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THE EFFECT OF FIRM GROWTH ON BRAND VALUE: EVIDENCE FROM BRAND FINANCE TURKEY-100

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ABSTRACT

A variety of groups are increasingly using brand value for different purposes; thus, a range of consultancy firms calculate, by different methods, and publish brand values annually. The effect of many variables on brand value has been examined previously, but few studies have explored the relationship between brand value and firm growth. This study aims to bridge this gap in the literature, since this relationship is important to maximizing brand value. The research was based on the companies listed in Brand Finance Turkey-100 between 2012 and 2018. Sales, operating income, R&D, and marketing, selling, and distribution (MSD) expenditures were adopted as firm growth indicators, which revealed that: increasing operating income and MSD caused a significant increase in brand value, whereas increasing R&D reduced brand value; and there was no significant relationship between increased sales and brand value.

Contribution/Originality: While most studies have examined the many variables that affect brand value, few have explored the relationship between brand value and firm growth. This study contributes to the existing literature by bridging this gap, therefore. Furthermore, the results from this study provide guidance on which growth indicators companies should use to increase their brand value.

1. INTRODUCTION

Due to globalization, competition among enterprises in the goods and service markets has increased, and with the accompanying rapid advances and expansion of information technology, brands have become one of the most important assets for enterprises to distinguish themselves from and gain superiority over and market competitors. Therefore, to increase their effectiveness in the current market and enter new markets, companies devote a significant amount of their resources to not only production processes but also creating and developing brands. As brands ensure the reputations and increase the profits of companies in a highly competitive environment, greater investment in brands is encouraged (Koçan, 2017).

Growing competitiveness, changing consumer expectations, new economic practices, and companies' strategic orientations have increased the importance of brand and brand value concepts for both businesses and consumers (Zengin and Güngördü, 2015; Günay, 2017). Brand value facilitates a strong image for a company and demonstrates

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a product's or service's market performance among consumers; such consumer- and financial-based brand values provide the numerical expression of the products' and services' added value (Yılmaz, 2017; Taşçı and Baş, 2018).

The main reason for the growing importance of the brand value concept in recent years is that companies are being ranked according to their brand value, with the most successful ranked highest (Ozgüven, 2010). The impact of firm growth on brand value is therefore important. There are many indicators for determining firm growth: sales (Monte and Papagni, 2003; Billett *et al*., 2007; Bottazzi *et al*., 2009; Coad and Rao, 2010; Mudambi and Swift, 2011; Demirel and Mazzucato, 2012; García-Manjón and Romero-Merino, 2012; Nunes *et al*., 2012; Wu and Yeung, 2012; Delmar *et al*., 2013; Lee, 2014), operating income (Monte and Papagni, 2003; Coad and Rao, 2010), research and development (R&D; Billett *et al*., 2007; Coad and Rao, 2010), and employee numbers (Monte and Papagni, 2003; Yang and Huang, 2005; Stam and Wennberg, 2009; Coad and Rao, 2010; Lee, 2014; Cintio *et al*., 2017). The main purpose of this study is to reveal the relationship between these indicators and brand value.

Previous studies on firm growth have focused on either what indicators of growth there are or what variables might affect growth. In particular, the relationship between R&D and firm growth was examined, between which a positive relationship was found in most cases (Monte and Papagni, 2003; Yang and Huang, 2005; Stam and Wennberg, 2009; García-Manjón and Romero-Merino, 2012; Nunes *et al*., 2012; Cintio *et al*., 2017). The relationship between firm growth and profitability was also discussed in some studies, finding that the former had a positive impact on the latter (Delmar *et al*., 2013; Lee, 2014).

When reviewing the whole body of literature, it is evident that the relationship between firm growth and brand value has been overlooked. It is intended to bridge that gap in this study however, by examining the effect of four firm growth indicators on brand value: sales; operating income; R&D; and marketing, selling, and distribution (MSD). In this respect, the study makes an original and significant contribution to the literature.

