

Human Resource Accounting and Share Price Performance Evidence from Listed Insurance Firms in Nigeria

Anne Nwayinbunwa Ilugbo*
Mary Josiah
Clement Edojor Ozele

Department of Accounting, Igbinedion University, Okada, Edo State, Nigeria

*Correspondence Email : anneilugbo@iuokada.edu.ng

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Abstract

This study investigates the impact of Human Resource Accounting (HRA) on share price performance among listed insurance firms in Nigeria. Specifically, the study examines the effects of human capital efficiency, structural capital efficiency, capital employed efficiency, and the value-added intellectual capital coefficient (VAIC) on share price performance. This research adopts ex-post facto and descriptive research designs, utilizing data from 13 insurance firms listed on the Nigerian Exchange Group from 2012 to 2021. Random effect regression model was employed to address statistical issues ensuring robust results, after controlling for multicollinearity and heteroscedasticity. The findings reveal that human capital efficiency and capital employed efficiency significantly enhance share price performance, highlighting the importance of these factors in driving market valuation. Conversely, VAIC shows a significant negative impact on share price performance, suggesting that not all aspects of intellectual capital positively influence market outcomes in the insurance sector. These results contribute to a deeper understanding of how human resource investments affect financial performance, particularly in the context of emerging markets like Nigeria. Based on these findings, this study recommends among others that insurance firms should prioritize investments in human capital development through targeted training and continuous professional development. This approach will enhance employee productivity and innovation, which in turn would positively influence share price performance and contribute to the overall financial health and market competitiveness of the firm.

Keywords: Human Resource Accounting, Human Capital Efficiency, Share Price.

1.0 Introduction

Human Resource Accounting hereafter referred to as (HRA) has emerged as a significant area of focus in modern accounting, addressing the limitations of traditional accounting systems that typically expensed investments in human resources, thus undervaluing these crucial assets (Derashri, 2018; Hossain, 2015). The concept of HRA involves the systematic identification, measurement, and reporting of information about human capital, treating these investments as assets that contribute significantly to an organization's overall performance (American Accounting Association, 1973). The insurance sector in Nigeria, as a vital component of the financial system in Nigeria, plays a critical role in managing risks and contributing to economic stability (Augustine & Nwanneka, 2011). However, the absence of appropriate recognition of human resource investments in financial statements has been a longstanding issue, with many firms not adequately capturing the value that human resources bring to the organization (Okpala & Chidi, 2012). This inadequacy not only distorts the financial health of firms but also misrepresents the true drivers of share price performance, particularly in sectors like insurance where human capital is a key asset (Akintoye, 2012).

Particularly, this study observes that despite the huge investments in human resources by insurance firms in Nigeria, these investments are frequently expensed immediately, leading to a reduction in reported income and an underestimation of the firm's true value (Okpala & Chidi, 2012). This accounting

treatment fails to capture the long-term benefits that skilled, knowledgeable, and well-trained employees bring to an organization, thereby distorting the relationship between human resource investments and firm performance specifically, share price performance (Bukh, 2002). The lack of proper recognition and reporting of human resource investments in financial statements not only hampers the accurate valuation of firms but also impacts investors' decision-making processes. As Momoh et al, (2021) suggested, the real share price performance evidence in any organization cannot be truly ascertained without the inclusion of efficient and effective human assets. Therefore, this study seeks to address these issues by investigating how Human Resource Accounting can be better recognized and leveraged to enhance share price performance, providing a clearer picture of the true value of insurance firms in Nigeria.

Further motivation for this study stems from the quest to bridge the gap in the literature concerning the relationship between human resource accounting and share price performance in the insurance industry, an area where extant literature is notably scarce. Also, previous studies have predominantly utilized a single proxy for HRA, specifically the value-added intellectual capital coefficient (VAIC), to assess its impact on firm performance (Salman & Dandago, 2013). However, relying on a single measure may not fully capture the multifaceted nature of human resource contributions to organizational success. To address this limitation, this study introduces three additional measures—human capital efficiency (HCEE), structural capital efficiency (SCEE), and capital employed efficiency (CEEE)—to provide a more comprehensive and robust examination of the impact of HRA on share price performance. Additionally, while previous research has often focused on return on total assets as the primary performance metric, this study shifts the focus to share price performance, which better reflects the market's perception of a firm's value and the effectiveness of its human resource investments (Martani & Khairurizka, 2009).

