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THE MODERATOR EFFECT OF R&D EXPENSES ON THE RELATIONSHIP BETWEEN COMPANIES ADVERTISING EXPENSES AND MARKET VALUES

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ABSTRACT

In this study, it is aimed to be measured the relationship between the advertisement expenses and the market value of companies, and also the moderator effect of research and development (R & D) expenses on this relationship. The sample of the study is formed by the data which is taken from the published footnotes of consolidated financial statements related to both advertising and R & D expenses in the years 2007, 2008, 2009, 2010 and 2011 of 46 companies located in the Istanbul Stock Exchange. Panel data analysis method is used in this study. As a result of this analysis, the effect of both advertising and R & D expenses on companies' market value is positive. However, moderated effect of the R & D expenses on the relationship between advertising expenses and market value is negative. From the findings, companies which have made high R & D expenses should do more advertising spending in their efforts to increase their market value compared with the ones which have made low.

Keywords: Advertising expenses, R & D expenses, Market value, Moderate variable.

İŞLETMELERİN REKLAM GİDERLERİ VE PİYASA DEĞERLERİ ARASINDAKİ İLİŞKİDE, AR-GE GİDERLERİNİN MODERATÖR ETKİSİ

ÖZ

Bu çalışmada işletmelerin reklam giderleri ve piyasa değerleri arasındaki ilişki ve bu ilişkiye araştırma ve geliştirme (AR-Ge) giderlerinin moderatör etkisi ölçülmeye çalışılmıştır. Araştırma Borsa İstanbul'da 2007, 2008, 2009, 2010 ve 2011 yıllarına ait konsolide finansal tablolarını ve dipnotlarını yayınlayan işletmelerden hem reklam, hem de Ar-Ge ile ilgili kalemlerde harcama yaptığı tespit edilen 46 işletme üzerine yapılmıştır. Araştırmada panel veri analiz yöntemi kullanılmıştır. Araştırma bulgularına göre hem reklam hem de Ar-Ge giderlerinin şirket piyasa değerleri üzerine etkisi pozitif yöndedir. Ancak Ar-Ge giderlerinin reklam giderleri ile piyasa değeri arasındaki ilişkiye moderatör etkisi negatif yöndedir. Yüksek Ar-Ge giderine sahip işletmelerin, düşük olanlara kıyasla piyasa değerlerini arttırma çabalarında daha fazla reklam harcaması yapmaları gerektiği sonucuna ulaşılmaktadır.

Anahtar Kelimeler: Reklam Giderleri, Ar-Ge Giderleri, Piyasa Değeri, Moderatör Değişken.
Jel Kodu: M31, M37, C23, L25.

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INTRODUCTION

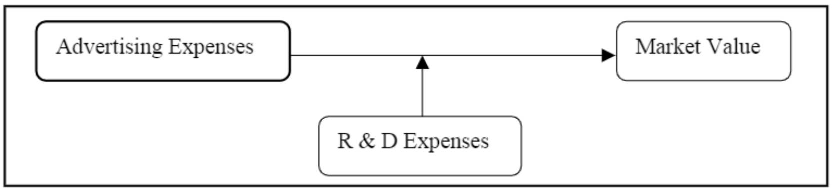
The financial success of the companies and the determinants of this success has become the focus of attention by researchers, and this issue has been studied with different dimensions in different areas such as management, marketing, and finance (Capon et al., 1990: 1143; Külter and Demirgüneş, 2007: 446-449). Many researches indicate that companies should perform some specific economic objectives (Ülgen and Mirze, 2013: 185) such as, growth, profit maximization, social responsibility, and etc. in order to achieve the success. Because of the obvious contradictions between these objectives, none of them can be acceptable as the main objective of a company.

