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# The Impact of Intellectual Capital on Brand Value: A Study on Borsa Istanbul Manufacturing Index

## Abstract

*This study analyzes the impact of intellectual capital on brand value. We separately measure the effects of the dimensions of intellectual capital (human, structural, and relational capital) on brand value. The data consists of 448 observations covering the 2013-2021 periods of 56 firms listed in the BIST Manufacturing Index. We calculate the intellectual capital using the Value-Added Intellectual Coefficient (VAIC) method and brand value through the Hirose method, respectively. The study utilizes the balanced panel regression analysis via the Generalized Method of Moments (GMM) method. Our findings show that intellectual capital components statistically and partially affect brand value.*

**Keywords:** Brand, Brand Value, Intellectual Capital, Value-Added Intellectual Coefficient, GMM.

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## 1. INTRODUCTION

Globalization and advanced technology have recently led to intangible assets becoming a crucial part of corporate value creation (Rodov & Leliaert, 2002; Stewart, 2007; Intara & Suwansin, 2024). While intangible assets lack physical dimensions, they possess significant importance due to their value in knowledge, skills, patents, brand reputation, and customer relationships (Osinski et al., 2017). As conventional accounting methods lacked the ability to determine and report intangible assets, managers and accountants historically neglected to evaluate these assets in detail (Ghosh & Maji, 2015). Yet, with accounting standards being revised and updated, practitioners have the ability to better capture intangible assets (Malikah & Nandiroh, 2024; Bhaskaran et al., 2023). For instance, IAS 38 and IFRS 3 are among the many standards that are structured to evaluate and report intangible assets in detail. These standards have been used to determine intangible assets, such as intellectual property and goodwill, on balance sheets (Shin & Jeong, 2024; Jaunanda et al., 2024). Still, some measurement challenges exist in evaluating many components of intellectual capital (Krstić et al., 2023; CFA Institute, 2025; Intheblack, 2025).

Among many components of intangible assets, this study focuses on analyzing brand value. With a strong brand value, a firm might significantly increase its market value (Başçı, 2009; Ceylan, 2019). Generally, marketing scholars focus on brand equity as a proxy for brand value and attempt to analyze consumer perceptions and loyalty. However, finance scholars deal with its monetary value (Kim & Kim, 2005). A wide range of methods, from consumer-based surveys to financial models, is used to examine and evaluate brand value and its interactions with other variables in the literature. To illustrate, Koçak and Öztürk (2016) categorize valuation methods into three types: Cost, income, and market-based brand value methods. Practically, firms like Brand Finance report annual top brand rankings. While determining the rankings, the firm employs complex financial formulas. Hence, one might deduce that the valuation of intangible assets, especially brand valuation, varies methodically (Kendirli et al., 2016).

The study also pays attention to intellectual capital, which is another crucial element of intangible assets. Intellectual capital is mainly the knowledge and experience capacity of a firm. It has three main components: human capital (employees' competencies and skills), structural capital (internal processes, databases, and intellectual property), and relational capital (relationships with customers, suppliers, and other stakeholders) (Bontis et al., 2000; Sedeaq, 2020; Yousaf, 2022).

Many studies have examined the impact of intellectual capital on firm performance in the literature. For instance, studies have found that intellectual capital has positive effects on overall firm performance (OlaREWaju & Msomi, 2021; Aljuboori et al., 2021). To illustrate, Iswahjuni (2014) states that the efficient and economical use of firm resources in the context of resource-based theory might minimize the operating costs incurred due to the activities. However, Kartika, and Hatane (2013) states that the success of firms in managing the three components of intellectual capital is closely related to the management of their firm assets. Therefore, firms can create added value from their intellectual capabilities if they effectively manage their assets and reduce costs. Separately, other studies have investigated how having a valuable brand contributes to business performance (Kim & Kim, 2005; Alper, 2017). However, there is a noticeable gap in the literature regarding the direct relationship between intellectual capital and brand value itself, as very few studies have analyzed the concept of intellectual capital and its impact on brand value, particularly in emerging markets such as Türkiye. Therefore, this study fills the mentioned gap above by attempting to analyze the impact of intellectual capital on the brand value of manufacturing firms listed on Borsa Istanbul. We employ the General Method of Moments methodology (a dynamic panel estimation method) to examine 56 publicly traded firms from 2013 to 2020. The results suggest that components of intellectual capital have a significant but partial effect on brand value. In detail, structural capital has a negative and significant impact on brand value. On the other hand, neither human nor relational capital has a direct effect. Simultaneously, certain control variables (financial indicators) like

expenditures on marketing, sales, and administrative activities have a positive and significant impact on brand value. Overall, our findings indicate that not all components of intellectual capital contribute to brand value. In fact, sometimes ineffective investments in intangible assets might be harmful to brand value. Still, conventional brand expenditures might have important roles.

The study's contribution to literature is threefold. First, to the best of our knowledge, it's among the earliest studies that examine the interaction of intellectual capital and brand value in an emerging market, Türkiye. We focus on Turkish manufacturing firms and offer new insights to intellectual capital research rather than solely examining conventional metrics. Second, unlike prior studies that employ static approaches, we conduct a dynamic panel Generalized Method of Moments (GMM) model (Arellano & Bond, 1991), controlling for endogeneity and persistence in the dependent variable (brand value), thereby enhancing the credibility and robustness of our results. Third, our results are particularly relevant to aspects of intellectual capital that enhance brand value practices; therefore, the findings are particularly applicable to managers and investors. The study continues as follows: Section 2 discusses the conceptual framework and develops the hypotheses. Section 3 presents the data and methodology, followed by the results. Finally, Section 4 concludes.

## 2. CONCEPTUAL FRAMEWORK AND HYPOTHESES

Because a brand is an asset with no physical presence and an indeterminate value until a market transaction occurs (Seetharaman et al., 2001), the literature offers various definitions of a brand. Aaker (2009) defines a brand as a name or symbol that identifies a product as belonging to a particular company and differentiates it from competing products. Article 4 of the Turkish Industrial Property Law defines a trademark as "any sign, including words (such as personal names), shapes, colors, letters, numbers, sounds, or the shape of goods or their packaging, provided that it distinguishes the

goods or services of one enterprise from those of others and is represented on the register in a way that the scope of protection can be understood clearly and precisely." In essence, a brand helps consumers recognize a product or service and distinguish it from others. Ogunnaike et al. (2017) emphasizes the common view that a brand reflects a business's ability to influence consumer behavior.

