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# Determining the relationship between the brand value and financial ratios, and evaluation of the status of brand value in financial tables within the framework of the Turkish accounting standards

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**Abstract**

Brand value is generated depending on the value attributed to the brand by consumers and indicating the financial strength of the brand as well as company over others. With the widespread acquisitions and mergers since the 1980s, appraisal of brand accurately value has become quite important. The methods developed to determine the true monetary value of brands are classified into three groups: financial-based, behaviour-based and combined appraisal models. Financial models determine the brand value based on financial data such as royalty paid for the brand and price premiums created by the brand. Financial appraisal methods do not take into account customer behaviours and preferences that is criticised to be shortcoming of this method. In order to eliminate this shortcoming, behaviour-based appraisal models have been developed. The behaviour-based models provide an assessment of the brand from the customer's perspective. However, they do not bring a distinct methodology to translate appraisal elements influencing brand value in monetary terms. On the other hand, the combined appraisal models which utilise the methodologies employed by both financial and behaviour-based appraisal models assess brand value by considering both financial and non-financial criteria. In this study, brief information on methods developed to calculate the brand value, which is of great importance for companies, is given. The relationship between brand value and financial variables of net sales, EBIT-earnings before interest and tax, total assets and total equity is tested through panel data analysis. For this analysis, 100 companies with most valuable brands listed in Brand Finance Annual Reports in Turkey were studied and 20 companies with complete and accurate financial data between the years 2011 and 2015 were included in analysis. Findings revealed a significant and positive relationship between brand value and financial parameters of net sales and total assets. However, no significant relationship is found between brand value and financial parameters of EBIT and total equity.

Keywords: Brand value, intangible assets, financial ratios

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## 1. Introduction

Mergers and acquisitions have become quite popular in the business world since the 1980s due to the desire of companies to combine various business resources and obtain economies of scale. This trend in the business world has brought up issues such as accurate appraisal of intangible assets, including brand value which is an important part of determining the true value of a firm. Therefore, various studies conducted in order to properly appraise the brand value and numerous techniques and methods have developed during this stage where companies' market values were determined to be different from their net book values during mergers and acquisitions. This difference was due to intangible assets, and mainly company and/or products brand images. Most of the multinational companies have started to sell their products under the same brand name in both domestic and international markets due to not only motivation of being players in the global business system and economy but also consumer preferences to purchase products with globally recognised brand names.

Brand names are important indicators of power, position and the financial value of companies in the industry and economy. They are very important components to be considered in order to understand the true market value and competitive power of companies and they contribute largely to asset and equity totals in balance sheets. It is quite difficult but yet possible to appraise the value of a brand by analysing and understanding the perceptions of consumers of that brand in the market as well as measuring financial returns created by it.

There are various financial and behaviour-based appraisal models that have been developed in order to appraise the brand value accurately. In financial models, components including copyright price, intrinsic value of the company, price premiums due to brand name are considered in the appraisal process. Financial appraisal models of brand value are criticised for not investigating and incorporating non-financial variables such as factors affecting purchase decisions, perceptions and preferences of consumers. Therefore, behaviour-based brand appraisal methods have been developed for better understanding and appraisal of brand values through taking non-financial variables into account. However, behaviour-based appraisal models lack a reliable financial concept for determining the brand value numerically, despite providing an understanding of consumer behaviours and perceptions more accurately. The most reliable process for appraising brand value is combining financial and behaviour-based appraisal model applications together. In his 2001 study, Doyle claims that the net present value of expected future earnings, as well as factors such as timing and sustainability and risk of expected future returns are very important determinants while determining the brand value. However, non-financial variables need to be included in a model that will be used for appraisal of brand value. Otherwise, it will ignore one of the most important components creating brand value, that is, consumer perspective.

Creating a strong and recognised brand is considered to be an economic leverage in the macro sense. Therefore, it is extremely important to accurately calculate and disclose the brand value in financial reports. Brand value appraisal models are analysed and explained in this study. The relationship between brand value and financial statement items of net sales, EBIT-earnings before interest and tax, totals assets and total equity are investigated and analysed through panel data analysis techniques.

## 2. Concepts of brand and brand value

According to the American Marketing Association, brand is defined as a name, term design, symbol or any other feature that identifies and differentiates a group of products or services from others. In a way, a consumer associates certain names, terms, designs and symbols with a certain product or service. Some brand names are so powerful, widely recognised and accepted that they are used to define a product group or an action such as a tissue paper brand name 'Kleenex' is used instead of tissue paper or o photocopy machine brand name 'Xerox' is used instead of photocopying by majority of American consumers. Brand names, symbols or signs are usually placed on products or packages

(Tek, 2000, p. 351) and can be very powerful tools of recognition for a service or product. Golden Arches of McDonalds as one of the most widely known symbols in the world is considered to be a perfect example of a powerful image of recognition. Brand value and recognition are considered to be very important indicators of financial returns and value for companies (Kayali, 2004).

