The Nexus between Intellectual capital and a company's financial performance, evidence from Egypt

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ABSTRACT

The worth of a company's accumulated knowledge and resources that may be leveraged to produce income is referred to as intellectual capital. It is widely used to examine and classify a company's intangible assets, as well as to assess and anticipate their impact on financial performance. A company's human capital frequently shows how successfully management uses resources to help employees attain their full potential. Many scholars expected a favorable association between financial success and human capital. The term structural capital is the organization, technique, and innovation capital that supports a company's people and relationship capital. Relational capital refers to all of an organization's positive ties with consumers, vendors, associates, clients, and other external organizations. All three assets are contributing to the company's performance and growth. This study aims to find the relationship between Intellectual capital and a company's financial performance, in Egyptian companies, the study used secondary data from companies registered in the stock market as follows:- dependent

variable: Financial performance:- measured by ROA, Independent variables (intellectual capital), human capital: measured by Staff wages, structural capital: measured by Revenue growth, relational capital: measured by Working capital turnover, using Multi coefficients test to analyze the data. The main findings of this study are: there is a significant positive relationship between human capital and structural capital from one side and the firm's financial performance, and there is an insignificant relationship between relational capital and the firm's financial performance. Recommendations are, that for more accuracy of financial accounts and to fully represent their true market values, companies should be forced to quantify and report their intellectual capital, future studies should investigate the relationships between intellectual capital, innovative ideas, and reputation, as well as the interplay between corporate governance traits and intellectual capital and adopting a well-defined plan for the growth of intellectual capital and its elements, as well as increasing dependence on intellectual capital as a major strategic asset through increased efforts and investments.

Keywords: -Intellectual Capital – Financial performance – Egypt

INTRODUCTION

Intellectual capital is an enterprise asset, but assessing it is a difficult undertaking. It is not recorded on the balance sheet as "intellectual capital" as an asset; rather, it is incorporated into intellectual property (as part of intangibles and goodwill on the balance sheet), which is difficult to quantify, (Ahmed et al., 2023b). Human capital, relational capital, and structural capital are the three most frequent types of intellectual capital. Human capital encompasses all of an organization's employees' expertise and experience. Their education, life experiences, and professional experience all contribute to this. (Dwianika et al., 2023). It can be improved by offering training. Relationship capital refers to all of an organization's relationships, which include its workers, suppliers, customers, shareholders, and so on. Structural capital refers to an organization's basic belief system, which includes its mission statement, corporate rules, work culture, and organizational structure, (Chaudhary et al., 2023) Most CEOs today recognize the value of human capital. It is the intangible value that their personnel bring to the organization. The most successful firms, however, are those that understand how to use their intellectual capital (Haque & Weqar, 2021). The overall worth of an organization's intangible assets is defined as intellectual capital. It involves but extends beyond, human capital. It requires a comprehensive examination of all areas of a company that offer it a competitive advantage.

Original data, customer happiness, staff experience, and internal procedures and structures are all included (Pham, 2023). There are several ways to measure intellectual capital, but there is no industry-accepted consistency or universal standard. For example, as part of its efforts to quantify intellectual capital, the balanced scorecard, an industry performance tool, examines four viewpoints of an employee. Financial, customer, internal processes, and organizational capability are the viewpoints, (Asutay & Ubaidillah, 2023) Companies invest significant time and money in establishing managerial knowledge and educating their personnel in business-specific areas to increase their enterprise's "mental capacity." This cash used to improve intellectual capital delivers a return to the corporation that is difficult to define but may contribute to many years of commercial value (Tiwari et al., 2023).

The other side of this study is the financial performance of a corporation which determines how successfully it earns income and manages its assets, obligations, and the financial interests of its stakeholders and investors. (Asutay & Ubaidillah, 2023). On the other hand, there are several ways to assess financial success, but all measurements should be examined together. Line items such as revenue from operations, operating income, and cash flow from operations, as well as total unit sales, might be employed. In addition, the analyst or investor may want to go further into the financial accounts to search for margin growth

rates or any falling debt. Six Sigma approaches are centered on this element (Kondoy & Soewignyo, 2023). Financial ratios are important indicators. It assesses a company's financial health using information from financial statements. Quick ratio, current ratio, working capital, gross profit margin, net profit margin, equity multiplier, debt-to-equity ratio, return on equity, return on asset, total asset turnover, inventory turnover, and operational cash flow are all financial performance measures. (Lianto, 2023).

The relationship between Intellectual Capital and a Firm's financial performance is obvious, According to, Momani et al.,(2023) research on the relationship between the VAIC model and financial performance, intellectual capital adds to business profitability, efficiency, and profits per share. Another point of view describing the relationship appears in research by, Jati et al., (2023) as the Intellectual capability of the corporation will improve investor confidence, which may influence the company's value increase. According to the findings, of Kumala et al., (2023) the capital structure has a considerable negative impact on financial performance. By far the most significant aspect of improving organizational performance is intellectual capital (Roslan et al., 2019). From the literature, I found that there is a relationship between intellectual capital and the financial performance of the firm.

