

Intangible Asset a Key Driver for Company's Performance: An Overview

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Abstract

Many of the company's performance, competitive advantage, and sustainability were driven through its intangible assets. The increasing trend of companies deriving their value from intangible assets seems to be set to continue, as more businesses invest in particularly intangible assets property to create new products and services. The activities of the company are related to different types of resources, among which intangible assets are becoming an increasingly important incentive for the company to operate. This paper aims at exploring how intangible asset becomes the key to driving for company's competitive advantage, performance, and sustainability. The study employed quantitative research design (ex-post facto) data are obtained in the pass accounting record. descriptive, correlation and regression statistical analysis was carried out, it was obtained from the result that there is the relationship between return on an asset which encompasses the (performance, competitive advantage, & sustainability) and computer software & exploration asset with the significance rated strong and stronger effect respectively, and there is strong size effect of an intangible asset (exploration asset and computer software) on return on asset (ROA. The result concluded that the company's exploration assets, as well as computer software, have an impact on performance, competitive advantage, and sustainability.

Keywords

Intangible assets, Performance, Competitive advantage, and Sustainability

1. Introduction

The increasing trend of companies deriving their value from intangible assets seems to be set to continue, as more businesses invest in particularly intangible assets property to create new products and services (Allerslev *et al*, 2017). With the development of technology and the globe in terms of business, intangible assets, such as goodwill, lenience, copyright, patent, knowledge, skills, relationship, processes, and culture, vital strategic resources have become key drivers for improving businesses, economic growth and supporting the businesses growth of organizations (Mehta, and Madhani, 2009). Rita (2017) concluded that the activities of the company are related to different types of resources, among which intangible assets are becoming an increasingly important incentive for the company to operate. At the end of the twentieth century, the increased interest in intangible assets and its impact on the market value of companies encouraged companies to increase their investment in human resources, research, and development, new technologies, etc. Intangible assets have emerged as leading assets due to the transformation of industries from manufacturing base to service base driven by knowledge workers among the industrialized countries worldwide. The subject intangible means it does not have physical substance, but grants rights of ownership to the

owner and economic benefits. An intangible asset is a non-monetary asset that manifests itself by its economic properties. They are more specific than other assets and incorporate higher information asymmetries, linked to higher risk profiles and lower collateral value (Bryan, Rafferty & Wigan, 2017).

A competitive strategy that leverages a company's competitive advantage is required (Efrat, et al. 2018) (Lee, & Falahat). Investing in intangible assets is one of these techniques, which is popular in competitive marketplaces and enterprises of all sizes, locations, and industries. The necessity for competitive advantage has recently increased, as it does not last indefinitely and must be renewed (Ong, 2019). According to Mahdi, *et al* (2019), Chen, (2019), managers should be able to build instruments to critically examine both internal and external environments to find sources that generate and sustain competitive advantage. Teece, (2018) pointed out that long-term competitive advantage is dependent on a balance between a firm's internal resources, particularly intangible assets, competencies, and the changing circumstances of their external environment. Intangible assets are regarded as one of the most important resources for a firm's long-term competitive advantage, which improves its financial and market performance (Seo, & Kim, 2020; Tahat (2018) Shane and Klock 1997; Augier and Teece 2005; Cohen 2005; Li *et al.* 2010; Lin and Huang 2011; Roulstone 2011; Low and Lee 2014; Ciftci and Zhou 2016; Makrominas 2017). Intangible assets are all resources that have no physical existence but contribute significantly to the profitability and long-term viability of enterprises; they are made up of knowledge, information, intellectual property, and experience (Durand, & Milberg, 2020).

Intangible assets have grown in importance throughout time, accounting for 5 percent in 1978 and now accounting for 78 percent of total assets to date. However, some public and private organizations do not seek to incorporate the value of intangible assets (Li, 2019). The business has recognized the importance of intangible assets in enhancing financial performance, creating value, and preserving competitiveness, according to Rufo (2017). Despite this, several corporations have remained unconcerned about intangible asset investments and the economic benefits they might provide. The majority of assets listed on a company's financial statement are tangible assets, leaving intangible assets unaccounted for. Because intangible assets are not recognized, some crucial aspects of a firm's potential return are overlooked, while tangible asset effects are overemphasized. Intangible assets are important to a company's future profitability, especially in knowledge-based firms such as manufacturing company communication and banks (Visconti, & Weis. 2020).

