An-Najah National University
Faculty of Graduate Studies

THE EFFECT OF INTELLECTUAL CAPITAL ON CORPORATE SUSTAINABILITY REPORT AND CORPORATE PERFORMANCE: EVIDENCE FROM PALESTINE, AND JORDAN INDUSTRIAL LISTED COMPANIES

By
Nadeen Omar "Mohammad Ali" Ghanem

Supervisors
Dr. Ghassan Daas
Dr. Muiz Abu Alia

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This Thesis was Defended Successfully on 09/10/2024 and approved by:

Dr. Ghassan Daas **Supervisor**	**Signature**
Dr. Muiz Abu Alia **Co-Supervisor**	**Signature**
Dr. Mohammed Zaid **External Examiner**	**Signature**
Dr. Aladdin Dwekat **Internal Examiner**	**Signature**

Detication

الحمد لله وكفى والصلاة على الحبيب المصطفى وأهله ومن في, أما بعد :

إلى صاحب السيرة العطرة والفكر المستنير, إلى من بذل الغالي والنفيس في بلوغي التعليم العالي

والدي الحبيب

إلى التي أفضلها عن نفسي فهي التي ضحت من أجلي, إلى من كانت دعواتها وكلماتها رفيق الألق والتفوق, إلى مهجة حياتي

أمي الغالية

إلى السند والساعد في الحياه, إلى الذين هم ملاذي ورمز فخري واعتزازي

فأنا منهم وهم مني

اخوتي وأخواتي

إلى رفيق الكفاح في مسيرة الحياه والجذع الثابت الذي نتكئ عليه

زوجي الغالي

إلى بذرة المستقبل ونور قلبي إلى طفلي العزيز

ريان

كما لا بد لي وأن اهدي هذا العمل إلى عائلتي الثانية عائلة زوجي العزيز

إلى كل من كان بجانبي بقلبه ودعائه، إلى كل من ساندني ولو بابتسامة صادقة..

أُهديكم ثمرة جهدي المتواضع هذا

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قال تعالى: ﴿ يَرْفَعِ ٱللَّهُ ٱلَّذِينَ ءَامَنُواْ مِنكُمْ وَٱلَّذِينَ أُوتُواْ ٱلْعِلْمَ دَرَجَٰتٍ ﴾

[المجادلة: 11]

الحمد لله حمداً كثيراً طيباً مباركاً فيه, والصلاة والسلام على سيدنا محمد (صلَ الله عليه وسلم)، أتقدم بأسمى عبارات الشكر والتقدير والعرفان إلى كل من ساعد وساهم في هذا الانجاز

كما اخص بالشكر الأساتذة الذين لم يبخلو يوماً في تقديم مساعدة او معلومة, المشرفين الأكارم : د. غسان دعاس و د. معز ابو عليا على توجيهاتهم القيمة لإتمام هذه الأطروحة، والشكر موصول لأعضاء لجنة المناقشة الأفاضل على تفضلهم بقبول مناقشة رسالة الماجستير، فلكم جزيل الاحترام.

الباحثة: ندين عمر غانم

Declaration

I, the undersigned, declare that I submitted the thesis entitled:

THE EFFECT OF INTELLECTUAL CAPITAL ON CORPORATE SUSTAINABILITY REPORTING AND CORPORATE PERFORMANCE: EVIDENCE FROM PALESTINE, AND JORDAN INDUSTRIAL LISTED COMPANIES

I declare that the work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

Student's Name	**Nadeen Omar "Mohammad Ali" Ghanem**
Signature:	
Date:	**09/10/2024**

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THE EFFECT OF INTELLECTUAL CAPITAL ON CORPORATE SUSTAINABILITY REPORTING AND CORPORATE PERFORMANCE: EVIDENCE FROM PALESTINE, AND JORDAN INDUSTRIAL LISTED COMPANIES

By
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Dr. Muiz Abu Alia

Abstract

The study aimed to explore the impact of intellectual capital efficiency (IC) on financial performance and corporate sustainability reporting (CSR) among industrial firms listed on the Palestine, and Amman Stock Exchanges. It also examines variations in these impacts across different markets. The research involved a sample of 44 industrial companies from the period 2017 to 2021. IC was assessed using the value-added intellectual capital model, while CSR disclosure levels was measured using a checklist based on the Global Reporting Initiative (GRI) standards. Financial performance was analyzed through return on assets, and earnings per share ratio.

The findings indicated that the CSR and financial performance of industrial companies in PEX, and ASE is positively influenced by IC.

The study recommends that businesses enhance practices for disclosing IC and invest in employee training and development. Such investments can bolster financial performance, enhance competitive advantage, and foster innovation. Moreover, adopting and adhering to global reporting standards, such as the GRI standard, is advised to improve the quality of sustainability reports and build investor and stakeholder confidence.

Keywords: Intellectual capital; Corporate Sustainability Reporting; corporate performance; GRI; Palestine Stock Exchanges; Amman Stock Exchanges.

Chapter One

Introduction and Theoretical Background

1.1 Introduction

Generally, there is a difference between the book value and the market value of companies listed on exchanges (Areiqat, 2019). This difference may be attributed to several reasons, including intangible assets such as intellectual capital (IC). When intangible assets are not recognized and measured in companies balance sheet, they significantly contribute to such differences between book and market values (Brennan & Connell, 2000). In recent years, and from the past, the concept of IC extended quickly and broadly, managers and boards of directors of companies tend to pay more attention to intellectual assets than physical assets and work to find the best measurement tools to make it one of the company's capital components (Al-Kakaileh, 2020).

IC is defined as the value of a business encompassing its human capital, according to (Chen, 2019). This includes knowledge, expertise, commercial acumen, and any confidential information that can confer a competitive advantage to the organization, all classified as intellectual property types. IC is further categorized into three sub-components: human capital, structural capital, and relational capital. Human capital, as described by (Accounting Tools, 2021), represents the value employees contribute to the company. Unlike physical assets, human capital cannot be owned by an organization but is crucial for its success. Structural capital encompasses the company's policies, information systems, and proprietary software and databases. As noted by (Liu, 2017) and (Chen, 2021) Relational capital refers to the relationships established with customers, suppliers, and shareholders. These relationships contribute significantly to the organization's reputation, brand value, and overall market position. Together, the aforementioned components of IC are crucial in defining an organization's competitive advantage and ensuring its long-term viability in today's business environment.

In contrast, corporate sustainability reports can indirectly influence the company's valuation, which varies among companies and stakeholders, as highlighted by (Oncioiu, et al., 2020). Generally, sustainability is bolstered by policies and industry practices,

representing a critical facet of development. Given the heightened significance of climate change and environmental issues for companies and stakeholders alike, the preparation of sustainability reports necessitates careful consideration of economic, environmental, and social dimensions (Schau, Traverso, Lehmann, & Finkbeiner, 2011).

On the other hand, Companies worldwide issue various types of sustainability reports to clarify their sustainability practices to stakeholders, as noted by (Tsalis , Malamateniou, koulouriotis, & Nikolaou, 2019). These reports may be standalone documents or integrated into the annual report. They enable managers and stakeholders to assess environmental performance and develop appropriate measurement tools (Oncioiu, et al., 2020) .

Ozkan, et al. (2016), Liu (2017), Areiqat (2019), Aboody and Alamry (2019), Al-Kakaileh (2020), and Meles, et al. (2016) conclude that there is a positive relationship between IC and financial performance, depending on that a positive direct correlation is expected to be between variables in this study. On the other hand, a few studies examined the relationship between IC and corporate sustainability reporting. Based on the findings of (Wijayanti & Asmawanti-S, 2017), who explored the relationship between IC and CSR, including corporate sustainability, a significant influence was observed between IC and social responsibility. Moreover, recent studies by (XU & LIU, 2021) and (Ghadim, Vaez, & Ensani, 2022) have underscored the direct and positive impact of IC on sustainability reporting. Consequently, it is anticipated that there exists a positive effect between IC and corporate sustainability reporting.

1.2 Statement of Research Problem and Questions

As previously discussed, a distinction exists between a company's market value and the book value. Intangible assets, including IC, are recognized as contributing factors to this disparity. IC plays a crucial role in determining the market value of a company, often exceeding its book value, as highlighted by (Areiqat, 2019). This discrepancy poses challenges for financial statement users when evaluating the company’s true worth.

On the contrary, (Wijayanti & Asmawanti-S, 2017) found that IC significantly impacts companies' social aspects and sustainability. Additionally, (XU & LIU, 2021) and (Ghadim, Vaez, & Ensani, 2022) have highlighted a direct influence of IC on CSR. However, there remains a notable gap in research supporting these concepts within the specific population of the current study. Furthermore, there is insufficient understanding of the extent to which changes in IC affect corporate sustainability reporting. Addressing these gaps could provide valuable insights into IC and CSR practice dynamics. Based on that, the study addresses these questions:

1. What is the impact of IC on CSR?
2. What is the impact of IC on financial performance?

1.3 Research Objectives

The primary objectives of this study are to investigate the impact of IC on corporate sustainability reporting and financial performance across all industrial companies listed on the Palestine Stock Exchange, and Amman Stock Exchange.