Furthermore, one of these objectives is considered to be the main objective of a company. However, although this may have a positive effect in the short term performance, it may also have adverse effects in the long term. Therefore, the objective, which is determined as the main purpose of a company, is supposed to have a positive impact on the long-term performance of the company. This situation leads researchers to focus onto “the value maximization theory” which has its origins in “the shareholder theory”. The term “value maximization” is briefly the decision of the managers in a way that it promotes the long-term total market value of the company. The increase of long-term market value can only be possible by realization of each of the foregoing objectives optimally (Beer and Nohria, 2000:38). Therefore, it is considered to maximize the market value as the ultimate goal of companies.

As mentioned above, the success of the companies mostly depends on the decision makers' decisions in marketing, finance, management, and etc. “Do the companies' expenses positively or negatively affect its market value in consequence of these decisions?” is an important question. In this regard, by the means of forming a main research topic for this paper, it can be claimed that both the advertising expenses and the R & D expenses may affect the market value of a company and its performance as well. In studies conducted on this subject (Luo and Jong, 2012: 606; Joshi and Hanssens, 2010; Chauvin and Hirschey, 1993; Andras and Srinivasan, 2003; Sahay and Pillai, 2009; Peterson and Jeong, 2010; Hirschey and Weygandt 1985: 327), it has seen that either advertising or R & D expenses may have an effect on company performance.

In their studies related to this subject, Ben & Zion (1978) and Connolly et al. (1986) have concluded that R & D expenses affect the market value positively while advertising expenses affect it negatively. Furthermore, Sahay and Pillai (2009: 77) have found out that advertising expenses of a company have a positive effect on its value. Thus, it is a fact that, it is possible to see different findings in various studies on this subject.

As also Blankley (2007: 94) indicates, it is possible to note that there is a gap in the literature at the international level and also at the national level throughout Turkey, about the topic which is studying the relationship between R & D or advertising expenses and the market value. Therefore, in order to contribute to fill this gap, a research model is developed as in Graph 1.



Graph 1. Research Model

I. IMPORTANCE OF ADVERTISING FOR COMPANIES, AND EFFECT OF ADVERTISING EXPENSES ON VALUE OF COMPANY

In a wide definition, advertising can be expressed as the announcing and promoting efforts of a person, a company, a brand, a service or an idea to adopt targeted audience via appropriate communication channels for a fee (Altunışık and Torlak, 2014: 429). The main reasons of decision-makers of a company on an advertising decision can be listed as below (Yavuz, 2013: 225):

• To provide opportunities for mass production and to help the fast consumption of these produced goods.

• To redirect the consumers who are in a search of the ideal self and to help them.

• To help new competitors both for entering into a market (Bal and Şengök, 2002: 4) and also for exiting out of a market (Esen and Köse, 2011: 323).

Companies pursue their activities in different market types such as monopoly or perfect competition market. Perfect competition market is a market where many buyers and sellers take place. Monopolistic competition is a market type in which one or a small number of companies have a significant share in, and hence the market entry barrier becomes so high (Hatırlı et al., 2010: 90). Among companies, the differences in the possibilities and methods about capital, technological superiority, distribution, and product development may lead monopolization in a market (Tikveş, 2005: 207). In addition to these, the perception of differentiation in these markets is also an important issue for creating barriers to enter into a market (Esen and Köse, 2011: 324). In order to provide a sustainable success, a company should create a perception of product or company differentiation on their consumers. According to this realization rate, a market can change into a perfect competition type or a monopolistic one. While this perception is too high in a monopolistic competition, it is lower in a perfect competition market (Dinler, 2009: 377-378; Fettahlıoğlu et al., 2014: 241-242).

Advertising is very important in creating this perception. Accordingly, advertising has great influence on affecting the consumer attitudes and changing their consumption behaviours in the long run. This situation helps the companies on the issues such as value creation, market monopolization, providing awareness and increasing sales. Furthermore, advertising has a positive effect also on the companies' intangible assets such as obtaining strong brand image, competitive advantage, and price advantages compared to rival brands. Therefore, especially it is intensely used by large companies (Tikoo and Ebrahim, 2010: 50-51; Tikveş, 2005: 207; Fettahlıoğlu et al., 2014: 241-242; Shah and Akbar, 2008: 302).