The current study will try to prove the relationship between intellectual capital and the financial performance of the firm. by reviewing literature and collecting data from 27 companies registered in the Egyptian Stock market to build a statistical model as follows:- dependent variable: Financial performance:- measured by ROA, Independent variables (intellectual capital), human capital: measured by Staff wages, structural capital: measured by Revenue growth, relational capital: measured by Working capital turnover, using Multi coefficients test to analyze the data.

PROBLEM OF THE STUDY

The Study discovered that the majority of the literature and models used to analyze the idea of Intellectual capital and a company's financial performance were either focused on studying only the intellectual capital using value-added intellectual coefficient (VAIC) or company performance, this reduced the accuracy of such impact estimation and the ability to achieve goals of such assessment, and in the presence of effects of intellectual capital on financial performance in Companies as an emerging phenomenon. Intellectual capital refers to the intangible worth of a company's people, relationships, and structure. And the influence of intellectual capital on business success has lately gained prominence. According to the literature, some of studies identified a negative association between them

(Bhattu-Babajee & Seetanah, 2021; Haque & Weqar, 2021; Kondoy & Soewignyo, 2023; Momani et al., 2023; Rundjan & Susanti, 2023), while others found positive relationship (Ahmed et al., 2023; Akgün & Türkoğlu, 2023; Asutay & Ubaidillah, 2023; Hirawati et al., 2021; Jati et al., 2023; Lianto, 2023; Regina, 2021; Pham, 2023) and the rest found the no relation. Another dimension of the research problem is the Egyptian Case of intellectual capital and company's performance, the question of this study is: "Is there any relationship between intellectual capital with its three dimensions and the corporate performance case of Egypt?"

STUDY IMPORTANCE

1. The mutual influence between a company's structure and people, as well as financial performance, is a part of the sustainability of businesses and imposes itself when predicting any accounting or economic solutions for businesses.
2. Scarcity of analytical studies on the relationship between intellectual capital on a company's financial performance in Egypt.
3. Share the importance of the current study about the relationship of intellectual capital on a company's financial performance and give the researchers the initiative to develop more in-depth research.

4. The impact of intellectual capital and a company's financial performance. In the business community in terms of increasing the size of companies increasing welfare in the communities, and increasing revenue.
5. A need to understand the reasons behind the creation of competitive factors in companies to help business people and policymakers, develop them at the local and international level

STUDY OBJECTIVES

1. Understanding the meaning and factors affecting intellectual capital in organizations.
2. Understanding the meaning and factors affecting financial performance in organizations
3. Understand the effect of intellectual capital on a company's financial performance.
4. Find the most appropriate model or methods and levels of integration between intellectual capital and a company's financial performance in Egypt.

HYPOTHESES

Based on the studies conducted by (Ahmed et al., 2023; Akgün & Türkoğlu, 2023; Asutay & Ubaidillah, 2023; Hirawati et al., 2021; Jati et al., 2023; Lianto, 2023; Regina, 2021; Pham, 2023) The Main Hypothesis of this study will be: There is a significant

& positive influence of intellectual capital on a company's financial performance. From that statement, I will create three hypotheses.

H1 stated that there is a significant positive relationship between human capital and firm performance.

H2 stated that there is a significant positive relationship between structural capital and firm performance.

H3 stated that there is a significant positive relationship between relational capital and firm performance.

LIMITATIONS OF THE STUDY

The study will be conducted on the EGX27's most active 27 financial businesses, from the year 2015 to the year 2019. "The period was selected for many reasons: including the negative impact of the Corona pandemic on the Egyptian economy and stock market, the qualitative stability of the Egyptian stock index, also the availability of data for that period".

LITERATURE REVIEW

Empirical literature:-

- (Ahmed et al., 2023b) The study empirically investigates the relationship between intellectual capital and company value, with firm performance acting as a moderator. VAIC (value-added intellectual capital) and its three components, VACA,

VAHU, and STVA, were used as independent variables. ROA and ROE have been used to assess business performance. Tobin's Q was used to calculate firm value. For six years, panel data was gathered from non-financial enterprises registered on the Pakistan Stock Exchange, yielding 474 observations. Eviews 9.0 was used to run a fixed-effect regression test. According to the study findings, intellectual capital has a favorable influence on corporate value. Furthermore, company performance serves as a bridge between intellectual capital and firm value. This study has not only contributed to the literature on intellectual capital, firm performance, and firm value, but it is also useful for practitioners and managers because it provides insight into the specific components of intellectual capital that generate firm value when invested and maintained efficiently and effectively.