1.4 Research Importance

In today's business landscape, products manufactured by companies traditionally serve as the primary source of organizational value. However, it is increasingly recognized that intangible assets, such as IC, play a pivotal role in creating and enhancing organizational value, thereby increasing financial performance (Ozkan, Cakan, & Kayacan, 2016).

The importance of this study comes from the new knowledge that adds, which helps to identify the impact of IC on CSR and financial performance. The study proposes a novel model tailored to measure CSR aligned with GRI standards across two stock exchanges: Palestine, and Amman.

Furthermore, this study aims to address the aforementioned research questions in a manner that not only enhances the current study but also contributes to existing literature.

1.5 Theoretical Framework and Hypotheses Development.

1.5.1 Conceptual Framework

1.5.1.1 Intellectual capital

IC represents a critical resource that significantly contributes to economic success and enhances value creation by bolstering competitive advantage (Abdulaali, 2018). Historically, industrial organizations and companies primarily focused on tangible assets such as inventory, cash, buildings, and other physical holdings as their core capital. However, in contemporary business contexts, IC has emerged as a pivotal factor influencing a company's profitability. Consequently, companies must ensure comprehensive disclosure of IC. Such transparency aids financial report users in accurately identifying and quantifying the value derived from IC, (Rankin, Stanton, Gowan, Ferlauto, & Tilling, 2012) contend that, generally, accounting information about intangibles should be able to carry out its intended function of giving investors information to assist with evaluating future cash receipts. However, the financial statement does not disclose IC assets directly. This, in turn, makes the traditional accounting system ineffective in measuring these assets.

The highly dynamic contemporary business environment presents organizations with numerous challenges and changes. IC enables firms to swiftly adapt to these shifts and maintain competitiveness in their respective markets. As (Obeidat, Tarhini, Masa'deh, & Aqqad, 2017) highlighted, IC has progressively evolved into a crucial source of competitive advantage, primarily through fostering innovation.

As we know, IC consists of three main components, human capital, structural capital, and relational capital; the most important one depending on the literature is human capital. According to (Bontis, 2001), Human capital refers to the knowledge possessed by individuals within a firm, often referred to as knowledge assets capable of generating future value streams, (Swart, 2006) argues that human capital tends to be mobile and does not belong to any specific organization since the employees are the ones that own the human capital. Research by (Swart, 2006) shows that human capital is critical since it is a strategic source of creativity and innovation in a business which constitute a bundle of

useful knowledge that characterizes organizations to address technologies, patents, employees, skills and knowledge about customers, suppliers, and stakeholders (Aboody & Alamry, 2019).

IC comes to be an alternative element for competition in the market of companies. Edvinsson and Malone hypothesize that IC alone cannot directly create corporate value. Instead, they argue that corporate value arises when all three components of IC—human capital, structural capital, and relational capital—interact synergistically. This means that if one component is weak or misdirected, even if the other two components are strong, the organization will not be able to effectively utilize its IC to generate corporate value. Thus, the integration and effective management of all three components are essential for leveraging IC to enhance corporate value (Harris, 2016).

With closer thinking about IC concepts and their sources, we can find that human capital theory is the main driver for IC. This seeks to improve and explain that education and employee training is a type of investment tool in human resources, and people's learning capacities are similar to other resources included in producing organization products, in other words, company employees are another form of capital development. It aims to prepare employees' knowledge and increase both individual and organizational productivity (Nafukho, Hairston, & Brooks, 2004).

1.5.1.2 Corporate Sustainability Reporting

Since 1990 the number of companies producing social and sustainability reports has risen steadily (Milne & Gray, 2007). The CSR has been utilized since 2000, and the company's report uses the GRI criteria as a guide (Caesaria & Basuki, 2017).

The concept of sustainability encompasses various dimensions, highlighting not only long-term corporate viability but also considerations beyond profitability (Caesaria & Basuki, 2017). Reports serve as an expanding platform for corporate reporting, providing financial and non-financial information to a wider range of stakeholders, it is made to inform these users about the organization’s ability to manage its key risks related to the organization by showing many types of information in the report related to economic,

operational, social, philanthropic, and environmental objectives (Ballou & Heitger, 2005).

To achieve a comprehensive CSR, various strategies related to corporate sustainability need to be considered. These strategies encompass diverse approaches to addressing sustainability challenges, such as economic aspects including innovation, technology adoption, collaboration initiatives, and effective knowledge management. Sustainability strategies encompass a spectrum of approaches that guide companies in focusing on corporate sustainability. These strategies provide initial direction on how companies can prioritize sustainability efforts. The main corporate sustainability strategies include introverted, extroverted, conservative, and visionary approaches (Baumgartner & Daniela Ebner, 2010).

1.5.1.3 The Global Standards Initiative for Sustainability Reporting (GRI)

The GRI is a non-profit international standards organization that assists businesses, governments, and other organizations in understanding and communicate their impacts on topics including climate change, human rights, and corruption (De Villiers & Sharma, 2017).

The GRI Standards make it possible for any organization, regardless of size, sector, or public or private status, to comprehend and report on its effects on the economy, and environment comparably and reliably, thereby improving transparency about their contribution to sustainable development. It is intended to be a simple-to-use modular collection that provides a comprehensive view of an organization's material themes, their associated implications, and how they are managed (GRI, 2022). Moreover, companies that follow the GRI guidelines in their CSR, Sustainability, or Annual reports can publish them on the GRI website (De Villiers & Sharma, 2017).

The GRI Standards are continually evaluated to ensure they reflect the best practices worldwide for reporting on sustainability, assisting firms in meeting new information requirements from regulators and stakeholders (GRI, 2022).

1.5.2 Theoretical background and hypotheses development

To meet stakeholder expectations and enhance their reputations, companies are increasingly encouraged to voluntarily increase transparency. This motivation drives businesses to release sustainability reports and publish IC items, which serve as benchmarks for a company's ability to employ systems, technology, and resources to achieve environmentally sustainable operations. Consequently, sustainability reports are viewed by companies as an attractive medium for showcasing IC items (Oliveira, Rodrigues, & Craig, 2010).

Stakeholders are defined as any group or individual that can influence or be influenced by a firm's objectives. This group includes shareholders, employees, customers, suppliers, lenders, government agencies, communities, environmental groups, the media, and consumer advocates (Freeman, 1984; Clarkson, 1995). The "narrow sense of stakeholder" refers to parties directly involved in the organization's survival, while a broader definition encompasses any group that could affect or be affected by the achievement of the firm's goals, such as public interest groups. Regardless of the definition, the stakeholder view has led to the consensus that value-added—a measure of wealth generated from the productive use of a company's resources and distributed to various stakeholders—is a more accurate indicator than accounting profit, which primarily reflects returns to shareholders (Belkaoui, 2003).

From the managerial branch of stakeholder theory, corporate disclosure is seen as a strategy for controlling or manipulating the demands of specific groups and negotiating the company's relationship with its stakeholders. Given the substantial incentives for companies to align their actions with stakeholder expectations, effective stakeholder management is crucial. This alignment, achieved through the value of IC, helps reduce information asymmetries and litigation risks (Oliveira, Rodrigues, & Craig, 2010).

On the other hand, Agency theory is widely regarded as the dominant theoretical framework in corporate governance studies. It addresses the agency problem, which arising from the separation between ownership and control. In this context, managers (agents) typically possess more business expertise than shareholders (principals), which

may lead to self-interested behavior by managers and, consequently, increased costs for companies (Yang & Morgan, 2011) . According to (Rahmawati, 2018), agency theorists argue that addressing agency issues in modern businesses necessitates a shift in ownership structure. The agency conflict, driven by differing interests and the inherent competition between owners and managers, underscores the importance of managing this conflict to enhance productivity and managerial efficiency. This approach is considered a key tool in corporate governance (Yang & Morgan, 2011).

Theoretically, agency costs are closely linked to a company's IC and sustainability disclosures (Bually, 2021). First, IC information is essential for principals to make informed business decisions. The more information investors or principals have prior to investing, the better they understand the company's financial performance. IC disclosure provides valuable insights that reduce investors' uncertainty regarding the company's future prospects. According to agency theory, companies incur significant agency costs, which can be mitigated by improving information disclosure and corporate governance mechanisms (Rahmawati, 2018).

Second, disclosure serves as a critical tool for communication with shareholders, helping to reduce information asymmetry between stakeholders and management. Sustainability reporting, in this context, plays a role in lowering agency costs and addressing information asymmetries, potentially leading to improved financial performance for the company (Bually, 2021).