Aaker (1991) defined brand as an intangible asset emerging through marketing activities and an important factor that increases or decreases financial values of products and services of a company as well as its overall market value. Capon, Berthon, Hulbert and Pittc (2001) stated that brand value is determined by the perceived quality of the products and services provided and considered brand value as a separate concept from the book value of a company.

Brand value is a result of combining financial and non-financial assets and operations and can be best estimated through considering both financial and non-financial factors and returns. Brand value that had been ignored for many years in the past has been an important concept for accounting too. It has been realised that brand value is a very important item to be displayed in financial statements since it may reach to significantly high values that may even exceed values of tangible assets of companies. Managers aware of the brand value concept have understood the importance of development and sustainability of brand value as well as accurately appraising and disclosing it in financial statements and embedding brand value concept in strategic management and planning processes. Otherwise, managers would have not been able to take advantage of a very valuable potential (Akgun & Akgun, 2014).

## 3. Literature

There are many researches conducted in the area of determining brand value accurately and many appraisal models have been developed and tested in these studies.

Fischer and Himme (2017) developed and proposed a brand appraisal model that considers various financial and market variables in order to evaluate the effects of advertising and other marketing activities on brand value and image through consumers' perspectives. The model shows that understanding consumer preferences and perception along with other variables in the market properly, developing strategies and making investments accordingly will contribute to brand value and other financial returns of companies.

In a study conducted by Shirish in 2016, various accounting practices and applications related to determination and recognition of brand value in financial statements. In this study, various brand value appraisal models as well as bookkeeping applications were carefully analysed and problems related to evaluations and disclosures of brand value were evaluated.

Taskin (2016) appraised brand value of and automobile brand through perception of consumers in Turkey by applying Structural Equation Modelling techniques. The results revealed that especially after sale services provided had great impact on perceived brand quality and value which created brand loyalty and consumer preference over supplementary products.

Bayrakdaroglu and Mirgen (2016) conducted a panel data analysis in their study where they tested for whether there is a meaningful relation between brand value and earnings per share. The results of their analysis showed that there is a meaningful positive relationship between brand value and earnings per share. Yet, in another study conducted by Kendirli, Kendirli and Akgun (2016), financial brand value appraisal models were analysed and Hiroshi model were used to analyse financial data of food industry companies quoted in Borsa Istanbul Corporate Governance Index in order to test whether brand value and perception had any effect on investor behaviours. In this study, researchers did not discover a significant relationship between brand value perception and investment decisions.

Isik (2016) tested the relationship between factors such as brand connotation, quality perception brand loyalty and brand awareness, determining brand value as well as degrees of their impacts of these factors on the brand value. Research is conducted among consumers of health services in

Sakarya, Turkey. Stratified random sampling method was applied and a sampling set was composed of 384 consumers. The results of the analysis showed that there is a significant and positive relationship between brand value of health institutions and variables of brand awareness, quality perception and brand loyalty. However, a significant relationship is not found between brand value and brand awareness.

Zengin and Gungordu (2015) conducted a research using the Hirose method in order to appraise brand values of major retail stores, namely Kiler, Tesco KIPA, Migros, BIM and Carrefour SA, operating in Turkey. Their research includes included appraising brand value by using both financial and behaviour-based parameters and the findings were compared with the annual report published by the brand finance in Turkey. The results obtained through financial appraisal variables showed that Migros is perceived as the most valuable brand followed by BIM, Carrefour SA, Kiler and Tesco KIPA. The results of behaviour-based appraisal showed a slightly different order, placing Migros first, followed by Carrefour SA, BIM, Tesco KIPA and Kiler. The study is interesting in terms of showing that financial and behaviour-based appraisal models may reveal different results; therefore, the most rational approach is employing combined brand value appraisal models where both financial and behaviour-based variables are considered together.

Ozdemir and Oncul (2016) performed a literature review study in order to analyse and compare brand value appraisal methods. They also explore ISO 10688 Brand Valuation Standard, thoroughly. The main opinion reached in their study is there is no significant difference among the methodologies of appraisal models, although many of them have been developed during the past decade.

Akgun and Akgun (2014) analysed various appraisal models and applied the Hiroshi method for brand value appraisal of VESTEL A. S., a major producer of electric household appliances in Turkey. The results revealed that the brand value appraisal models and efforts provide a strong base to determine the actual value of a company. Also, Bursali and Karaman (2009) performed a financial appraisal model in order to determine brand values of textile companies in Denizli, Turkey. Both the studies showed that the results of brand appraisal efforts will enable companies not only to be aware of the potential created through non-financial variables, but also to obtain a reliable base to define the brand value in financial terms in financial reports and accounting system.