- (Akgün & Türkoğlu, 2023b) The purpose of this research is to determine how much successful European listed corporations rely on intellectual capital investment to achieve economic success amid the global financial crisis. This study employed the value-added intellectual coefficient (VAIC) approach to assess the impact of intellectual capital on the financial performance of 683 sample listed corporations. The estimated panel test and ordinary least squares regression model are applied to data from a sample of European nations to

investigate the relationship between intellectual capital, legal origin, and company performance. Findings This study's findings suggest a positive relationship between intellectual capital and firm performance with return on assets (ROA) before the financial crisis, whereas firm performance with return on equity did not contribute to intellectual capital before and after the crisis period. The empirical data indicates that legal origin has a substantial influence on the relationship between intellectual capital and the performance of listed corporations during the global financial crisis.

- (Asutay & Ubaidillah, 2023) This study investigates the performance of Islamic banks' intellectual capital (IC) and investigates the influence of intellectual capital on financial performance in terms of profitability and productivity in IBs. A quantitative technique based on multi-regression analysis is used to investigate the relationship between IC and IB financial performance metrics. Modified Value-Added Intellectual Coefficient (MVAICTM), an enhanced model of VAICTM, is used to calculate IC. From 2014 to 2018, data were collected from 49 IBs. The empirical data show that IC has a beneficial influence on IBs' financial performance indicators, particularly profitability, but has no convincing relationship with productivity. Furthermore, when the components are examined independently, the relationship between these components and the financial performance

measures of IBs yields less consistent findings. In this study, capital employed efficiency and human capital efficiency are determined to be the most significant elements of IC, whereas structural capital efficiency has little effect on financial performance.

- (Bhattu-Babajee & Seetanah, 2021) The goal of this article is to objectively analyze the influence of value-added intellectual capital (VAIC) on the financial performance (FP) of Mauritius-based enterprises. The study used a dynamic panel vector error correction model (PVECM), which accommodates endogeneity and causality concerns among the variables. The findings indicate that VAIC improves corporate FP, with a reported lesser effect in the short term vs the long run. Asset turnover, capital turnover, and business size are also major factors of firm performance. Leverage, on the other hand, has been shown to reduce performance. Companies' FP is also a substantial driver of VAIC, showing that there are reverse causal effects between the two variables of concern, namely, VAIC and FP.
- (Dwianika et al., 2023) The purpose of this research is to look into a firm's performance in terms of water awareness, intellectual capital, and corporate social responsibility. The current investigation included 106 samples from 21 industrial enterprises in Indonesia. Financial reports and sustainability reports were acquired from the Indonesian stock exchange

website and each company's website between 2015 and 2019 using selective sample approaches and multiple linear regression methods. According to the research, water awareness and corporate social responsibility have an impact on company performance but not on intellectual capital. However, empirical evidence shows that a firm's sustainability has an impact on its performance.

- (Haque & Weqar, 2021) The purpose of this article was to investigate the impact of intellectual capital (IC) and its dimensions on the financial performance of Indian enterprises. From 2013 to 2018, data from 88 Indian enterprises involved in tea packaging, selling, and distribution were retrieved. The technique of value-added intellectual coefficient (VAICTM) serves as the foundation for quantifying the firm's IC performance. The results of the fixed-effect regression analysis demonstrate that IC improves the profitability and productivity of the Indian tea business substantially. Similarly, capital employed efficiency (CEE), followed by structural capital efficiency (SCE), is the most important component of VAIC in enhancing the financial performance of the Indian tea business. The third component of IC efficiency, human capital efficiency (HCE), has a strong beneficial influence on profitability but a big negative effect on company productivity.

- (Hirawati et al., 2021) The purpose of this research is to give empirical data on the role of intellectual capital and governance in explaining the unpredictability of business financial performance. This study employs samples from 20 state-owned enterprises (BUMN) registered on the Indonesia Stock Exchange between 2015 and 2020. STATA was used to analyze research data utilizing panel data regression. According to the findings, Corporate Governance and Intellectual Capital have no substantial impact on BUMN's financial performance. Only leverage affects the company's financial performance among the control variables of Leverage, Firm Size, and Company Age.
- (Jati et al., 2023) The purpose of this research is to investigate and analyze the link between Intellectual Capital and Voluntary Reporting on Company Performance as it is mediated by effective corporate governance methods. This study takes a quantitative approach with explanatory research. The research population, namely manufacturing enterprises listed on the IDX in 2020 and 2021, was evaluated using multiple linear regression MRA. Main Findings - Intellectual Capital, Voluntary Reporting, and Good Corporate Governance are important tools for providing investors with an overview of the company's condition, attracting interest to invest in companies that affect the capital that the company will obtain to increase company profits. The findings of this

study give empirical proof that the value of intellectual capital boosts firm performance. As a result, the more the company's intellectual capital, the greater the value of the company's performance. Intellectual capital may be a strategic resource for businesses in terms of developing and expanding profits from investor investment returns, allowing them to boost company performance.