Brand value is a specific and significant intangible asset that contributes significantly to a firm's overall market capitalization (Yeung & Ramasamy, 2008). Strong brands offer competitive advantages by enabling premium pricing, increasing profitability, providing stable earnings, and reducing the likelihood of default (Aaker, 2009; Madden et al., 2006; Stahl et al., 2012; Fischer & Himme, 2017). Extensive empirical evidence confirms a positive relationship between strong brand equity and higher financial metrics, including high stock prices, profitability (ROA, ROE, ROC), and firm value (Tobin's Q) (Guest et al., 2025; Niyas & Kavida, 2022). Recent studies also support this positive relationship in developing markets, including the Turkish manufacturing sector (Konuk et al., 2023) and Brazil (De Oliveira et al., 2023). It has also been noted that this relationship exhibits delayed effects, resulting in a time-lagged impact that can be greater than a simultaneous effect on profitability and may persist for up to three years (Niyas & Kavida, 2022). Additionally, the relationship between brand value and firm value can be influenced by various moderating factors, such as the firm's life cycle stage (Shin & Jeong, 2024) or innovation culture (Li et al., 2022).

There are several methods for valuing a brand. In their 2012 classification of brand valuation models, Özkan and Terzi (2007) distinguished between three primary types: financial techniques, behavioral methods, and hybrid methods, which include financial and behavioral components. Beccacece et al. (2006) further divide financial valuation techniques into three categories: cost, market, and income. A brand's worth is determined using the cost approach, which examines the cost of creating the brand. By comparing the current sales numbers of similar brands, the market approach (also known as the sales comparison approach) evaluates

the worth of a brand. The income method, also known as the economic value technique, determines the worth of a brand by estimating the future revenue it will generate. According to Beccacece et al. (2006), there are limitations to the income, market, and cost methods. They offer two arguments in favor of employing the Hirose approach. To begin, publicly available financial information makes it easy to compute the Hirose approach. The second benefit is that it opens the door to the appraisal of non-tangible assets, such as brand value. Due to its ease of use, the Hirose technique offers several benefits. Indeed, there is no single precise method for determining brand value, and various studies have proposed financial measurement techniques for brand value (Alper, 2017; Uyguntürk et al., 2017; Çam et al., 2018; İşverenoğlu, 2020; Avşarlıgil, 2021). These studies discuss the drivers of brand value (Avşarlıgil, 2021; Çam et al., 2018; Kendirli et al., 2016; Uyguntürk et al., 2017; Zengin & Güngördü, 2015), the effect of brand value on firm performance (Alper, 2017), and risk considerations in brand valuation (Beccacece et al., 2006). In a study on Taiwan's high-tech sector, Wang et al. (2015) find that firms seeking to increase value place importance on brand value. Kim and Kim (2005) examine whether brand value has a positive impact on firm performance across all its dimensions. Similarly, Alper (2017) reports a positive relationship between brand value and business performance using the Hirose method.

Intangible assets, particularly intellectual capital and brand value, are essential to a firm's success. As the modern era places greater emphasis on a knowledge-based economy, the importance of intellectual capital continues to grow. Human Capital, Structural Capital, and Relational Capital are the three components of intellectual capital. According to the Resource-Based View (RBV) and the Knowledge-Based View (KBV), the components of intellectual capital enable a firm to be more competitive and increase the value (Salvi et al., 2020; Jiang et al., 2022). Ghosh and Maji (2015) argue that traditional financial metrics cannot explain the significant gap between firms' market and book values, a gap attributable to firms' emphasis on and effective use of intellectual capital. In the 21st century, many employees contribute more through

brainpower than manual labor. This shift is encapsulated in the concept of intellectual capital (Hashim et al., 2015). Intellectual capital is essentially the productivity derived from human capital blended with organizational capabilities and innovation (Osinski et al., 2017). Berzkalne and Zelgalve (2014) describe intellectual capital as a secure, "under-the-cushion" intangible asset that firms accumulate over years, emerging from lengthy processes. The commonly used approach to measure intellectual capital is the Value-Added Intellectual Coefficient method, developed by Pulic (1998), which consists of the components Human Capital Efficiency, Structural Capital Efficiency, and Capital Employed Efficiency. Empirical studies generally confirm a positive relationship between intellectual capital and firm performance (ROA, ROE) and firm value (Tobin's Q, PBV) (Nguyen & Doan, 2020; Sisodia et al., 2021; Jaunanda et al., 2024; Fathi et al., 2013). Specifically, Human Capital Efficiency and Capital Employed Efficiency are frequently shown to have a positive impact on profitability and firm value (Nguyen & Doan, 2020; Jaunanda et al., 2024). However, evidence regarding the effects of intellectual capital can be mixed; for example, a study on Vietnamese commercial banks (Le et al., 2022) found that intellectual capital generally increases bank efficiency, but only Human Capital Efficiency among its components improves all three types of bank efficiency. Similarly, the results for Structural Capital Efficiency are mixed, with some studies showing a negative relationship with firm value (Jaunanda et al., 2024). The literature contains numerous definitions of the knowledge source recognized as intellectual capital at the firm level. Organizations' intangible assets -including intellectual, relational, organizational, and human capital- carry economic value, and in a knowledge-based economy, intellectual capital provides a competitive advantage. Intellectual capital not only drives firm-level growth and benefits but also contributes to the broader economic development of countries (Liu & Jiang, 2020). Gogan et al. (2016, p. 195) highlight several characteristics of intellectual capital: (1) it is invisible to the eye; (2) it relates to the knowledge and experience of employees as well as a firm's technology and customers; and (3) it gives an organization greater opportunities for future success.

**Table 1.** Elements of Intellectual Capital

Human Capital	Relational Capital
<ul style="list-style-type: none"> <li>• Specialization</li> <li>• Education</li> <li>• Vocational Qualification</li> <li>• Business Knowledge</li> <li>• Professional Assessment</li> <li>• Psychological Assessment</li> <li>• Job Competence</li> <li>• Entrepreneurial drive, innovation, progressiveness and resilience, adaptability.</li> </ul>	<ul style="list-style-type: none"> <li>• Brand</li> <li>• Customers</li> <li>• Customer loyalty</li> <li>• Company name</li> <li>• Order supply</li> <li>• Distribution channels</li> <li>• Cooperation</li> <li>• License agreements</li> <li>• Useful contracts</li> <li>• Franchise Agreements</li> </ul>
Structural Capital	
<b>Intellectual Property</b> <ul style="list-style-type: none"> <li>• Patents</li> <li>• Rights</li> <li>• Design rights</li> <li>• Trade secrets</li> <li>• Trademarks</li> <li>• Service brands</li> </ul>	<b>Infrastructure Assets</b> <ul style="list-style-type: none"> <li>• Management Philosophy</li> <li>• Company culture</li> <li>• Management processes</li> <li>• Information systems</li> <li>• Network systems</li> <li>• Financial links</li> </ul>

Source: Dzinkowski (2000).