## 4. Brand value appraisal methods

It is believed to be necessary to remember the terms *goodwill* and *intangible assets* in the process of understanding brand value appraisal models and methods. Goodwill is formulated practically and clearly in IAS 3-Business Combinations as (*Considerations Transferred + Amount of Non-Controlling Interest + Fair Value of Previous Equity Interest) – Net Assets Recognised*. Goodwill can be briefly defined as the difference between the market value and the net book value of a company. Depending on various factors such as profitability, expected future returns, efficiency and effectiveness of operations of a company, a positive or negative goodwill will arise. From a marketing perspective, not only manufacturing process and product quality but also before, during and after sale services such as order processing, ensuring proper installation and explain guidelines of initial use and care of products clearly and providing proper maintenance and repair services will contribute to both brand value and goodwill of the company (https://www.ama.org/resources/Pages/Dictionary.aspx?dLetter=B).

The issue of goodwill will be a matter of interest mostly during merger acquisitions. On the other hand, brand value can be successfully disclosed with a monetary value among intangible assets at any given time. The basic interest here is appraising the brand value accurately, since it may be a material item that will have an influence on decision-making processes of financial statement users. IAS 38-Intangible assets defines an intangible asset with three critical attributes as: *an identifiable non-monetary asset without physical substance, a resource that is controlled by the entity as a result of past events (for example, purchase or self-creation) and from which future economic benefits (inflows of cash or other assets) are expected*. Goodwill mentioned above as well as rights such as patents, copyrights, websites, licensing, leasing franchising rights and contracts and trademarks are the main items listed among intangible assets (Ozdemir & Oncul, 2016).

Brand equity valuation methods are classified as financial appraisal models, behaviour-based appraisal models and combined appraisal models, where both financial and behavioural valuation model attributes are considered during valuation.

Financial models aim to determine the value of a brand through consideration of financial values such as price premiums, licensing and franchising fees. These models are usually employed during mergers and acquisitions (Kurtuldu & Sahin, 2006). Financial models applied by deriving data mainly from costs associated from creation of brand or returns and premiums earned through a brand. In financial appraisal models relying on brand cost, data are derived as the total historical costs incurred for creation of a brand or actual up-to-date expenses to be incurred when a similar brand is to be created (Kaya, 2002). On the other hand, in other financial appraisal models' data are derived by comparison of the prices of similar and/or rival products and services in the market and brand value appraisal processes are built upon differences in prices (Firat & Badem, 2008). Yet, some other financial appraisal models, net present value of expected future returns created solely by brand recognition are considered. In countries where an active securities exchange market is present, financial appraisal models deriving data through rate of return on stocks are employed. Also, financial appraisal models considering data such as royalty fees or franchising fees in determination of brand equity are used (Kaya, 2002).

Brand appraisal models considering consumer behaviour incorporates non-financial data such as brand awareness, brand connotation, brand loyalty, perceived quality, functionality and performance. Financial valuation models lack data related to consumer perception and purchase decisions, whereas behaviour-based valuation models ignore financial data. Therefore, models combining attributes of both financial and behavioural valuation models have been developed and used for better measurement of brand equity.

## 5. Methodology

In this study, a panel data analysis is performed in order to observe the relationships between brand equity and financial items of net sales, EBIT-earnings before interest and tax, total assets and total equity. Previously, relationships between brand value and financial items composed of market/book value, price/earnings value, earnings per share, profit before tax, net sales, current ratio and return of equity were tested by Kayali in 2004 and Aydin in 2009.

For this study, financial data of 100 companies with most valuable brand values, listed in Brand Finance Annual Report in Turkey, were searched and 20 of these companies were selected for panel data analysis, since their financial data between the years 2011 and 2015 were accessed accurately.

Panel data are a type of longitudinal data, or data collected at different points in time (McManus, 2011). Regression model including both time series and horizontal sections set for this analysis is

$$Yi,t = \beta 0 + \beta 1\ x'i,t + \varepsilon i,t$$

In the model above, $I = 1, 2,....N$ represents horizontal sections and $t = 1, 2,....T$ represents the number of observations for each horizontal section, that is, time dimension of the model. On the other hand, $\varepsilon i,t$ represents error of economic unit $i$ at time $t$. Error values should be *IID (0 and σ2)* and are independent of both horizontal sections and time (Maddala, 2002, 274).