- (Kondoy & Soewignyo, 2023) Using a purposive sample strategy, this study intends to assess intellectual capital's potential to forecast the performance of banking sector enterprises from 2018 to 2021. The Value-Added Intellectual Coefficient approach was used to calculate intellectual capital, which takes into account the factors of Human Capital Efficiency, Structural Capital Efficiency, and Capital Employed Efficiency. According to the findings of this study, intellectual capital can predict firm performance. Intellectual capital's three components affected the success of banking sector businesses as assessed by return on assets at the same time, accounting for 84% of the variation in company performance.
- (Kumala et al., 2023) The purpose of this research is to look into the impact of Intellectual Capital on financial performance. According to Pulic's approach, intellectual capital may be measured using Value Added Intellectual Capital (VAICTM), which consists of Human Capital

Efficiency (HCE), Capital Employed Efficiency (CEE), and Structural Capital Efficiency (SCE). This study used two research variables: the dependent variable, Return on Assets (ROA), as a measure of the company's financial success, and the independent variable, HCE, CEE, SCE, and VAIC. The data in this study were analyzed using two methods: the VAIC simple linear regression test and multiple linear regression to evaluate the VAIC component. According to the findings, CEE and HCE had a positive and substantial impact on the company's financial performance, whereas VAIC had a positive and significant impact on the company's financial performance. Meanwhile, SCE has no impact on the company's bottom line.

- (Lianto, 2023) Based on the intellectual capital of Indonesia's industrial sectors, this study intends to identify and screen the important assessment elements for innovation capabilities. A thorough literature review and focus group discussions were employed in this study to identify 18 initial evaluation variables, which were then screened out by industry practitioners and academic experts using the Fuzzy Delphi Method. Adaptation, innovative behavior, organizational culture, climate, and forward connections received the greatest de-fuzzy value (0.89). The findings also revealed that three human capital features (adaptation, innovative behavior,

and strong drive and commitment) are critical predictors for assessing innovation skills based on intellectual capital.

- (Momani et al., 2023) This research investigates the link between Jordanian pharmaceutical firms' (JPCs') intellectual capital (IC) and financial performance. The study used secondary data collected from six JPCs listed on the Amman Stock Exchange (ASE) between 2012 and 2016 to calculate the Value-added intellectual coefficient (VAICTM) model, which is used to calculate IC and its components, as well as an additional element known as Relational Capital Efficiency (RCE). Financial performance was measured using earnings per share (EPS) and asset turnover ratio (ATR). The findings revealed no link between IC and the financial performance of Jordanian pharmaceutical companies. Only Human Capital Efficiency (HCE) demonstrated a strong positive link with financial performance measures, EPS, and ATR, according to further regression research on the various components of IC. The study's biggest restriction is that it was done during the Arab Spring, which had a detrimental impact on the Jordanian economy. The findings show that JPCs have efficiently used their human capital resources, which is critical for their competitive advantage.
- (Muslim et al., 2023) The goal of this study was to investigate the impact of intellectual capital value and transparency on the business value of state-owned enterprises that are partially

listed on the Indonesian stock exchange. This study relied on quantitative data in the form of values or numbers derived from financial reports. This study's data came from secondary sources. This study's population consists of state-owned enterprises that were listed on the Indonesia Stock Exchange between 2015 and 2019. The overall sample in this study includes 45 data from 9 firms, utilizing the purposive sampling approach. The research findings led to several specific conclusions. To begin, the analysis demonstrates a considerable negative influence of intellectual capital value on firm value for Indonesian state-owned enterprises. This implies that increased business value is not guaranteed by intellectual capital alone. Second, the research shows that intellectual capital disclosure has a large beneficial influence on business value. Active sharing of intellectual capital information changes stakeholders' opinions and increases trust in the company's future, eventually increasing firm value.

- (Regina, 2021) The study sought to ascertain the impact of intellectual capital, good corporate governance (board of commissioners, independent commissioners, and managerial ownership), and accounting conservatism on company financial performance (companies listed on the Jakarta Islamic Index from 2017 to 2019). This study's population consisted of 42 firms registered in JII 2017-2019. For sample selection, the purposeful sampling approach was utilized, and

16 firms were chosen. This study analyzed secondary data using several regression models. According to the findings of this study, intellectual capital has a favorable and considerable impact on a company's financial success. Accounting conservatism had a positive but insignificant effect on the company's financial performance, while good corporate governance as measured by the board of commissioners, independent commissioners, and managerial ownership had a negative but insignificant effect.

- (Roslan et al., 2019) The goal of this research is to look at how intellectual capital, institutional ownership, and management ownership affect corporate performance. This study's population consists of firms that were listed on the LQ-45 index between 2015 and 2017. In this study, the independent variables are intellectual capital and its proxies (human capital and process capital), institutional ownership, and managerial ownership, whereas the dependent variable is corporate performance. This study's population consists of all firms included on the LQ-45 index. Purposive sampling was employed, and the results were for 33 firms. Multiple linear regression was employed as the analytical approach. The study's findings revealed that human capital did not influence a company's success. While process capital, institutional ownership, and management ownership all improve corporate

performance. The idea for future study is to include another variable or indication.

