "faulting" method to combine normal and lognormal distributions as an even simpler method, which had previously been used (McMillan and Barnes, 1976) instead of the characteristic function approach.

Taken together, these studies support the notion that several methods such as the considering of expert opinions, Bayesian approach, convolution, averaging of probabilities, and Conflation have been used to combine different probability distributions.

3. DATA AND METHODOLOGY

The claim information was obtained by reports at the official website of Republic of Turkey, Ministry of Treasury and Finance. The claim premiums paid for fire-disaster and transportation policies for 2014 and 2015 are given Table 1.

Table 3: Claim premiums paid for Fire-Disaster and Transportation Policies

2015		2014		2015		2014	
Fire-Disaster	Transportation	Fire-Disaster	Transportation	Fire-Disaster	Transportation	Fire-Disaster	Transportation
5656,81	3036,72	799,48	444,78	34480,3	1405,85	77341,79	3792,76
18993,41	6859,67	8194,6	11655,04	32628,8	22240,5	30281,21	206,46
109488,31	9396,95	86228,42	6975,92	232,46	0,64	36031,04	12842,47
90323,69	14373,94	114471,14	36873,28	18083,67	296,4	245,89	0,04
193843,87	13024,54	109373,53	17487,65	5433,67	283,77	20225,27	113,37
18191,75	191,6	17535,24	285,28	79597,49	8256,37	5365,54	443,28
195270,13	7772,43	11665,2	3504,13	16469,63	67,73	60348,16	7411,8
284,76	0,24	128688,65	9177,93	2545,6	840,74	13945,65	234,49
58	253,05	32,46	5,12	80525,08	1628,65	32074,64	1913,55
11252,53	3482,75	10135,18	2181,93	8187,46	3674,58	7104,08	537,55
17647,57	16326,62	799,51	189,35	67885,9	3983,42	30505,6	2928,47
70153,15	8455,59	10661,09	11510,46	11014,34	2353,41	2666,03	336,55
4492,5	5209,33	50505,17	4630,69	18015,52	2443,49	20456,16	44,31
114765,61	5868,3	2196,39	1380,38	39738,83	232,67	17334,73	11886,24
69550,85	2085,07	135976,92	7862,15	46300,18	8970,86		

The distribution of the data for these two policies were examined and tested using Minitab 16 software. We found that the claim distribution of fire-disaster insurance fits to the Weibull distribution, while the claim distribution of transportation insurance fits to the Gamma distribution. Anderson test Darling test was used as a conformity test. According to the results of this test, distributions where claim distributions are appropriate are determined.

Figure 1: The Distribution Test Charts of Fire-Disaster and Transportation Policies
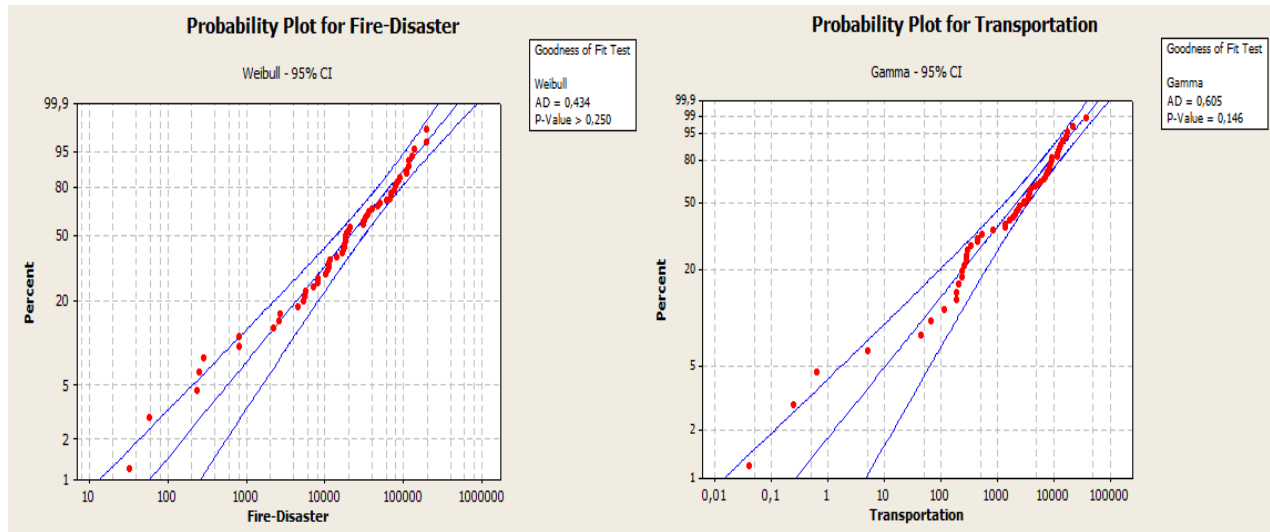
4. FINDINGS AND DISCUSSIONS