Overall, this study aims to fill the existing gaps in the literature by offering a more critical understanding of how HRA impacts share price performance of listed insurance firms in Nigeria. The key beneficiaries of this study include regulatory bodies, insurance firms, investors, and academic researchers. Regulatory bodies, such as the Financial Reporting Council of Nigeria, will benefit from the insights into how HRA practices influence share price performance, enabling them to develop more effective guidelines for the reporting and valuation of human resources. Insurance firms stand to gain from understanding the importance of adequately capturing human resource investments in their financial statements, which can enhance their market valuation and investor confidence. Investors will benefit from more accurate and transparent financial reporting, allowing for better-informed decisions regarding their investments in the insurance sector. Lastly, academic researchers will find value in this study as it addresses the existing gap in literature by introducing new measures of HRA and focusing on the impact of these measures on share price performance, thereby providing a foundation for further research in the field. To fulfil the aim of this study, section two is devoted to literature review of key concepts theoretical framework of the study and review of empirical literature. The third section outlines the methodology that was utilized in conducting the study while the fourth section of this study focus on discussing and analyzing the findings derived from the various analysis conducted. Finally, the fifth section concludes the study by recommending actions to be taken through policy implementation of the study's findings.

2.0 Literature Review and Hypotheses Development

Human Capital Theory

The Human Capital Theory posits that the knowledge, skills, experience, and capabilities of individuals within a firm, collectively referred to as human capital, are critical drivers of a firm's performance and value creation. This theory suggests that investments in developing and managing human capital, such as through training, education, and experience, can significantly influence a firm's financial outcomes

and cost of capital (Becker, 1964; Schultz, 1961). The theory assumes that human capital is a valuable asset that generates returns and enhances a firm's performance by improving productivity, innovation, and operational efficiency (Mincer, 1970; Bontis et al, 1999; Subramaniam et al, 2011). A key aspect of the theory is the transferability of human capital, indicating that skills and knowledge can be applied across different roles and organizations, providing long-term benefits even if employees leave the firm. Effective management of intellectual capital, including investments in human capital, helps firms retain critical knowledge, reduce risks, and attract capital at lower costs by signaling reduced risk perceptions to investors (Kodwani & Tiwari, 2007; Bontis et al 2000). Firms with strong intellectual capital management are more likely to attract skilled talent, adapt to market changes, and generate superior financial outcomes, further reducing their cost of capital (Becker, 1964; Schultz, 1961; Mincer, 1970; Edvinsson, & Malone, 1997; Barney, 1991; Marr, & Schiuma, 2004). In essence, the human capital theory underscores the importance of managing and investing in human capital to enhance a firm's productivity, financial performance, and competitive advantage. It can also be linked to share price of an entity.

Share price performance is a crucial concept in financial markets, representing the movement of a company's stock price over time and serving as a key indicator of the company's financial health and investor confidence. According to Karki et al, (2023), share prices can fluctuate minute by minute due to changes in buying and selling pressures, reflecting the dynamic nature of stock markets. This volatility makes it challenging to measure share price performance, leading scholars to often use the closing price at the end of the financial year as a reliable proxy for market price. The performance of share prices is influenced by various factors, including accounting information, macroeconomic variables, and market dynamics, as evidenced in studies such as those conducted by Osundina et al (2016), who identified profitability, earnings per share, and rate of return as significant determinants of stock price reactions. Additionally, Alkali, Zuru, and Kegudu, (2018) finds a link between earnings per share, book value per share and share prices in the Nigerian context. Share price performance is not only a reflection of a company's current financial standing but also a predictor of its future economic activities, making it a vital metric for investors, policymakers, and researchers alike (Khan & István, 2023). This performance serves as a barometer for economic growth, channeling resources to the most productive investments and influencing decisions related to capital allocation and risk management.