Various academics have debated the extent to which intangible assets can improve a company's performance. However, the concept of intangible assets is far more powerful than its literal manifestation in financial accounts. For the past two decades, academia has been engulfed in a never-ending debate on the role of intangible assets in generating business value, improving firm performance, acquiring a competitive advantage, and ensuring long-term sustainability. (Pereira, et al. 2021). According to Chowdhury et al 2019, financial reporting, which primarily evaluates a corporation's tangible assets, is losing some importance, particularly in the industrial sector, which is dominated by knowledge-intensive and innovative firms. In addition, Hamid, (2018). Also, claim that intangible assets, when combined with data from financial statements, can explain a better firm's market value (share prices), competitive advantage, and long-term viability (sustainability) These studies have however confirmed and reaffirmed the ability of intangible assets to positively influence their competitiveness, performance, and sustainability, some empirical results are still negating the assertion that some of their internal resources and performance, competitive advantages, and sustainability have not been able to have statistical relationships (Hassan, & Aliyu, 2018). However, Torres *et al* (2018) and Haseeb *et al* (2019) discovered no statistically significant relationship between some company internal resources, such as intangible assets, and organizational performance, competitive advantage, or sustainability. According to Fernando *et al* (2019), there is no link between intangible assistance and corporate business performance. Weqar, *et al* (2020) employed the Value-Added Intellectual Coefficient (VAIC) to assess intangible asset and commercial performance in Africa, concluding that there is no substantial relationship between profitability, productivity, and market value. The task of identifying the linkage between intangible assets, firm performance, and sustainability has yet to be completed, as seen by the preceding submissions. And apart from the above-stated studies that contravene the direction and result of most studies, Awa Felix, *et al* (2020), Paracha & Siddiqui, (2019), Denicolai, *et al* (2015), and many others have carried out studies on the effect of the intangible asset on the performance of banking sector and some of their studies are not dwelling in the same case of study nor country. It was also identified that their studies are measuring the effect of the intangible asset on the performance but none have measured the effect of intangible assets on performance, competitive advantage, and sustainability of company collectively in manufacturing company and lastly, the studies have been conducted in a long time ago in a pass that there is need of new research in the present time due technological development of era, as is one among the attribute of the intangible

asset to change in nature and state overtime and technological development. Therefore, this study aimed at exploring the role of an intangible asset as key in driving for company competitive advantage, performance, and sustainability.

2. Literature Review

Competitive Advantage

Companies have a competitive edge, according to Wardhani *et al.* (2021), when they can adopt techniques that can't be copied by competitors or are too expensive to imitate. Only when a competitor's attempt to imitate its strategy has halted or failed can a company be assured that its strategy has delivered one or more competitive advantages that are profitable. Furthermore, businesses must recognize that there is no such thing as a permanent competitive edge. When a firm's commissioner can learn the abilities needed to repeat the benefits of a firm's value creation strategy to evaluate how long a competitive advantage will last, this is called the expected speed. The ability of a company to build positions that can be maintained in comparison to its competitors is known as a competitive advantage (Wardhani, *et al.*, 2021). One approach to gain a competitive advantage, according to Porter, is to be able to produce a product at a cheaper cost than a competitor (Wardhani, *et al.*, 2021). The capability mentioned above is the capacity that allows a company to stand out from the competition and is the outcome of managerial actions (Zhu, *et al.* 2020). Large-scale organizations that are developing and have prior experience are typically the source of this competence. Furthermore, the volume of production with all huge quantities lowers operational costs. Other research revealed that competitive advantage was linked to the perceived value of customers who see particular qualities in the offer (differentiation) or who believe that the competitor's offer best meets all of their needs (Henderson, 2011). According to Miller (1987), there are two forms of differentiation excellence: innovation distinction and market differentiation. The company can set itself apart in a variety of ways, such as delivering unique features, launching effective promotions, delivering the greatest services, building strong brand identities, and so on. Dabrowski, *et al.* (2020) stated that hotels with competitive advantages are Hotels with superior performance or better than the competitors, measured by the four items used, namely: hotels with the highest quality, products offered differ from other Hotels, Hotels with the capability to offer their competitors and hotels that can produce superior products Research by Tavitiyaman, Qu, and Zhang (2011) assumed that substantially superior human resources in the hotel sector in the United States could create competitive strategies. According to other studies, competitive advantage frequently results in substantial returns. However, this advantage draws competitors, and in many circumstances, rivalry reduces the duration of competitive advantage. As a result, the most significant competitive advantage is only transitory (Mahdi and Almsafir, 2014). Finally, it is argued that a company's competitive edge stems from its flexibility and ability to successfully adapt to a changing environment (Chatzoglou and Chatzoudes, 2017).

