THE INTERPLAYSAMONG INTELLECTUAL CAPITAL AND FINANCIAL PERFORMANCES:THE EVIDENCE FROM LISTED BEVERAGE ENTERPRISES

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Abstract

Technological advancements have contributed significantly to narrowing the gap between enterprises with substantial capital and those with limited financial resources. In contemporary business landscapes, companies can generate substantial profits with minimal investments, particularly evident in the realm of technological enterprises. Such entities require modest office spaces yet possess the capability to develop highly valuable software products. Consequently, the significance of intellectual capital has become increasingly pronounced within enterprises, notably within the beverage industry where innovation is paramount due to competitive pressures and evolving consumer preferences. This research offers vital insights aimed at enhancing the future performance of such enterprises. Employing a quantitative methodology, the study utilizes Ordinary Least Squares (OLS) as an analytical framework. Drawing upon data obtained from 26 alcoholic beverage firms listed on the Vietnam Stock Market spanning the years 2018 to 2022, the investigation examines the impact of four intellectual capital components (Human capital, Relational capital, Capital employee, and Structural capital) on company financial performance. The findings underscore a positive relationship between all components of intellectual capital and financial performance, with capital employee exerting the most significant influence.

Keywords: Intellectual capital, Financial performance, Beverage enterprises.

1, Introduction

In the contemporary landscape marked by the unfolding of the Fourth Industrial Revolution, characterized by the increasing integration of automation and technology in various spheres, there is a discernible trend towards the mechanization of routine tasks, particularly those associated with mass production. These tasks, devoid of the necessity for creativity, critical thinking, or profound expertise, are undergoing transformation as machines assume a more prominent role in their execution. Consequently, the workforce is compelled to enhance its cognitive abilities and knowledge base to remain relevant and competitive within this evolving paradigm. This phenomenon underscores, albeit tacitly, the paramount significance of intellectual capital within enterprises, particularly in sectors necessitating strategic thinking and complex decision-making, such as the financial domain. As articulated by Rosari et al. (2024), "In the knowledge economy, the value of intellectual capital becomes increasingly evident, influencing organizational success and competitive advantage." Moreover, within fiercely competitive industries like the beverage sector, where companies vie for market share and differentiation, the imperative of intellectual capital assumes heightened prominence, serving as a linchpin for innovation, strategic foresight, and sustained growth. This underscores the pivotal role of intellectual capital in engendering resilience and dynamism within enterprises operating within such demanding contexts.

This study is based on the hypothesisthat there is a strong interaction between intellectual capital and financial performance from big beverage companies that appear on Vietnamese stock market when the competition between beverage companies, especially alcoholic products are negatively affected by Vietnamese government policy and Covid 19's epidemic. The research endeavors to accomplish several objectives aimed at substantiating the hypothesis posited. These objectives encompass the collection of accounting data spanning from 2018 to 2022 and utilizing them to compute the constituents of intellectual capital. Subsequently, the study seeks to assess its influence on financial metrics such as Return on Assets (ROA), Return on Equity (ROE), and the Q Tobin ratio. Furthermore, the research endeavors to derive comprehensive conclusions and recommendations pertinent to the research topic.

The study is structured into four primary sections: Section 1 introduces the research issues and objectives, while Section 2 provides a literature review that synthesizes prior research and identifies gaps in knowledge. Section 3 delineates the research methodology, elucidating the approach for analyzing the results. Finally, Section 4 discloses the findings, deliberates upon their implications, draws conclusions, and proffers suggestions for future inquiry.

2, Literature review

Throughout history, the primacy of the human element in all spheres of production and commerce has been consistently underscored. Scholarly discourse has posited human resources as a pivotal factor delineating organizational distinctions (Tortop, et al., 2010: 15). Within organizational frameworks, human resources are deemed paramount, given their capacity to foster cohesiveness among employees, thereby facilitating the attainment of organizational objectives. It is asserted that the implementation of policies and disciplinary measures proves efficacious in this regard (Oğuz, E. (2004). The pivotal role of human resources in enhancing labor productivity underscores their indispensable nature within corporate contexts (Yılmazer, 2010: 33). Notwithstanding an organization's possession of robust resources, the realization of success remains contingent upon individuals capable of fostering harmonious environments conducive to transformative endeavors (Aksoy, 2006: 6). Consequently, the concept of "Intellectual Capital" has been promulgated to underscore the salience of human resources within enterprises. Numerous scholars perceive intellectual capital as a critical factor engendering competitive advantages.