IC, corporate sustainability, and financial performance are interconnected through various theoretical frameworks. These theories suggest that companies should prioritize managing their IC, as it directly influences their social activities and overall corporate performance.

Effective management of IC not only improves the company's capacity to engage in sustainable practices but also contributes to improved financial results, thereby reinforcing the importance of integrating these components into the company's strategic priorities.

1.5.2.1 IC and Financial Performance

Financial performance is defined as a comprehensive evaluation of a business's overall position in terms of assets, liabilities, equity, expenses, revenue, and overall profitability. Ratios are calculated by using various business-related formulas that allow both internal and external users to measure and examine the performance of a company (CFI Team , 2022).

Prior literature has focused on IC and the methods to measure it, particularly on the relationship between it and a company's financial performance.

Researchers in previous studies (Xu & Wang, 2018) and (XU & LIU, 2021) have observed that IC positively influences corporate financial performance, However, not all IC sub-components exert the same impact on financial performance. within the Chinese manufacturing industry, the sector under investigation. Their findings reveal a positive correlation between IC and financial performance, which is measured by the market-to-book ratio. This underscores the notion that increased investments in IC can enhance value creation in emerging economies.

Also, (Sayed & Nefzi ,2024) examined the impact of IC on financial performance in Saudi Arabia, and they found that IC significantly improves bank performance; the most substantial impact on return on equity (ROE) and Net profit margin (NPM) is illustrated by the efficiency of human capital. While structural capital and capital employed efficiency may have varying effects on different performance indicators, both contribute positively to overall performance.

According to (Ozkan, Cakan, & Kayacan, 2016), financial performance is positively affected by capital-employed efficiency and human capital efficiency, which is part of IC. They indicate that companies need to use all financial and physical capital if they wish to get more earnings and higher profitability. On the other hand, (Liu, 2017) showed that social capital affects the relationship between IC and financial performance as an intervening variable. The study concluded that human capital is the most sub-component that positively effect on financial performance. (Areiqat, 2019) finds similar results on the relationship between the IC and corporate performance. (Aboody & Alamry, 2019)

identified IC as an important factor on which companies depend to increase their market value and improve performance. (Al-Kakaileh, 2020) and (Xu & Wang, 2018) exhibit a positive relationship with financial performance, unlike other sub-components of IC. However , (Xu & Wang, 2018) discovered that innovative capital captures more information on structural capital which has a negative impact on the performance of Korean manufacturing firms.

On the other hand, (Mondal & Ghosh, 2012) worked to study the relationship between IC and the financial performance of the banks by using the value-added intellectual coefficient method (VAIC) to measure banks' IC. According to the study's findings, the relationships between the performance of a bank's IC and financial performance indicators, such as profitability and productivity, are complex. Based on this, banks' IC is critical to their competitive advantage.

Based on the above, the following hypothesis was developed:

H1: There is an impact between IC and ROA

H2: There is an impact between IC and EPS.

1.5.2.2 IC and Corporate Sustainability Reporting

The relationship between CSR and IC, and other intangible assets has not been extensively explored in existing research, especially when sustainability reporting is considered the dependent variable. Given this gap in the literature, it is important to delve into the available resources and related studies to provide a comprehensive discussion on how sustainability reporting interacts with IC and intangible assets.

(Bontis, 2001) study the measurement way for IC and identify it, the researcher shows that the key factor of competitive advantage for companies that have IC is knowledge. Indicated that to confront the rising knowledge adversity of work, organizing, and value creation of knowledge companies should represent the basis for a review of IC measurement. The researcher proceeds to delve into the knowledge-based perspective and proposes four critical topics that merit better recognition in IC measurement. Moreover,

they argue that there is an important measurement way for IC has be lost. (Wijayanti & Asmawanti-S, 2017) examined the relationship between IC and corporate social responsibility, they showed that social responsibility is significantly influenced by IC disclosure in financial reporting, and also they found that companies' performance is affected by corporate social responsibility; greater profit means more care about the environment. On the other hand, (Razafindrambinina & Kariodimedjo, 2011) demonstrated that IC, measured through VAIC (Value Added Intellectual Coefficient), does not show a significant relationship with corporate social responsibility disclosure. However, among the components of IC, only capital employed efficiency has a significant impact on CSR disclosure, whereas human capital efficiency and structural capital efficiency do not exhibit significant effects. Moreover, (Fajriyanti, Sukoharsono, & Adib, 2021) and (Ghadim, Vaez, & Ensani, 2022) examined the effect of IC on corporate sustainability reporting for different markets, and both studies found that IC has a positive effect on sustainability reporting.

In their study, (Xu & Wang, 2018) explored the relationship between IC and companies' sustainable growth. They emphasized the significance of measuring the role and impact of IC in the development and implementation of sustainability reports. According to their findings, IC exerts a positive effect on companies' sustainable growth.

The other type of study like (Kolk, 2008) examines if corporate sustainability reporting includes corporate governance aspects. The researcher worked on analyzing the relationship between sustainability reporting and corporate governance by using non-financial reports for companies. While (Bually, 2021) examines the relationship between sustainability reports and performance in the food industry by employing observational tools to collect sustainability data. It represents the first research effort to view sustainability reports as tools for innovation within this sector.

Another type of study analysis of corporate sustainability reports and their practices. (Hedberg & Malmborg, 2003) worked to analyze corporate sustainability reporting, specifically focusing on whether companies adhere to guidelines developed by the GRI. It also investigated the influence of GRI adherence on corporate social responsibility and

environmental management practices. They conclude that all companies produce corporate sustainability reporting only to seek organizational legitimacy. (Adams & Whelan, 2009) and (Milne & Gray, 2010) worked to determine and conceptualize how future prospects changes in corporate social disclosure will be, and if managers and other corporate shareholders affect corporate social disclosure. Moreover, (Kozlowski, Searcy, & Michal, 2014) identify the reported indicators related to sustainability reports for the apparel industry, the study finds that there is a lack of consistency among corporate sustainability indicators.

Based on the above, the following hypothesis was developed:

H3: There is an impact between IC and CSR.

1.6 Study hypothesis

H1: There is an impact between IC and ROA.

H2: There is an impact between IC and EPS.

H3: There is an impact between IC and CSR.

Chapter Two
Research Methodology

2.1 Introduction

The methodology used to investigate the association between VAIC and both CSR and financial performance shares similarities with the approach taken by Ozkan et al. (2016), which was used to examine the association between IC and financial performance.

The extant literature provided different methods to measure IC. These methods include the balanced scorecard framework (BSC) (Bose & Thomas, 2007), the Skandia Navigator by (Chen, Zhu, & Xie, 2004), the intangible asset Monitor (Bontis, 2001), and the value-added intellectual coefficient method (VAIC) introduced in 1993 to measure the value created by IC, and it will be used in our current study. VAIC method will used to measure the IC of the companies, it measures the newly- created value per monetary unit invested in each source. A higher VAIC means more value added created by sources of the companies (Ozkan, Cakan, & Kayacan, 2016).

The methodology for examining the relationship between IC and corporate CSR depends on previous studies. Questionnaires and dummy variable lists are used in the literature as a measure tool for CSR, there is no overall consensus on the items that should be included in these tools (Schau, Traverso, Lehmann, & Finkbeiner, 2011). Depending on GIR standards, the company's industry, and the country in which the company is located, the chick list components will be created to measure the CSR.

2.2 Data Collection Methods

Secondary data was utilized in this study. Specifically, data on IC, financial performance, CSR, and control variables (solvency_ratio, firm-size, and firm_age) were gathered from annual reports, disclosures, and sustainability reports, where available, from companies listed on the official websites of the Palestine and Amman Securities Exchanges during the period 2017 to 2021.

2.3 Study Environment

The study environment of the Palestine Exchange (PEX), and Amman Stock Exchange (ASE).

2.3.1 Palestine Stock Exchange

PEX, established as a private corporation in 1995 with the aim of boosting investment in Palestine, conducted its first trading session in February 1997. In 2010, PEX transformed into the second fully privately controlled Arab stock exchange. Since its inception, PEX has prioritized the implementation of advanced technology to uphold the highest standards of integrity, transparency, and investor protection. Both the Central Securities Depository (CSD) and PEX trading surveillance have been consistently overseen using NASDAQ OMX systems. In 2019, trading operations transitioned to NASDAQ's state-of-the-art "X-Stream" platform.

PEX comprises five sectors encompassing listed companies in investment services, insurance, banking, and financial services. Trading at PEX is conducted in US dollars and Jordanian dinars. Securities companies (brokerage firms) affiliated with PEX provide services in the West Bank and Gaza Strip, with approved custodians available to assist foreign investors (PEX, 2024).