Because advertisement has a price, it can be considered that conducted advertising activities affect the unit costs in an increasing direction (Clayton, 2010: 653; Ceran and Karaçor, 2013: 13). However, simultaneously offering the opportunity to convey the desired messages to a wide audience (Altunışık and Torlak, 2014: 429), it causes an increasing effect on demand of a product, and on its sales. Hence, it can actually allow a decrease in unit costs and prices with increasing production. This situation reflects positively both on the company and consumers (Sahay and Pillai, 2009: 77; Ceran and Karaçor, 2013: 13). Sales and revenues are increased with falling prices, and this increase allows making greater advertising expenses (Koçoğlu and Hasıloğlu, 2008: 43). Therefore, compared to the previous periods, if the advertising expenses of a company gradually rise, it is expected to move in the same direction in the company's sales (Çabuk and Çabuk, 1995: 117).

For that important reason, shares allocated for advertising expenses in recent economies are growing faster than the increase of the worldwide gross national product. Thus, shares allocated to advertising and promotion expenses of the companies are also gradually increasing (Harker, 1998: 101; Yeşilyurt and Yeşilyurt, 2008: 10; Pergelova et al., 2010: 39).

However, contrary to expectations, increase in advertising expenses may not always cause an increase in the same sense (Çabuk and Çabuk, 1995: 123). Therefore, advertising must be well planned and organized. This highly depends upon the measurement of advertising effectiveness (Atay and Yücel, 2007: 165). Therefore, it is seen that the new studies are made consistently in the disciplines such as marketing and finance in order to examine especially the impacts of different types of assets associated with marketing on the financial performance of the companies (Morgan, 2012: 102).

Studies have showed that there is a connection between the changes in the advertising and promotion expenses and the changes in the current and future earnings of companies. Furthermore, there are signs that this connection is becoming even stronger during the recession periods of economies (Graham and Frankenberger, 2011: 5).

For instance, US banks made increases on their advertising and promotion expenses and these movements positively affected companies' profits and market shares (Mullineaux and Pyles 2010: 326). In their study, Luo and Jong (2012: 606) have indicated that advertising expenses both directly and indirectly affect sales and financial values of companies. In this regard, Sahay and Pillai (2009: 77) found that advertising expenses positively affect the market value of companies. Furthermore, efficiency of marketing communications has also a positive effect on the market value of a company (Luo and Jong, 2012: 605). However, in the studies of Ben-Zion (1978), and Connolly et al. (1986), it is stated that advertising expenses have an adverse effect on the market value of a company.

As a result of this literature review, and due to the mostly positive effects of the relationships in the findings of examined academic studies above, it can be considered that the effects of the relationship between advertising expenses and market value of companies in Turkey may also appear to be in the same direction. Thus, H_1 hypothesis to examine the issue is developed as below:

H_1: There is a positive relationship between the advertising expenses and the market value of the companies.

II. THE IMPORTANCE OF R & D FOR THE COMPANIES AND THE EFFECT OF R&D EXPENSES ON THE VALUE OF THE COMPANIES

An increasing number of recent studies show us that R & D expenses as well as advertising expenses are effective in explaining the intangible assets of companies (Shah and Akbar, 2008: 302). It is expressed above that advertisements may form an increase on demand and production. However, it may only be possible a further reduction of the lower unit cost with the help of new products, new production techniques and methods. However, in order to achieve this, companies must be directed to R & D activities (Kobu, 2006:581). In this regard, incumbent companies in the market can block the market entry of other companies by advancing their R & D investments in the direction of reducing operating costs (Dinler, 2009: 425). Therefore, R & D investments which will be realized in a company must be reducing rather than increasing the costs (Arslan et al., 2009: 48). On the other hand, a company which continues its activities without making R & D investments may fail and stay back in competition after a while due to its cost disadvantages.