Empirical Review

Human Resource Accounting (HRA) is fundamentally concerned with the process of accounting for expenditures related to human resources as assets, rather than treating them merely as expenses that reduce profit (Adebawoji et al., 2015). HRA involves the identification, recognition, valuation, and reporting of human resources in monetary terms, emphasizing their value to an organization's productivity and overall performance (Seth, 2009; Okpala & Chidi, 2010). It is an evolving concept that has gained importance since its inception in the 1960s, as organizations increasingly recognize the critical role of human capital – comprising skills, experience, and knowledge – in driving business success and maintaining competitive advantage (Asamu et al, 2020.; Becker, 1964). The rationale for HRA lies in its ability to measure and communicate the cost and value of people as a significant resource, thereby providing a more accurate reflection of a firm's value in financial reports (Jasrotia, 2004). This approach aligns with the view that human capital, particularly in service industries, is a key asset that should be recognized on par with tangible assets, due to its substantial contribution to organizational performance and decision-making processes (Jasrotia, 2004; Bassey & Tapang, 2012). However, despite its potential, the application of HRA in financial reporting remains limited by cultural constraints, ownership

considerations, and traditional accounting practices, which have yet to fully integrate the concept of human resources as measurable and reportable assets (Brummet, 1970; Joshi, 2012).

Rana and Hossain (2023) investigated the affinity between intellectual capital and its impact on accounting and market performance, as well as the sustainable growth of listed non-financial companies in Bangladesh. The study utilizes data samples from 69 non-financial companies, covering the period from 2017 to 2021, resulting in a total of 345 observations. The analysis is conducted using a robust fixed effect model. The findings indicate that intellectual capital efficiency and human capital efficiency are not significantly associated with the dependent variables. However, the results demonstrate a significant negative relationship between relational capital efficiency and firm performance.

Hatane et al. (2022) conducted an empirical investigation into the influence of intellectual capital disclosure, firm size, and leverage on firm value. The study focused on a sample of 36 Indonesian firms listed in the infrastructure, utility, and transportation sectors over the period from 2013 to 2017. Tobin's Q was employed as the metric for assessing firm value. The findings indicate that none of the intellectual capital disclosure components significantly affect firm value. Furthermore, the results demonstrate that an increasing interaction between intellectual capital disclosure and the time period is associated with a negative impact on firm value. The content analysis suggests that intellectual capital disclosure within annual reports does not fully capture the quality of intellectual capital practices. It is also noted that firms might utilize alternative information channels beyond annual reports to effectively communicate their intellectual capital performance.

Chowdhury et al. (2019) conducted an investigation into the relationship between Intellectual Capital Efficiency (ICE) and organizational performance within the pharmaceutical sector in Bangladesh. Their study utilized data meticulously selected from the annual reports of 23 companies listed on the Dhaka Stock Exchange, covering the period from 2013 to 2017. The researchers focused on examining how the efficient utilization of intellectual capital components influences corporate performance. To analyze this relationship, multiple regression analysis was employed. The findings revealed that the components of Value-Added Intellectual Coefficient (VAIC) significantly explained asset turnover and return on assets but did not account for the return on equity. Specifically, asset turnover was negatively influenced by structural capital and positively influenced by capital employed, while return on assets was primarily affected by variations in human capital. However, the study found that intellectual capital did not predict market-to-book value or investment decisions.

Adebawajo (2015) conducted a study on human resources accounting and its impact on corporate performance, focusing on the Nigerian business environment. The research aimed to investigate the effect of human resources accounting on the performance of businesses, specifically within the banking sector. The study employed ex-post facto research design, analyzing a sample of 18 listed banks in the Nigerian capital market. Primary data was collected using a well-structured questionnaire, designed to gather relevant information from respondents on a six-point Likert scale. The questionnaire was validated through peer review, with Cronbach's Alpha coefficients of 0.807 for human resources and 0.870 for organizational performance, ensuring the reliability of the measures. Hypotheses were tested using a simple regression model. The findings of the analysis revealed that human resources accounting has a significant impact on the performance of banks, and that human capital-related information is vital for improved market value of commercial banks in Nigeria.

Salman and Dandago (2013) conducted an investigation into the disclosure of human resource accounting in the financial reports of Nigerian companies. The study utilized a sample of 50 companies listed on the Nigeria Stock Exchange and employed content analysis, applying 17 indexes to assess the extent of disclosure. The findings revealed that Nigerian companies predominantly disclosed human resource information in narrative and qualitative terms rather than in quantitative or monetary terms. Additionally, the study found that companies in Nigeria tended to select disclosure methods that were most favorable to them, with more than half of the sampled companies disclosing information on 7 to 16 of the 17 items. The study concluded that the overall level of human resource accounting disclosure in Nigerian companies is below average.