Intellectual Capital assumes multifarious definitions. For example, Hong (2017) delineates it as assets predicated on corporate knowledge, serving as the bedrock of core competencies pivotal to the sustainability and competitive positioning of businesses. Salangka et al (2024) conceptualize intellectual capital as the amalgamation of knowledge ownership, applied experiences, organizational technological assets, customer relationships, and professional skills, all contributing to businesses' competitive prowess in the marketplace. Furthermore, intellectual capital is construed as a fount of competitive advantage (Jardon and Martos, 2012; Kamukama, 2013; Sokolovská et al., 2014), with emphasis placed on the judicious management of intellectual resources to foster teamwork and knowledge proliferation (Kamukama, 2013). These investigations collectively underscore the manifold impacts of Intellectual Capital across diverse facets of corporate operations, particularly its profound influence on financial efficacy. This assertion finds empirical validation in extant studies highlighting the capacity of Intellectual Capital to augment financial performance

(Firer &Stainbank, 2003; Chen et al., 2005; Tan et al., 2007; Ulum, 2008; Clarke et al., 2011; Mondal & Ghosh, 2012; Jafarnezhad& Tabari, 2016; Kaupelytė&Kairytė, 2016; Ozkan et al., 2017).

The present dissertation endeavors to offer a synthesized overview of prominent empirical inquiries pertaining to Intellectual Capital both on a global scale and within the specific context of Vietnam, with a particular emphasis on elucidating the nexus between Intellectual Capital and operational efficiency in business enterprises. The findings of this study serve as a foundational framework for identifying research lacunae in the domain of Intellectual Capital in Vietnam, thereby guiding future scholarly endeavors aimed at heightening managerial cognizance regarding the pivotal role and imperative of investing in Intellectual Capital and directing the management of intangible assets towards augmenting competitive advantages.

Intellectual capital, a multifaceted and intangible asset, represents the knowledge-based resources embedded within an organization that contribute to its competitive advantage, innovation capacity, and overall value creation (Stewart, 1997; Bontis, 1998). As elucidated by Ali et al(2022), intellectual capital extends beyond traditional measures of financial and physical assets, encapsulating the intangible elements that drive organizational performance. The constituents of intellectual capital are typically categorized into three core components: human capital, structural capital, and relational capital.

Human capital, as defined by Bontis (1998), encompasses the collective skills, knowledge, and expertise of individuals within an organization, constituting a critical element of intellectual capital. It goes beyond formal education to encompass tacit knowledge, experience, and the creativity of employees. Human capital is the engine of innovation and problem-solving, driving the organization's adaptability and competitiveness in a dynamic business environment (Salangka et al, 2024).

In the words of Salangka et al (2024), "Human capital is the essence of intellectual capital, representing the reservoir of skills, capabilities, and innovative potential residing within the workforce." This dimension of intellectual capital acknowledges the significance of investing in employee development, continuous learning, and fostering a culture that values and utilizes individual and collective knowledge.

Structural capital, according to Obeidat et al (2017), encompasses the codified knowledge, processes, and intellectual infrastructure that facilitate the creation, storage, and dissemination of information within an organization. It includes databases, patents, organizational routines, and other intangible assets that contribute to the efficiency of operations and innovation processes.

As articulated by Salangka et al (2024), "Structural capital is the organizational memory and the systems and processes that enable the effective utilization of knowledge." This component emphasizes the role of systems, procedures, and documentation in capturing and leveraging intellectual assets, ensuring that organizational knowledge is not solely dependent on individual expertise but is institutionalized for collective benefit.

Relational capital, as described by Riadi&Coenraad (2024), refers to the network of relationships, both internal and external, that an organization cultivates. This includes collaborations, partnerships, and customer relationships. Bontis (1998) further emphasizes that relational capital is the value inherent in an organization's relationships with its customers, suppliers, and strategic partners.

In the words of Riadi&Coenraad (2024), "Relational capital represents the social interactions and networks that enable the flow of knowledge and resources, enhancing the organization's ability to adapt and innovate." This component recognizes the significance of social capital in fostering a collaborative and interconnected environment, where external relationships contribute to the organization's overall intellectual capital.