Competition is a key element that leads companies to follow innovations consistently and to make improvements. One way for companies to enter competitive markets more easily is to develop new products and to replace them with the former ones, and/or reconfiguration of the existing ones (Koku, 2010: 35; Ceran and Karaçor, 2013: 10). Companies should give more importance to the R & D activities in order to achieve this (Koku, 2010: 35). New products obtained as a result of the R & D activities may enhance the efficiency and competitiveness of the company. They may give support to protect and develop company's market share, and may also be effective at preventing the entry of competitors into the market (Çiftçi, 2014: 233).

Because they have more resources providing the capability of making R & D activities and technological innovations, large companies can take more risks compared to small ones (Taymaz, 2000: 109). This allows them to make more R & D activities compared to small and medium sized enterprises (SMEs) (Çiftçi, 2014: 234). In this respect, in their study, Chauvin and Hirschey (1993: 128-140) have determined that advertising and R & D expenses in large firms are more effective on the market value of the companies in terms of size, positivity, and consistency. However, SMEs constitute a large part of the sectors in Turkey. It is a fact that SMEs do not have enough financial power either in R & D activities or in advertising and promotional activities compared to large companies on the market (Arslan et al., 2009: 48).

According to data of Turkish Statistical Institute (TUIK), when comparing to the previous year, gross domestic R & D expenses in Turkey reached 14 billion 807 million TL with an increase of 13.4% in 2013. Furthermore, it is reported that the share of gross domestic R & D expenses in gross domestic product rose to 0.95% in 2013 which was 0.92% in 2012 (http://www.tuik.gov.tr/PreHaberBultenleri. do?id=16163). However, according to European Commission data, the ratio is still much lower than the European average of 2%.

In modern economies, a significant portion of the operating values is formed by the intangible assets such as brand value. R & D and advertising investments are contributing to the formation of intangible assets which also make a contribution to future earnings potential of the company (Tikoo and Ebrahim, 2010: 50-51; Joshi & Hanssens, 2010: 20). Therefore, it is thought that the incurred expenses to achieve these assets may affect the market value of the company.

On this issue, Hirschey and Weygandt (1985: 327) have stated that both advertising and R & D expenses are effective on the market value of a company. It was determined in the studies of Ben and Zion (1978) and Connolly et al. (1986) that this effect is positive. Peterson and Jeong (2010: 682) have stated that even if in the majority of studies the relationship between the market value of the company and R & D expenses is positive, a consensus has not been formed on this topic yet.

As it is known that company or brand value is formed from the sum of the values of the company's tangible and intangible assets, it can be said that successful R & D investments will have a positive effect on the market value of the company (Topuz and Aksit, 2011: 2).

In the light of these explanations, and with the idea that this effect in Turkey could be consistent with the findings of other studies in the literature, hypothesis H_2 is developed as below:

H_2: There is a positive relationship between the R & D expenses and the market value of the companies.

III. THE EFFECT OF THE R & D EXPENSES ON THE RELATIONSHIP BETWEEN THE ADVERTISING EXPENSES AND THE COMPANY VALUE

Companies are mostly increasing their sales and profits as long as they can develop successful new products, and can offer them to the markets. Every product in the market is like a living thing, and if it can be successful, and can be favoured in the market, its sales will vary over time (Mucuk, 2001: 128). In other words, there is a peculiar product life cycle of all products in the market. By the end of the 20th century, product life cycles have begun shortening especially with high-tech products (Çiftçi, 2014: 232). This situation leads companies to tend to intensive R & D activities in addition to their advertising activities. Attempting to be promoted in the shortest time, each new product that is launched to the market must be supported by intensive advertising and promotion activities. Furthermore, previously successful products should also be renewed with the R & D activities and changed by the same company (Koku, 2010: 35). Otherwise, that product can be changed by another company.