- (Rundjan & Susanti, 2023) The purpose of this research is to determine the impact of intellectual capital and capital structure on financial performance in financial sector businesses listed on the Indonesia Stock Exchange between 2018 and 2020. Purposive sampling was used to pick samples, and 59 firms provided valid data. Multiple regression analysis is used in the data processing approach, which is aided by the EViews 12 SV application and Microsoft Excel. According to the findings of this study, the three components of intellectual capital, namely structural capital efficiency, human capital efficiency, and capital employed efficiency, as well as capital structure, have a substantial impact on the financial performance of a firm. The study's consequence is that it is vital to maintain the business's attention to employees, the values that can distinguish the firm, as well as corporate funding that will enhance the company's financial performance, which will offer a favorable signal to investors.
- (Tiwari et al., 2023) From 2005 to 2019, this study empirically explores the impact of intellectual capital on changes in total factor productivity at 36 BSE-listed banks in India. This study employs a two-stage analysis that first investigates changes in total factor productivity using the Malmquist Productivity Index estimated using Data

Envelopment Analysis, and then computes intellectual capital and its sub-components within the Value Added Intellectual Coefficients model framework. The influence of intellectual capital on changes in total factor productivity is then investigated using the System Generalised Method of Moments. According to the findings, efficiency changes, rather than technology advances, drive productivity development. In addition, regression results suggest that the intellectual capital index and its two sub-components, human capital and capital employed, have a significant beneficial influence on bank productivity.

Theoretical literature:-

- (Chaudhary et al., 2023) The significance of knowledge-based assets and the capacity to use them has created scholarly attention in the literature on entrepreneurial orientation. The authors will display the major themes in the preceding literature and recommend future study possibilities. To answer the research questions, the authors conducted a systematic evaluation of 79 studies: (1) What are the prevailing themes in the literature on the function of intellectual capital and entrepreneurial orientation? (2) What are the probable future research areas? According to the findings, the current study focuses on intellectual capital, the ability to exploit knowledge assets and entrepreneurial

attitude. The theme analysis sheds light on the importance of knowledge management, organizational learning, intellectual capital, and absorptive ability in entrepreneurial enterprises.

- (Mačerinskienė & Survilaitė, 2019) The purpose of this article is to investigate several scientific approaches to a company's intellectual capital and its influence on its market value and to develop a model of a company's intellectual capital and its impact on its market value. Furthermore, the goal of this article is to examine and test the model's performance using an example of a listed company in the Baltic States. The analysis was based on data from 58 Baltic States firms that are listed on the Nasdaq Baltic stock market. A collection of measures for analyzing a company's intellectual capital was developed based on a four-component model (human capital, structural capital, juridical capital, and relational capital). Expert judgment was utilized to assign weights to various structural components of intellectual capital. An exploratory factor analysis was performed to determine which elements are most important for a company's intellectual capital. Based on the findings, a model of a company's intellectual capital and its influence on market value was developed, optimized, and validated using exploratory factor analysis. The model was designed to examine the listed firms in the Baltic States and how their intellectual capital influences market value.

- (Pham, 2023) since few studies investigate the effects of national intellectual capital on the informal sector. Furthermore, the impact of an external factor, such as institutional quality, on this link has been largely overlooked in earlier research. This research examines the moderating influence of institutional quality on the link between national intellectual capital and informal economy using the generalized method of moment's approaches, which allow for cross-sectional dependency and slope homogeneity in panel data. Several tests are carried out to guarantee the validity of the findings. This paper's empirical findings show that increasing national intellectual capital and institutional quality reduces the informal sector. Surprisingly, improved institutional quality exacerbates the negative impact of national intellectual capital on the extent of the informal economy. The author also discovers that increasing international commerce and economic growth reduces the informal sector in Asian countries.
- (Sucena et al., 2023) The purpose of this article is to investigate the impact of intellectual capital and strategic alliances on the performance and competitiveness of construction firms. To analyze current research and uncover essential topics and themes, the study adopts a qualitative research methodology and a literature review technique. The findings imply that intellectual capital and strategic

collaborations may considerably increase the creativity, efficiency, and competitiveness of construction enterprises. However, efficient asset management and utilization need a thorough grasp of the company's goals, resources, and skills, as well as the establishment of a collaborative and knowledge-sharing culture. The report finishes by offering future research possibilities as well as practical implications for construction businesses seeking to improve their intellectual capital and strategic alliances.