Most investors or business analysts, when evaluating a particular enterprise, prioritize financial efficiency as one of their evaluation criteria. The measurement of financial efficiency has been discussed as a priority because cash flow is likened to the lifeblood of a company. Effective cash flow management has thus become a crucial factor in the operational strategies of many companies (Fisher, 1998; Quinn, 2011). Financial efficiency is defined as a set of financial activities at a fixed point in time reported in financial statements and income reports (Shahnia& Endri, 2020). Conversely, according to Doorasamy (2016), financial efficiency resembles an analysis aimed at assessing whether a company is effectively adhering to its financial regulations. Key metrics of financial efficiency include operating income, net revenue, and expenses. The benefits of evaluating financial efficiency include enabling the measurement of a company's achievements at a specific point in time, understanding the overall operational status of the enterprise as a basis for determining future operational strategies, providing guidance in managerial decision-making, and establishing a foundation for investment decisions by investors (Prabowo &Korsakul, 2019).

When investigating companies in the financial sector such as banks, insurance companies, and securities firms, Tan et al. (2007) meticulously examined the relationship between Intellectual Capital and financial efficiency. The research revealed a positive and robust correlation between Intellectual Capital and companies' return on assets (ROA), as well as their profitability. To bolster this hypothesis, numerous studies have examined and measured the impact of Intellectual Capital on financial efficiency across various sectors and industries worldwide. Notable examples include the study by Innayah, M. N., Pratama, B. C., and Hanafi, M. M. (2020), which focused on Intellectual Capital's impact on financial efficiency and risk within ASEAN banks, specifically in Indonesia, Thailand, the Philippines, Malaysia, and Singapore. The researchers collected data from 375 companies, sourced from annual reports spanning from 2012 to 2016. The results indicated that Intellectual Capital positively influenced the activities of ASEAN banks, enhancing financial efficiency and mitigating credit risks. Similarly, studies by Ofurum, C. O. et al. (2023), Saymeh, A. et al. (2021), and Faozan, A. et al. (2023) presented consistent findings regarding banks in Jordan and Arab countries. Moreover, researchers worldwide have extended their investigation into the impact of Intellectual Capital on financial efficiency in various industries. For instance, Yurniwati, E. N. R. (2018) focused on the influence of Intellectual Capital on the financial efficiency of manufacturing enterprises in Indonesia. The study concluded that while Intellectual Capital had a positive impact, it was not significantly strong on the financial efficiency of these enterprises. In a similar vein, Tarigan, J. (2019) conducted research on manufacturing enterprises in Indonesia, particularly those listed on the Indonesia Stock Exchange. The study revealed a profound impact of Intellectual Capital on the financial efficiency of these enterprises, yielding results distinct from other studies.

Financial performance metrics are essential tools for evaluating and quantifying a company's operational efficiency, profitability, and overall effectiveness in generating value for shareholders. These metrics provide crucial insights into the financial health and sustainability of a business.

Financial performance metrics are quantitative measures used to assess a company's ability to generate profits, manage assets, and deliver returns to shareholders.

Return on Assets (ROA) is a key financial metric that evaluates a company's efficiency in utilizing its assets to generate profits. According to (Kusuma, 2021), "ROA measures the ability of a company to generate earnings from its total asset base and is calculated by dividing net income by average total assets." ROA provides stakeholders with a clear indication of how effectively a company is deploying its resources to generate returns.

In the words of (Kusuma, 2021), "ROA is a fundamental metric for assessing the operational efficiency of a company, reflecting its ability to convert investments in assets into profits." This metric is particularly valuable in comparing companies within the same industry, as it offers insights into relative efficiency in asset utilization.

Return on Equity (ROE) is another critical financial performance metric that assesses a company's ability to generate returns for its shareholders. As articulated by Wulandari &Badjra(2019), "ROE is calculated by dividing net income by shareholders' equity and represents the return generated on the shareholders' investment. ROE provides a measure of how efficiently a company is using equity capital to generate profits.ROE is a key indicator of the profitability and financial health of a company, reflecting the extent to which shareholders are rewarded for their investment." Investors often use ROE to evaluate the management's ability to generate returns and allocate resources effectively.