The properties of unit roots of series included in panel data analysis are extremely important. During testing first generation unit roots, the dynamic constant effect model, similar to Advanced Dickey Fuller, is employed as

$$Yi,t = \mu i + \tau i,t + \rho\ Yi,t\text{-}1 + \delta i\ \vartheta t + \varepsilon i,t$$

The $\mu i$ and $\tau i$ parameters represent constant effect and trend accordingly. Testing $\rho$ accurately will determine the existence of stability (Selim, 2014, 16). Unit root tests provide information about stability of time series and relationship among stabilised time series is further analysed through panel regression analysis.

## 6. Results

In order to see the relationship between the brand value and financial parameters of net sales, EBIT-earnings before interest and tax, total assets and total equity, stability of time series were tested through first-generation unit root tests (Levin, Lin, Chu test). The results are displayed in Table 1.

**Table 1. Panel root test results**

| Variables | Levin, lin, chut statistics |
|---|---|
| Brand value | –16.8* |
| Net sales | –1.42* |
| EBIT | –5.11* |
| Total assets | –1.69* |
| Total equity | –3.76* |

*Note*: Statistical levels of meaningful relationships are as follows: (*) 1%; (**), 5% ve (***), 10%

From the results displayed in Table 1, it is understood that time series are stabilised; therefore, they are suitable for panel regression analysis. The regression analysis will be performed under random effect according to the results of the Hausman test results displayed in Table 2.

**Table 2. Hausman test results**

| Test summary | Chi square statistic | Chi-sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 6.380200 | 4 | 0.1725 |

The probability value of Chi square statistics is above 5% significance level and results panel regression analysis performed under random effect approach are displayed in Table 3.

**Table 3: Results of panel regression analysis**

| Variables | Constants | Standard error | t-statistics | Probability |
|---|---|---|---|---|
| c | 2.559572 | 1.691960 | 1.512785 | 0.1340 |
| Net sales | 0.374010 | 0.116698 | 3.204940 | 0.0019 |
| EBIT | 0.074943 | 0.061594 | 1.216730 | 0.2270 |
| Total assets | 0.525361 | 0.147833 | 3.553743 | 0.0006 |
| Total equity | -0.154755 | 0.112576 | -1.374665 | 0.1728 |
| | Effects specification | | | |
| | | | S.D. | Rho |
| Cross-section random | | | 0.373367 | 0.7527 |
| Idiosyncratic random | | | 0.214004 | 0.2473 |
| | Weighted statistics | | | |
| R-squared | 0.597518 | Mean dependent var. | | 5.414939 |
| Adjusted R-squared | 0.578798 | S.D. dependent var. | | 0.508910 |
| S.E. of regression | 0.216015 | Sum squared resid | | 4.012977 |
| F-statistic | 31.91860 | Durbin-watson stat | | 1.421092 |
| Prob. (F-statistic) | 0.000000 | | | |
| | Unweighted statistics | | | |
| R-squared | 0.766559 | Mean dependent var | | 21.03794 |

| | | | |
|---|---|---|---|
| Sum squared resid. | 15.73135 | Durbin–Watson stat | 0.362512 |

From the results in Table 3, there is a significant positive relation between brand value and financial parameters of net sales and total assets. However, no significant relation is present between brand equity and financial variables of EBIT and total equity.

## 7. Conclusion

Brand value plays an important role in increasing market share and other growth strategies of a company. The concept of brand is important not only for consumers but also for shareholders, since it may contribute highly to the overall firm and share values. Therefore, accurate valuation of brand value and understanding factors that influence brand value that increase or decrease market value of a firm is crucially important.

In this study, a significant and positive correlation between brand value and financial parameters of net sales and total assets are discovered. It will be possible to accurately display the brand value among intangible assets in balance sheet which will affect the overall assets and equity totals of a company. The results of panel data analysis conducted in this study support that through increase in brand value, sales and profitability of companies are expected to increase as well.

It is worth to note that there are many brand value appraisal models developed since the 1980s. Both financial and behaviour-based appraisal models help to create an awareness of great potential for companies, that is, brand value. However, neither brand value appraisal method should be considered totally reliable for determining the actual value of brand with 100% precision. There are two main reasons for this. First, it is important to remember that the possibility of manipulated financial data is unfortunately a reality in financial systems. Although financial auditing systems are being tried to be operated effectively, there have been and there will be potential for both intentional and unintentional errors and frauds that distort financial information and financial statements. Second, when the human behaviour factor is involved in any analysis, it is not wise to come up with assertive claims due to the enormous number and weight of factors to be considered in evaluations. Nevertheless, brand appraisal models that create an awareness of a very valuable asset that had been ignored for so long definitely provide a basis for determining the brand value. Moreover, efforts through determining brand value have triggered studies in the field of accounting and finance with the necessity of disclosing the true value of a brand in the financial statements and accounting system.

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