Enofe et al. (2013) conducted an examination of human resource accounting disclosure among listed firms in Nigeria. The study aimed to explore the relationship between firms' profitability and their human resource accounting disclosures. The research utilized a sample of 50 companies, drawn from both the financial and non-financial sectors, and listed on the Nigerian Exchange Group. The companies were randomly selected, and the collected data were analyzed using multiple regression analysis. The findings revealed a positive relationship between a company's financial performance and the extent of its human resource accounting disclosures. Additionally, the study indicated that financial companies disclose human resource accounting information more extensively than non-financial companies.

De Silva et al (2014), utilizing a longitudinal research design, investigated the human capital disclosure practices of New Zealand companies over a seven-year period. Through content analysis, they examined the human resource reporting of five "knowledge-intensive" companies and five "traditional product-based" companies listed on the stock exchange. The findings indicated an overall increase in human capital information disclosure between 2004 and 2010. However, the results did not reveal any significant correlation between human resource disclosure and an increase in the market value of the companies in the sample. Additionally, the study found that the extent of human resource accounting disclosure was not influenced by the type of industry in which the companies operated.

Vafaei et al (2011) conducted an investigation into human resource accounting disclosure practices among listed companies, utilizing a sample from Britain, Australia, Hong Kong, and Singapore. The study employed content analysis of employee-related disclosures within the annual reports of these companies. The primary objective was to explore the extent to which human resource-related information is disclosed and to assess its contribution to the core value relevance of earnings and equity for these entities. The findings revealed a significant relationship between human resource information disclosure and the market price of companies, indicating that human resource accounting disclosures are value-relevant in companies from two of the four countries studied, particularly within non-traditional sectors. Based on the review of existing literature, the study hypothesizes that:

- H1: *There is no significant relationship between human capital efficiency and share price.*
- H2: *There is no significant relationship between structural capital efficiency and share price.*
- H3: *There is no significant relationship between value added intellectual capital coefficient and share price.*
- H4: *There is no significant relationship between capital employed efficiency and share price.*

3.0 Methodology

Data and Sample Selection

This study adopts ex-post facto and descriptive research designs to establish the effect of human resource accounting on share price performance among listed insurance firms in Nigeria. Ex-post facto design is

chosen due to its reliance on historical data, enabling the assessment of how independent variables influence the dependent variable. This study focuses on the entire population of insurance companies listed on the Nigerian Exchange Group (NGX) over the 2012 to 2021 fiscal period, comprising 23 firms as of December 31, 2021. The final sample size of 13 insurance firms was determined through a non-probability sampling technique, excluding firms that joined the NGX after year 2012 or lacked complete data, ensuring a balanced panel data structure. The data that was employed for statistical analysis were sourced from audited annual reports of the sampled firms. Analysis was conducted using Stata version 14 and Microsoft Excel, employing descriptive statistics, normality of data analysis and correlation analysis to assess data characteristics. Random effect regression analysis technique was employed to test the hypotheses of the study.

Model Specification

The econometric model for this study, adopted from Shui et al. (2021) is modified to assess the impact of human capital accounting on share price performance with firm size as a control variable. The model is expressed as follows:

$$SHPR_{it} = b_0 + \beta_1 HCEE_{it} + \beta_2 SCEE_{it} + \beta_3 VAIC_{it} + \beta_4 CEEE_{it} + \beta_5 FSIZ_{it} + e_{it}$$

Where:

- SHPR = Share Price
- HCEE = Human Capital Efficiency
- SCEE = Structural Capital Efficiency
- VAIC = Value-Added Intellectual Capital Coefficient
- CEEE = Capital Employed Efficiency
- FSIZ = Firm Size
- i = Cross Section (Sample Companies)
- t = Time Frame (2012 to 2021)
- e_{it} = Stochastic error term

Table 1: Operationalization of Variables

Variables	Acronyms	Measurement	Source
Share Price	SHPR	December closing share price	Shui, Xu, Liu & Liu, (2021).
Human Capital Efficiency	HCEE	Revenue minus cost of revenue divided by staff cost	Cisneros et al (2020)
Structural Capital Efficiency	SCEE	Revenue minus cost of revenue and staff cost divided by revenue minus cost of revenue	Dzenopoljac et al, (2017)
Capital Employed Efficiency	CEEE	Revenue minus cost of revenue divided by total asset minus intangible asset	Cisneros et al (2020)
Value Added Intellectual Capital Efficiency	VAIC	Capital employed efficiency plus, human capital efficiency plus structural capital efficiency	Stahle et al (2011)
Firm Size	FSIZ	Logarithm value of total asset	Idris, et al (2020)

Source: Authors' Compilation (2024)

4.0 Results and Discussion

Table 2 shows the summary of the descriptive statistics for this study. The result from the statistics shows that the mean value of the dependent variable of share price performance (SHPR) is 0.99 with a standard deviation of 1.30. From the same table it can be spotted that on average the value of capital employed efficiency (CEEE) is 0.30 with a standard deviation of 0.16 corresponding to a minimum and maximum values of 0.08 and 1.17 respectively.