Different policies can be launched according to product variety for the product preparation and presentation periods in which the costs are at the highest levels. For instance, it can be considered that less advertising will be needed for the products which are used intensive R & D in their designing processes. However, it may be necessary to use more advertising for introduction, differentiation and promotion processes in the less R & D used products. Both types of expenses affect the market value of the companies.

As it is known that R & D expenses are increasing now, more intensive use of R & D can affect the relationship between advertising expenditures and market values. The following hypothesis H_3 is developed in order to examine the effect of the advertising expenses in different R & D levels on the market value of the companies in Turkey.

H_3: There is a moderator effect of the R & D expenses on the relationship between the advertising expenditures and the market value of the companies.

IV. METHODOLOGY

A. Sample of Study and Analysis Method

The sample of the survey consists of 46 different companies which are included in Istanbul Stock Exchange between the years 2007-2011. They are chosen from the companies which have advertising and R & D expenses together in their consolidated financial statements. At least 30 observations are required in order to make a research in analysis of statistics and econometrics. The number of companies which give this type of data in Istanbul Stock Exchange is very small, and also the data must provide a minimum of 30 observations and it cannot be done a classical time series analysis with this data. Furthermore, it will not be very useful performing of analysis one by one on the firm basis to obtain an opinion of the overall market. On the other hand, because of the limited number of companies which are declaring their R & D expenses regularly, only a vertical cross-section analysis may not give significant results. Therefore, because it gives the possibility of examining the data of multiple companies in a certain period, it is preferred to use panel data analysis method in the analysis of this research.

There are two dimensions in panel data sets which are units and time (They are n number of units and t number of time series). Using a combination of two dimensions is more advantageous in terms of providing the possibility that resolves more complex structures compared to analysis that are using only time dimension or only unit dimension. Furthermore, the increase in the number of observations eliminates the multicollinearity problem by adding more variability to the measured relation (Hsiao, 2003: 7).

B. Research Pre-tests

1. The Correlation between Variables

While investigating a relation in econometrics and statistical analysis, high level correlation between the variables elicits the multicollinearity problem and causes to obtain incorrect results by reducing the reliability of the research at the same time. One method that is used to determine this problem is the correlation ratio between variables at zero degrees. According to this, a sign for “there is no multi-linearity problem” is the absence of a very high correlation between variables like as 80% (Gujarati, 2009: 327). As a result of analysis, correlations between variables are given in Table 1.

Table 1. Correlation between Variables

	Market Value	Advertising Expenses
Advertising Expenses	0.5242	1
R & D Expenses	0.3780	0.5444

Between none of the variables, a high level of correlation has been identified according to the results in Table 1. Therefore, it can be said that there is no multi-linear connection problem between variables.

2. Stationary Test of Variables

Before analyzing a time series, the process that creates that time series must be examined if it is stable or not in time, in other words the time series is examined for its stationary. It is possible to face with the problem of spurious regression in non-stationary series (Tatoğlu, 2012: 199). In the samples like this, the Harris-Tzavalis Unit-Root Test is made when the number of firms is much where the number of years is less (Tatoğlu: 2012: 204). According to this, the results of the analysis are provided in Table 2.

Table 2. The Results of the Harris-Tzavalis Unit-Root Test

Variables	Statistics Z	Status
Market Value (MV)	-6.0119***	It is stable in the 1st order
Advertising Expenses (AE)	-1.6845***	It is stable in the 1st order
R & D Expenses (R&D)	-4.7367***	It is stable in the 1st order

Notes: *** shows the significance level at 0.01

As shown in Table 2, all variables are stationary. Therefore, there is no unit root problem in the variables.

3. Prediction Method Selection

After the unit root test of the variables, the effect of the founded equation for testing the hypothesis must be tested. In this regard, the results of the conducted likelihood ratio analysis are given in Table 3.