This paper first explains the concept of brand value and then reviews the literature on brand value and firm growth. Following a description of the research undertaken on companies listed in Brand Finance Turkey-100, the results are presented, and finally, evaluated.

2. BRAND VALUE

One of the most popular concepts of today, brand, is used to describe goods and services. The term refers to a name, concept, word, icon, or design used to distinguish and promote the goods and services of the manufacturer or seller (Knapp, 2003; Kotler and Armstrong, 2012). In general, there are two perspectives to the brand value definition: marketing, based on the value to the consumer; financial, based on the value to the business (Pappu *et al*., 2005).

For businesses, brand value is a collection of active and passive assets dependent on the brand name and symbol to raise, or reduce, the value of goods and services for both businesses and their consumers (Aaker, 2010). In other words, brand value is the price that can be expected from selling a strong compared with an average brand (Baldauf *et al*., 2003); if businesses have a strong brand value among consumers, then their sales, profits, and market share will improve (Odabaşı and Oyman, 2002).

2.1. Importance and Use of Brand Value

Brands are important financial assets that are assessed on a business's balance sheet. As brand value is a useful incentive to prospective investors, shareholders, and consumers, it is regarded the same as the value when one business buys another business or brand (Odabaşı and Oyman, 2002; Erdem, 2004).

Determining the brand value of a business is thus important for all the interested parties: it facilitates many decisions made by not only managers but also governments, trade unions, employees, investors, credit institutions, and so on, who need to know the financial position and operational results of the business for investment, loan, and

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taxation purposes. However, to provide accurate information, the entire business must be evaluated, by presenting the real value of both tangible and intangible assets in the financial statements (Durgut, 2015; Günay, 2017).

Since brands' effect on financial markets is now understood, the use of brand value in financial interactions has increased. The main uses of brand value, therefore, are as follows (Başçı, 2009; Demir, 2016):

- Brand purchases and sales.
- Company marketing performance and budget.
- Licensing and franchising agreements.
- Marketing collateral for investors.
- Reduction of the company's tax liability.
- Legal cases, in which compensation is sought for the damage done to a brand.
- Company credit relations, to exert a positive impact on the company's credit rating.

2.2. Brand Valuation Methods

The different perspectives of the brand value definition have enabled the dimensions for determining brand value and the measurements for those dimensions to be identified. Three different methods have been adopted by previous studies to define brand value: financial, consumer-based (behavioral), and mixed methods (Kim *et al.*, 2003).

The financial method determines brand value by subtracting the value of the brand from the value of all the company's assets, and it is the most widely adopted. At the same time, brand value is generally considered in financial fields to be the monetary value of the company (Simon and Sullivan, 1993; Wood, 1999), and uses this method to determine the monetary value of the brand in a meaningful way. This method, however, takes no account of consumer preferences or perspectives (Kaya, 2005). There are thus different approaches within the financial method, which can be grouped under four main headings (Cravens and Guilding, 1999):

- Cost.
- Market value.
- Capital markets.
- Revenue.

The consumer-based (behavioral) method is a set of assets and liabilities that raise or reduce the value of goods and services according to the distinctive characteristics of the brand, such as the name or symbol (Aaker, 1991). It is also expressed as the positive/negative reactions of consumers according to brand information (Keller, 1993).

Due to the wide criticism of financial methods for not considering consumer behavior and perceptions in brand valuation, researchers developed a variety of means to determine which factors affect consumer choice (Baydaş, 2007). The factors influencing consumer behavior and brand preference are identified (Akşit, 2016) through surveys, tests, and similar tools (Kaya, 2005); the most frequently adopted approaches are the Aaker, Keller, Young & Rubicam, and Kapferer Methods (Moisescu, 2007).