Table (1) Summary of the Main Literature

#	Author	Variables Considered with Intellectual Capital	Countries Considered	Model employed
1	(Ahmed et al., 2023b)	(value-added intellectual capital) and its three components were used as independent variables. ROA and ROE have been used to assess business performance	Pakistan	fixed-effect regression test
2	(Akgün & Türkoğlu, 2023b)	value-added intellectual coefficient (VAIC)	European Union's different countries	squares regression model
3	(Asutay & Ubaidillah, 2023)	value-added intellectual coefficient (VAIC)	49 Islamic banks in different countries	multi regression analysis
4	(Bhattu-Babajee & Seetanah, 2021)	value-added intellectual coefficient (VAIC)	Mauritius-based enterprises	panel vector error correction model (PVECM)
5	(Dwianika et al., 2023)	value-added intellectual coefficient (VAIC)	Indonesia	multiple linear regression method
6	(Haque & Weqar, 2021) value added intellectual coefficient (VAICTM)	value added intellectual coefficient (VAICTM)	India	regression analysis
7	(Hirawati et al., 2021)	Performance indicators for the stock market	Indonesia	panel data regression

8	(Jati et al., 2023)	value-added intellectual coefficient (VAIC)	Indonesia	multiple linear regression MRA
9	(Kondoy & Soewignyo, 2023)	value-added intellectual coefficient (VAIC)	Indonesia	value-added intellectual coefficient (VAIC)
10	(Kumala et al., 2023)	Value Added Intellectual Capital (VAICTM), Return on Assets (ROA),	Nepal	Regression analysis
11	(Lianto, 2023)	industrial sectors' indicators	Indonesia	Fuzzy Delphi Method
12	(Momani et al., 2023)	Value-added intellectual coefficient (VAICTM)	Jordan	Regression analysis
13	(Muslim et al., 2023)	it is derived from financial reports.	Indonesia	Regression analysis
14	(Regina, 2021)	Value Added Intellectual Capital (VAICTM), Return on Assets (ROA),	Indonesia	regression model
15	(Roslan et al., 2019)	Value-added intellectual coefficient (VAICTM)	Indonesia	Multiple linear regression
16	(Rundjan & Susanti, 2023)	Value-added intellectual coefficient (VAICTM)	India	Multiple regression analysis
17	(Tiwari et al., 2023)	Value-added intellectual coefficient (VAICTM)	India	Multiple regression analysis

The other literature this study used are using qualitative research approaches like (Chaudhary et al., 2023), (Mačerinskienė & Survilaitė, 2019), (Pham, 2023) & (Sucena et al., 2023)

METHODOLOGY

The financial performance metrics will be determined by comparing the current year's net profit ratio to the prior year's net profit ratio also the measure of the financial performance will depend on the return on net profit of the year. The return on net profit for the year will be used to assess financial success. The

natural logarithm of staff expenses will be used to calculate human capital. The structural capital measure will be determined by the working capital turnover. The measure of relational capital will be determined by the rise of income.

Variables of the study

Y = Dependent variable: Financial performance:- measured by ROA= NIBT/ T.A

X= Independent variables (intellectual capital)

X1: human capital: measured by Staff wages.

X2: structural capital: measured by Revenue growth.

X3: relational capital: measured by Working capital turnover.

- Model-

Equation:

$$Y= \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where:

-X_1= human capital - α, β are constant

-X_2= structural capital - e= Error

-X_3= relational capital - Y= firm performance

This study investigates the effect of intellectual capital on corporate performance. This study's 27 observations are made up of information from 27 enterprises indexed in Egypt's Stock exchange market, which includes financial banks, financial corporations, and non-financial organizations from 2015 to 2019. Companies are:- Commercial international bank, Fawry for bank technology, Eastern company, Egyptian Kuwaiti holding, Abu Qir Fertilizers, Hermes Holding Co.El Sewedy Electric Electricity. TMG holding. Cleopatra Hospital, Telecom Egypt, SODIC. Madinet Nasr Holding, Credit Agricole Egypt, Oriental Weavers, Palm Hills developments, CI capital holding. Edita Food, Egypt Kuwait holding, Pioneers holding, MM group, GB auto, Orascom development, Orascom investment, Emaar Misr for development, Ezz steel, Citadel capital. And Export Development Bank of Egypt.

The Statistical results

This element discusses the consequences of the tasks statistically via the descriptive statistics, correlation, and regression version for version one.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
(X_1) staff Wages	99	1550	1979763874	255979539.39	441086994.011
(x_2) revenue growth	99	20353561865.0000000000	5027533653.0000000000	137054571.740596030000	2341304989.6703000000000
(X_3) working capital turnover	99	-2245569381.00	13446502742.00	1574949124.9732	3241966162.84084
(Y) ROA	99	.0000000000000000	554.9402929942067000	13.702113350498049	69.4872247009 89860
Valid N (listwise)	99				

In any study, descriptive analysis is a strategy for designing the essential aspects of the entry. They provide a clear and concise summary of the sample and the measurements of each variable in the research. First of all, the minimum of each variable in our study which are staff wages, revenue growth, working capital turnover, and the ROA is 1550, 20353561865.0, 2245569381.00, and 0.0 respectively. Secondly, it is found that the maximum of the variables is 19797638745027533653.0, 0, 13446502742.0, and 554.9402929942067000. Also, the average of each variable is 255979539.39, 137054571.740596030000, 1574949124.9732, and 13.702113350498049. Fourthly, the same old deviation wherein a maximum of the observations finish that there may be a low percent which tells that there may be no large version of a number of the indicators, at the same time as different observations finish that there may be an excessive percentage

which makes clear that there may be large variance among variables because the numbers are 441086994.011, 2341304989.6703000000000, 3241966162.84084, 69.487224700989860.