Table 3. The Results of the Likelihood Ratio Test

	Statistics of Chibar2	Sig- Level
Unit Effect	252.20	0.000
Time Effect	0.09	0.382

From the analysis results in Table 3, it is understood that in the equation the unit effect could be determined but the time effect could not. Therefore, analysis should be made using the unit effects method. The Hausman test is made for determining whether the unit effect is fixed or random. According to this test, Chi^2 is found 0.89 and p-statistics is found 0.64. According to the results, it can be stated that the effect in the equation is mostly random.

4. Heteroscedasticity and Autocorrelation Analysis

Breusch-Pagan, Lagrange Multipliers (LM) and the Augmented Lagrange Multiplier (ALM) methods can be used for the detection of heteroscedasticity and autocorrelation problems between units in the random effects method. According to this, obtained test results are given in Table 4.

Tablo 4. Heteroscedasticity Test Results According to Units

	LM	ALM
Heteroscedasticity	15.44***	8.68***
Autocorrelation	189.89***	26.89***

Notes: *** shows the significance level at 0.01

According to the LM and ALM test results in Table 4, it is determined both heteroscedasticity and autocorrelation problems in the equation.

5. Correlation Analysis between Units

Pesaran (2004), Friedman (1937) or Frees (1995) tests can be used to test the correlation between units in the random effects model. Pesaran (2004) test statistics is detected as 23,268 (p: 0.000) in the conducted analysis. According to this, there is a correlation problem between units in the equation.

As a result of pre-tests, problems in the heteroscedasticity, autocorrelation and correlation between units have been identified in the equation. However, in case the number of years that is used in panel data sets is lower than 20 (small panel sets), it can be said that the auto-correlation problem is not much important for analysis (Reyna, 2012: 36; Hoechle, 2007: 22).

Furthermore, when heteroscedasticity problem occurs, analysis results may give misleading information about efficiency and confidence intervals (Yamak and Köseoğlu, 2006). This situation is also valid for the correlation between units problem. To resolve these problems, resistance forecasters (robust) which are not affected from heteroscedasticity and correlation between units should be used.

C. Data Analysis

Resistance error forecasters of Huber (1967), Eicker (1967) and White (1980) may be preferred in order to eliminate the heteroscedasticity in the solution of equation with unit random effects. However, this method can be ineffective in resolving correlation between units problem.

Resistance forecasters such as Parks (1967), Kmenta (1986), Beck and Katz (1995) are effective and can be used in eliminating the problems of both heterojedusticity and correlation between units. However, the consistency of the coefficients can decrease both in the unit random effects method and in micro panel data where time (t) is smaller than unit (n) (Tatoğlu: 2012: 240-270). As it is seen, each method may have a certain shortcomings. Therefore, it is decided to use more than one resistance error forecaster method in the solution of equation, and to interpret the results according to this method.

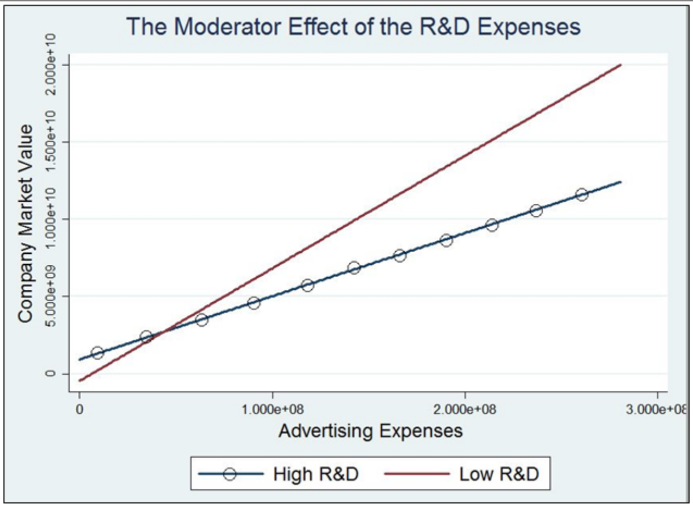
Results are given according to the three methods of this founded equation in Table 5 below.