2.3.2 Amman Stock Exchange

ASE was established in March 1999 as an independent, non-profit organization authorized to function as a regulated securities trading exchange in Jordan. On February 20, 2017, it was officially registered as "The Amman Stock Exchange Company (ASE Company)," transforming into a publicly owned shareholding entity fully owned by the government. The ASE Company serves as the legal and operational successor to ASE, overseen by a full-time chief executive officer and a seven-member board of directors.

The objectives of ASE include enhancing awareness and knowledge about financial market investments, defining and expanding services offered by the exchange, and managing and developing operations across securities, commodities, and derivatives markets within and outside Jordan. ASE is committed to providing a robust and secure

environment that facilitates the interaction of supply and demand forces for securities investments through proper trading practices (ASE, 2024).

2.4 Population of study and sample selection

The main objective of this study is to investigate the impact of IC on the CSR and financial performance of industrial companies listed on the PEX, and ASE. The study's sample comprises all industrial companies listed on these exchanges during the five-year period 2017 to 2021.

The sample selection criteria are intentionally set to ensure robustness and relevance to the study objectives. Firstly, selected companies must already be listed on PEX, and ASE. Secondly, annual reports for each year from 2017 to 2021 must be readily accessible. Lastly, selected companies should have been listed on the exchanges prior to 2017 and maintained their listing status through 2021. These criteria aim to ensure continuous and complete coverage of data availability throughout the study period.

Based on the above, the study selected 11 companies from Palestine, totaling 55 observations, and 33 companies from Jordan, totaling 165 observations.

Tabel (1)

Summary of the sample

Market	Sector	Original listed Co.	The selected sample
PEX	Industry	11	11
ASE	Industry	33	33
Total		**44**	**44**

2.5 Definition of Variables and Indicators

2.5.1 Independent variable

The next equations will used to calculate the VAIC:

1- $VAIC_{i,t} = CEE_{i,t} + HCE_{i,t} + SCE_{i,t}$

2- $VA_{i,t} = OP_{i,t} + EC_{i,t} + A_{i,t}$

3- $CEE_{i,t} = VA_{i,t} / CE_{i,t}$

4- $HCE_{i,t} = VA_{i,t} / HC_{i,t}$

5- $SC_{i,t} = VA_{i,t} – HC_{i,t}$

6- $SCE_{i,t} = SC_{i,t} / VA_{i,t}$

Whereas:

In equation (1), $VAIC_{I,t}$ refers to the value-added IC coefficient of the company i in t time. $CEE_{i,t}$ refers to the capital employed efficiency coefficient of the company i in t time. $HCE_{i,t}$ refers to the human capital efficiency coefficient of the company i in t time. $SCE_{i,t}$ refers to the structural capital efficiency coefficient of the company i in t time.

In equation (2), $VA_{i,t}$ refers to the total value added of the company i in t time. $OP_{i,t}$ refers to the operating profit of the company i in t time. $EC_{i,t}$ refers to the employment cost of the company i in t time. $A_{i,t}$ refers to the amortization and depreciation of the company i in t time.

In equation (3), $CE_{i,t}$ refers to the capital employed (book value of assets) of the company i in t time; in other words, the equity value of the company i.

In equation (4) - (5), $HC_{i,t}$ refers to the personnel expenses of the company i in t time.

2.5.2 Dependent variables

2.5.2.1 Corporate sustainability report

In this study, CSR will be assessed using a checklist model aligned with GRI standards. The selected standards from the GRI Content Index will be applied specifically to the financial markets under examination, namely the PEX, and ASE. The items identified in Table (2) have been carefully chosen and adapted to meet environmental perspectives and regulatory requirements applicable to publicly listed companies on these exchanges.

Table (2)

Summary of the GRI standards content index

GRI STANDARD NO.	GRI STANDARD
GRI 2	General Disclosures 2021
GRI 3	Material Topics 2021
GRI 201	Economic Performance 2016
GRI 202	Market Presence 2016
GRI 203	Indirect Economic Impacts 2016
GRI 204	Procurement Practices 2016
GRI 205	Anti-corruption 2016
GRI 206	Anti-competitive Behavior 2016
GRI 207	Tax 2019
GRI 301	Materials 2016
GRI 302	Energy 2016
GRI 303	Water and Effluents 2018
GRI 304	Biodiversity 2016
GRI 305	Emissions 2016
GRI 306	Waste 2020
GRI 308	Supplier Environmental Assessment 2016
GRI 401	Employment 2016
GRI 402	Labor/Management Relations 2016
GRI 403	Occupational Health and Safety 2018
GRI 404	Training and Education 2016
GRI 405	Diversity and Equal Opportunity 2016
GRI 413	Local Communities 2016
GRI 414	Supplier Social Assessment 2016
GRI 416	Customer Health and Safety 2016
GRI 417	Marketing and Labeling 2016

2.5.2.2 Financial performance

The following ratios will used to express the financial position of the companies:

ROA: expresses the relationship between net income and total assets of the company, refers to a financial ratio that indicates how profitable a company is in relation to its total assets.

EPS: earning per share.

2.5.3 Control variable

Numerous studies utilize diverse control variables based on their specific objectives and methodological approaches. In our study, we incorporate 3 variables to observe the impact of independent variables on dependent variables across multiple financial markets (Sayed & Nefzi, 2024) and (Haq, Ahmed, Arshad, & Alvi, 2024).

Solvency ratio: "Leverage" is used to measure the ability of the company to meet its long-term obligations, and it will be calculated by dividing total debt by total equity.

Firm size: The logarithm of companies total assets.

Firm_Age: The logarithm of company age (Company age since inception)

Table (3)

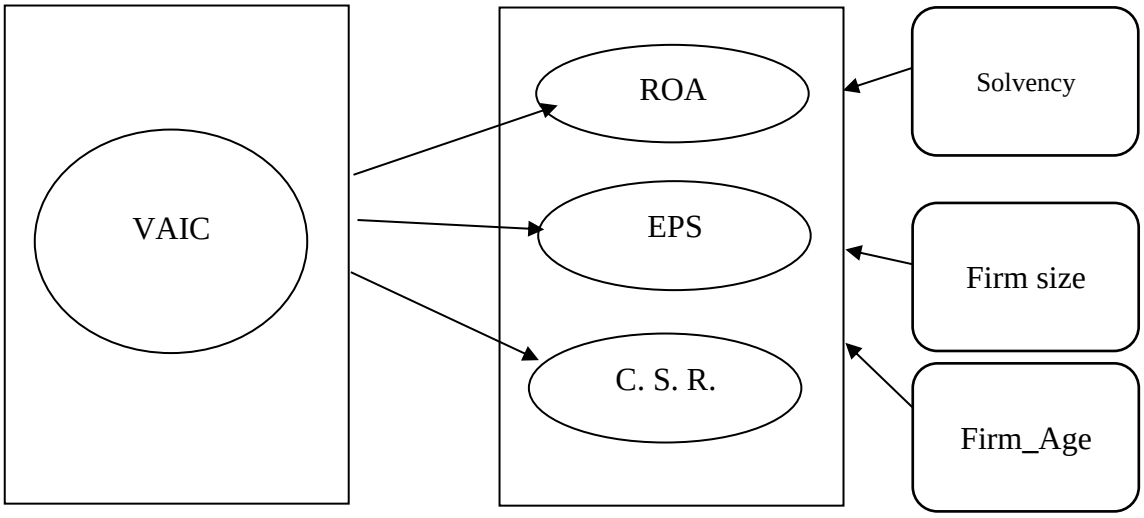
Definition of Variables and Indicators

Variable	Variable type,	Variable definition	Measurement	Source, reference	Data sources
IC	Independent variable	Intellectual capital. the VAIC model is used to measure the independent variables in this study	VAIC i,t = CEE i,t + HCE i,t +SCE i,t	(Ozkan, Cakan, & Kayacan, 2016), (Xu & Wang, 2018) & (Mondal & Ghosh, 2012) studies	Published financial statements
CSR	Dependent variable	Corporate sustainability Report	The dummy variable used to measure CSR through a checklist consisting of GRI standards - GRI content index template (0 or 1 depending on the application of the standard or not)	GRI standards	Published financial reporting & sustainability reporting
EPS	Dependent variable	Earnings Per Share	Net income – preferred dividends \ common shares	(Hayes, 2020)	Published financial reporting
ROA	Dependent variable	Return on Assets	Net income \ total assets value	(Hargave, 2022) and (Sayed & Nefzi, 2024) and (Ali, Murtaza, Hedvicakova, Jiang, & Naeem, 2022)	Published financial reporting
Solvency	Control variable	The ability of the company to meet its long-term obligations	Debt to equity = total debt \ total equity	(Hayes, 2020) & (Xu & Wang, 2018)	Published financial statements
Firm size	Control variable	The logarithm of companies total assets.	ln(total assets)	(Xu & Wang, 2018)	Published financial statements
Firm_ Age	Control variable	The logarithm of company age (Company age since inception)	ln(number of year)	(Xu & Wang, 2018)	Published financial statements
Dummy variable	Control variable	is used to express the stock exchange differences by using 1, and 2 for each exchange.	Palestine Exchange (PEX) = 1 Amman Stock Exchange (ASE) = 2		

2.6 Model of the study

Figure (1)

Model of study



ROA = a + B_1 IC + B_2 FS + B_3 SOLV + B_4 FA + e ……...…...Model (1)

EPS = a + B_1 IC + B_2 FS + B_3 SOLV + B_4 FA + e ……....…...Model (2)

CSR= a + B_1 IC + B_2 FS + B_3 SOLV + B_4 FA + e ……...…...Model (3)

Where:

a: Constant

IC: intellectual capital

FA: Firm age

FS: Firm size

E: Error

B1, B2: parameters that have been estimated.