Intellectual capital is commonly divided into three components: human capital, structural capital, and relational capital (Jardon & Martos, 2012; Gogan et al., 2016). Human capital refers to the knowledge, skills, experience, and talent of a company's employees (Yaseen et al., 2016). It represents the stock of knowledge embodied by the people in the organization and encompasses attributes such as education, work experience, professional qualifications, and competencies. Structural capital includes the organizational systems, processes, databases, and intellectual property that remain with the firm even if employees leave (Obeidat et al., 2021). It encompasses culture, policies, procedures, patents, copyrights, trademarks, and information systems that support innovation and productivity. Relational capital (also known as customer or social capital) represents the value derived from a firm's relationships with external stakeholders (customers, suppliers, partners, and networks) (Yaseen et al., 2016). It reflects accumulated knowledge that influences customer preferences and the organization's network of external relationships. Kanchana and Mohan (2017) note that human, structural, and rela-

tional capital often work together in synergistic combinations that create core competencies; investing in any one alone is insufficient, and firms must invest in combinations of these capitals to generate ultimate value.

The three primary forms of intellectual capital—human, relational, and structural—are laid forth in Table 1. Evidently, the cornerstones of human capital are expert-level knowledge, formal education, and practical skill. Relational capital primarily consists of loyal customers, whereas structural capital consists of patents and exclusive rights. According to previous research, intellectual capital can have a major effect on corporate outcomes. The impact of intellectual capital on company success is substantial, according to Olarewaju and Msomi (2021). Intellectual capital promotes innovation, which in turn enhances competitive advantage and performance, according to research by Aljuboori et al. (2021). This research demonstrates that innovation competence mediates and improves the relationship between intellectual capital and company performance in Malaysian manufacturing SMEs. Not only that, but in the accommodation sector, Sardo et al.

(2018) discover a positive correlation between intellectual capital and firm performance, while Salvi et al. (2020) establish a positive correlation between intellectual capital disclosure and firm value. Kanchana and Mohan (2017) review numerous studies on intellectual capital and firm performance, concluding that intellectual capital generally plays an important role in performance and serves as a strategic knowledge resource for organizations.

As a result of the literature review, we develop the following hypotheses:

$H_{1a}$ : Human Capital Efficiency is positively associated with brand value.

$H_{1b}$ : Structural Capital Efficiency is positively associated with brand value.

$H_{1c}$ : Relational Capital Efficiency is positively associated with brand value

### 3. METHODOLOGY AND RESULTS

This section explains the subject and purpose, sample, model, dependent and independent variables, and methodology of the study.

#### 3.1. Aim and Contribution

This study aims to examine the impact of intellectual capital on brand value. In the literature, various studies investigate the impact of intellectual capital on firm performance (Bontis et al., 2000; Karacaer & Kapusuzoğlu, 2010; Sullivan, 2002; Firer & Williams, 2003; Kayalı et al., 2007; Kamath, 2008; Gülcemal & Çıtak, 2017), and others identify factors that affect firms' brand value (Peterson & Jeong, 2010; Jeong, 2015; Koçan & Gerekan, 2017; Liu et al., 2018; Nadanyiova et al., 2019). However, no prior research has specifically examined how intellectual capital affects brand value in the context of an important developing country like Turkey. By addressing this gap, the study makes a significant contribution to the literature.

#### 3.2. Data and Sample

The study focuses on firms listed in the BIST (Borsa Istanbul) Manufacturing Index. The final sample comprises 56 firms, with 448 firm-year observations spanning the period from 2013 to 2020. These firms were selected because they appeared in annual rankings of "Turkey's Most Valuable Brands," ensuring that an external brand valuation existed for each. We begin the sample in 2013 to maximize the number of observations. The data set is constructed from the firms' publicly disclosed financial statement data. All financial data were obtained from the Public Disclosure Platform (KAP) official website and the FINNET database. Furthermore, we retrain the discount rate using the end period of news bulletins of firms as the 2 Year Turkish Treasury Bond rate.

#### 3.3. Methodology

This study examines the impact of intellectual capital on brand value using a panel data analysis method. We use the STATA 15.0 program to perform a balanced panel regression analysis. Accordingly, the equation for the model of the study is as follows:

$$BV_{i,t} = \beta_0 + \beta_1 BV_{i,t-1} + \Delta\beta_2 RCE_{i,t} + \Delta\beta_3 HCE_{i,t} + \Delta\beta_4 SCE_{i,t} + \Delta\beta_5 GAE_{i,t} + \Delta\beta_6 MSD_{i,t} + \Delta\beta_7 TTL_{i,t} + \varepsilon_{i,t} \quad (1)$$

In equation (1), the impact of intellectual capital components Relational Capital Efficiency (RCE), Human Capital Efficiency (HCE), and Structural Capital Efficiency (SCE) on brand value (BV) is analyzed. General Administrative Expenses (GAE), Marketing, Sales, and Distribution Expenses (MSD), and Total Liabilities (TTL) are control variables.

##### 3.3.1. Independent Variable

Intellectual capital is an independent variable. Accordingly, we apply the Value-Added Intellectual Coefficient (VAIC) method proposed by Ante Pulic (1998) to determine intellectual capital. The VAIC method is used because it does not require detailed financial data in calculations

and is more widely used in developing countries such as Turkey (Maditinos et al., 2011; Gülcemal & Çıtak, 2017). In this context, the Value-Added Intellectual Coefficient (VAIC) is calculated as follows (Chen et al., 2005):

$$IVA = OP + EC + DD + AE \quad (2)$$

where;

IVA: Intellectual Value Added

OP: Operating Profit

EC: Employee Costs

DD: Depreciation and Depletion

AE: Amortization Expenses.

After the calculation of the IVA value, which is the first step in the determination of the VAIC, we follow the following steps, respectively (Chen et al., 2005; Kujansivu, & Lönnqvist, 2007; Kamath, 2008; Hang, 2009; Cheng et al., 2010):

$$VAIC = RCE + HCE + SCE \quad (3)$$

$$RCE = IVA/Equity \quad (4)$$

$$HCE = IVA/Employee Costs \quad (5)$$

$$SCE = SC/IVA; SC = IVA - Employee Costs \quad (6)$$

### 3.3.2. Dependent Variable

Brand value is the dependent variable. Accordingly, we perform the Hirose method to determine the brand value. In calculating the brand value, three basic variables, prestige, loyalty, and expansion, are essential. Accordingly, the brand value of the firms using the relevant method is calculated as follows (Hirose Report, 2002):

$$BV = (PV \times LV \times EV) / r \quad (7)$$

where;

BV: Brand Value

PV: Prestige Variable

LV: Loyalty Variable

EV: Expansion Variable

r: Risk-free Discount Rate.