Q Tobin, or Tobin's Q, is a financial metric that assesses the market value of a company in relation to the replacement cost of its assets. As noted by Oliveira and Basso (2024), "Q Tobin is calculated by dividing the market value of a company by the replacement cost of its assets and provides insights into whether the market values the company's assets more or less than their book value." Q Tobin serves as an indicator of the market's perception of a company's growth prospects and the efficiency of its asset utilization. Q Tobin is a valuable metric for assessing investment opportunities and understanding how the market values a company's ability to generate future profits." This metric is particularly relevant in industries where the value of intangible assets, such as intellectual property, significantly influences a company's market value.

The current state of academic research on the relationship between intellectual capital and financial performance within the beverage industry is notably limited. A pivotal investigation by Uzoma et al. (2017) sought to address this gap by examining four selected companies from the Nigerian food and beverage sector. Their findings underscored a substantial and meaningful connection between intellectual capital and the financial performance of these enterprises. Importantly, the study emphasized that the judicious management of intellectual capital played a crucial role in influencing the reported financial performance of food and beverage companies in Nigeria.

Building on this foundation, recent research by Rasuani and Kufepaksi (2022), Adiputra et al. (2020), and Abqory and Rahman (2022) independently corroborated a positive and significant direct effect of capital on firm value. This consensus among various studies reinforces the idea that an increase in capital is intricately linked to a corresponding elevation in company value. Further bolstering this perspective, a study by CİĞER and TOPSAKAL (2015) focused on food and beverage companies operating in Antalya, Turkey. Their investigation illuminated a robust and

affirmative relationship between human capital and various facets crucial to the industry, including creation, innovation, learning, education, experience, and expertise.

However, the collective body of literature on intellectual capital and financial performance appears to suffer from a notable dearth of specificity to the beverage industry. This observation is underscored by the limited number of studies dedicated to unraveling the intricacies of this relationship within the context of beverage companies. Recognizing this void, it is imperative for future research endeavors to direct attention toward addressing the unique characteristics, challenges, and opportunities that define the beverage sector. This targeted approach could significantly enhance the relevance and applicability of research findings to the nuanced dynamics of beverage companies, setting the stage for more informed decision-making within this particular industry.

Moreover, it is discernible that the existing research landscape lacks comprehensive longitudinal studies that trace the impact of intellectual capital on financial performance over extended periods within the beverage industry. Such longitudinal studies could potentially offer a more nuanced understanding of the sustainability and enduring effects of intellectual capital investments in beverage companies. By tracking these relationships over time, researchers could uncover patterns, trends, and critical inflection points that may not be apparent in shorter-term studies. This longitudinal perspective becomes particularly pertinent in industries like beverages, where factors such as changing consumer preferences, regulatory landscapes, and technological advancements can have a profound impact on the dynamics between intellectual capital and financial performance.

The academic discourse surrounding intellectual capital and financial performance within the beverage industry is marked by a scarcity of focused research. While seminal studies have highlighted the importance of intellectual capital in influencing financial outcomes, there is a critical need for more targeted investigations specific to the unique characteristics of beverage companies. Bridging this gap can be instrumental in advancing scholarly understanding and practical applications within the beverage sector. Additionally, the absence of comprehensive longitudinal studies represents another avenue for future research to explore, providing valuable insights into the sustainability and enduring effects of intellectual capital investments in the dynamic landscape of beverage companies, especially in Vietnam which statistically holds the record for the one of top 10 of world's highest consumption of alcoholic beverages countries.

The framework used in this study is as follows:
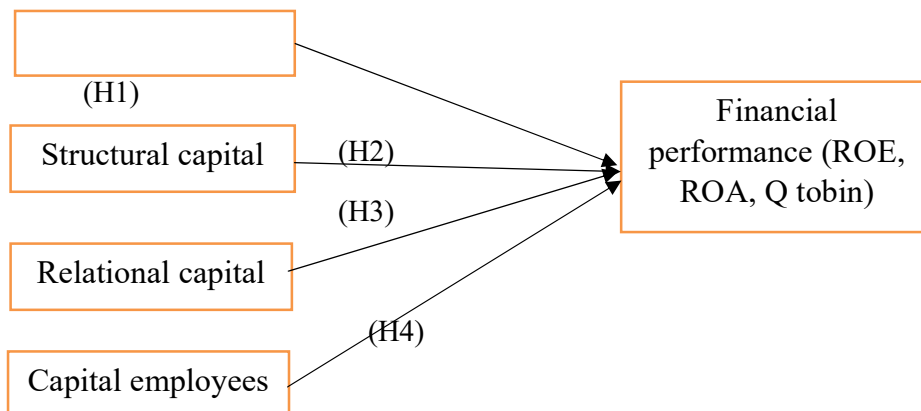
H1: Human capital has a positive impact on financial performance.