2.7 Statistical Analysis Methods

The regression models, variance analysis, and correlation analysis methods will be used to test the hypotheses of this study (Ozkan, Cakan, & Kayacan, 2016) and (Liu, 2017).

Chapter Three

Results

This section shows various statistical tests to explain the effect of IC on CSR and financial performance. The following steps are part of the analysis: a Correlation Matrix to examine the connections between variables and determine the direction and strength of the connections between corporate performance, CSR, and IC (Hair, Black, Babin, & Anderson, 2010); using regression analysis to determine the degree to which IC influences these dependent variables in order to investigate the impact of IC on corporate performance and sustainability reports (Zikmund, Babin, Carr, & Griffin, 2013). Through these statistical tests, we aim to comprehensively understand how IC impacts CSR and financial performance among the stock exchanges.

3.1 Descriptive Analysis

The descriptive statistics for the PEX and ASE provide a comprehensive overview of various financial metrics for the companies listed on these exchanges.

Table (4)

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	220	0.023	0.069	-.113	.128
EPS	220	0.151	0.448	-.484	2.601
Sustnabilityratio	220	0.19	0.084	0	.424
IC	220	4.4	5.255	-9.15	30.11
Solvency Ratio	220	.801	0.678	.172	2.197
Firmsize	220	17.036	1.428	13.139	20.883
Firm Age	220	3.351	0.573	1.946	4.22

The descriptive statistics provide an overview of the key variables under analysis IC shows the minimum value is -9.15, and the maximum is 30.11. The mean is 4.4, with a standard deviation of 5.255, highlighting a diverse landscape in terms of intellectual assets., ROA shows the minimum is -0.113, and the maximum is 0.128. The mean is 0.023, with a standard deviation of 0.069, showing that ROA values are relatively low with some variability, EPS presents values ranging from -0.484 to 2.601, with a mean of 0.151 and a standard deviation of 0.448, reflecting important variation in profitability,

CSR presents Values ranging from 0 to 0.424, with a mean of 0.19 and a standard deviation of 0.084, suggesting moderate levels of sustainability across firms, Solvency Ratio shows the minimum is 0.172, and the maximum is 2.197. The mean is 0.801, with a standard deviation of 0.678, indicating differences in the companies' abilities to meet long-term obligations, firm size presents the minimum is 13.139, and the maximum is 20.883. The mean is 17.036, with a standard deviation of 1.428, reflecting a consistent trend among medium-to-large firms. Finally, firm age presents the minimum is 1.946, and the maximum is 4.22. The mean is 3.351, with a standard deviation of 0.573, indicating minimal variability. The results of this study demonstrate substantial variation in financial performance, CSR, and IC, but moderate variation in firm size and age.

After data was collected, one of the most important points in this study has been reached, which is the calculation of the number of industrial listed companies in PEX, and ASE that issue corporate sustainability reports separately from those that do not issue these reports and only depend on the annual reports. The next chart shows the details of CSR numbers.

Figure (2)

Corporate Sustainability reports number for all markets

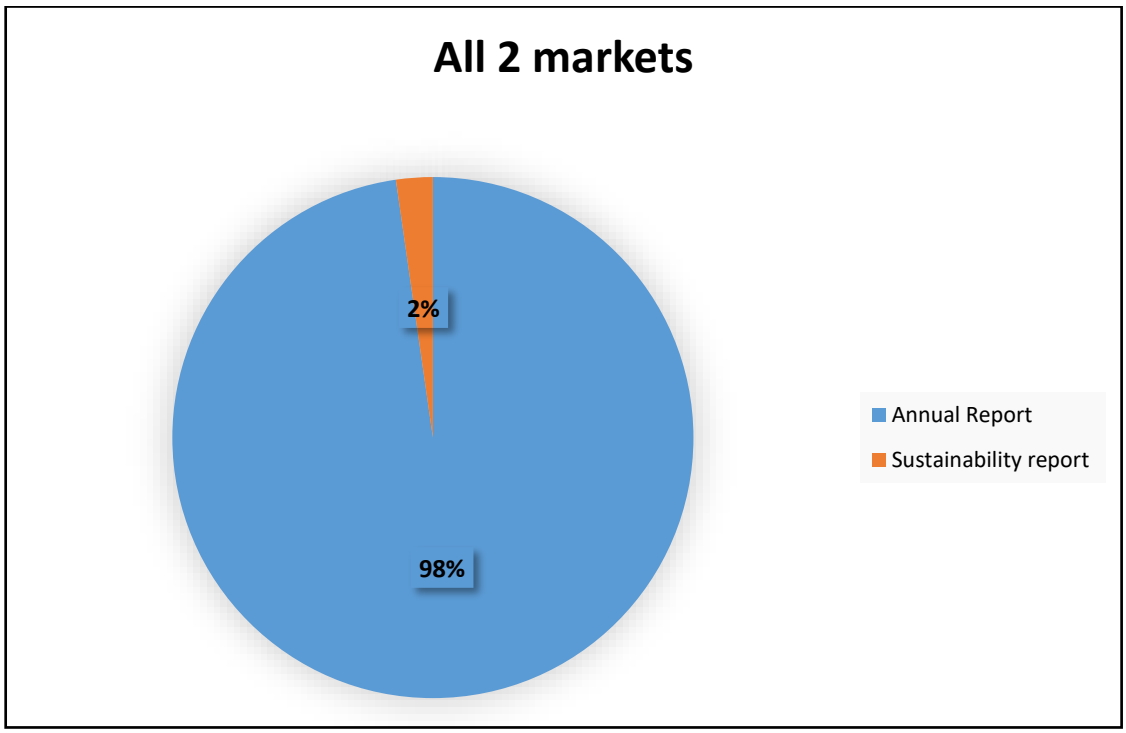


Figure (3)