Correlation

		X1 staff	X2 Revenue	X3 Working Capital turnover	Y ROA
X1 staff Wages	Pearson Correlation	1	-.146		.276**
	Significance(2-tailed)		.150	.174	.006
	N	99	99	.084	99
x2 revenue growth	Pearson Correlation	-.146		99	-.012
	Significance(2-tailed)	.150		-.001	.909
	N	99	99	.988	99
X3 working capital	Pearson Correlation	.174	-.001		-.095
		.084	.988	99	.348
Y ROA	Significance(2-tailed)	99	99	-.095	99
	Significance(2-tailed)	.276**	-.012	.348	
	N	.006	.909		99

- "The relationship between staff wages and revenue growth is negatively correlated."0.146 as the Pearson correlation showed and there is an insignificant of 0.150.

- The relation between staff wages and the working capital turnover presents a positive relation by 0.174 as the Pearson correlation showed and there is an insignificant of 0.084.
- The relation between the staff wages and the ROA presents a positive relation occurring by 0.276 as the Pearson correlation showed and there is a significance of 0.006.
- The relation between the revenue growth and the working capital turnover presents a negative relation is occurred by -0.001 as the Pearson correlation showed and there is an insignificant by 0.988.
- The relation between the revenue growth and the ROA presents a negative relation occurring by -0.012 as the Pearson correlation showed and there is an insignificant of 0.909.
- The relation between the ROA and the working capital turnover presents a negative relation occurring by - 0.095 as the Pearson correlation showed and there is an insignificant of 0.348.

Regression model analysis

Allocating three controlling variables (human capital, structural capital, and relational capital) with one established variable (organization performance) and observed that the P fee that is identical 0.17 is more than alpha 0.05 because of this the

regression version suits the records higher than the version and not using an impartial variables

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Significance
1	Regression	56312.774	4	14078.193	3.174	.017b
	Residual	416877.717	94	4434.869		
	Total	473190.491	98			

Dependent Variable: ROA

Predictors: (constant) X1(staff Wages), X2(Revenue growth, X3(working capital turnover)...

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.345a	.119	.082	66.5948145862 04950

a. Predictors: (constant) number of years, X1Wages, x2, Wc3...

The R square of human capital, structural capital, and relational capital equals 0.119. To sum up, an 11.9% variation of the dependent variable (firm performance) is shown by the independent variables (human capital, structural capital, and relational capital.

Multi coefficients test:								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sign	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	17.131	11.040		1.552	.124		
	X1 staff Wages	4.832E-008	.000	.307	3.085	.003	.948	1.054
	X2 revenue growth	4.693E-010	.000	.016	.160	.873	.965	1.036
	X3 working capital	-3.587E-009	.000	-.167	-1.688	.095	.954	1.049

First, having a staff wages significance value of 0.003 which is lower than alpha 0.05 it is significant and there is a relationship between the variables. Staff wages have an impact on the firm performance.

Secondly, having a revenue growth significance value of 0.873, this is higher than 0.05, which concludes that there is no relationship between revenue growth and the firm performance. Also, having a working capital significance value of 0.095, this is higher than 0.05, which concluded that there is no impact on the firm performance from the working capital turnover.

RESULTS

No.		Independent variables	Expected sign (hypotheses)	Sign from the model	P-value sig.
1	X1	Human capital	+ve	+ve	0.003
2	X2	Structural capita	+ve	-ve	0.873
3	X3	Relational capital	+ve	-ve	0.095

1. H1 stated that there is a significant positive relationship between human capital and firm performance, which is accepted by the results.

1- H2 stated that there is a significant positive relationship between structural capital and the firm performance, which is rejected by the results.

2- H3 stated that there is a significant positive relationship between relational capital and firm performance, which is rejected by the results as there is an insignificant relationship.

DISCUSSION & CONCLUSIONS

1. The statistical findings for this study revealed a substantial positive association between human capital and corporate financial performance. Furthermore, it found a favorable association between structural capital and the financial success of the organization. On the other hand, the findings suggest that there is a negative relationship between relational

capital and business financial performance. According to the literature review, some writers agreed with the results obtained (approved), as well as authors who did not agree with the statistical data obtained (rejected).