H2: Structural capital has a positive impact on financial performance

H3: Relational capital has a positive impact on financial performance

H4: Capital employees has a positive impact on financial performance

3, Methodology

From the research problem formulation that has beenpreviously defined. The hypothesis of this study is testing which examines the impact of human capital, structural capital and relational capital on ROA, ROE and Q tobin. Thus, this study is a quantitative type and the datasource used is secondary data obtained through theanalysis of financial statements and annual reports listed on companies' official websites.

The sampling method used in this research is nonprobability sampling, specifically by purposivesampling. Purposive sampling is a deliberate sampling method based on certain considerations

3.1 Descriptive statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
ROA	130	.0525715	.0885132	-.2276	.2668
ROE	130	.0896762	.1507034	-.3692	.5354
Qtobin	130	1.090851	.4164227	.4103405	2.793047
HCE	130	1.093186	.9293545	-1.111253	3.941049
CEE	130	.1747738	.1419216	-.2379932	.7173516
SCE	130	.1903936	.3895499	-1.12168	.9931669
RCE	130	.3115294	.6507189	-2.113362	1.652678

Table 3.1: Descriptive statistics of variables

The observational dataset comprises 26 companies over a span of 5 years from 2018 to 2022, corresponding to 130 observations. The statistical table delineates detailed descriptions of the mean, maximum, minimum, and standard deviation values of each variable included in the study, highlighting specific points of interest: The average annual return on total assets of beverage enterprises is 0.052% (±0.052%), significantly lower than the Tobin's Q (achieving an average annual ratio of 1.09 (±1.09)). The substantial standard deviation value (0.41) also indicates no significant difference in Tobin's Q among companies or across years.

3.2 Correlation coefficient matrix – Multicollinearity
The correlation matrix reflects the relationships between independent variables and the dependent variable, as well as between independent variables themselves. Examination of the correlation between independent variables and the dependent variable indicates that all independent variables are positively correlated with the dependent variables.

(obs=130)

	ROA	ROE	Qtobin	HCE	CEE	SCE	RCE

ROA	1.0000					
ROE	0.9389	1.0000				
Qtobin	0.5829	0.5475	1.0000			
HCE	0.4910	0.5067	0.4650	1.0000		
CEE	0.4977	0.4629	0.4589	0.2970	1.0000	
SCE	0.5633	0.5527	0.5051	0.5573	0.4220	1.0000
RCE	0.5131	0.4923	0.4697	0.3258	0.4775	0.5020	1.0000

Table3.1:Correlation statistics

The correlation analysis results also indicate that the Variable Inflation Factor (VIF) exhibits a positive relationship with the independent variables, implying the absence of multicollinearity phenomena.

3.3 Results of data analysis and model selection

To analyze the data, the author employs a Pooled Regression Model utilizing Ordinary Least Squares (OLS) method, with the analysis yielding the following outcomes:

Source	SS	df	MS			
				Number ofobs	=	130
				$F_{(4, 125)}$	=	27.22
Model	.470487533	4	.117621883	Prob> F	=	0.0000
Residual	.540174792	125	.004321398	R-squared	=	0.4655
				AdjR-squared	=	0.4484
Total	1.01066232	129	.007834592	RootMSE	=	.06574

ROA	Coef.	Std.Err.	t	P>|t|	[95%Conf.	Interval]
HCE	.0211343	.0075318	2.81	0.006	.0062279	.0360406
CEE	.1440443	.0479116	3.01	0.003	.0492213	.2388673
SCE	.0535408	.0199379	2.69	0.008	.0140813	.0930003
RCE	.0288693	.0109393	2.64	0.009	.0072191	.0505196
_cons	-.0148948	.01088	-1.37	0.173	-.0364277	.0066381