Corporate Sustainability reports number for ASE

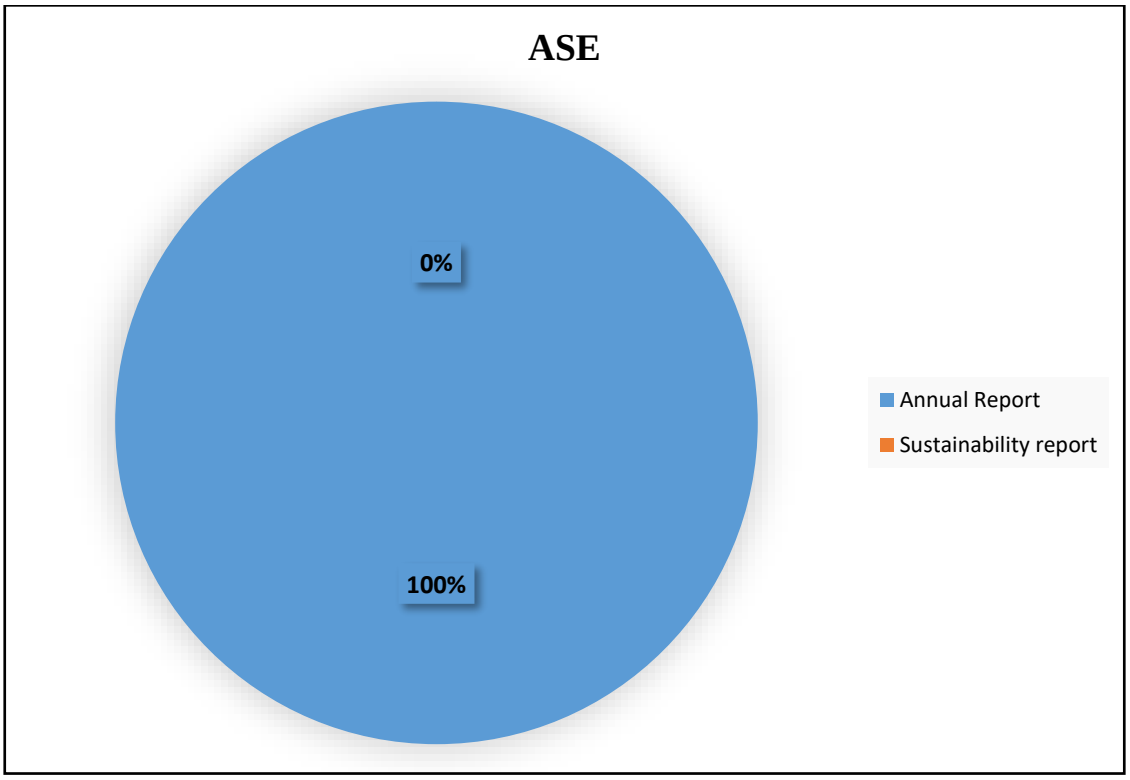
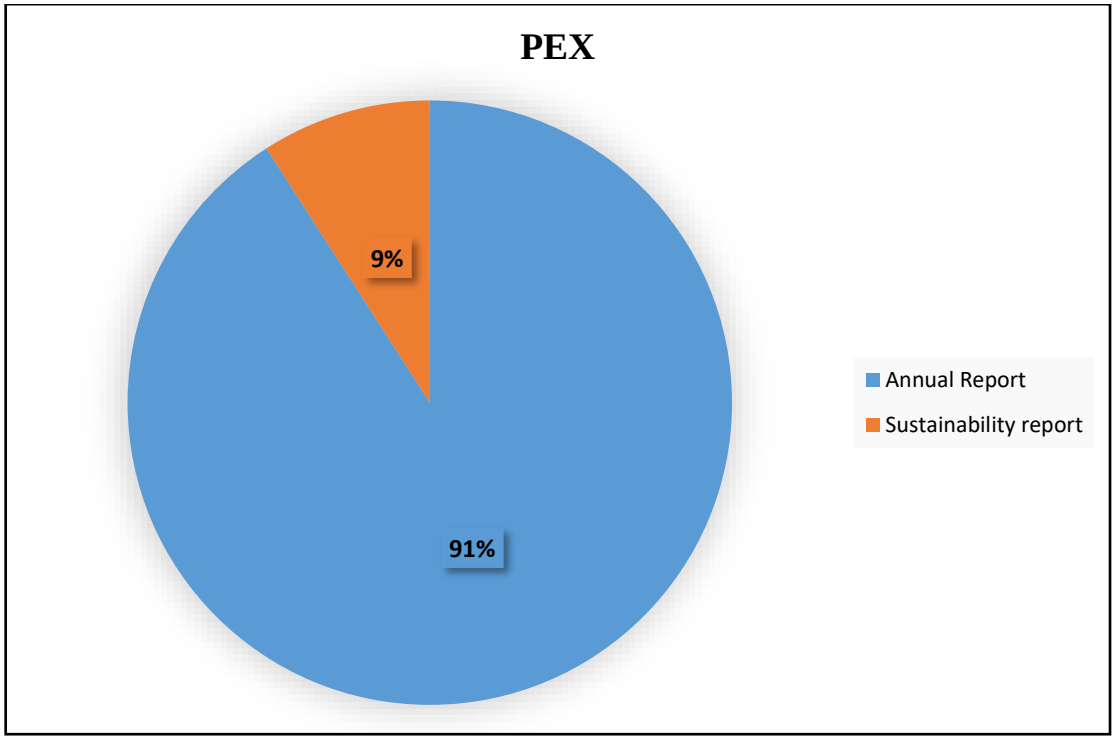


Figure (4)

Corporate Sustainability reports number for PEX



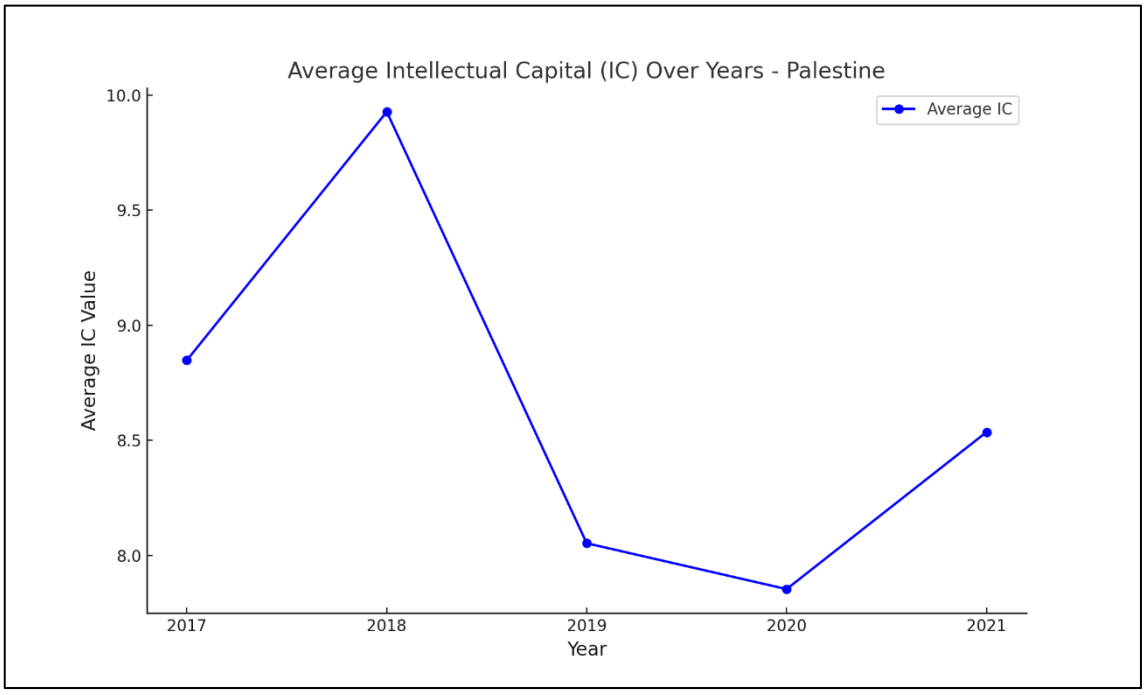
Based on the data presented, it is evident that CSR varies significantly across the PEX, and ASE. In PEX, approximately 9% of industrial listed companies are actively engaged in issuing comprehensive sustainability reports adhering to GRI standards, representing one out of eleven companies. Conversely, all industrial listed companies on ASE rely solely on annual reports for environmental disclosure.

Moreover, an arithmetic average was extracted for the extent of companies' commitment to working on their IC, and CSR disclosure. The following curves reflect this disclosure:

1- IC

Figure (5)

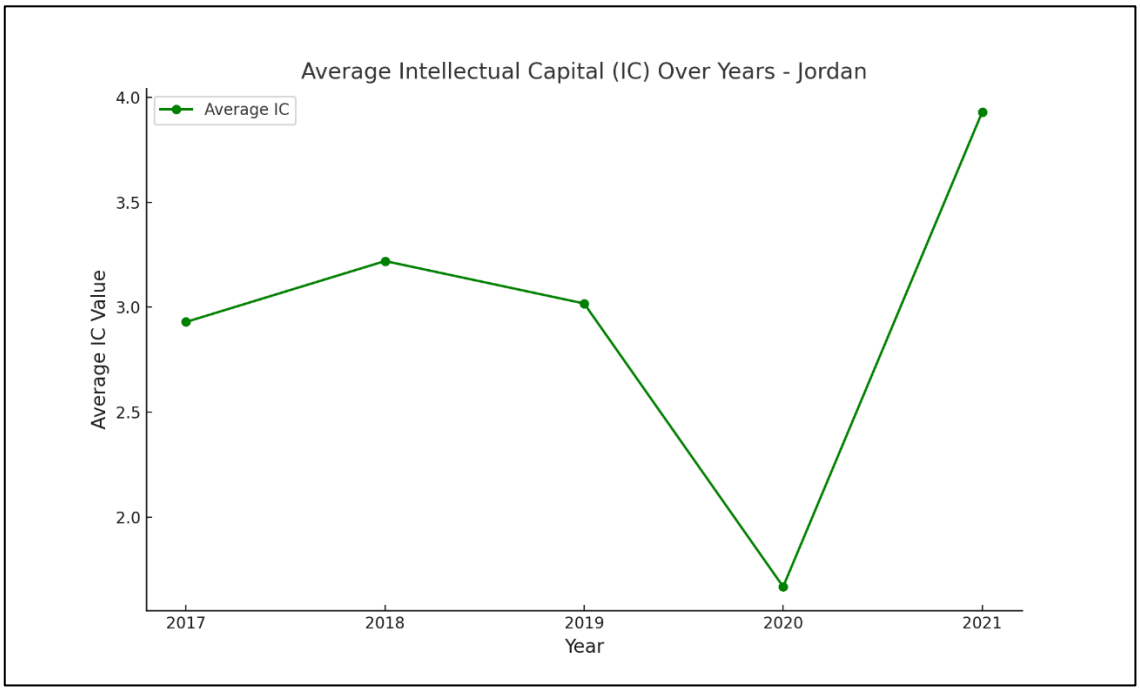
Average IC - PEX



The average IC for Palestinian companies between 2017 and 2021 is in figure (5). IC, which stands for intangible assets including knowledge, experience, and organizatio nal links increased in 2018 reflecting a significant enhancement in the intellectual resources and capacities of businesses. But a steep drop in 2019 points to possible challenges, such as economic stress. After that, a slow rebound in IC between 2020 and 2021 would suggest companies are using flexible methods to replenish their intellectual capital.