Corporate Performance

Management performance is frequently judged in terms of profitability, which indicates the manager's capacity to produce the highest possible returns on the assets at their disposal over time. Profitability, according to Brulhart *et al.* (2019), is a company's ability to profit from its operating, investing, and financing activities to maximize the value and wealth of its owners. Traditional performance indicators, according to Seidl, *et al.* (2020). are based on the historical cost convention and are insensitive to the time lags required to realize the potential of capital expenditures. This creates some challenges, particularly when it comes to valuing intangible investments, which can take several years to show a return on investment. According to Seo, and Kim, (2020). a firm's performance is primarily dependent on intangible assets such as customer and supplier relationships, staff performance, and brand quality. The focus of this study is on corporate performance in terms of sales targets, return on capital, and profit performance. Financial performance is quantified using financial ratios, which can be used to identify the strength or weakness of a commercial operation.

Intangible Assets and Financial performance

Intangible assets are mostly derived from knowledge due to their immaterial nature. They are impenetrable. Many studies have been undertaken in the previous on the effect of intangible assets on company performance. Intangible assets in Malaysian marketplaces are not growing at a faster rate, according to Salamudin, Bakar, Ibrahim, and Hassan (2010), meaning that there is a consistent pattern in intangible asset development. According to Sveiby (2010), intangible assets have a significant impact on an organization's competitiveness, although according to Clarke, Seng, and Whiting (2011), intangible assets from past years have a positive impact on current-year financial performance. According to the authors, intangible assets have a positive impact on the financial success (Madinios, Chatzoudes, Tsairidis, and Theriou 2011). Intangible assets, according to Dumay (2012), are critical in the modern economy and

play a critical role in the value framework of organizations, meanwhile tangible assets, according to Dumay (2012), are essential in the modern economy and play an important role in the value groundwork of organizations. The value of companies in the present economic environment is positively driving according to Giuliani (2013). Intangible assets can have an impact on business performance according to Marzo (2014) and businesses in the same industry may have different financial results. The investment is defined as an asset, a substance, or an item which is acquired for income generation, or an asset that it acquires to create income and to support the future, in every respect, such as in business, according to Warusawitharana and Whited (2015). Companies, organizations, businessmen, and others invested in a variety of products, including businesses, to assist them to generate cash through dividends, which will help them sustain the future. In this regard, many businesses have made investments in any aspect or commodity of the business to expand it and generate revenue in the future, as well as to keep the business afloat by boosting profits. According to Ahmed (2016), the number of intangible assets in Malaysian publicly traded corporations is steadily expanding. The important discoveries were made by (Ozkan, Cakan, and Kayacan 2016).

Intangible assets as a driver of competitive advantage

The resource-based view (RBV) asserts that disparities in business performance are mostly the result of disparities in a business's resource endowment, particularly intangible resources (Rumelt 1984). It emphasizes the significance of internal firm-specific characteristics over industry-specific characteristics. Because strategic resources are scarce, if not unique, they help the organization create a sustained advantage (Barney 1991; Dierickx and Cool 1989). They encourage the appropriation of competitive advantage so they are difficult to copy and difficult to replace with other resources (Brown and Kimbrough 2011; Teece 2006). Intangible assets help companies operate better in the long run, especially in the medium term (Edvinsson and Malone 1997). The development and accumulation of such resources do take time. Second, whereas physical assets frequently have falling marginal value over time, intangible resources and physical resources have growing incremental rates of return (Onyeiwu 2003). Furthermore, intangible assets support the appropriability of the competitive advantage (Jacobides, Knudsen, and Augier 2006). After the seminal articles in the RBV stream, further studies developed the topic. In the last decades, a large number of scholars have confirmed the positive role of intangibles as a critical success factor, especially by focusing on a specific type of assets, such as Brand (O'Cass and Weerawardena 2010; Urde 2009), Knowledge (Blumentritt and Johnston 1999; Teece 1998), Human resources (Wright, Dunford, and Snell 2001), Organisational routines (Becker 2004; Leonardbarton 1992), and Customer base (Coltman 2007; Rapp, Trainor, and Agnihotri 2010). The majority of existing research in the field is in the form of conceptual articles (Chareonsuk and Chansa-ngavej 2008; Kristandl and Bontis 2007; Teece 1998) or case study analyses (Hall 1993; Huarng and Yu 2011; Stanworth *et al.* 2004), whereas more quantitative studies are needed to measure and validate the positive role of intangibles (Pike, Roos, and Marr 2005).