Table 3.3Summary of regression results with ROA

The synthesized results of the regression analysis with the variable ROA indicate that the Prob > F value of the model is <0.00, thus leading to the conclusion that this model exists. As shown in the above results table, all four independent variables have statistically significant effects on ROA, as evidenced by P-values of all four variables < 0.05. Among these, the change in capital employed efficiency (CEE) has the greatest impact on ROA, with a one-unit change in CEE resulting in a 14.4% change in ROA. This is understandable because efficient capital utilization enables firms to immediately increase profits, thereby boosting ROA. We have a formula for calculating the impact of independent variables on ROA:

ROA = 0,021HCE + 0,144CEE + 0.053SCE + 0.029RCE + Ɜ

Variable	VIF	1/VIF

SCE	1.80	0.555330
RCE	1.51	0.661100
HCE	1.46	0.683718
CEE	1.38	0.724530
MeanVIF		1.54

Table 3.4Test table for multicollinearity

When conducting multicollinearity tests, it is observed that the variance inflation factors (VIFs) of the independent variables and the Mean VIF are all < 2, indicating that the OLS model does not suffer from multicollinearity. This implies that there is no excessive correlation among the independent variables, which could lead to biased model results.

Breusch-Pagan/Cook-Weisbergtestforheteroskedasticity   Ho:
    Constant variance
    Variables:fittedvaluesofROA

$$\text{chi2}(1) \quad = \quad 0.04$$
$$\text{Prob>chi2} \quad = \quad 0.8498$$

Table 3.5 Test table for heteroskedasticity

Wooldridgetestforautocorrelationinpaneldata   H0:nofirst-orderautocorrelation

$$F (1, 25)= 2.827$$

$$\text{Prob>F=}0.1052$$

Table 3.6 Test table for autocorrelation

Utilizing the Breusch-Pagan test to examine the variance of residuals across the selected models, the following hypothesis is established: H0: there is no variance in the residuals. If the Prob>chi2 value from the Breusch and Pagan Lagrangian multiplier test exceeds 0.05, it suggests the absence of variance in the residuals within the model. Both tests for heteroskedasticity and autocorrelation yield P-values > 0.05, indicating that the OLS model does not suffer from either heteroskedasticity or autocorrelation. Consequently, it can be concluded that the OLS model is optimal.

The similar results areconducted to the model when ROE is the dependent variable

Numberofobs=**130**

Source	SS	df	MS
Model	1.30295421	4	.325738552
Residual	1.62682993	125	.01301463

		9		$F_{(4,125)}=$**25.03**
Total	**2.92978414**	129	**.022711505**	Prob>F=**0.0000**
				R-squared=**0.4447**

Adj R-squared =**0.4270**

RootMSE=**.11408**

ROE	Coef.	Std.Err.	t	P>|t|	[95%Conf.	Interval]
HCE	.0417141	.0130708	3.19	0.002	.0158454	.0675828
CEE	.2067156	.0831466	2.49	0.014	.0421582	.3712731
SCE	.0872863	.0346005	2.52	0.013	.0188076	.155765
RCE	.0468437	.0189843	2.47	0.015	.0092714	.084416
_cons	-.0232656	.0188814	-1.23	0.220	-.0606342	.014103

Table 3.7Summary of regression results with ROE

Similar to ROA, the synthesized results of the regression analysis with the variable ROE also indicate a Prob > F value of the model <0.00, suggesting the existence of this model. The P-values of all four variables yield results < 0.05, indicating that all four independent variables have statistically significant effects on ROE. Among them, the change in capital employed efficiency (CEE) has the most substantial impact on ROE, with a one-unit change in CEE resulting in a 20.6% change in ROE. We have a formula for calculating the impact of independent variables on ROE:

ROE = 0,041HCE + 0,206CEE + 0.087SCE + 0.046RCE + Ʒ

Variable	VIF	1/VIF
SCE	1.80	0.555330
RCE	1.51	0.661100
HCE	1.46	0.683718
CEE	1.38	0.724530
MeanVIF		**1.54**

Table3.8 Test table for multicollinearity

Upon testing for multicollinearity, it is observed that the variance inflation factors (VIFs) of the independent variables and the Mean VIF are all < 2, indicating that the OLS model does not suffer from multicollinearity. This implies that there is no excessive correlation among the independent variables, which could lead to biased model results.

