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# FINANCE FOCUSED BRAND VALUE MEASUREMENT: ANALYSIS OF INSURANCE COMPANIES WITH THE HIROSE METHOD

## FİNANS ODAKLI MARKA DEĞERİNİN ÖLÇÜLMESİ: SİGORTA ŞİRKETLERİNİN HİROSE METODU İLE ANALİZİ

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### ÖZET

İşletme performansı üzerinde uzun vadeli etkisi olan ve işletmeler arasında önemli bir rekabet üstünlüğü sağlayan maddi olmayan duran varlıklardan markanın değerini belirlemeye yönelik literatürde ve uygulamalarda finans otoriterleri ve danışmanlık şirketleri çeşitli yöntemler üzerinde çalışmışlardır. Bu yöntemlerden biri olan ve muhasebe ve finans verilerini esas alan Hiroshi yöntemi Japonya'da Ekonomi, Ticaret ve Endüstri Bakanlığı tarafından 2002 yılında geliştirilmiştir.

Çalışmada, finansal değerlendirme yöntemlerinden Hiroshi yöntemi kullanılarak Türkiye'de faaliyette bulunan emeklilik sigorta şirketlerinin marka değerlerinin belirlenmesi amaçlanmıştır. Bu amaçla, 16 emeklilik şirketinin 2014-2018 yıllarına ait finansal raporlarından elde edilen verilerle marka değerleri ölçülmüş ve bulgular değerlendirilmiştir.

**Anahtar Kelimeler:** Finansal göstergeler, Marka, Marka değeri, Hiroshi Metodu, Sigorta Şirketleri

## ABSTRACT

The brand is one of the most important values that businesses have. The brand provides a significant competitive advantage among businesses and has a long-term impact on business performance. Various methods have been developed by financiers and consultancy companies in the literature and applications to determine the value of the brand. One of these methods is Hirose method, which is based on accounting and financial data. This method was developed in 2002 by the Ministry of Economy, Trade and Industry of Japan.

In the study, companies operating in Turkey from financial valuation methods using Hiroshi method was aimed to determine the brand value of pension insurance companies. For this purpose, the brand values were measured, and the findings were evaluated with the data obtained from the financial reports of 16 pension companies for the years between 2014-2018.

**Keywords:** Financial Indicators, Brand, Brand Value, Hirose Method, Insurance Companies.

## 1. INTRODUCTION

By presenting the entity's intangible assets in their financial statements at their true values, all users of information will be able to accurately shape their decisions regarding the entity's financial position and operating results. Basis of presentation of intangible assets in statement of financial position of the companies, which meets the specific size criteria according to Turkish Tax Legislation, General Communique on Accounting System Application (GCASA) and the Council of Ministers, are the determined by Turkey Accounting Standard 38 (TAS 38) which is issued by Public Oversight Accounting and Auditing Standards Authority (POAASA).

In the tax legislation, intangible assets are stated and exemplified in article 269 as "intangible assets". In accordance with the General Communique on Accounting System Application, intangible assets consist of capitalized expenses that do not have any physical assets and which the entity benefits or expects to benefit in a certain way plus rights and goodwill that are legally protected under certain conditions". Legal savings such as concession, patent, license, trademark and title obtained by paying a price constitute the scope of rights account. The purpose of including the brand value in the scope of rights account is based on intangible assets such as patents, goodwill, license agreements, name rights.

The Uniform Chart of Accounts (UCA) includes 260 Rights and 261 Goodwill accounts related to brand value. Although it is deemed appropriate to register the brands acquired or transferred by applications according to the accounting system in the 260 Rights account, there are no regulations reflecting the current brand value of the enterprise and the reporting of this value is not allowed with the regulations made by the Capital Markets Board, the Ministry of Cost and the Bank's Audit and Regulatory Board. Reporting of the brand value is made only by the acquiring entity if the brand is subject to purchase and sale (Özkan & Terzi, 2013: 87-96).

According to the scope of TAS 38; rights, patents, licenses, brand, name or title, copyright, franchising advance payments, computer programs, films, works of art, development expenses constitute Intangible assets. According to the standard, the brand is not reported because the cost cannot be determined reliably and there are no identifiable assets controlled by the company. In order to report the brand value, it must be subject to a purchase-sale.