Intangible Assets and Sustainable Growth

In the 1970s, the term "sustainable growth" was coined in the business world. Higgins (1997) coined the term to describe a company's optimal financial growth. As a result, it denotes the maximum rate at which a company can grow using only its resources and without relying on outside financial resources. When it comes to the relationship between intangible investment and long-term growth, businesses invest heavily in physical assets, which are the primary source of production. Non-physical capital, such as intellectual capital, R&D activities, and innovative activities, is difficult for them to generate, and some studies have found that having a large amount of physical capital accelerates a firm's sustainable growth rate (Yu, & Zhang, 2008). On the other hand, another body of literature (Xu, & Wang, 2019) presents contradictory findings. As a result, intangible investment in various forms has a positive impact on a company's long-term growth. Intellectual capital is a type of intangible investment that is defined as a set of resources that includes knowledge, capabilities, networks, operational processes, individual, and organizational relations. According to Xu and Wang (2019), intellectual capital has a positive effect on the profitability performance of Korean manufacturing firms. A similar analysis is also being tested for a different industry. Intellectual capital relates to economic performance in the textile industry, according to Xu and Wang (2019). In a similar vein, Mukherjee and Sen (2019) discovered that intellectual capital, like physical capital, relational capital, innovation capital, and process capital, has a significant impact on corporate long-term growth. Furthermore, Ying *et al.* (2019) claimed that intellectual capital has an indirect impact on firm sustainability. First, it improves managers' abilities to identify strategic resources for the company, which leads to improved performance. To experience the performance-enhancing effect of information technology, Liang *et al.* (2010) emphasized the role of organizational capabilities such as developing new products and changing organizational structure. Some researchers used R&D spending as a proxy for intangible assets and discovered that R&D activities have a positive impact on firm growth (Mudambi, and Swift,

2011) Advertising, according to Xu and Wang (2019), stimulates R&D by increasing the reputation of a company's existing products and services.

3. Methods

This section explains the research technique, which includes the data collection and analysis methods. The research employed the quantitative research design where the research will be based on past accounting data; hence it will be an ex-post-facto study. According to Akwaflex et al (2020), ex-post-facto research is a realistic strategy to handle social science and business difficulties since it requires gathering records of past events, evaluating those records, and then using the results of the study to predict future events. Panel data approaches were chosen because the study includes both time series and cross-sectional data. Panel estimation techniques are utilized for a variety of reasons, including the availability of data from the company's entire sampling financial report and the fact that they are deemed generalizable to a case study. The relevant information was acquired from the company's three-year annual reports (2019-2021). The fact that these companies have purchased another two companies, as well as the dependability of the available data, influenced the time chosen. The annual reports' statement of comprehensive income and statement of financial status were regarded as key data sources.

Model Specification

To discover the function of intangible assets as a key driver of a company's competitive advantage, performance, and sustainability, the following research models were developed following the aims of the study:

$$Y = a + bx \dots \dots \dots (1)$$

$$ROA = a + \beta EXA + \beta CSW + \varepsilon \dots \dots \dots (2)$$

Where: ROA= Return on Assets (company performance) EXA= Exploration Asset, CSW= Computer Software
 Description of Model Variables This study has two key variables which relate to intangible asset and (performance, competitive advantage, and sustainability) of company. From the intangible assets perspective, the variables are denoted by the exploration assets (EXA) and computer software (CSW) of the BUA cement company while return on asset (ROA) is used as a proxy for the company's competitive advantage, performance, and sustainability for the research reason of analyzing the current research, exploration assets (EXA) and computer software (CSW) was used as the independent variable while ROA of the BUA Cement Company was used as dependent variables

4. Results and Discussion

Table 1. Intangible Asset Data

YEAR	TOTAL INTANGIBLE ASSET	EXPLORATION ASSET	COMPUTER SOFTWARE	RETURN ON ASSET
2019	#12,140,877	#4,856,350.80	#7,284,526.20	#470,566,595
2020	#4,284,986	#1,713,994.40	#2,570,991.60	#766,302,578
2021	#4,227,828,281	#1,691,131,312.40	#2,536,696,968.60	#714,008,916,523

Source: Extracted from the financial report of BUA cement company Plc. (2019, 2020, and 2021)

Table 1. contained the compelled data of intangible assets extracted from BUA cement yearly financial report.

Descriptive statistics are used to explore the qualities of the independent and dependent variables that were studied. The descriptive results are shown in the table 1 below.

Table 2. Result of the qualities of the independent and dependent variables

Descriptive Statistics	ROA	CSW	EXA
Mean	2.38415E+11	848850828.8	565900552.5
Standard Error	2.37797E+11	843924166.8	562616111.2

Median	766302578	7284526.2	4856350.8
Standard Deviation	4.11876E+11	1461719535	974479689.8
Sample Variance	1.69642E+23	2.13662E+18	9.49611E+17
Skewness	1.732049803	1.732030546	1.732030546
Range	7.13538E+11	2534125977	1689417318
Minimum	470566595	2570991.6	1713994.4
Maximum	7.14009E+11	2536696969	1691131312
Sum	7.15246E+11	2546552486	1697701658
Count	3	3	3
Largest (1)	7.14009E+11	2536696969	1691131312
Smallest (1)	470566595	2570991.6	1713994.4
Confidence Level (95.0%)	1.02316E+12	3631112620	2420741747

Sources: Researcher analysis (2021).