Table 2. Descriptive Statistics

Variable	OBS.	Mean	Std. Dev.	Min	Max
SHPR	130	0.991	1.295	0.200	7.900
HCEE	130	7.031	4.786	1.360	27.200
SCEE	130	0.791	0.133	0.260	0.960
CEEE	130	0.297	0.160	0.080	1.170
VAIC	130	8.134	4.956	1.770	28.590
FSIZ	130	6.738	0.377	6.090	7.670

Source: Authors' Computation (2024)

The descriptive statistics also reveal that the average value of human capital efficiency (HCEE) is 7.03 with a standard deviation of 4.79 corresponding to a minimum and maximum values of 1.36 and 27.2 respectively during the period under concern. Structural capital employed (SCEE) reveal an average value of 0.79 with a standard deviation of 0.13 while value-added intellectual capital (VAIC) average value is 8.13 with a standard deviation of 4.96 as well as a minimum and maximum values of 1.77 and 28.59 respectively during the period under consideration. For the control variable of firm size (FSIZ) a mean value of 6.74 is recorded with a standard deviation of 0.38 during the period under investigation.

Table 3. Shapiro Wilk Test for Data Normality

Variable	OBS.	W	V	Z	Prob>z
SHPR	130	0.586	43.555	8.439	0.000
HCEE	130	0.835	16.965	6.370	0.000
SCEE	130	0.887	12.611	5.703	0.000
CEEE	130	0.865	13.788	5.901	0.000
VAIC	130	0.857	14.529	6.019	0.000
FSIZ	130	0.959	4.213	5.236	0.000

Source: Authors' Computation (2024)

From the table 3, it is observed that the dependent variable of share price (Prob > z = 0.00000) as well as the independent variables of human capital efficiency (Prob > z = 0.00000), structural capital efficiency (Prob > z = 0.00000), capital employed efficiency (Prob > z = 0.00000), value-added intellectual coefficient (Prob > z = 0.00000) and the control variable of firm size (Prob > z = 0.00061) are not normally distributed since the probability of their z-statistics are significant at 1% level but firm size variable is significant at 5% level. This validation is justified following earlier study of Bera and Jarque (1982).

Table 4. Results of Regression Analysis

	SHPR Model (Pooled OLS)	SHPR Model (FIXED Effect)	SHPR Model (RANDOM Effect)
CONSTANT	-9.612 {0.000} ***	-8.120 {0.000} ***	-9.753 {0.000} ***
HCEE	0.268 {0.000} ***	0.117 {0.041} **	0.137 {0.021} **
SCEE	1.846 {0.152}	1.401 {0.145}	1.404 {0.170}
CEEE	0.493 {0.012} **	0.682 {0.008} **	0.519 {0.023} **
VAIC	-2.522 {0.010} **	-2.057 {0.008} **	-1.901 {0.018} **
FSIZ	2.185 {0.000} ***	2.009 {0.000} ***	2.152 {0.000} ***
F-statistics/Wald Statistics	41.28 (0.0000)	13.52 (0.0000)	91.97 (0.0000)
R- Squared	0.6266	0.3785	0.3596
VIF Test	1.65		
Heteroscedasticity Test	119.39 (0.0000)		

Source: Authors' Computation (2024)

Table 4 presents the results of the pooled ordinary least square (OLS) regression analysis for the sampled insurance firms, showing an R-squared value of 0.6266, indicating that approximately 63% of the variations in share price performance is explained by the independent and control variables. The model is statistically significant at the 1% level, as evidenced by an F-statistic of 41.28 with a p-value of 0.0000, confirming its suitability for statistical inferences. However, to ensure the robustness of the results, the study conducted tests for multicollinearity and heteroscedasticity. The multicollinearity test revealed that the mean VIF (1.65) is within acceptable limits, indicating the absence of multicollinearity. However, the Breusch-Pagan test for heteroscedasticity showed a chi2 value of 119.39 with a p-value of 0.0000, suggesting that the assumption of homoscedasticity is violated. Consequently, the study employed effects regression models to address this issue. The fixed effects model, with an R-squared value of 0.3785, explained 38% of the variations in share price performance, while the random effects model, with an R-squared value of 0.3596, explained 36% of the variations. The Hausman specification test, with a p-value of 0.5205, indicated that the random effects model was preferred over the fixed effects model, leading the study to rely on the random effects panel regression results for conclusions and recommendations.