In today's world, where international companies and capital movements gain momentum, companies need competitive power in order to maintain their continuity and gain competitive advantage.

One of the most important elements that will provide competitive advantage to companies in the dynamic structure of the economy is the brand.

Studies on determining the effect of brand value on companies started in 1980. There has been no accounting criterion to determine the value of intangible assets, which is a significant gain in value. In America and Europe, the acquisition and sale of companies acquired through mergers or acquisitions has led to the need to evaluate intangible assets as well as their tangible assets. Thus, countries such as England, France, Australia and New Zealand attached importance to write brand value as an intangible asset to the companies' balance sheets. In the mid-1980s, Reckitt and Colman, a UK-based company, showed the brand value of the Airwick brand on their balance sheets. The Grand Metropolitan company also reported the Smirnoff brand value. Therefore, brand valuation has gained importance since 1980 and has been the subject of international financial reporting standards (Arora and Chaudhary, 2016: 88-96).

In this study, it is aimed to determine the brand value of the companies operating in the insurance sector with Hirose method which is one of the income-based approaches and one of the brand valuation methods based on the data in the financial reports. In this study, literature measurements are conducted, and brand measurements of insurance companies are analysed and sorted by Hirose method.

## 2. LITERATURE REVIEW

Although many definitions of the brand have been made in domestic and foreign literature, very close expressions have been used. Kotler and Keller (Kotler & Keller, 2003, p. 276) define the brand as added value given to products and services. Aktuglu (2004, p. 16) who gives a place and mentions a study conducted in the United Kingdom, a brand is defined as value added, input and output, firm, personality trait, legal tool, differentiation tool, association and identity.

Although a successful brand with a long-term impact on the performance of businesses is one of the most valuable assets that a business can have (Hanssens, 2009), studies on measuring its value are a topic that has gained importance in the 1980s with the acquisition and merger of companies in Europe and the United States. In the acquisitions and mergers that took place in these years, fees were paid for the companies which are higher than the valuation made according to the balance sheet amounts, and these prices were paid for intangible assets, especially for brands. For example, Farguhar (1992) reported that in 1988, Philip Morris Co. purchased Kraft Foods for \$ 12.9 billion, of which \$ 11.6 billion was paid for intangible assets, in particular for brands (Kaya, Yusuf, 2002).

The importance of measuring brand value, which is a broad concept of value for both businesses and consumers, has been the subject of many studies. Measurement of brand value has been addressed from different angles and different methods have been developed. In the domestic and foreign literature, studies have been conducted using methods that rely on financial data or focus on customer-related data or both.

Karen S. Cravens and Chris Guilding 1999 (1999, p.58) stated their financial methods under four headings; "Cost Based Approach", "Market Based Approach", "Income Based Approach", "Formula Based Approach". Cost-based method, which is one of these methods, is generally based on; it is the assumption that the higher cost brand will be more valuable. However, for example; Despite its low advertising spending, the Rolls-Royce brand is a recognized brand worldwide (Tollington, 1995: 58-62). Karen S. Cravens and Chris Guilding 1999 (1999, p.58) stated their financial methods under four headings; "Cost Based Approach", "Market Based Approach", "Income Based Approach", "Formula



Based Approach". Cost-based method, which is one of these methods, is generally based on; it is the assumption that the higher cost brand will be more valuable. However, for example; Despite its low advertising spending, the Rolls-Royce brand is a recognized brand worldwide (Tollington, 1995: 58-62).

In the revenue-based approach, brand value is calculated by reducing net income to the present value with an appropriate discount rate (Cravens & Guilding, 1999: 59).

Although various methods have been developed for the assessment of brand value, there has been a major lack of objectivity shared by these models. In the light of such criticism, the Japanese Ministry of Economy, Trade and Labor initiated a study to define the brand meticulously and to develop a methodology for brand valuation based on publicly available balance sheet data. In that study, main emphasis was put on to the objectivity of the method and the integration of the data with a solid basic quantitative structure. Thus, a brand valuation model was proposed which shares a direct financial interpretation and provides insight into risk analysis. Hirose method is the product of this study as an income-based approach. Hirose method provides superiority in comparison of both numerical results and financial information presented by analysts (Beccacece, et al. 2006).