The descriptive statistical analysis between the independent and dependent variables is shown in Table 2. The mean is the series' average value, which is calculated by dividing the total value by the number of observations. During the evaluation period (2019-2021), the average percentage of ROA across the company was 95.0 %. This suggests that perhaps the company's probability ratio is low. The minimum, as well as maximum values of profitability as assessed by return on asset (ROA), range from 470,566,535 to 7 billion naira plus. Throughout the study, the exploration Asset (EXA) averaged 565,900,552.53. It suggests that BUA cement company may have taken use of other acquired companies to overvalue the company's exploration asset. CSW has a minimum and maximum value of 2,570,991.6 and 2,536,696,969, respectively. The average value of CSW was 844,850,828.80, indicating that computer software has a significant impact on BUA cement company's ROA. This indicates that BUA cement Company spends a larger portion of its net income (profit) on intangible assets (CSW). The lowest value of computer software is 2,570,991.6, and the greatest value is 2,536,696,969 The standard deviation is a metric for measuring the spread or variation in a set of data. CSW, EXA, and ROA have standard deviations of 1,461,719,535, 974,479,689.8, and 4 billion-plus, respectively. The standard deviation of the value of computer software and the exploration asset (license) is both increasing. This demonstrates that rising expenses and deployment of computer software and exploratory assets (licensing) drive higher BUA Cement company spending, thereby reducing the business's profitability.

Correlation Test

The correlation test was used to determine the degree and amount of the independent variables' effects on the dependents. Table 3 shows the results of the correlation test

Table 3. The results of the correlation test.

	EXPLORATION ASSET	COMPUTER SOFTWARE	RETURN ON ASSET
EXPLORATION ASSET	1		
COMPUTER SOFTWARE		1	
RETURN ON ASSET	0.979921	0.879598	1

Sources: Researcher analysis (2021)

According to the correlation test results in table 3, CSW shows a favorable link with BUA Cement's ROA. The figure of 0.879598 in the coefficient estimate confirms this. This means that computer software CSW has a direct link with BUA Cement's ROA, implying that an increase in CSW costs leads to an increase in BUA Cement's profitability. The results of the correlation test also demonstrate that exploration asset, which is a license (EXA), has a favorable association with the performance of BUA Cement. The figure of 0.979921 in the coefficient estimate confirms this. This means that exploration Asset, which is a license (EXA), has a direct relationship to BUA Cement's profitability, suggesting that the company's profitability is increasing. Meanwhile, the baseline regression results are shown in Table 4. below.

Table 4. Baseline regression results

SUMMARY OUTPUT	
<i>Regression Statistics</i>	
Multiple R	0.99999755
R Square	0.899995101
Adjusted R Square	-4.89916E-06
Standard Error	1117505758
Observations	3

Source: Researcher analysis (2021)

Table 5. ANOVA result

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	5.1E+23	2.55E+23	408231.3	
Residual	2	2.5E+18	1.25E+18		
Total	4	5.1E+23			0.0000

Table 6. Coefficient result

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
CS	281.470129	0.440534	638.9298	2.45E-06	279.5746654	283.3655927	279.5747	283.3655927
EXA	0	0	65535		0	0	0	0

Source: Researcher analysis (2021)

The findings of the regression, fixed effect, and random effect regressions were all considered in table 4. Following this finding, the researchers pooled all observations together and ran the regression model, ignoring the data's visual representation and series data structure. The RSquared value for the regression model was 0.899995101, indicating that 89.99% of the total variation in BUA Cement Company's ROA is explained by explanatory variables such as EXA and CSW, both of which were found to have a significant impact on the company's Return on assets. Their relative p-values [2.45E-06] as shown in table 6. support this. The fixed-effect model (FEM) was used in this study. The fixed-effect model was chosen since it is time-invariant, meaning that while the intercept may vary amongst cement companies, it's doesn't change with time. The R-Squared value of 0.899995101 indicates that the predictor variable, CSW, an exploration asset, accounts for 89.99 % of the overall variation in ROA. All explanatory factors, including CSW and EXA, were shown to have a substantial impact on probability (PRF), as evidenced by their respective p-values of [2.45E-06], with significance factor of 0.0000 as indicated in table 5. In the model to correct again for unobserved impacts inside the regression model, the random effect regression model was also used. The random effect model demonstrates that the R-Squared value of 0.899995101 suggests that the independent variable CSW and EXA account for 89.99 percent of the overall variability in return on assets ROA as shown in table 4.