The regression analysis results from the random effects model provide significant insights into the factors influencing share price performance among listed insurance firms in Nigeria. The coefficient for Human Capital Efficiency (HCEE) is positive and statistically significant at the 5% level ($\beta = 0.137$, $p = 0.021$), suggesting that investments in human capital, such as training and development, are positively associated with share price performance. This finding aligns with the Human Capital Theory, which posits that well-developed human capital enhances firm performance by improving productivity and innovation (Becker, 1964; Schultz, 1961). Similarly, the coefficient for Capital Employed Efficiency (CEEE) is also positive and significant ($\beta = 0.519$, $p = 0.023$), indicating that efficient utilization of capital employed contributes to higher share prices. This result is consistent with prior research that highlights

the importance of efficient capital management in driving firm value (Bontis, Dragonetti, Jacobsen, & Roos, 1999).

Conversely, the Value-Added Intellectual Capital Coefficient (VAIC) shows a negative statistically significant effect on share price performance ($\beta = -1.901$, $p = 0.018$). This suggests that, contrary to expectations, higher VAIC does not necessarily translate into improved market performance for insurance firms. This outcome may reflect the complexity of intellectual capital's impact on financial outcomes, as previously noted by Erkens, Hung, and Matos (2012), who observed that certain forms of expertise and intellectual capital might not always yield positive results during economic uncertainties. On the other hand, Structural Capital Efficiency (SCEE), while positive, does not show a statistically significant impact on share price performance ($\beta = 1.404$, $p = 0.170$), indicating that structural capital investments may not have an immediate or direct effect on market valuation, as also noted by earlier studies which found that the impact of structural capital can be more long-term and context-dependent (Bontis, Keow, & Richardson, 2000).

5.0 Conclusion and Recommendations

This study provides a comprehensive examination of the effect of human resource accounting on share price performance among listed insurance firms in Nigeria. By employing a robust econometric framework, the study highlights the critical role that human capital efficiency and capital employed efficiency play in driving market valuation of insurance firms. The findings reinforce the importance of investing in human capital and optimizing the use of employed capital as strategic levers for enhancing firm performance and competitiveness in the financial market. Additionally, the study uncovers the complex and sometimes adverse effects of intellectual capital, particularly the Value-Added Intellectual Capital Coefficient (VAIC), on share price performance, suggesting that not all forms of intellectual capital necessarily translate into positive market outcomes. These insights contribute to the growing body of literature on the importance of human resource accounting in financial performance, particularly within the context of emerging markets like Nigeria.

Based on the findings, several policy recommendations are proposed for insurance firms and regulatory bodies. First, insurance firms should prioritize investments in human capital development through targeted training, continuous professional development, and knowledge management systems. Such investments are likely to enhance the productivity and innovative capacity of employees, thereby positively influencing the firm's market performance. Second, firms should focus on optimizing capital employed by improving operational efficiency and resource management practices. Efficient use of capital not only enhances profitability but also strengthens investor confidence, leading to better share price performance. Lastly, while intellectual capital is important, firms should carefully assess the components of intellectual capital that are most likely to contribute to market value. This may involve re-evaluating how intellectual capital is measured and managed within the firm, ensuring that the focus is on elements that directly support strategic goals and market performance. Regulatory bodies, on their part, should consider creating guidelines that encourage transparent reporting of human capital investments and their impact on firm performance, thereby helping investors make more informed decisions.

In this study we call for further investigation into the subject of evaluating the effect of intellectual capital on share price performance. First, the lagged effect of intellectual capital components on firm performance should be taken into consideration. Prior studies of Tran & Vo, (2018); Wang, and Xu, (2023)

have shown that intellectual capital components have several- year lagged effect on firm performance. Second, other industries should be included to compare them with the insurance industry.

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