In their study, Barajas and Mantecón (2012) concluded that the financial value of a brand varies greatly depending on the economic situation. The results of the Hirose method which is used from a financial point of view showed higher brand values under normal economic conditions, but lower brand values in times of crisis.

Min Wang and Kuang Yu (2015) conducted fuzzy logic analysis to model the brand values of Taiwan's banking industry in order to capture the qualitative characteristics of brands. The Hirose model was adopted to examine the effectiveness of the fuzzy logic approach in the context of brand valuation. The findings show that fuzzy logic and Hirose models show similar trends in brand prediction. The belief that the findings obtained in the study will enrich the understanding of brand valuation methodology has gained importance.

Zengin and Güngördü (2015) have determined the financial brand value by Hirose methods of food retailers company located in Turkey. The method based on the data in the financial reports is used by Ercan et al. (2011), Bursalı (2007) and Başçı (2009).

Uygurtürk et al. (2017) worked on the brand values by Hirose method using the data in the financial reports of the ceramics industry companies in Borsa Istanbul for the period 2011-2015. Burhan Günay (2017) compared the balance sheet assets and brand valuation results of Brand Finance on brand values of companies included in 100 Index.

Baş and Ardil (2018) have prepared a data set containing information of companies operating in the information sector. As a result of entering the data of the companies in the data set for the last 5 years, the prestige variable, loyalty variable, expansion variable and brand values were first calculated manually. Then, an internet-based application that calculates brand value was developed by using the Hirose method. Consistent results were obtained from the comparison.

### 3. PURPOSE OF THE RESEARCH AND METHODOLOGY

Logically, brand value should be measured by brand performance as the company value is measured by the financial performance of the company. However, due to the lack of brand performance criteria, researchers use accounting and finance data, which are financial performance measures, to measure brand performance (Srivastava, Shervani,&Fahey, 1998:2-18).

Although various methods are developed to calculate the financial value of the brand, each method has its weaknesses despite certain advantages. Findings obtained in the studies give an idea about the brand values of companies (Franzen, 2002: 96).

The aim of the study is based on methods that determine the value of a monetary brand. In order to determine the impact or value of the brand, Hirose method, which is one of the financial methods developed based on income-based method, was performed.

Hirose method, which is one of the income-based brand value measurement methods, can be preferred compared to other methods due to its applicability and the data which can be found and calculated (Başçı, 2009: 76).

Hirose method is based on three basic variables. (Hiroshi, 2002: 10-15)

$$MD = f(PD, SD, GD, rf) \quad (1)$$

Brand value is a function of the prestige, loyalty and expansion variable and is calculated by dividing the product of the three variables by the discount rate.

$$MD = \frac{PD \times SD \times GD}{rf} \quad (2)$$

rf

MD: Brand Value

PD: Prestige Variable; (price advantage),

SD = Customer loyalty,

GD = Brand expansion,

rf = Discount Rate - Risk-Free Interest Rate

#### a. Prestige Variable

The prestige variable, also referred to as reputation variable (Uyguntürk, ibid. 2017: 15), focuses on the price advantage generated by the brand's reliability.

$$PD = \frac{1}{5} \sum_{i=-4}^0 \left\{ \left( \frac{S_i}{SMM_i} - \frac{S_i^*}{SMM_i^*} \right) \times \frac{RPG_i}{FG_i} \right\} \times SMM_0 \quad (3)$$

Here;

PD: Prestige variable,

S: The sales amount of the enterprise,

SMM: The entity's cost of goods sold,

S\*: The sales of the comparative company,

SMM\*: The cost of the goods sold by the comparator,

RPG: Advertising and promotion expenses of the enterprise,

FG: It refers to the operating expenses of the enterprise.

According to the method, in order to make comparisons between the companies in the same sector, it is necessary to determine a base company. For this reason, the lowest value for the S\* and SMM\* variables in the model company is determined (Hiroshi, 2002: 10-15).