### 3.3.2.1. Prestige Variable

The prestige variable is calculated to reveal firms' price superiority depending on their brand values (Başçı, 2009). In this context, the relevant variable is calculated as follows (Hirose Report, 2002):

$$PV = \frac{1}{5} \sum_{t=4}^0 \left[ \left( \frac{S_t}{COGS_t} - \frac{S_t^*}{COGS_t^*} \right) \times \frac{APE_t}{OE_t} \right] \times COGS_0 \quad (8)$$

where;

PV: Prestige Variable

S: Sales

COGS: Cost of Goods Sold

S\*: Sales of the Benchmark Firm in the Sector

COGS\*: Cost of Goods Sold of the Benchmark Firm in the Sector.

APE: Advertisement and Promotion Expenses

OE: Operating Expenses

According to the mathematical equation for determining the prestige variable, the lowest S\*/COGS\* value for each year in the selected sector is first subtracted from the Sales / S/COGS value of the firms for the years in which the calculation is performed. In the next stage, the value obtained is multiplied by the ratio of APE to OE, which is determined on a yearly basis. In the last stage, the process is completed by multiplying each firm's previous period COGS value by the value obtained yearly in the first two stages.

### 3.3.2.2. Loyalty Variable

The second variable used in calculating BV according to the Hirose method is the loyalty variable. The variable is related to examining the mutual relationships between firms and their target audiences. The firm's current situation is reviewed, and the sustainability of the operating income obtained is evaluated (Akgün & Akgün, 2014; Kendirli et al., 2016). In this context, the loyalty variable is calculated as follows (Hirose Report, 2002):

$$LV = 1 - \frac{\sigma_c}{\mu_c} \quad (9)$$

where;

LV: Loyalty Variable

$\mu_c$ : Average Cost of Goods Sold (5 years)

$\sigma_c$ : Standart Deviation of Cost of Goods Sold

In the process of calculating the loyalty variable, the value obtained as a result of dividing the COGS Value of each firm for the last five years of the year interval in which the application is made by the Standard Deviation of the COGS Value is subtracted from 1.

### 3.3.2.3. Expansion Variable

Within the expansion variable, the level of awareness of the firm's brand value and its potential for expansion is mentioned (Ceylan, 2019). In measuring the variable in question, foreign sales and revenues, excluding the main activity of the firm, are essential (Başçı, 2009; İşgör, 2011). Accordingly, the expansion variable is calculated as follows (Hirose Report, 2002):

$$EV = \frac{1}{2} \left[ \frac{1}{2} \sum_{i=-1}^0 \left( \frac{ER_i - ER_{i-1}}{ER_{i-1}} + 1 \right) + \frac{1}{2} \sum_{i=-1}^0 \left( \frac{NOI_i - NOI_{i-1}}{NOI_{i-1}} + 1 \right) \right] \quad (10)$$

where;

EV: Expansion Variable

ER: Export Revenues

NOI: Non-Operating Income

When the equation for calculating the expansion variable above is analyzed, the process consists of two stages. Accordingly, in the first stage, the firm's ER are subtracted from the ER of the previous year. The value obtained is divided by the export revenues of the last year, and 1 is added to the result. In the next stage, the firm's non-operating revenues are subtracted from the related revenues of the previous year. The value determined is divided by the non-operating revenues of the previous year, and 1 is added to the resulting value in the same manner. The values found in the first and second stages are summed, and the result for the expansion variable is obtained.

### 3.4. Model

We employ the Generalized Method of Moments (GMM) estimator developed by Arellano and Bond (1991) to estimate the panel data model. To validate our results, we conduct several diagnostic tests (Tatoğlu, 2018). First, we use the Sargan test to examine the validity of the instrumental variables in the GMM estimation (Gujarati, 2004), confirming whether the instruments are uncorrelated with the error term (i.e., testing for instrument exogeneity). Next, we perform the Arellano-Bond tests for first-order and second-order autocorrelation (AR(1) and AR(2)) in the residuals (Arellano & Bond, 1991). These tests check for the presence of autocorrelation; the consistency of the GMM estimator requires that while AR(1) may be significant (due to the inclusion of a lagged dependent variable), there should be no significant AR(2) autocorrelation. Finally, we use the Wald chi-square test to evaluate the overall significance of the model (Roodman, 2009).

### 3.5. Results

This section presents the descriptive statistics and regression results of the study.

**Table 2.** Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.
BV	448	13,005	2,910
RCE	448	0,683	3,781
HCE	448	3,170	3,224
SCE	448	0,642	0,934
GAE	448	17,185	1,361
MSD	448	17,693	1,780
TTL	448	19,715	1,569

Source: authors' work

Table 2 shows the descriptive statistics. We have transformed the variables to a logarithmic scale before analysis, and these values are therefore expressed on a logarithmic scale. The mean value of the BV is 13,005 with a standard deviation of 2.910, which indicates that the differences in

brand equity among firms are reasonable. In addition, the average value of RCE (0.683), with a standard deviation of 3.781, shows that the RCE value varies considerably among some firms. While HCE average is 3.170 (std. dev. 3.224), exhibiting a more stable distribution, the SCE average is 0.642 with a relatively low standard deviation (0.934), showing more consistent values across the sample.

**Table 3.** Regression Results

Variables	Model
BV <sub>t-1</sub>	0,232** (0,018)
RCE	0,006 (0,658)
HCE	0,010 (0,685)
SCE	-0,201** (0,016)
GAE	-1,429* (0,000)
MSD	1,524* (0,000)
TTL	-0,847* (0,000)
AR(1)	-5,367* (0,000)
AR(2)	-0,370 0,711
Sargan	48,023* (0,000)
Obs.	336
Number of firms	56
Wald chi <sup>2</sup>	112,70
Prob > chi <sup>2</sup>	0,000*

Source: authors' work

Note : \*  $p < 0,01$ , \*\*  $p < 0,05$ , \*\*\*  $p < 0,10$

Table 3 presents the findings of the panel regression analysis. Accordingly, the Wald test is

statistically significant at a 1% significance level (\* $p < 0.01$ ), suggesting that the entire model is significant. As we account for the lag of the dependent variable and the difference in the independent variables, the number of observations declines to 336. In addition, we run the Arellano and Bond test to analyze the autocorrelation problem at AR(1) and AR(2) levels. As a result, there is no negative autocorrelation at the AR(1) level and the AR(2) level (AR (1) -5.367\* (0.000); AR (2) -0.370 (0.711)) (Arellano, 2003; Tatoğlu, 2018). Furthermore, we apply the Sargan test to examine the validity of the instrument variables (Tatoğlu, 2018) and find that the variables are endogenous (\* $p < 0.01$ ).