The mixed method eliminates the shortcomings of both financial (monetary) and consumer-based (non-monetary) methods by combining them (Kim *et al.*, 2003; Firat and Badem, 2008). The main approaches are the Brand Finance, Interbrand, Brand Rating, Global Brand Equity Valuation, A.C. Nielsen, BBDO, and Semion Methods (Bayrakdaroğlu and Mirgen, 2016).

3. LITERATURE REVIEW

3.1. Brand Value

In financial terms, some studies exploring brand value have focused on its relationship with R&D and advertising expenditures: Chu and Keh (2006), Peterson and Jeong (2010), Jeong (2015), and Koçan (2017) all found that expenditure on R&D, promotion, and advertising, including administration, exert a significant and positive

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affect on brand value; Eng and Keh (2007) found that advertising and brand value improved future accounting returns.

Other studies have examined the relationship between brand value and stock returns/share prices: Bayrakdaroğlu and Mirgen (2016) found a significant and positive relationship with stock returns, while Akşit (2016) found a positive and statistically significant effect on stock prices; Kirk *et al.* (2012) revealed the relationship between brand value estimates and share prices; and Kandil (2014) reported a positive effect on the variables regarded as shareholder value indicators.

Those studies investigating consumer-based brand value have focused on specific dimensions of brand value. Aaker (1991) identified five dimensions (brand awareness, loyalty, association, quality and other proprietary assets), while Keller (1993) adopted only two (brand awareness and image) however, other researchers have proposed four (Washburn and Plank, 2002; Kim *et al.*, 2003; Pappu *et al.*, 2005), and three dimensions (Yoo *et al.*, 2000).

The main consumer-based brand value studies examining the effects of brand value dimensions found that: a medium positive relationship existed between the dimensions Cetin and Artuğer (2013); in general, the dimensions influenced consumer choice (Koçan, 2014); brand loyalty and perceived quality directly affected word-of-mouth marketing Yazgan *et al.*, 2014); brand personality positively affected brand value but sales promotions negatively (Valette-Florence *et al.*, 2011) a significant relationship existed between the personal values of consumers and the dimensions (Erciş *et al.*, 2013); and brand image directly influenced brand value (Faircloth *et al.*, 2001).

Zengin and Güngördü (2015) used both financial and consumer-based methods to compare business rankings according to brand value. Finally, Buil *et al.* (2013) discovered that monetary and non-monetary promotions had an impact on brand value.

3.2. Firm Growth

Most relevant studies have evaluated the variables affecting firm growth. Researching the effect of funding R&D on firm growth, Monte and Papagni (2003) and García-Manjón and Romero-Merino (2012) that the sales growth rate was higher, and Yang and Huang (2005) discovered employee numbers were positively influenced, while Coad and Rao (2010) also found both sales and employment numbers increased, though no significant effect on income, whereas Delmar *et al.* (2013) and Lee (2014) showed growth helped profitability. Cintio *et al.* (2017) reported an association to higher growth rates, with Mudambi and Swift (2011) revealing that large fluctuations in funding over time affected growth. Meanwhile, Jelilov *et al.* (2016) identified a relationship between firm growth and size.

Stam and Wennberg (2009) examined the same variable in terms of high-tech and low-tech companies, discovering that R&D expenditure had a positive impact on growth for high-tech, but negative for low-tech, companies. Nunes *et al.* (2012) reached a similar result where high-level R&D stimulated growth in high-tech, but limited it in lower-tech, small and medium-sized enterprises (SMEs). Demirel and Mazzucato (2012) investigated the relationship of R&D expenditure to the growth of pharmaceutical companies, which proved positive for the small ones but negative for the large ones.

4. RESEARCH MODEL AND DATA

The aim of this study is to determine the effect of firm growth on brand value, for which the companies listed in Brand Finance Turkey-100 were used. The growth indicators sales, operating income, and R&D expenditure were adopted from the literature review as the variables, along with marketing expenditure in terms of its impact on sales.