#### b. Loyalty Variable

The loyalty variable that evaluates the relations of the company with its customers is to focus on the long-term sustainability of sales (Hiroshi, 2012: 159).

$$SD = \mu C - \sigma C \quad (4)$$

$\mu C$

$\mu$  = Average of 5 Years of Cost of Goods Sold

$\sigma$  = Standard Deviation of Cost of Goods Sold

**c. Expansion variable**

The expansion variable, which is calculated in order to determine especially how widespread the brand of the enterprise, dominates the understanding of determining the incomes of the company outside its main field of activity with foreign sales (Dımbılođlu, 2014: 68).

The expansion variable, like other variables, focuses on the last three years, not five years.

IHR = International Sales

XS = Revenues of the Company Other Than Its Core Business

$$GD = \frac{1}{2} \left\{ \frac{1}{2} \sum_{i=-1}^0 \left( \frac{SO_i - SO_{i-1}}{SO_{i-1}} + 1 \right) + \frac{1}{2} \sum_{i=-1}^0 \left( \frac{SX_i - SX_{i-1}}{SX_{i-1}} + 1 \right) \right\} \quad (5)$$

The brand value is calculated with the variables obtained as follows.

$$MD = \frac{\left[ \frac{1}{5} \sum_{i=-4}^0 \left\{ \left( \frac{S_i}{SMM_i} - \frac{S_i^*}{SMM_i^*} \right) \times \frac{RFG_i}{FG_i} \right\} \times SMM_0 \right] \times \frac{\mu_c - \sigma_c}{\mu_c}}{r} \times \frac{1}{2} \left\{ \frac{1}{2} \sum_{i=-1}^0 \left( \frac{SO_i - SO_{i-1}}{SO_{i-1}} + 1 \right) + \frac{1}{2} \sum_{i=-1}^0 \left( \frac{SX_i - SX_{i-1}}{SX_{i-1}} + 1 \right) \right\} \quad (6)$$

**4. SCOPE OF RESEARCH**

In this study, it is aimed to determine the brand value of pension companies in the insurance sector. For this purpose, the pension companies that constitute the scope of the study are shown in Table 1.

**Table 1. Pension Insurance Companies Involved in the Study**

Company Name			
1	Aegon Emeklilik ve Hayat	9	Garanti Emeklilik ve Hayat
2	Allianz Yaşam ve Emeklilik	10	Groupama Emeklilik
3	Anadolu Hayat Emeklilik	11	Halk Hayat ve Emeklilik
4	AvivaSA Emeklilik ve Hayat	12	NN Hayat ve Emeklilik
5	Axa Hayat ve Emeklilik	13	Katılım Emeklilik ve Hayat
6	BNP ParibasCardif Emeklilik	14	Metlife Emeklilik ve Hayat
7	Cigna Finans Emeklilik ve Hayat	15	Vakıf Emeklilik ve Hayat
8	Fiba Emeklilik ve Hayat	16	Ziraat Hayat ve Emeklilik

In the report of Japan Ministry of Economy and Trade, it is necessary to determine the enterprise to be used as the basis for comparison according to Hirose method. Two ways are suggested for this purpose. The first one is the comparison with an off-brand company that produces similar products in the same line of business in the sector. The second is the comparison with the company with the lowest rate of sales / sales in the sector (quoted from Mehmet Ali Ekinci, Karataş, 2014: 165).

In the study, the second way was preferred and considering the years, the lowest benchmark company among the companies was determined. Accordingly, the companies to be compared are shown in Table 2.

**Table 2. Companies with the Lowest S\* / SMM\* Ratio by Years**

Year	Company	S* / SMM*
2014	Garanti Emeklilik ve Hayat AŞ	4.359406336
2015	Metlife Emeklilik ve Hayat AŞ	4.773339909
2016	Aegon Emeklilik ve Hayat AŞ	4.980967678
2017	Aegon Emeklilik ve Hayat AŞ	4.479211631
2018	Aegon Emeklilik ve Hayat AŞ	7.362570379

The study covers the years 2014 - 2018. Expansion Variable (GD) parameter requires the last 3 years of data. 5 years of data is used for the Prestige Variable (PD) and Loyalty Variable (SD) parameters. According to Table 2, Garanti Pension and Hayat Inc. has the lowest value as the company to be compared in 2014. While Metlife Pension and Hayat Inc. have the lowest value in 2015, Aegon Pension and Hayat Inc. has that value in 2016, 2017, and 2018.