The findings display that SCE has a statistically significant and negative effect on (BV) at a 5% significance level (\*\* $p < 0.05$ ). On the other hand, RCE and HCE do not have statistically significant effects on brand value.

Regarding the control variables, MSD has a positive and statistically significant effect on brand value ( $\beta = 1.524$ , \* $p < 0.01$ ), suggesting that higher marketing-related expenditures are associated with higher brand value. On the other hand, GAE shows a negative and significant effect on brand value ( $\beta = -1.429$ , \* $p < 0.01$ ), and TTL also exhibits a negative and significant effect ( $\beta = -0.847$ , \* $p < 0.01$ ). These results imply that increases in general administrative costs and high leverage (liabilities) tend to be associated with lower brand value, whereas spending on marketing and sales contributes positively to brand value.

#### 4. CONCLUSION

This study analyzes the effect of intellectual capital on brand value. We utilize the Intellectual Value-Added Coefficient method in the measurement of intellectual capital. In addition, we apply the Hirose method to determine the brand value. Moreover, we use balanced panel regression analysis via the Generalized Method of Moments (GMM) method developed by Arellano and Bond (1991). The results show that intellectual capital components statistically and partially affect the brand value. In addition, the

financial values specific to the firm also affect the brand value in various aspects.

Intellectual capital is a crucial asset of the firm, and an increase in intellectual capital should correspondingly enhance the firm's value. However, the literature has controversial results. While some studies indicate that there is a statistically significant relationship between intellectual capital and firm value (Chen et al., 2005; Wang, 2008; Pucci et al., 2013; Rahman, 2012), others show that there is no statistically significant interaction (Chu et al., 2011; Gan & Saleh, 2008; Clarke et al., 2011; Huang & Hsueh, 2007; Berzkalne & Zelgalve, 2014; Kartika, & Hatane 2013). This study finds that relational capital efficiency and human capital efficiency do not have statistically significant effects on the brand value of firms.

Regarding this finding, Tangngisalu (2021) emphasizes that the success of firms depends more on their tangible assets than their intangible assets. Therefore, investors tend not to focus on firms' intellectual resources. On the other hand, structural capital efficiency has a statistically significant and negative effect on brand value. Janošević and Dženopoljac (2015) suggest that this negative effect may indicate that listed firms do not invest adequately in structural capital elements or are undercapitalized. Accordingly, the contribution of intellectual capital elements to the firm seems to depend on the level of development of corporate governance processes and related structures.

In addition, in line with the literature, marketing, sales, distribution, and general administrative expenses have a statistically significant impact on brand value (Topuz & Akşit, 2013; Koçan & Gerekan, 2017; Yenisu, 2020). Topuz and Akşit (2013) consider the marketing, sales, and distribution activities to be carried out to provide a competitive advantage to the firms as a factor that increases the firm value financially, leading to a positive effect on the brand value.

Besides, there are implications for policy-makers and broader economic strategists. In emerging markets like Turkey, where developing globally recognized brands is a national economic priority, policymakers should create an

environment that supports both intellectual capital development and brand building. This could include providing incentives (tax credits, grants, or innovation awards) for companies that invest in employee training, R&D, and technology (to build intellectual capital) in tandem with branding and marketing initiatives. Additionally, regulators and industry associations might encourage better disclosure of intellectual capital metrics and brand values in corporate reporting. Greater transparency in these areas can help investors and stakeholders accurately assess a company's value and motivate firms to allocate resources more effectively toward intangible assets. By implementing such policies, authorities can help firms leverage their intellectual capital more effectively, ultimately fostering stronger corporate brands and contributing to a competitive advantage in international markets.

Finally, the study has some limitations. The cross-sectional and time dimensions of the sample are among these limitations. Future studies might increase the sample size and add other sectors. Moreover, different techniques might be applied in gauging the financial measurement of both intellectual capital and brand value.

## References

- Aaker David A. (2009). *Managing brand equity*. New York: Free Press.
- Akgün, Ö.V. & Akgün, A. (2014). Marka ve marka değeri olgusu: marka değerinin tespitine yönelik bir uygulama. *Selçuk Ü. Sosyal ve Teknik Araştırmalar Dergisi*, 8, 1-13.
- Aljuboori, Z. M., Singh, H., Haddad, H., Al-Ramahi, N. M., & Ali, M. A. (2021). Intellectual Capital and Firm Performance correlation: The mediation Role of Innovation Capability in Malaysian Manufacturing SMEs perspective. *Sustainability*, 14(1), 154. <https://doi.org/10.3390/su14010154>
- Alper, D. (2017). Finansal bazlı marka değerinin firma performansı üzerine etkisi. *International Journal of Academic Value Studies (Javstudies JAVS)*, 3(16), 141-155. <https://doi.org/10.23929/javs.587>
- Arellano, M. (2003). Panel Data Econometrics. <https://doi.org/10.1093/0199245282.001.0001>

- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277. <https://doi.org/10.2307/2297968>
- Avşarlıgil, N. (2021). Marka değeri: BIST teknoloji endeksi firmaları üzerine bir uygulama. *Marmara Üniversitesi Öneri Dergisi*, 16(56), 585-610. doi: 10.14783/maruoneri.840194
- Başçı, E. S. (2009). Marka değerinin tespiti ve İMKB'de uygulama (Yayımlanmamış doktora tezi). Gazi Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.
- Bhaskaran, R. K., Sujit, K. S., & Waheed, K. A. (2023). Linkage Between Brand Value and Firm Performance: An Empirical Examination Using Fuzzy Set. Qualitative Comparative Analysis. *SAGE Open* 13 <https://doi.org/10.1177/21582440231192135>
- Beccacece, F., Borgonovo, E., & Reggiani, F. (2006). Risk analysis in brand valuation. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.931023>.
- Berzkalne, I., & Zelgalve, E. (2014). Intellectual capital and company value. *Procedia - Social and Behavioral Sciences*, 110, 887-896. <https://doi.org/10.1016/j.sbspro.2013.12.934>
- Bontis, N., Keow, W. C. C., & Richardson, S. (2000). Intellectual capital and business performance in Malaysian industries. *Journal of Intellectual Capital*, 1(1), 85-100. <https://doi.org/10.1108/14691930010324188>
- Çam, A. V., Kalkan, Y., Soydaş, Ş. S., & Taşdemir, S. S. (2019). Marka değerinin hesaplanmasında farklı bir yaklaşım: geliştirilmiş hirose yöntemi. *The Journal of International Scientific Researches*, 3(4), 194-202. <https://doi.org/10.23834/isrjournal.478012>
- Ceylan, I. E. (2019). Marka Değeri ile Kârlılık İlişkisi Üzerine Bir İnceleme: Hirose Yöntemi ve Panel Nedensellik Analizi. *Muhasebe Ve Finansman Dergisi*, 389-414. <https://doi.org/10.25095/mufad.607185>
- CFA Institute. (2025, Mart 26). Improve Intangible Asset Disclosures Before Balance Sheet Recognition. CFA Institute. <https://www.cfainstitute.org/about/press-room/2025/intangible-assets-report-2025>
- Chen, M., Cheng, S., & Hwang, Y. (2005). An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance. *Journal of Intellectual Capital*, 6(2), 159-176. <https://doi.org/10.1108/14691930510592771>
- Cheng, M., Lin, J., Hsiao, T., & Lin, T. W. (2010). Invested resource, competitive intellectual capital, and corporate performance. *Journal of Intellectual Capital*, 11(4), 433-450. <https://doi.org/10.1108/14691931011085623>
- Chu, S. K. W., Chan, K. H., Yu, K. Y., Ng, H. T., & Wong, W. K. (2011). An empirical study of the impact of intellectual capital on business performance. *Journal of Information & Knowledge Management*, 10(01), 11-21. <https://doi.org/10.1142/s0219649211002791>
- Clarke, M., Seng, D., & Whiting, R. H. (2011). Intellectual capital and firm performance in Australia. *Journal of Intellectual Capital*, 12(4), 505-530. <https://doi.org/10.1108/14691931111181706>
- De Oliveira, M. O. R., Sonza, I. B., & Da Silva, T. S. (2023). Brand equity and company performance: evidence from a quasi-experiment in an emerging market. *Marketing Intelligence & Planning*, 41(4), 393-408. <https://doi.org/10.1108/mip-12-2021-0452>
- Dzinkowski, R. (2000). The measurement and management of intellectual capital: An introduction. *International Management Accounting Study*, 32-36. Doi: <https://www.researchgate.net/publication/247931350>
- Fathi, S., Farahmand, S., & Khorasani, M. (2013). Impact of intellectual capital on financial performance. *International Journal of Academic Research in Economics and Management Sciences*, 2(1), 6.
- Firer, S., & Williams, S. M. (2003). Intellectual capital and traditional measures of corporate performance. *Journal of Intellectual Capital*, 4(3), 348-360. <https://doi.org/10.1108/14691930310487806>
- Gan, K. & Saleh, Z. (2008). Intellectual capital and corporate performance of technology-intensive companies: Malaysian evidence. *Asian Journal of Business and Accounting*, 1, 113-130.
- Ghosh, S.K. & Maji, S.G. (2015). Empirical validity of value added intellectual coefficient model in Indian knowledge-based sector. *Global Business Review*, 16(6), 947-962. Doi: [doi:10.1177/0972150915597597](https://doi.org/10.1177/0972150915597597)
- Gogan, M.L., Artene, A., Sarca I. & Draghici, A. (2016). The impact of intellectual capital on organizational performance. *So-*

- cial and Behavioral Sciences*, 211, 194-202. doi:10.1016/j.sbspro.2016.05.106
- Gujarati, D.N. (2004). *Basic Econometrics (4th Edition)*. New York: McGraw Hill Inc.
- Gülcemal, T. & Çıtak, L. (2017). Entelektüel katma değer katsayısı yöntemi ile ölçülen entelektüel sermayenin firma performansı üzerindeki etkisi. *Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 18(1), 35-55. <http://esjournal.cumhuriyet.edu.tr/tr/pub/issue/32216/357726>
- Hang Chan, K. (2009). Impact of intellectual capital on organisational performance: An empirical study of companies in the Hang Seng Index (Part 1). *The learning organization*, 16(1), 4-21
- Hashim, M.J., Osman, I. & Alhabshi S. M. (2015). Effect of intellectual capital on organizational performance, *Social and Behavioral Sciences*, 211, 207-214. doi:10.1016/j.sbspro.2015.11.085
- Hirose Report (2002). Report of the committee on brand valuation. *The Ministry of Economy, Trade and Industry, The Government of Japan*, June 24.
- Huang, C. & Hsueh, S. (2007). A study on the relationship between intellectual capital and business performance in the engineering consulting industry: A path analysis. *Journal of Civil Engineering and Management*, 8, 265-271. doi: 10.1080/13923730.2007.9636446
- Intheblack. (2025, November 1). Accounting for intangibles: IAS 38 review explained. CPA Australia. <https://intheblack.cpaustralia.com.au/accounting/accounting-for-intangibles-ias-38-review-explained>
- Intara, P., & Suwansin, N. (2024). Intangible assets, firm value, and performance: does intangible-intensive matter?. *Cogent Economics & Finance*, 12(1), 2375341. <https://doi.org/10.1080/23322039.2024.2375341>
- İşgör, N. (2011). Marka değeri ve piyasa değeri ilişkisinin incelenmesi (Yayımlanmamış yüksek lisans tezi). Yıldız Teknik Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.
- İşverenoğlu, G. (2020). Finance centered brand value measurement: Analysis in insurance companies by Hirose method. *İş, Güç Endüstri İlişkileri ve İnsan Kaynakları Dergisi*, 22(3), 103-120.
- Iswahjuni, Y.F. (2014). Pengaruh intellectual capital terhadap profitabilitas, nilai pasar, pertumbuhan dan actual return pada perusahaan yang tercatat di bursa efek Indonesia. *Majalah Ekonomi Universitas Airlangga*, 24(1), 50-59.
- Janošević, S. & Dženopoljac, V. (2015). The impact of intellectual capital on companies' market value and financial performance. *Ekonomika preduzeca*, 63, 354-371. doi: 10.5937/eko-pre1508354J
- Jardon, C.M. & Martos, M.S. (2012). Intellectual capital as competitive advantage in emerging clusters in Latin America. *Journal of Intellectual Capital*, 13(4), 462-481. doi:10.1108/14691931211276098
- Jaunanda, M., Sembel, R., Hulu, E., & Shinta, G. (2024). The impact of intellectual capital strategy on firm value and financial distress. *Corporate & Business Strategy Review*, 3, 148-158. <https://doi.org/10.22495/cbsrv-5i3art14>
- Jeong, J. (2015). Advertising vs. R&D: Relative effectiveness on brand equity. *South African Journal of Business Management*, 46(3), 31-42. <https://doi.org/10.4102/sajbm.v46i3.99>
- Kamath, G.B. (2008). Intellectual capital and corporate performance in Indian pharmaceutical industry. *Journal of Intellectual Capital*, 9(4), 684-704. doi: 10.1108/14691930810913221
- Kanchana N. & Mohan R.R.R. (2017), A Review of Empirical Studies in Intellectual Capital and Firm Performance. *Indian Journal of Commerce & Management Studies*, 8(1), 52-58. doi: <https://doi.org/10.18843/ijcms/v8i1/08>
- Karacaer, S. & Kapsuzoğlu, A. (2010). İMKB turizm sektöründe entelektüel sermayenin firma değeri üzerindeki etkisinin analizi. *Anatolia: Turizm Araştırmaları Dergisi*, Prof. Dr. Hasan Işın Dener Özel Sayısı, 98-108.
- Kayalı, C. A., Yereli, A. N., & Ada, Ş. (2007). Entelektüel katma değer katsayısı yöntemi kullanılarak entelektüel sermayenin firma değeri üzerindeki etkisinin belirlenmesine yönelik bir araştırma. *Yönetim ve Ekonomi: Celal Bayar Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 14(1), 67-90. <https://doi.org/10.18657/yecbu.79233>
- Kendirli, S., Kendirli, H.Ç. & Akgün, Z. (2016). Marka değerlendirme yöntemleri: Hiroshi yöntemi ile gıda sektöründe bir uygulama. *Muhasebe ve Finansman Dergisi*, 71, 67-88. doi:10.25095/mufad.396698