Figure (6)

Average IC - ASX

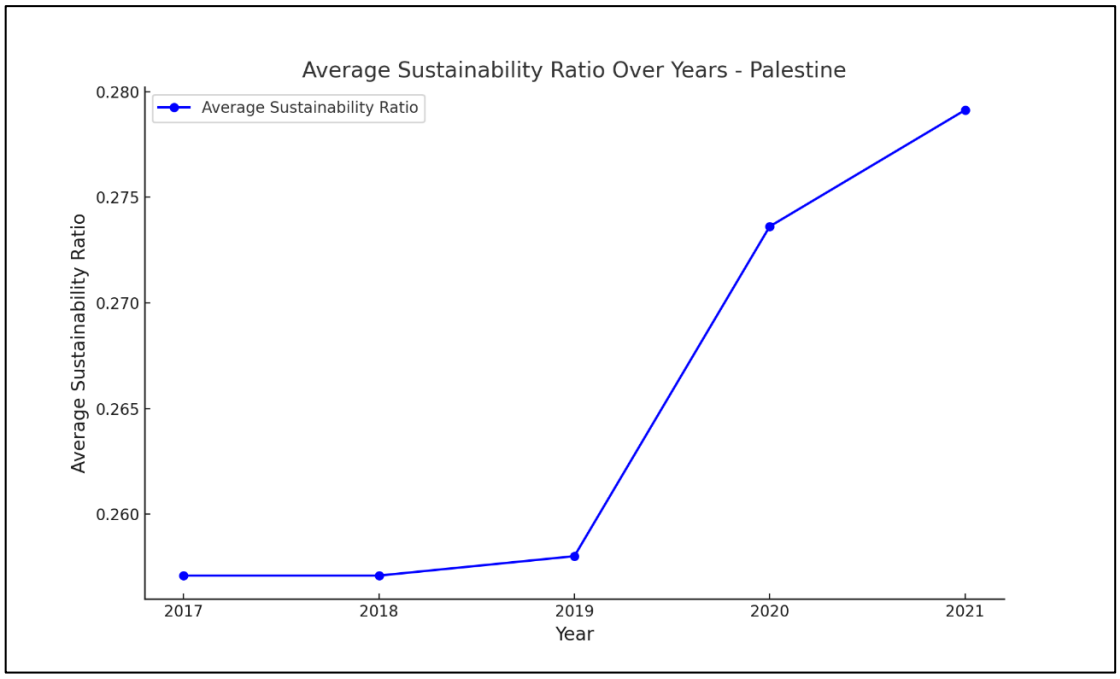


The figure (6) shows the average IC trend for all Jordanian companies between 2017 and 2021. From 2017 to 2018, IC increased consistently, indicating that companies intellectual resources had improved. However, there was noticeable decline in 2019, which may have been brought on by unfavorable organizational or economic factors, and the IC value reached its lowest point in 2020. A significant recovery and increased strategic focus on restoring intellectual resources were indicated by IC's notable recovery by 2021.

2- CSR

Figure (7)

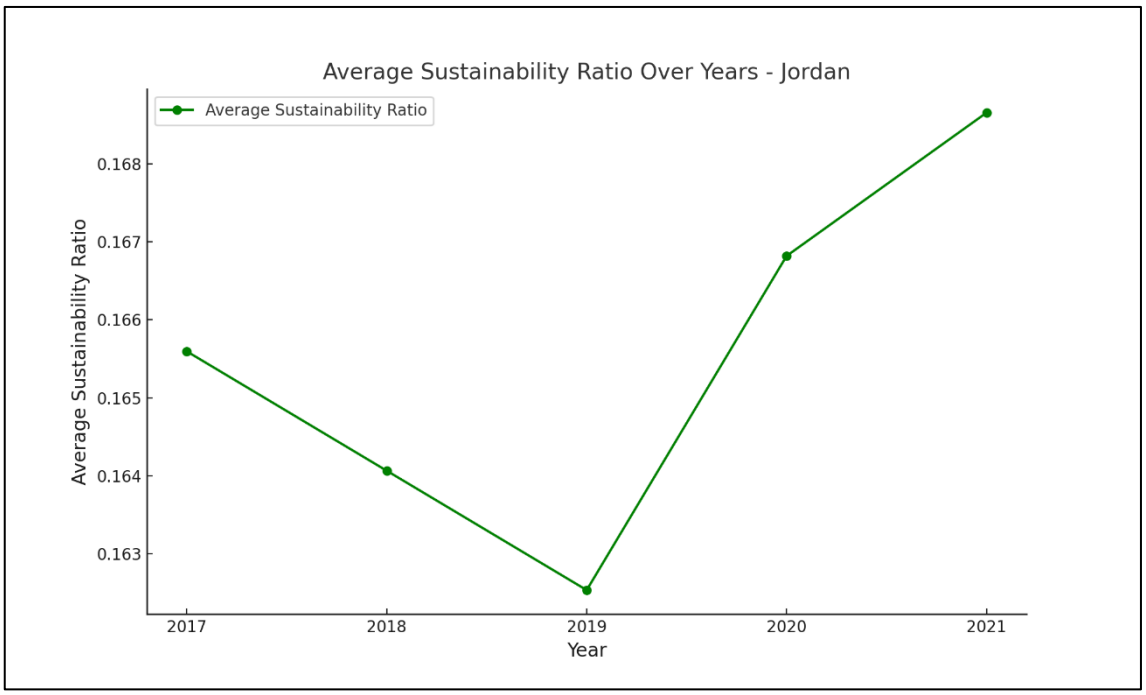
Average CSR - PEX



The average sustainability ratio trend across Palestinian companies from 2017 to 2021 is illustrated in the figure (7). Between 2017 and 2019, the sustainability ratio was mostly stable. But starting in 2020, there was a discernible increase, and the ratio reached in 2021. This higher tendency could be a sign of increased commitment to resilient behavior and sustainable practices in the face of outside challenges like changes in the economy.

Figure (8)

Average CSR - ASX



The graph shows the average sustainability ratio trend for Jordanian companies between 2017 and 2021. Between 2017 and 2019, the sustainability ratio decreased, indicating potential challenges in upholding sustainable practices. But between 2020 and 2021, there was a significant increase, with 2021 seeing the highest ratio.

3.2 Correlation Analysis

Table (5)

Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) ROA	1.000						
(2) EPS	0.637	1.000					
(3) sustnability	0.311	0.302	1.000				
(4) IC	0.382	0.355	0.612	1.000			
(5) Solvency_Ratio	-0.375	-0.154	0.033	-0.083	1.000		
(6) Firmsize	0.260	0.389	0.076	-0.013	0.185	1.000	
(7) Firm_Age	0.210	0.343	0.199	0.084	0.081	0.175	1.000

The correlation matrix results showed how the dependent and independent variables correlate with each other to explore the existence of the collinearity problem. It is shows the pairwise relationships between ROA, EPS ,CSR, IC, Solvency Ratio, Firm Size, and Firm Age. Below is an interpretation of the key correlations:

1. ROA

EPS (0.637): The findings indicate a highly significant relationship between ROA and EPS t (= 4.23, $p < 0.01$) which as pointed out above means that organizations with high profitability as measured by ROA also report high EPS. This is expected because both of them are typical measures reflecting financial performance. Sustainability (0.311): Though, the relationship between ROA and Sustainability is only positive and relatively strong; this may mean firms with better performance on their books (ROA) also have better sustainability behavior. The coefficients that are found are as follows: year, profitability, and sustainability, however, this is not a very strong relationship which suggests that both profitability and sustainability are only weakly related. IC (0.382): There exists a moderately positive relationship between ROA and Intellectual Capital (IC) which means that firms having better IC also possess good returns on their assets thereby showing the efficacy of intangible components to induce better returns. Solvency Ratio (-0.375): From the regression results, an inverse relationship is observed between ROA and Solvency Ratio; these findings imply that firms with greater solvency enjoy less productiveness in asset use, as indicated by ROA figures. This could be interpreted to mean that perhaps firms with high SE may be using their assets inefficiently, or else have excess capital. Firm Size (0.260): A positive but relatively low coefficient of correlation is observed for ROA and Firm Size thus indicating that larger firms may generate slightly better returns on assets. Firm Age (0.210): Therefore, the results give a very low positive correlation between ROA and Firm Age where some firms of old age exhibit better returns on their assets as compared to comparatively younger firms even though the effect is very low.