## 5. FINDINGS AND EVALUATION

In the calculation of brand value, the data of the 16 pension companies included in this study and the Prestige variables, Loyalty variables and Expansion variables were calculated respectively. The prestige variable of 16 companies is calculated separately for each year. However, in order to serve as an example, Table 3 presents the Prestige Variables for 2018 of pension companies within the scope of the study. In 2018, Aegon Pension ve Hayat, which has the lowest S\* / SMM\* ratio, was identified as the base company to be compared.

### a. Loyalty Variable

While calculating the prestige variable, the S / SMM data of the underlying company is subtracted from the S\* / SMM\* data of the based company. This difference was also multiplied by the ratio of Advertising Expenses and Operating Expenses, which are included in Marketing Sales and Distribution Expenses in the financial statements of the companies. The last period of the analysis, which will calculate the brand value, which is the year 2018 in the study, has reached the prestige value by multiplying the CPM value of this year with the value found last.

The data set and the calculations made in Excel are shown in Table 3.

**Table 3. 2018 Prestige Variability of Pension Companies in the Scope of the Study**

Pension Companies	$S_i/SMM_i$ (1)	$S_i^*/SMM_i^*$ (VALUES OF BASE COMPANIES) (2)	$RPG_i/FG_i$ (3)	$SMM_0$ (Current Period SMM) According to 2018 (4)	PD (1-2)*3*4
Allianz Yaşam ve Emeklilik	14.05566	7.36257	7.73344	13.035.670	674734233.6
Anadolu Hayat Emeklilik	10.88005	7.36257	1.16321	23.567.612	96428527.54
AvivaSA Emeklilik ve Hayat	8.09556	7.36257	1.66929	29.403.165	35976853.02
Axa Hayat ve Emeklilik	13.42771	7.36257	0.05561	444.224	149817.7015
BNP Paribas Cardif Emeklilik	68.06293	7.36257	0.14637	494.809	4396336.495
Cigna Finans Emeklilik	16.33868	7.36257	0.03042	586.430	160105.3679
Fiba Emeklilik ve Hayat	8.46159	7.36257	0.82230	2.449.752	2213890.08
Garanti Emeklilik ve Hayat	8.77404	7.36257	6.47073	21.406.204	195508148.8
Groupama Emeklilik	22.26076	7.36257	0.22678	167.446	565726.9302
Halk Hayat ve Emeklilik	17.75867	7.36257	0.81245	3.255.377	27496043.42
NN Hayat ve Emeklilik	7.91066	7.36257	0.61015	6.376.677	2132470.609
Katılım Emeklilik ve Hayat	10.69465	7.36257	0.97606	1.821.014	5922537.343
Metlife Emeklilik ve Hayat	13.89107	7.36257	1.46812	1.812.042	17367683.86
Vakıf Emeklilik ve Hayat	12.75274	7.36257	8.28565	7.363.081	328842658.4
Ziraat Hayat ve Emeklilik	20.28107	7.36257	0.60825	3.412.990	26818268.98

The five-year averages of the prestige variable parameters calculated annually for pension companies are given in Table 4.

**Table 4. Five-Year Prestige Variable Average of the Companies in the Scope of the Study**

Companies	Average Prestige Variable
Aegon Emeklilik ve Hayat	110101.897
Allianz Yaşam ve Emeklilik	477492819.9
Anadolu Hayat Emeklilik	412103001.7
AvivaSA Emeklilik ve Hayat	150010757.7
Axa Hayat ve Emeklilik	273039.7015
BNP Paribas Cardif Emeklilik	1594438.66
Cigna Finans Emeklilik	104143.1793
Fiba Emeklilik ve Hayat	1726073.497
Garanti Emeklilik ve Hayat	125715199.4
Groupama Emeklilik	403979.3486
Halk Hayat ve Emeklilik	9915858.845
NN Hayat ve Emeklilik	3713166.625
Katılım Emeklilik ve Hayat	19035459.82
Metlife Emeklilik ve Hayat	7346560.215
Vakıf Emeklilik ve Hayat	82170579.75
Ziraat Hayat ve Emeklilik	14802150.6