- Kim, H., & Kim, W. G. (2005). The relationship between brand equity and firms' performance in luxury hotels and chain restaurants. *Tourism Management*, 26(4), 549-560. <https://doi.org/10.1016/j.tourman.2004.03.010>
- Koçan M. & Gerekan B. (2017). Faaliyet gider türlerinin marka değeri üzerine etkisi: Brand Finance Turkey-100'de yer alan şirketlere yönelik bir araştırma. *Muhasebe Bilim Dünyası Dergisi*, 19(4), 884- 914.
- Konuk, S., Doruk, Ö. T., & Önal, Y. B. (2023). An empirical investigation of the relationship between brand value and firm value: Evidence from Turkey. *International Journal of Finance & Economics*, 30(1), 261-281. <https://doi.org/10.1002/ijfe.2915>
- Krstić, B., Bonić, L., Radenović, T., Vujatović, M. J., & Ognjanović, J. (2023). Improving Profitability measurement: Impact of intellectual capital efficiency on return on total employed resources in smart and Knowledge-Intensive companies. *Sustainability*, 15(15), 12076. <https://doi.org/10.3390/su151512076>
- Kujansivu, P., & Lönnqvist, A. (2007). Investigating the value and efficiency of intellectual capital. *Journal of Intellectual Capital*, 8(2), 272-287. <https://doi.org/10.1108/14691930710742844>
- Le, T. D., Ho, T. N., Nguyen, D. T., & Ngo, T. (2022). Intellectual capital-bank efficiency nexus: evidence from an emerging market. *Cogent Economics & Finance*, 10(1), 2127485. <https://doi.org/10.1080/23322039.2022.2127485>
- Li, M., Chin, C. H., Li, S., Wong, W. P. M., Thong, J. Z., & Gao, K. (2022). The Role of Influencing Factors on Brand Equity and Firm Performance with Innovation Culture as a Moderator: A Study on Art Education Firms in China. *Sustainability*, 15(1), 519. <https://doi.org/10.3390/su15010519>
- Liu, C., & Jiang, J. (2020). Assessing the moderating roles of brand equity, intellectual capital and social capital in Chinese luxury hotels. *Journal of Hospitality and Tourism Management*, 43, 139-148. <https://doi.org/10.1016/j.jhtm.2020.03.003>
- Liu, L., Zhang, J., & Keh, H. T. (2018). Event-Marketing and advertising expenditures. *Journal of Advertising Research*, 58(4), 464-474. <https://doi.org/10.2501/jar-2017-043>
- Maditinos, D., Chatzoudes, D., Tsairidis, C., & Theriou, G. (2011). The impact of intellectual capital on firms' market value and financial performance. *Journal of Intellectual Capital*, 12(1), 132-151. doi: <https://doi.org/10.1108/14691931111097944>
- Malikah, A., & Nandiroh, U. (2024). Intellectual capital and value of the firm: a systematic literature review. *International Journal of Humanities Education and Social Sciences (IJHESS)*, 3(4), 2169-2177. doi: <https://doi.org/10.55227/ijhess.v3i4.777>
- Kartika, M., & Hatane, S. E. (2013). Pengaruh intelektual capital pada profitabilitas perusahaan perbankan yang terdaftar di bursa efek indonesia pada tahun 2007-2011. *Business Accounting Review*, 1(2), 14-25.
- Nadanyiova, M., Kliestikova, J. & Olah, J. (2019). Financing of adverts and its impact on the brand value. *Littera Scripta*, 12(2), 1-12.
- Nguyen, A. H., & Doan, D. T. (2020). The impact of intellectual capital on firm value: Empirical evidence from Vietnam. *International Journal of Financial Research*, 11(4), 74-85. <https://doi.org/10.5430/ijfr.v11n4p74>
- Niyas, N., & Kavida, V. (2022). Impact of financial brand values on firm profitability and firm value of Indian FMCG companies. *IIMB Management Review*, 34 (4), 346-363. <https://doi.org/10.1016/j.iimb.2023.01.001>
- Obeidat, U., Obeidat, B., Alrowwad, A., Alshurideh, M., Masadeh, R. & Abuhashesh, M. (2021). The effect of intellectual capital on competitive advantage: The mediating role of innovation. *Management Science Letters*, 11(4), 1331-1344. doi: 10.5267/j.msl.2020.11.006
- Ogunnaike O.O., Kehinde O.J., Omoyayi O.O., Popoola O.O. & Amoruwa A. (2017). Conceptualization of the relationship between brand equity and purchase behaviour. *International Review of Management and Marketing*, 7(2), 403-408. <https://dergipark.org.tr/download/article-file/367557>
- Olarewaju, O. M., & Msomi, T. S. (2021). Intellectual capital and financial performance of South African development community's general insurance companies. *Heliyon*, 7(4). <https://doi.org/10.1016/j.heliyon.2021.e06712>
- Osinski, M., Selig, P.M., Matos, F. & Roman, D.J. (2017). Methods of evaluation of intangi-