5. Conclusion

By focusing on the BUA cement company, this study has contributed to the field of intangible assets (EXA and CSW), which is an exploratory asset and computer software. The investigation was conducted using quantitative data in the publication. The conclusion reveals that the company's exploration assets, as well as computer software, have an impact on performance, competitive advantage plus sustainability ROA. Furthermore, a research study found that BUA performance, Cement's competitive advantage as well as sustainability, as defined by ROA, were affected by CSW and licenses, which were viewed as exploratory assets of the company as just a result of the existing level of

intangibles. Intangible assets play a vital role in BUA cement's competitive advantage performance and long-term viability, and they are regarded as the company's main driver. As a result, it may be inferred those intangible assets are the primary driver of a company's competitive advantage, performance, and long-term viability, as evidenced by the magnitude of the effect.

References

- Ahmed, A. Trend of hidden values and use of intellectual capital information: Evidence from Malaysia. *Accounting Research Journal*, 29(1), 81-105, 2016.
- Allerslev M, B, Kiil Bang, A. Land Würtz C. Valuation of intangible intensive firms: Bridging the gap between theory and practice master's thesis, 2017.
- Awa Felix, N., Okwo, M. I., & Obinabo, C. R. Effect of Intangible Assets on Corporate Performance of Selected Commercial Banks in Nigeria (2012-2018), 2020.
- Barney, J. "Firm Resources and Sustained Competitive Advantage." *Journal of Management* 17 (1): 99–120,1991.
- Becker, M. C. "Organizational Routines: A Review of the Literature." *Industrial and Corporate Change* 13 (4): 643–677, 2004.
- Bell, J., D. Crick, and S. Young. "Small Firm Internationalization and Business Strategy - An Exploratory Study of 'Knowledge-Intensive' and 'Traditional' Manufacturing Firms in the UK." *International Small Business Journal* 22 (1): 23–56, 2004.
- Blumentritt, R., and R. Johnston. "Towards a Strategy for Knowledge Management." *Technology Analysis & Strategic Management* 11 (3): 287–300, 1999.
- Brown, N. C., and M. D. Kimbrough. "Intangible Investment and the Importance of Firm-Specific Factors in the Determination of Earnings." *Review of Accounting Studies* 16 (3): 539–573, 2011.
- Brulhart, F., Gherra, S., & Quelin, B. V. Do stakeholder orientation and environmental proactivity impact firm profitability? *Journal of Business Ethics*, 158(1), 25-46, 2019.
- Bryan, D., Rafferty, M., & Wigan, D. Capital unchained: finance, intangible assets, and the double life of capital in the offshore world. *Review of International Political Economy*, 24(1), 56-86, 2017.
- BUA company profile, <https://www.buacement.com/>, 2021.
- Chareonsuk, C., and C. Chansa-Ngavej. "Intangible Asset Management Framework: An Empirical Evidence." *Industrial Management & Data Systems* 110 (7): 1094–1112, 2008.
- Chatzoglou, P., & Chatzoudes, D. The role of innovation in building competitive advantages: an empirical investigation. *European Journal of Innovation Management*, EJIM-02-2017-0015. <https://doi.org/10.1108/EJIM-02-2017-0015>, 2017.
- Chen, C. J. Developing a model for supply chain agility and innovativeness to enhance firms' competitive advantage. *Management Decision*, 2019.
- Chowdhury, L. A. M., Rana, T., & Azim, M. I. Intellectual capital efficiency and organizational performance. *Journal of Intellectual Capital*, 2019.
- Clarke, M., Seng, D., & Whiting, R. H. Intellectual capital and firm performance in Australia. *Journal of Intellectual Capital*, 12(4), 505-530, 2011.
- Coltman, T. "Why Build a Customer Relationship Management Capability?" *Journal of Strategic Information Systems* 16 (3): 301–320, 2007.
- Dabrowski, D., Brzozowska-Woś, M., Gołąb-Andrzejak, E., & Firgolska, A. Market orientation and hotel performance: The mediating effect of creative marketing programs. *Journal of Hospitality and Tourism Management*, 41, 175-183, 2019.
- Denicolai, S., Cotta Ramusino, E., & Sotti, F. The impact of intangibles on firm growth. *Technology Analysis & Strategic Management*, 27(2), 219-236, 2015.
- Dumay, J. C. Grand theories as barriers to using IC concepts. *Journal of Intellectual Capital*, 13(1), 4-15, 2012, 2012.
- Durand, C., & Milberg, W. Intellectual monopoly in global value chains. *Review of International Political Economy*, 27(2), 404-429, 2020.
- Edvinsson, L., and M. S. Malone. *Intellectual Capital: Realizing your Company's True Value*, 1997.
- Efrat, K., Hughes, P., Nemkova, E., Souchon, A. L., & Sy-Changco, J. Leveraging of Dynamic export capabilities for competitive advantage and performance consequences: Evidence from China. *Journal of Business Research*, 84, 114-124, 2018.