### b. Loyalty Variable

The loyalty variable, which is used to measure the long-term stable sales of the enterprise, is aimed to measure the continuity of the share of the enterprise from the market as a measure of customer loyalty (Baş & Ardıl, 2018: 1-18). The loyalty variable was calculated by dividing the average of the SMM data of the companies and the standard deviation of the series by dividing the average of the series. Low standard deviation indicates customer loyalty.

**Table 5.** *Loyalty Variable Means of Companies in the Scope of the Study*

Loyalty Variable (SD)	5-Year Average of Cost of Goods Sold	Standard Deviation of Cost of Goods Sold	Loyalty Variable
Aegon Emeklilik ve Hayat	441.320,89	78023,90693	0,823203684
Allianz Yaşam ve Emeklilik	12.222.771,67	2830688,115	0,768408656
Anadolu Hayat Emeklilik	23.712.591,00	4517480,01	0,80949024
AvivaSA Emeklilik ve Hayat	25.541.781,82	5697205,185	0,776945664
Axa Hayat ve Emeklilik	237.786,15	127953,9727	0,461894758
BNP Paribas Cardif Emeklilik	2.120.009,58	1023800,059	0,517077627
Cigna Finans Emeklilik ve Hayat	1.289.892,79	422767,107	0,672246322
Fiba Emeklilik ve Hayat	702.486,18	913163,003	-0,299901741
Garanti Emeklilik ve Hayat	20.724.680,26	1325562,143	0,936039441
Groupama Emeklilik	922.977,03	456443,448	0,505466083
Halk Hayat ve Emeklilik	3.830.041,25	1150189,635	0,699692625
Katılım Emeklilik ve Hayat	6.565.032,49	787769,2568	0,880005277
Metlife Emeklilik ve Hayat	755.001,14	665784,3078	0,118167811
NN Hayat ve Emeklilik	2.565.767,52	755482,1614	0,705553151
Vakıf Emeklilik ve Hayat	7.212.321,20	1941255,883	0,730841732
Ziraat Hayat ve Emeklilik	2.694.953,89	506192,988	0,812170075

### c. Expansion Variable

According to Hirose Method, it is tried to determine the expansion ability of the company by taking into consideration the average growth of the revenues of the companies in the foreign sales and non-real operating business. Five-year data is used for the company's prestige and loyalty variables, while three-year data is used for the expansion variable. Accordingly, the expansion variable calculated by 2016, 2017 and 2018 data are given in Table 6.

**Table 6. Variation of Expansion of the Companies in the Scope of the Study**

Expansion Variable	Expansion Variable
Aegon Emeklilik ve Hayat	3,329952122
Allianz Yaşam ve Emeklilik	2,283489099
Anadolu Hayat Emeklilik	3,304490556
AvivaSA Emeklilik ve Hayat	2,342022053
Axa Hayat ve Emeklilik	3,905614213
BNP Paribas Cardif Emeklilik	2,368658954
Cigna Finans Emeklilik ve Hayat	2,084819361
Fiba Emeklilik ve Hayat	1,387161454
Garanti Emeklilik ve Hayat	2,303960493
Groupama Emeklilik	1,96685351
Halk Hayat ve Emeklilik	2,460892734
NN Hayat ve Emeklilik	1,986622187
Katılım Emeklilik ve Hayat	2,034470499
Metlife Emeklilik ve Hayat	1,191441809
Vakıf Emeklilik ve Hayat	2,957329925
Ziraat Hayat ve Emeklilik	18,958864

According to Hirose method, company rankings are made according to the brand values calculated and Table 7 is arranged. According to the method, Anadolu Hayat Pension has the highest brand value with 55.872.078. The 19.73% compound interest rate of the benchmark bond dated 31.12.2018 was used as the risk-free interest rate in the calculations ([www.bloomberght.com](http://www.bloomberght.com)).