Breusch-Pagan/Cook-Weisbergtestforheteroskedasticity   Ho:
        Constant variance
                Variables:fittedvaluesofROE

                chi2(**1**)   =   **0.21**

$$\text{Prob>chi2} \quad = \quad \textbf{0.6430}$$

Table3.9 Test table for heteroskedasticity

Wooldridgetestforautocorrelationinpaneldata   H0:nofirst-orderautocorrelation

$$F(1,25)=\textbf{0.589}$$

$$\text{Prob>F=}\textbf{0.4499}$$

Table3.10 Test table for autocorrelation

Using the Breusch-Pagan test to examine the changing variance of residuals across the selected models, the following hypothesis is posited: H0: there is no variance in the residuals. If the Prob>chi2 value from the Breusch and Pagan Lagrangian multiplier test exceeds 0.05, it suggests the absence of variance in the residuals within the model. Both tests for heteroskedasticity and autocorrelation yield P-values > 0.05, indicating that the OLS model does not exhibit heteroskedasticity and autocorrelation phenomena. Hence, it can be concluded that the OLS model is optimal.

Finally, considering the influence of independent variables on Q tobin:

Random-effectsGLSregression				Numberofobs	=	**130**
Groupvariable:**STT**				Numberofgroups	=	**26**
R-sq:within=**0.2472**				Obspergroup:min=		**5**
between=**0.5662**				avg=		**5.0**
overall=**0.3932**				max=		**5**
				Waldchi2(**4**)	=	**63.61**
corr(u_i,X) =**0**(assumed)				Prob>chi2	=	**0.0000**

Qtobin	Coef.	Std.Err.	z	P>|z|	[95%Conf.	Interval]
HCE	.0934714	.0362072	2.58	0.010	.0225067	.1644362
CEE	.6406701	.2432316	2.63	0.008	.1639449	1.117395
SCE	.238103	.1026514	2.32	0.020	.03691	.439296
RCE	.1254703	.0580648	2.16	0.031	.0116653	.2392753
_cons	.7922763	.0618195	12.82	0.000	.6711124	.9134403
sigma_u	.14355414					
sigma_e	.30071705					
rho	.18559135	(fractionof variancedue tou_i)				

Table 3.11Summary of regression results with Q tobin

The model yields a Prob > F value of < 0.00, indicating the existence of the model. The P-values of all independent variables are < 0.05, signifying the statistical significance of these independent variables on the dependent variable, Q Tobin. Among them, CEE (capital employed efficiency) remains the factor with the most substantial impact on the Q Tobin index, with a one-unit change in

CEE potentially leading to a 64.06% change in Q Tobin. We have a formula to calculate the impact of independent variables on Q Tobin:

Q tobin= 0,093HCE + 0,641CEE + 0.238SCE + 0.125RCE + Ʒ

Variable	VIF	1/VIF
SCE	1.80	0.555330
RCE	1.51	0.661100
HCE	1.46	0.683718
CEE	1.38	0.724530
MeanVIF		1.54

Table 3.12 Test table for multicollinearity

The results of testing for multicollinearity indicate that VIF < 2, demonstrating the absence of multicollinearity within the model.

4, Conclusions and suggestions

In the realm of competitive markets, the significance of intellectual capital emerges as a pivotal determinant influencing companies' performance, particularly within the financial domain. This investigation has determined that proprietors of Vietnamese beverage enterprises possess the capacity to effectively deploy contemporary research, expertise, and resources to enhance their financial outcomes. The findings of this study establish a robust and positive correlation between intellectual capital, encompassing human, structural, employee, and relational capital, and financial performance. Notably, employee capital emerges as the most influential factor shaping financial performance in beverage enterprises, a phenomenon logically aligned with the advantageous financial operations facilitated by adept management of capital flows. Consequently, enhancements in intellectual capital are poised to translate into improvements in financial dimensions. Strategies such as investing in staff training, fostering innovation, nurturing customer and supplier relationships, and refining business practices are advocated for beverage companies seeking to bolster their intellectual capital. Despite providing unequivocal evidence of the favorable influence of intellectual capital on financial performance in beverage enterprises, this research is not without limitations, including constraints related to data collection and the relatively short duration of the study. Moreover, the scope of intellectual capital factors investigated remains limited. To enrich future scholarly discourse, it is recommended that subsequent research explore novel dimensions such as welfare regimes within the framework of intellectual capital.

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