2. According to, (Ahmed et al., 2023; Akgün & Türkoğlu, 2023b; Asutay & Ubaidillah, 2023) the worth of a company's accumulated knowledge and resources that may be leveraged to produce income is referred to as intellectual capital. It is widely used to examine and classify a company's intangible assets, as well as to assess and anticipate their impact on financial performance. First, three major indicators quantify the impact of intellectual capital are:-

A. The term "human capital" refers to the skills, education, experience, and value of an organization's staff. Individuals' business knowledge and expertise will provide value to the corporation. A company's human capital frequently shows how successfully management uses resources to help employees attain their full potential. Many scholars like, (Chaudhary et al., 2023; Mačerinskienė & Survilaitė, 2019; Pham, 2023; Sucena et al., 2023) expected a favorable association between financial success and human capital, and this study examined the impact of human capital on organizational financial performance. According to the literature, human capital refers to an organization's personnel's talents, knowledge, education, experience, and

expertise. As a result, growing and investing in more human capital benefits the organization and provides it with a competitive advantage and knowledge. The findings supported the theory and verified that human resource productivity is an important component of intellectual capability and has a significant impact on company success. As a result, businesses benefit by investing in their employees' experience and knowledge. Furthermore, the study discovered that human capital has the largest impact on a company's financial efficiency since the more informed employees are, the more efficient and successful the job will be. Human capital spending has a favorable influence on a company's financial success. To further investigate the impact of human capital on financial performance, human capital provides the business with a significant competitive advantage in terms of its financial position, as the more knowledge and experience people have in handling and managing the business positively impacts and develops the company's financial performance. According to the findings, improving business financial efficiency requires both education and industry management expertise, with years of managing experience in the same industry being more likely than the degree of education. To summarize, human capital is critical if a company wants to improve the efficiency of its financial performance. As evidenced by the findings of this

study, human capital provides a huge competitive advantage as well as a positive impact on overall management, which results in a positive impact on the company's financial management, which results in a more effective and positive financial performance for the business.

B. The term structural capital is the organization, technique, and innovation capital that supports a company's people and relationship capital. It is one of the three basic components of intellectual capital and consists of the organization's supporting infrastructure, processes, and databases that allow human capital to function. Structural capital is owned by an entity and remains with it even after people depart. It includes the community, systems, databases, intellectual property (IP), non-physical infrastructure, hierarchy, and other variables. The knowledge and meaning included in an organization's structure and procedures are referred to as structural capital. According to the literature study, the researcher projected a favorable association when examining the influence of structural capital on the financial performance of the organization. Processes, programs, structures, intellectual property, and a variety of other intangible assets are all examples of structural resources. Nonhuman knowledge in the organization is represented by proprietary software, computer systems, databases, corporate culture and structure, trademarks, and patents. As demonstrated by scholars

(Bhattu-Babajee & Seetanah, 2021; Dwianika et al.,2023; Haque & Weqar, 2021; Hirawati et al.,2021), there is a significant and positive relationship between structural capital and company financial performance. My findings suggest that structural capital can benefit and have a significant beneficial influence on a firm's financial performance. Structural capital is an organization's know-how, which is often employed in day-to-day operations and documented in papers and rules. Structural capital will enable the firm to gain a significant competitive edge. Since processes, internal culture, management, technical abilities, and other characteristics contribute and are major features for the growth of the company and increase in the efficiency of the job done by upgrading the system and internal business control. Furthermore, it aids in the creation of a systemic shift in the whole process of the organization, resulting in a significant improvement in all management areas of the firm, including financial performance. As a result, structural capital is seen as an element of intellectual capital capable of considerably improving organizational efficiency and aiding in the creation of a competitive advantage that helps the firm's financial situation.

C. Relational capital refers to all of an organization's positive ties with consumers, vendors, associates, clients, and other external organizations. It also encompasses the brand names,

prestige, and trademarks of a corporation. Relational capital may also be found in customer connections, supplier ties, public relationships, and investor relationships. A customer connection is the relationship that exists between a firm and its customers. Many scholars (Jati et al., 2023; Kumala et al., 2023; Lianto, 2023; Regina, 2021) concluded that there is a favorable relationship between corporate financial success and relational capital. Although it may be right in some ways, the results demonstrate that there is a negative association between relational capital and the firm's financial success. Because it focuses on the relationship between personnel and the environment, relational capital may benefit and have a significant influence on the company's management and human resource performance. Furthermore, relational capital works to improve relationships with suppliers, investors, and individuals outside the organization, as well as relationships with the company and management. However, evaluating a direct or positive impact on the firm's financial performance is difficult, if not impossible. Relational capital is important when it comes to improving internal control and managerial efficiency of the company, as well as gaining a better relationship with the company's outside connections. Still, when it comes to financial performance, it doesn't have a significant impact or recognized positive benefit regarding the company's financial position, as deduced when comparing

relational capital to other components and elements of intellectual capital.

RECOMMENDATIONS

1- For more accuracy of financial accounts and to fully represent their true market values, companies should be forced to quantify and report their intellectual capital.
2- Future studies should investigate the relationships between intellectual capital, innovative ideas, and reputation, as well as the interplay between corporate governance traits and intellectual capital.
3- Adopting a well-defined plan for the growth of intellectual capital and its elements, as well as increasing dependence on intellectual capital as a major strategic asset through increased efforts and investments.

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