**Table 7. Brand Values of Companies According to Hirose Method**

Companies	Brand Value
Anadolu Hayat Emeklilik	55872078
Allianz Yaşam ve Emeklilik	42464983
AvivaSA Emeklilik ve Hayat	13834929
Garanti Emeklilik ve Hayat	13741365
Ziraat Hayat ve Emeklilik	11551996
Vakıf Emeklilik ve Hayat	9001448
Halk Hayat ve Emeklilik	865373
Katılım Emeklilik ve Hayat	329017
NN Hayat ve Emeklilik	313011
Metlife Emeklilik ve Hayat	231946
BNP Paribas Cardif Emeklilik	98978
Fiba Emeklilik ve Hayat	36395
Axa Hayat ve Emeklilik	24965
Groupama Emeklilik	20356
Aegon Emeklilik ve Hayat	15297
Cigna Finans Emeklilik ve Hayat	7398

## Conclusion

From a traditional perspective, the brand is seen as a private capital that surpasses the asset value of fixed assets. The birth and survival of the brand is considered as a management strategy. In the literature, it has been observed that the brands which have been in the market for a long time have a stronger performance.

Since a value that cannot be measured cannot be managed, the measurement of brand value has been interesting in various circles. However, although there is no universally accepted measurement method or model, it is seen that studies on numerical data can be a more reliable indicator.

The starting point of accounting standards was basically in line with the expectations of financial information users. However, it is not possible to say that the expectations of the users of financial information have been fully met. This is because, as in the case of intangible assets, the separation of assets and the reliable determination of their values cannot be fully realized.

Parameter values were calculated using the data obtained from the financial reports of 16 pension companies operating in the insurance sector for the years 2014-2018 and the brand values were measured by Hirose method, which is one of the income-based approaches. The prestige variables, expansion variables and loyalty variables were determined from the parameter values of the companies over the years and the brand value was calculated by discounting with risk-free interest rate.

According to the method used in the study, companies were listed with the brand values reached as a result of the analysis. Of course, since there is not a universally accepted brand valuation method, the studies carried out on this subject are intended only to create opinions and to facilitate future studies.



## REFERENCES

- Arora S., Chaudhary N. (2016). "Impact of Brand Value on Financial Performance of Banks: An Empirical Study on Indian Banks", *Universal Journal of Industrial and Business Management* 4(3): 88-96.
- Özkan, M., Terzi, S. (2012), "Finansal Raporlama Açısından Marka Değerinin Ölçümü ve Değerlendirilmesi", *Marmara Üniversitesi Sosyal Bilimler Enstitüsü Hakemli Dergisi Öneri*, C.10, 87-96.
- Kotler, P., & Keller, K. L. (2003). *Marketing Management*. New Jersey: PearsonPrenticeHall, s. 276.
- Aktuğlu, I. K. (2004). *Marka Yönetimi / Güçlü ve Başarılı Markalar için Temel İlkeler*. İstanbul: İletişim Yayınları.
- Hanssens, D. M., Parsons, L. J., Schultz, R. L. (2001). *Market Response Models Econometric And Time Series Analysis*, Second Edition, <http://www.listinet.com/bibliografia-comuna/Cdu339-9B87.pdf>
- Kaya, Y. (2002). Marka Değerleme Metodları ve Bu Metodların Kullanımında Sermaye Piyasası Mevzuatı Açısından Çıkabilecek Sorunlar, Sermaye Piyasası Kurulu Denetleme Dairesi, İstanbul.
- Cravens, K. S., & Guilding, C. (1999). Strategic Brand Valuation: A Cross-Functional Perspective, *Business Horizon*, s. 58.
- Tollington, "Brand Accounting and Marketing Interface", *Management Accounting: Magazine For Chartered Management Accountants*, 1995, vol.73, Issue 7, 58-62.
- Cravens, K. S. & Guilding, C. (1999). Strategic Brand Valuation: a Cross-Functional Perspective, *Business Horizons*, July-August, 53-62.
- Beccacece, F., Borgonovo, E., Reggiani, F. (2006) Risk Analysis in Brand Valuation <https://ssrn.com/abstract=931023> or <http://dx.doi.org/10.2139/ssrn.931023>
- Min Wang, D. H. and Kuang Yu, T. H. (2015) "A Fuzzy Logic Approach to Modeling Brand Value: Evidence from Taiwan's Banking Industry", *New Information and Communication Technologies for Knowledge Management in Organizations*, 39-52.
- Zengin, B. & Güngördü, A. (2015). Marka Değerinin Hesaplanması Üzerine Ampirik Bir Çalışma: Finans Ve Pazarlama Boyutu. *Gazi Üniversitesi İİBF Dergisi*, 17 (2), 282-298.
- Başçı, E. S. (2009). *Marka Değerinin Tespiti ve İMKB'de Bir Uygulama*, Doktora Tezi, Gazi Üniversitesi Sosyal Bilimler Enstitüsü İşletme Anabilim Dalı, Ankara.
- Bursalı, O. B. (2007). *Marka Değerinin Tespiti ve Denizli Tekstil Sektöründe Bir Uygulama*, Doktora Tezi, Gazi Üniversitesi Sosyal Bilimler Enstitüsü İşletme Anabilim Dalı, Ankara.
- Ercan, M. K., Öztürk, M. B., Demirgüneş, K., Başçı, E. S., Küçük Kaplan, İ. (2011). Marka Değerinin Tespiti, İMKB Yayınları, Yayın No:20373, İstanbul.
- Ercan, M., Ban, Ü. (2012). *Değere Dayalı İşletme Finansı Finansal Yönetim*, Gazi Kitabevi, Ankara.
- Zengin, B., Güngördü, A. (2016). Marka Değerinin Hesaplanması Üzerine Ampirik Bir Çalışma: Finans ve Pazarlama Boyutu" <https://www.researchgate.net/publication/291971312>, 282-298.
- Uygurtürk, H., Uygurtürk, H., Korkmaz, T. (2017). "Marka Değerinin Hirose Yöntemi İle Belirlenmesi: Bist'de İşlem Gören Seramik Sektörü Firmaları