First, those businesses for which brand value data was available from 2012, when Brand Finance Turkey-100 started, to 2018 were selected. Then, due to the differences in reporting rules, those in the financial sector were excluded, leaving 41 non-financial companies. Data on the growth indicators for all 41 was obtained from their

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annual reports, with the annual average of each taken for the analysis. The effect of the growth indicators on brand value was analyzed using multiple linear regression:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \ldots\ldots\ldots\ldots\ldots \beta_n X_n + \varepsilon$$

Which is a statistical technique applied to determine the cause–effect relationship in social, psychological, and economic events that occur as a result of several variables (Aktas, 2005).

As most variables are not available at multiple points in time, the use of models such as fixed or random effects for panel data analysis was not possible. Therefore, due to data restrictions, the same technique was used as that in Stam and Wennberg's (2009) analysis of the effect of R&D on firm growth: simple ordinary least squares (OLS) linear regression, which is can estimate the coefficients of the multivariate linear regression (Yurtcu, 2005). Its robustness means OLS is considered one of the most appropriate estimation methods and widely preferred for data analysis and econometrics applications (Alma and Vupa, 2008). Where there is multiple correlation, this estimation method loses its statistical power (Vural, 2007), but there is no multiple correlation problem in this study's research model (see Table 3), which, within the scope of multiple linear regression, was defined as:

$$BV_i = \beta_0 + \beta_1 GR_{Sales} + \beta_2 GR_{Op.\ Income} + \beta_3 GR_{R\&D} + \beta_4 GR_{MSD}$$

The *BV* variable represents the natural logarithm of the brand values announced by Brand Finance, with the annual change in sales for the *Sales* variable and the natural logarithms of the operating income and marketing, selling, and distribution expenditures for the *Operating Income* and *MSD* variables, respectively. *R&D* was included as a dummy variable and given either a 1 value for businesses with R&D expenditure or a 0 for those with none. Each of these indicators were included in this model according to how they were used in previous studies, which are listed in Table 1.

Table-1. Firm growth indicators used in previous studies.

Indicators	Previous studies
Sales	Monte and Papagni (2003); Billett *et al.* (2007); Bottazzi *et al.* (2009); Coad and Rao (2010); Mudambi and Swift (2011); Demirel and Mazzucato (2012); García-Manjón and Romero-Merino (2012); Nunes *et al.* (2012); Wu and Yeung (2012); Delmar *et al.* (2013); Lee (2014)
Operating income	Monte and Papagni (2003); Coad and Rao (2010)
R&D	Billett *et al.* (2007); Coad and Rao (2010)

In addition to the firm growth indicators shown in Table 1, other studies used employment (Monte and Papagni, 2003; Yang and Huang, 2005; Stam and Wennberg, 2009; Coad and Rao, 2010; Lee, 2014; Cintio *et al.*, 2017) and production/annual turnover (Jelilov *et al.*, 2016), and this study included marketing expenditure in terms of its impact on sales.

The brand value indicator was calculated from the data announced by Brand Finance in the year *t-1*, while the sales indicator was based on the $Sales_{(t)} - Sales_{(t-1)} / Sales_{(t-1)}$ ratio, to take into account the annual change.

5. RESULTS

The descriptive statistics of the variables are given first in Table 2.

Table-2. Descriptive statistics.

Variables	Observations	Mean	Std. dev.
BV	41	18.8920	1.30433
GR_{Sales}	41	0.0103	0.11023
$GR_{Op.\ Income}$	41	16.8536	4.99963
$GR_{R\&D}$	41	17.6881	3.26056
GR_{MSD}	41	0.6098	0.49386

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Correlation analysis was performed before regression to determine whether there was a multiple correlation problem between the variables, and the results are shown in Table 3. A strong correlation of 0.80 or above between independent variables is undesirable, because it indicates a multiple correlation problem (Küçüksille, 2010).

Table-3. Correlation of independent variables.