- Fernando, Y., Jabbour, C. J. C., & Wah, W. X. Pursuing green growth in technology firms through the connections between environmental innovation and sustainable business performance: does service capability matter? *Resources, Conservation and Recycling*, 141, 8-20, 2019.
- Giuliani, M. Not all sunshine and roses: discovering intellectual liabilities “in action”. *Journal of Intellectual Capital*, 14(1), 127-144, 2013.
- Gu, F., and W. M. Wang. “Intangible Assets, Information Complexity, and Analysts’ Earnings Forecasts.” *Journal of Business Finance & Accounting* 32 (9–10): 1673–1702, 2005.
- Hamid, N. Factor analysis for balanced scorecard as measuring competitive advantage of infrastructure assets of owned state ports in Indonesia: Pelindo IV, Makassar, Indonesia. *International Journal of Law and Management*, 2018.
- Haseeb, M., Hussain, H. I., Kot, S., Androniceanu, A., & Jermstittiparsert, K. Role of social and technological challenges in achieving a sustainable competitive advantage and sustainable business performance. *Sustainability*, 11(14), 3811, 2019.
- Hassan, M. K., & Aliyu, S. A contemporary survey of Islamic banking literature. *Journal of Financial Stability*, 34, 12-43, 2019.
- Henderson, S. The development of competitive advantage through sustainable event management. *Worldwide Hospitality and Tourism Themes*, 3(3), 245–257. <https://doi.org/10.1108/17554211111142202>, 2011.
- Higgins, R. C. How much growth can a firm afford? *Financial management*, 7-16, 1977.
- Jacobides, M. G., T. Knudsen, and M. Augier. “Benefiting From Innovation: Value Creation, Value Appropriation and the Role of Industry Architectures.” *Research Policy* 35 (8): 1200–1221, 2006.
- Lee, Y. Y., & Falahat, M. The impact of digitalization and resources on gaining competitive advantage in international markets: Mediating role of marketing, innovation and learning capabilities. *Technology Innovation Management Review*, 9(11), 2019.
- Li, Q. Intangible Capital And China’s Economic Growth, 2019.
- Liang, T. P., You, J. J., & Liu, C. C. A resource-based perspective on information technology and firm performance: a meta-analysis. *Industrial Management & Data Systems*, 2010.
- Maditinos, D., Chatzoudes, D., Tsairidis, C., & Theriou, G. The impact of intellectual capital on firms' market value and financial performance. *Journal of intellectual capital*, 12(1), 132-151, 2011.
- Mahdi, O. R., & Almsafir, M. K. The Role of Strategic Leadership in Building Sustainable Competitive Advantage in the Academic Environment. *Procedia - Social and Behavioral Sciences*, 129, 289–296. <https://doi.org/10.1016/j.sbspro.2014.03.679>, 2014.
- Mahdi, O. R., Nassar, I. A., & Almsafir, M. K. Knowledge management processes and sustainable competitive advantage: An empirical examination in private universities. *Journal of Business Research*, 94, 320-334, 2019.
- Marzo, G. Improving internal consistency in IC research and practice: IC and the theory of the firm. *Journal of Intellectual Capital*, 15(1), 38-64, 2014.
- Mehta, A.D, Madhani, P.M. Intangible Assets- An Introduction, *The Accounting World*, 8(9), 11-19, 2008.
- Miller, D. The structural and environmental correlates of business strategy. *Strategic Management Journal*, 8(1), 55–76. <https://doi.org/10.1002/smj.4250080106>, 1987.
- Mudambi, R.; Swift, T. Proactive R&D management and firm growth: A punctuated equilibrium model. *Res. Policy*, 40, 429–440, 2011.
- Mukherjee, T., & Sen, S. S. Intellectual Capital and Corporate Sustainable Growth: The Indian Evidence. *The Journal of Business Economics and Environmental Studies*, 9(2), 5-15, 2019.
- O’cass, A., and J. Weerawardena.. “The Effects of Perceived Industry Competitive Intensity and Marketing-Related Capabilities: Drivers of Superior Brand Performance.” *Industrial Marketing Management* 39 (4): 571–581, 2010.
- Ong, A. 9 The problems of accounting for intangible assets in the food and drink industry. *Issues in Accounting and Finance*, 159, 2019.
- Onyeiwu, S. 2003. “Some Determinants of Core Competencies: Evidence from a Binary-Logit Analysis.” *Technology Analysis & Strategic Management* 15 (1): 43–63, 2003.
- Ozkan, N., Cakan, S., & Kayacan, M. Intellectual capital and financial performance: A study of the Turkish Banking Sector, 2016.
- Ozkan, N., Cakan, S., & Kayacan, M. Intellectual capital and financial performance: A study of the Turkish Banking Sector. *Borsa Istanbul Review*, 17(3), 190- 198, 2017.
- Paracha, D. A., & Siddiqui, D. A. Investigate the Effect of Intangible Assets and Liabilities on Firm Performance: Evidence from Pakistan. *Available at SSRN 3397487*, 2019.