- ble assets and intellectual capital. *Journal of Intellectual Capital*, 18(3), 470-485. doi:10.1108/JIC-12-2016-0138
- Özkan, M. & Terzi, S. (2007). Finansal raporlama açısından marka değerinin ölçümü ve değerlendirilmesi. *Öneri Dergisi*, 38, 87-96. <https://dergipark.org.tr/tr/pub/maruoneri/issue/17896/187718>
- Peterson, R.A. & Jeong, J. (2010). Exploring the impact of advertising and R&D expenditures on corporate brand value and firm-level financial performance. *Journal of The Academy Of Marketing Science*, 38, 677-690. <https://doi.org/10.1007/s11747-010-0188-3>
- Pucci, T., Simoni, C. & Zanni, L. (2013). Measuring the relationship between marketing assets, intellectual capital and firm performance. *Journal of Management and Governance*, 1-28. doi: 10.1007/s10997-013-9278-1
- Pulic, A. (1998). Measuring the performance of intellectual potential in knowledge economy. *The 2nd McMaster World Congress on Measuring and Managing Intellectual Capital*, 1-20.
- Rahman, S. (2012). The role of intellectual capital in determining differences between stock market and financial performance. *International Research Journal of Finance and Economics*, 89, 46-77.
- Rodov, I. & Leliart, P. (2002). FiMIAN: Financial method of intangible assets measurement. *Journal of Intellectual Capital*, 3(3), 323-336. <https://doi.org/10.1108/14691930210435642>
- Roodman, D. (2009). How to do Xtabond2: An Introduction to Difference and System GMM in Stata. *The Stata Journal Promoting Communications on Statistics and Stata*, 9(1), 86-136. <https://doi.org/10.1177/1536867x0900900106>
- Salvi, A., Vitolla, F., Giakoumelou, A., Raimo, N., & Rubino, M. (2020). Intellectual capital disclosure in integrated reports: The effect on firm value. *Technological Forecasting and Social Change*, 160, 120228. <https://doi.org/10.1016/j.techfore.2020.120228>
- Sardo, F., Serrasqueiro, Z., & Alves, H. (2018). On the relationship between intellectual capital and financial performance: A panel data analysis on SME hotels. *International Journal of Hospitality Management*, 75, 67-74. <https://doi.org/10.1016/j.ijhm.2018.03.001>
- Sedeaq N. (2020). The Impact of Intellectual Capital on Corporate Performance: Evidence from Palestine. *European Journal of Business and Management Research* Vol. 5, No. 6. <http://dx.doi.org/10.24018/ejbm.2020.5.6.647>
- Seetharaman, A., Nadzir, Z. a. B. M., & Gunalan, S. (2001). A conceptual study on brand valuation. *Journal of Product & Brand Management*, 10(4), 243-256. <https://doi.org/10.1108/eum0000000005674>
- Shin, M. Y., & Jeong, K. (2024). The effect of brand assets on firm value and credit ratings—Evidence from Korea. *Cogent Business & Management*, 11 (1), 2380356. <https://doi.org/10.1080/23311975.2024.2380356>
- Sisodia, G., Jادیyappa, N., & Joseph, A. (2021). The relationship between human capital and firm value: Evidence from Indian firms. *Cogent Economics & Finance*, 9(1). <https://doi.org/10.1080/23322039.2021.1954317>
- Stewart, T.A. (2007). *The Wealth of Knowledge: Intellectual Capital and The Twenty-First Century Organization*. New York: Crown Business.
- Sullivan, P.H. (2002). *Value-driven intellectual capital: How to convert intangible corporate assets into market value*. ABD: John Wiley & Sons Inc.
- Tangngisalu, J. (2021). The impact of intellectual capital on company value. *Jurnal Manajemen Bisnis*, 8(1), 182-190. doi: 10.33096/jmb.v8i1.215
- Tatoğlu Yerdelen, F. (2018). *İleri panel veri analizi (3. Baskı)*. İstanbul: Beta.
- Topuz, Y. V., & Akşit, N. (2013). İşletmelerin pazarlama giderlerinin hisse senetleri getirileri üzerindeki etkisi: İMKB Gıda sektörü örneği. *Anadolu University Journal of Social Sciences*, 13(1), 53-60. <https://kutuphane.dogus.edu.tr/mvt/pdf.php?pdf=0014454&lng=0>
- Uyguntürk, H., Uyguntürk, H. & Korkmaz, T. (2017). Marka değerinin hirose yöntemi ile belirlenmesi: BIST'de işlem gören seramik sektörü firmaları üzerine bir araştırma. *Sosyal Bilimler Metinleri*, 2, 10-21. <https://dergipark.org.tr/tr/pub/sbm/issue/47253/595276>
- Wang, D. H., Chen, P., Yu, T. H., & Hsiao, C. (2015). The effects of corporate social responsibility on brand equity and firm performance. *Journal of Business Research*, 68(11), 2232-2236. <https://doi.org/10.1016/j.jbusres.2015.06.003>

- Wang, J. (2008). Investigating market value and intellectual capital for S&P 500. *Journal of Intellectual Capital*, 9(4), 546–563. <https://doi.org/10.1108/14691930810913159>
- Yaseen, S. G., Dajani, D., & Hasan, Y. (2016). The impact of intellectual capital on the competitive advantage: Applied study in Jordanian telecommunication companies. *Computers in Human Behavior*, 62, 168–175. <https://doi.org/10.1016/j.chb.2016.03.075>
- Yenisu, E. (2020). Faaliyet giderlerinin kârlılıęa etkisi: İmalat sanayi üzerine bir inceleme. *Artvin Çoruh Üniversitesi Uluslararası Sosyal Bilimler Dergisi*, 6(1), 1–12. <https://doi.org/10.22466/acusbd.604301>
- Yousaf, M. (2022). Intellectual capital and firm performance: evidence from certified firms from the EFQM excellence model. *Total Quality Management & Business Excellence*, 33(13–14), 1472–1488. <https://doi.org/10.1080/14783363.2021.1972800>
- Zengin, B. & Güngördü, A. (2015). Marka değerin hesaplanması üzerine ampirik bir çalışma: Finans ve pazarlama boyutu. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 17(2), 282–298. <https://dergipark.org.tr/tr/pub/gaziuiibfd/issue/28307/300809>

### Utjecaj intelektualnog kapitala na vrijednost brenda: analiza proizvodnog indeksa Burze u Istanbulu

#### Sažetak

*U istraživanju se analizira utjecaj intelektualnog kapitala na vrijednost brenda. Učinak pojedinih dimenzija intelektualnog kapitala (ljudskog, strukturnog i relacijskog kapitala) na vrijednost brenda mjeri se zasebno. Podaci obuhvaćaju 448 opažanja za razdoblje 2013.–2021. za 56 poduzeća uvrštenih u proizvodni indeks BIST-a. Intelektualni kapital izračunat je metodom koeficijenta dodane vrijednosti intelektualnog kapitala (VAIC), dok je vrijednost brenda procijenjena Hiroseovom metodom. U radu se primjenjuje uravnotežena panel-regresijska analiza korištenjem metode generaliziranih momenata (GMM). Rezultati pokazuju da komponente intelektualnog kapitala imaju statistički značajan, ali djelomičan utjecaj na vrijednost brenda.*

**Ključne riječi:** brend, vrijednost brenda, intelektualni kapital, koeficijent dodane vrijednosti intelektualnog kapitala (VAIC), GMM.