Variables	BV	GR_{Sales}	$GR_{Op.\ Income}$	$GR_{R\&D}$	GR_{MSD}
BV	1				
GR_{Sales}	-0.029	1			
$GR_{Op.\ Income}$	0.387***	0.279**	1		
$GR_{R\&D}$	-0.154	0.086	0.276**	1	
GR_{MSD}	0.558***	0.067	0.071	0.105	1

*** p < 0.01; ** p < 0.05; * p < 0.10.

Table 3 reveals that no correlation was found 0.80 and above among the variables, and therefore there was no multiple correlation problem. These results also show positive and significant correlations for brand value with operating income and marketing expenditures, as well as between operating income and both sales and R&D expenditure.

The regression analysis was then conducted, the results of which model are shown in Table 4.

Table-4. Results of regression analysis.

Variables	β	t	p
GR_{Sales}	-2.060	-1.515	0.138
$GR_{Op.\ Income}$	0.127	4.086	0.000***
$GR_{R\&D}$	-0.879	-2.893	0.006***
GR_{MSD}	0.228	5.135	0.000***
Constant	13.276	14.482	0.000***
$R = 0.750$; $R^2 = 0.563$; $F = 11.583$; Sig. $F = 0.000$; Durbin-Watson = 1.458			

*** p < 0.01.

The F statistic in regression analysis indicates whether the model has overall significance, which was true in this case (Sig. F = 0.000). The significance of each individual variable is indicated by the t-value, and only the t-value for sales showed that variable was not significant. The Durbin–Watson coefficient is 1.458 revealing no autocorrelation. With positive β values for *Operating Income* and *MSD*, any increase will lead to a significant increase in brand value; however, an increase in *R&D*, with a negative β value, will cause a significant decrease. Consequently, an increase/decrease in the independent variable causes an increase/decrease in the dependent variable. In contrast, the lack of a significant relationship between *Sales* and *brand value* means a change in the former does not significantly affect the latter.

6. DISCUSSION AND CONCLUDING REMARKS

Today, brand value is one of the indicators in widespread use for companies' success. By different methods, a range of consultancy firms calculate and publish the brand values of top-level companies annually, which benefit a variety of groups for different purposes.

This study sought an answer to the question "how does firm growth affect brand value?" To determine the effect, companies listed in Brand Finance Turkey-100 were examined.

Firm growth was evaluated by not only one indicator, but also, following a literature review, sales (Monte and Papagni, 2003; Billett *et al.*, 2007; Bottazzi *et al.*, 2009; Coad and Rao, 2010; Mudambi and Swift, 2011; Demirel and Mazzucato, 2012; García-Manjón and Romero-Merino, 2012; Nunes *et al.*, 2012; Wu and Yeung, 2012; Delmar *et al.*, 2013; Lee, 2014), operating income (Monte and Papagni, 2003; Coad and Rao, 2010), and R&D (Billett *et al.*, 2007; Coad and Rao, 2010). In addition, marketing expenditures were included in terms of the impact on sales.

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The results of the analysis revealed that, in general, firm growth does affect brand value. Specifically, operating income, R&D, and MSD have a significant effect on brand value, with an increase in operating income and MSD actually leading to a significant increase; however, an increase in R&D resulted in a significant decrease, there was no significant effect from a change in sales.

In terms of the positive effect of MSD, this study supports the findings of Chu and Keh (2006), Peterson and Jeong (2010), Jeong (2015), and Koçan (2017), but not in relation to the negative effect of R&D on brand value.

Certain, important inferences can be drawn from these results. Operating income is an important variable for companies looking to increase brand value; however, although increasing operating income will increase brand value, caution should be exercised, because if an increase is achieved in sales only, then brand value will not increase significantly. Consequently, the company's income statement should be closely scrutinized: any increase in operating income should be the result of a reduction *in sales deductions*, *cost of sales*, *and operating expenses*. Furthermore, on discovering the negative effect of R&D, it is critical that companies identify and eliminate unnecessary R&D expenditure to ensure a significant increase in brand value.

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