- Üzerine Bir Araştırma", Sosyal Bilimler Metinleri, Sayı:2, 10-21.
- Baş, M., Ardil, Ö. (2018). "Marka Değerini Hirose Yöntemi İle Hesaplayan İnternet Tabanlı Uygulama Geliştirilmesi", *Yönetim, Ekonomi ve Pazarlama Araştırmaları Dergisi*, 2(6):1-18
- Günay, B. (2017). "Marka Değeri Üzerine Bir Araştırma: Bist 100 Örneği", *Akademik Bakış Dergisi* Sayı: 61 Uluslararası Hakemli Sosyal Bilimler E-Dergisi, 364-378.
- Dımbıloğlu, A. A. (2014). *Marka Değerinin Belirlenmesi: Örnek Olay Uygulaması BİST (Borsa İstanbul) Kimya, Petrol, Kauçuk ve Plastik Ürünler Sektöründe Marka Değerinin Tespiti*, Uzmanlık Tezi, Türk Patent Enstitüsü Markalar Dairesi Başkanlığı, Ankara.
- Hiroshi, T. (2002), "The Report of the Committee on Brand Valuation", the Ministry of Economy, Trade and Industry, the Government of Japan, 24, pp. 1-126.
- Hiroshi, T. (2012). The empirical analysis via the corporate brand power evaluation model. *SCIS-ISIS 2012*, Kobe, Japan, November 20-24, 157-162.
- Srivastava, Rajendra K., Shervani, Tasadduque A., Fahey, Liam, (1998), "Market- Based Assets And Shareholder Value: A Framework For Analysis", *Journal Of Marketing*, Sayı 62(January), 1998, S. 2-18.
- Franzen, G., (2002). *Reklamın Marka Değerine Etkisi*, Çev. Fevzi Yalım, MediaCat Kitapları.
- Gülmez, M., Dörtüol, İ.T. (2009), *Açıklamalı Pazarlama Sözlüğü*, Detay Yayıncılık, Ankara, s.96.
- Yılmaz B., B., Güzel T. (2012), "Marka Değerleme ve Önemi: Telif Ücretinden Arındırma Yöntemiyle Bir İnceleme", *Muhasebe Finans Dergisi*, Nisan,141-156.