In accordance with the theory, Weibull and Gamma distributions were combined. For the functions to be combined, X is the continuous random variable and has the PDF with the $f_X(x|\lambda)$ lambda parameter, and the second density function to be combined is with the $f_\Lambda(\lambda|\theta), \theta$ parameter, the combined distribution function can be calculated as follows:

$$f_Y(y|\theta) = \int_{\lambda \epsilon \Omega_\Lambda} f_X(y|\lambda) f_\Lambda(\lambda|\theta) d\lambda$$

Where Y is combined distribution with the parameter of θ. This distribution has a continuous distribution.

With the help of the above-mentioned theory, A.D. the distributions obtained from the test are combined. The density functions of the distributions that are appropriate for the given data are as follows:

$$Weibull \ f(y; \gamma, \beta) = \frac{\gamma}{\beta} y^{\gamma-1} e^{-\frac{y^\gamma}{\beta}} \quad 0 < y < \infty, \gamma > 0, \beta > 0$$

$$Gamma \ f(x) = \frac{1}{\beta^\alpha \Gamma(\alpha)} x^{\alpha-1} e^{-x/\beta} \quad x > 0, \alpha > 0, \beta > 0$$

The combination of these two PDFs,

$$\iint \left(\frac{\gamma}{\beta} y^{\gamma-1} e^{-\frac{y^\gamma}{\beta}} \right) \left(\frac{1}{\beta^\alpha \Gamma(\alpha)} x^{\alpha-1} e^{-x/\beta} \right) dxdy = \int \frac{\gamma}{\beta} y^{\gamma-1} e^{-\frac{y^\gamma}{\beta}} dy \int \frac{1}{\beta^\alpha \Gamma(\alpha)} x^{\alpha-1} e^{-x/\beta} dx$$

is obtained by solving the integral. For the integral solution, when the $-\frac{y^\gamma}{\beta} = t$ and $-\frac{x}{\beta} = u$ are transformed, the combination of the two density functions is given by

$$\gamma e^{-\frac{y^\gamma}{\beta}} \frac{1}{(n-1)!} e^{-\frac{x}{\beta}} (-\frac{x}{\beta} - 1)$$

This solution is the probability density function of the total claim distribution, which is the combination of two claim distributions. By estimating of the parameters involved in this combination will lead to forecast of the total claim. The claim distribution is reduced to a single probability distribution by the PDF. Systematically, using of multiple PDF increases the probability of Type 1 error. It also increases the degree of freedom. Hence, using a single reduced PDF will enable more accurate.

5. CONCLUSION

Firms and individuals require to take out a policy for daily risk that are unlikely to occur but might cause high losses if happened. Insurance firms that transfer their risks should correctly assess the payment probabilities of the losses stemming from these risks and must overcome the liquidity issue. Thus, it is crucial for insurance companies to determine distributions of claim payments correctly and also to express the total claim in a single distribution. Handling of individual claim distributions separately will increase confidence interval as well as cost and degrees of freedom. Achieving the probability function of the total claim distribution in order to forecast a more precise claim payment is an extremely important matter. With this consideration, it is necessary to combine two probability functions mathematically. Much of the existing literature on combining probability distributions pays particular attention to each claim distribution is different from each other. Since the claim distributions are different, it is difficult to calculate the total claim distribution. The purpose of the current study was to provide great convenience to insurance companies about forecasting of their total claim distribution by combining probabilities of claim distributions. For this purpose, we used the data regarding fire-disaster and transportation insurances for 2014 and 2015. Insurance firms that offer these two policies to their customers need to determine their risk taking into consideration the total claim distribution from the policies. Thus, it was attempted to combine the PDFs of the two policies. While the distribution of claim payments for fire-disaster policies fitted the Weibull distribution, the distribution of claim payments for transportation policies was determined to be appropriate for Gamma distribution.

Theoretically, since Weibull and Gamma distributions have a PDF, it is necessary to integrate the multiplication of the characteristic functions for combining these two distributions. The PDF obtained as a result of mathematical operations is the PDF of the total claim distribution. Apart from this study, the combining of normal and lognormal distributions is also discussed in the literature. As the claim distributions can have many distributions besides the distributions discussed, it is recommended that combining of other distributions should be considered and evaluated in the future studies.

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