Table 5. Analysis of Data

Dependent Variable: Market Value	Huber, Eicker ve White	Parks - Kmenta	Beck - Katz
Constant term	$1.07e^{+08}$	$-6.20e^{+08}$	$-6.11e^{+07}$
Advertising Expenses	46.441***	50.778***	63.688***
R & D Expenses	24.78663**	36.532***	40.472***
Advertising x R & D	-4.23e-07**	-6.98e-07***	-9.23e-07***
Wald	46.93***	23.77***	21.19***
R^2	0.20 (corrected)	0.24	0.39

Notes: ** shows the significance level at 0.05, and *** shows the significance level at 0.01

According to the results in Table 5, all methods give parallel results with each other. Explanatory level of the generated model is determined as 20%. According to this, change in the market value of the companies is affected from the advertising and the R & D expenses at a rate of 20%. Furthermore, the effect of the advertising expenses and the R & D expenses on the market value of the companies is positive. On the other hand, the moderator effect of the R & D expenses on the relationship between the advertising expenses and the market value is negative. The situation is shown in the following chart for a better understanding.



Graph 2. Moderator Effect of the R & D Expenses

As it is seen in Graph 2, there is a positive relationship between the market value and the advertising expenses in the companies with both low and high R & D expenses. However, this relationship is at a higher level in companies with the low R & D expenses, whereas it is at a lower level in companies with the high R & D expenses.

The significance level of the lines on the Graph 2 is given in Table 6 below. According to this, both of the lines are significant.

Table 6. The Significance of the Lines in the Graphic of Moderator Relationship

	Beta	St. Error	Statistics Z	P value
High R & D Expenses	40.88488	9.840224	4.15	0.000
Low R & D Expenses	72.89125	17.60628	4.14	0.000

CONCLUSION

It can be expressed that research findings are in concordance with the majority of the relevant literature. It is emerged from the obtained results that there is a positive relationship between either the R & D or the advertising expenses and the market value of companies. Furthermore, it is understood from the results that the R & D and the advertising expenses have an effect of 20% in the increase of the market value of companies. This ratio is seen as an indicator that strengthen the hand of the competitors in the situation that companies did not separate the required share to their R & D and advertising expenses. Furthermore, it is clearly understood in this research that, in case of the classification of companies under two groups such as companies with low or high R & D expenses according to their R & D expense intensity, the effect of the advertising expenses on the market value of the companies can be more in the companies which has low R & D expenses than the ones have high R & D expenses. It can be said that this situation has occurred when low R & D using companies have to make more advertising to promote their products in the market. For example, a car brand which is produced by using a high level R & D publishes relatively less advertising compared to others which are produced by using less R & D. This is because branded products with high R & D need less advertising for being favoured in the market compared to others. Also, it can be stated from the results of this research that companies which have high R & D expenses and trying to increase their market values should spend more advertising expenses compared to the lower ones.

All these findings have indicated that awareness, clarity and continuity of the benefits that companies offer in the market have posed a great importance for them to increase their market values. Consumers must live an informing and re-learning process for every new developed product or service. This situation leads companies to increase their marketing costs. If the issue is considered in terms of the product life cycle, R & D-intensive products with a short life cycle create disadvantages compared to long ones due to their incomes. However, companies may adopt making intensive R & D and advertising expenses as a company strategy in a market where product differentiation is using in order to avoid the entry of competitors into the market. But, this situation may vary from one sector to another. Eventually, depending on the market structure due to the amount of the need of intensive R & D, companies may aim to increase their market values by gradually increasing their R & D and advertising costs. Therefore, companies should be very careful while establishing their R & D and advertising budgets. Companies should make a well planning for these two types of investments either in their first entrance into the markets or obtaining a permanent place in the market. It can be said that the success rate will be higher in the market for companies which can set larger advertising and R & D budgets. Finally, it can be said that SMEs which are using the guerrilla marketing strategies and the advantages offered by the electronic marketing environments correctly, can also participate in competition.

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