- Pereira, V., Budhwar, P., Temouri, Y., Malik, A., & Tarba, S. Investigating Investments in agility strategies in overcoming the global financial crisis-The case of Indian IT/BPO offshoring firms. *Journal of International Management*, 27(1), 100738, 2021.
- Powell, W. W., and K. Snellman. "The Knowledge Economy." *Annual Review of Sociology* 30: 199–220, 2004.
- Rita, B. assessment of the impact of intangible assets on the market value of companies: Vytauto Lithuania, 2017.
- Rufo, R.M Relationship between Intangible Assets and Cash Flows: An Empirica, 2017.
- Rumelt, R. P. "Towards a Strategic Theory of the Firm." In *Competitive Strategic Management*, edited by B. Lr, 556–70. Englewood Cliffs, NJ: Prentice-Hall, 1987.
- Salamudin, N., Bakar, R., Kamil Ibrahim, M., & Haji Hassan, F. "Penilaian Aset Tidak Berwujud Di Pasar Modal Malaysia." *Jurnal Modal Intelektual* 11(3): 391–405, 2010.
- Seidl, C., Wheeler, S. A., & Zuo, A. High turbidity: Water valuation and accounting in the Murray-Darling Basin. *Agricultural Water Management*, 230, 105929, 2020.
- Seo, H. S., & Kim, Y. Intangible assets investment and firms' performance: Evidence from small and medium-sized enterprises in Korea. *Journal of Business Economics and Management*, 21(2), 421-445, 2020.
- Sveiby, K.-E. "Methods for measuring intangible assets", available at: www.sveiby.com/articles/IntangibleMethods.htm (accessed November 12, 2016), 2010.
- Tahat, Y. A., Ahmed, A. H., & Alhadab, M. M. The impact of intangibles on firms' financial and market performance: UK evidence. *Review of Quantitative Finance and Accounting*, 50(4), 1147-1168, 2018.
- Tavitian, P., Qu, H., & Zhang, H. Q. The impact of industry force factors on resource competitive strategies and hotel performance. *International Journal of Hospitality Management*, 30(3), 648–657. <https://doi.org/10.1016/j.ijhm.2010.11.010>, 2011.
- Teece, D. J. Business models, and dynamic capabilities. *Long-range planning*, 51(1), 40-49, 2018.
- Torres, A. I., Ferraz, S. S., & Santos-Rodrigues, H. The impact of knowledge management factors in organizational sustainable competitive advantage. *Journal of Intellectual Capital*, 2018.
- Visconti, M., & Weis. *The Valuation of Digital Intangibles*. Springer International Publishing, 2020.
- Wardhani, A. P., Kusumawardhani, A., & Ubaidillah, M. The Effect of Intangible Asset On Competitive Advantage and Firm Performance; Study on Budget Accommodation in Semarang City. *SALAM: Jurnal Sosial dan Budaya Syar-i*, 8(2), 383-404, 2021.
- Warusawitharana, M., & Whited, T. M. Equity market mis-valuation, financing, and investment. *The Review of Financial Studies*, 29(3), 603-654, 2015.
- Weqar, F., Khan, A. M., Raushan, M. A., & Haque, S. I. Measuring the impact of intellectual capital on the financial performance of the finance sector of India. *Journal of the Knowledge Economy*, 1-18, 2020.
- Wright, P. M., B. B. Dunford, and S. A. Snell. "Human Resources and the Resource-Based View of the Firm." *Journal of Management* 27 (6): 701–721, 2001.
- Xu, J., & Wang, B. Intellectual capital performance of the textile industry in emerging markets: A comparison with China and South Korea. *Sustainability*, 11(8), 2354, 2019
- Ying, Q., Hassan, H., & Ahmad, H. The role of a manager's intangible capabilities in resource acquisition and sustainable competitive performance. *Sustainability*, 11(2), 527, 2019.
- Yu, F., & Zhang, L. Does intellectual capital create value? In *2008 4th International Conference on Wireless Communications, Networking and Mobile Computing* (pp. 1-4). IEEE, 2008.
- Zhu, Z., Zhao, J., & Bush, A. A. The effects of e-business processes in supply chain operations: Process component and value creation mechanisms. *International Journal of Information Management*, 50, 273-285, 2020.

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