2. EPS (Earnings Per Share)

Sustainability (0.302): In general, a moderate correlation between EPS and Sustainability highlights the idea that firms, that have higher EPS, are in average, more sustainable. IC (0.355): When the coefficient of determination is moderate and positive between EPS and IC, it means that firms with better off in IC are likely to report better off in earnings per

share which well depicts that intangible assets are powerful parameters for creating profitability. Solvency Ratio (-0.154): Using the Variables: EPS and Solvency Ratio, little negative correlation is observed hence, more financially secure firms may set the EPS plateauing the whole thing thus giving a signal of Declining Returns To Financial Stability. Firm Size (0.389): A moderate positive correlation between EPS and Firm Size to some extent indicates that large companies usually post high EPS because of factors such as economies of scale and efficient operation. Firm Age (0.343): Moreso, a moderate positive significant relationship between EPS and Firm Age reveals that Firms of a higher age result in high EPS as such Firms have stable earnings prospects or better financial management over time.

3. Sustainability

IC (0.612): A direct positive relationship between CSR and IC may be used to infer that firms with higher IC are more likely to be sustainable. This may be due to the fact that issues such as innovation, knowledge, brand name, and image can play a major role in the establishment of sustainable programs. Solvency Ratio (0.033): This calls for the conclusion that CSR and Solvency Ratio are not directly related since the positive correlation coefficient is very close to zero. Firm Size (0.076): The positive and insignificant, yet weak, relationship between CSR and Firm Size showed that firms with relatively higher size exhibited somewhat better sustainability behavior. Firm Age (0.199): The coefficient of determination between CSR and Firm Age indicates that the older the firm, the higher its configuration with sustainability but not significantly.

4. IC

Solvency Ratio (-0.083): That is why the coefficients, linking IC and Solvency Ratio are very weak and negative, which indicates that the growing IC does not mean that the firms' solvency is lower, although this dependence is very weak. Firm Size (-0.013): A low coefficient of determination, where the value of the determination coefficient figure is extremely close to zero, shows that there is little if any relation between IC and Firm Size. The acquirer's firms and target's firms do not differ significantly in size: Firms with larger stock market value,; Firms with higher amounts of IC are not larger or smaller on average. Firm Age (0.084): A very low, almost zero correlation has been observed between IC and

Firm Age, therefore we infer slightly higher IC for firms that are older, but this increase is largely negligible.

5. Solvency Ratio

Firm Size (0.185): As was expected, there was a relatively weak positive relationship between Solvency Ratio and Firm Size as larger firms are slightly more likely to achieve a higher solvency ratio since firms that are bigger usually have better access to more capital. Firm Age (0.081): The first coefficient, named Solvency Ratio, has a very low positive correlation with the second one, Firm Age, which means that slightly older firms were reported to have a higher solvency ratio, but the difference is very small.

6. Firm Size

Firm Age (0.175): A weak positive significant relationship between Firm Size and Firm Age, reveals that as the number of years increases in operation, the firms tend to have slightly larger size though this relationship is small.

Summary of Key Insights

We observe a strong positive relationship between ROA and EPS which suggests that firms with higher profitability as represented by the two variables employ similar EPS.

CSR is significantly and positively related with both ROA and EPS at a moderate level although the significance level of correlation of each is less when compared with most of the financial variables indicating the fact that CSR might have some impact on financial performance, but other factors could also influence it. These findings indicate a positive relationship between IC in creating firm profitability as measured by ROA and EPS.

The negative relationship between ROA and Solvency Ratio indicates that while, corporate solvency is beneficial for them, at other times the Use of Assets in the form of financial stability may harm the Firm's profitability. There is a moderate and positive relationship between Firm Size and Firm Age with several performance measures such as ROA and EPS meaning that larger and older firms have superior performance but the extent of this cannot be greatly appreciated.

In conclusion, the correlation matrix presents several significant and valuable relations between the established variables, where ROA and EPS are connected most sensitively, and most importantly, Intellectual Capital has a positive correlation with the noted performance indicators. Alas, some of these associations are low, indicating that whereas there are relationships between these variables, other variables may be present as well, distorting their associations.

3.3 Regression Analysis

H1: There is an impact between IC and ROA.

Table (6)

Regression results for ROA

VARIABLES	**(1)** **ROA**	**(2)** **ROA**	**(3)** **ROA**
IC	0.00376***	0.00375***	0.00372***
	(0.00105)	(0.00105)	(0.00119)
Solvency_Ratio	-0.0411***	-0.0411***	-0.00336**
	(0.00638)	(0.00638)	(0.0129)
Firmsize	0.0157***	0.0157***	0.0139**
	(0.00311)	(0.00311)	(0.0166)
Firm_Age	0.0166**	0.0166**	0.00986**
	(0.00706)	(0.00706)	(0.0555)
Year fe	Yes	Yes	Yes
Firm fe	No	No	Yes
Country fe	No	Yes	Yes
Constant	-0.256***	-0.265***	-0.138
	(0.0523)	(0.0515)	(0.363)
Observations	220	220	220
R-squared	0.418	0.419	0.828

Note: Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Statistical Commentary

The regression results presented analyze the relationship between IC and ROA with Solvency Ratio, Firm Size, and Firm Age as control variables.

On one hand, the coefficient for IC is positive and statistically significant across all models ($p < 0.01$). In Model 1, Model 2, and Model 3, the effect of IC on ROA is around

0.0037, which means that higher levels of IC are associated with better asset profitability and utilization. This implies that firms with greater IC tend to generate more ROA.

On the other hand, the coefficient for the Solvency Ratio is negative in Model 3(where firm and country fixed effects are included) (-0.00336, $p < 0.05$), suggesting that higher solvency is associated with lower ROA. This negative relationship might indicate that highly solvent firms are not using their assets as efficiently as firms with lower solvency. Firm size shows a positive relationship with ROA in all models, and this effect is statistically significant in Model 3 ($p < 0.05$). The coefficient in Model 3, is 0.0139. This suggests that larger firms tend to have a higher ROA, possibly as a result of enhanced operational efficiency, superior scale economies, or access to funds that enhance the use of assets. moreover, firm age also has a positive effect on ROA in all models. The coefficient is statistically significant and positive in Model 3 (0.00986, $p < 0.05$). This indicates that older firms tend to have a higher ROA, It is attributed to the following reasons perhaps by way of saying; experience, stability, and a better management of assets over time.

Model Fit (R-squared)

Models 1 and 2

Models 1 and 2 have regression test statistics around 0.418-0.419 implying the independence variable has an impact to explain 41% of variation and ROA. This means that these variables capture a large outlay of variation of ROA though other unmeasured factors might affect ROA.

Model 3

As it can be recalled the R-squared that is attached to Model 3 with the value of 0.828 shows that the model is a much better fit. The addition of the firm and country fixed effect significantly captures the variation in ROA the model insists that there is a strong difference in firm and country characteristics driving the ROA phenomenon.

Significance and Interpretation

Statistical Significance

Out of all the control variables and coefficients of determination, only Firm Age in Model 3 is insignificant thus confirming the existence of strong evidence of the effects of the independent variables on ROA. The fact that the coefficient of Firm Age is less in Model 3 might mean that several factors peculiar to each of the firms and countries have been captured by the full model.

Theoretical Implications

According to these results, it is concluded that IC is an important determinant of profitability as it has a positive relationship with ROA for all the specifications. This is perhaps one of the best indications of the effectiveness of something like IC in boosting firm performance. Firm Size also, has a positive relationship since large firms across the manufacturing industries perform better with their asset and profitability. However, the Solvency Ratio has a negative significant correlation with ROA as tested by the coefficient estimates, which implies that though solvency helps analyze financial flexibility, it points toward the firm's inefficiency in utilizing assets. Firm age is generally found to have a positive impact meaning that older firms are likely to report a better ROA though the effect is dampened when general and country-specific factors relating to the firms are taken into consideration.

In conclusion, based on the regression results, this study established that the IC, size of the firm, and age of the firm had a positive impact on ROA, while the solvency ratio had a negative relationship with ROA. The fixed effects, firm and country dummies, enhance the models' fitness, with constant reiterating how ignoring unobserved personalities in

panel data analysis provides distorted results. The evidence also supports the impact of both firm and country effects on elements of asset usage and their profitability. The findings offer valuable information for managers and policymakers who want to enhance firm performance in terms of IC, asset utilization, and financial stability's costs and opportunities.

Based on the previous results, we accept the hypothesis stating that there is an impact for IC on ROA.

The results discussed above show a significant positive impact between IC and ROA, this is similar to previous studies that found positive impacts such as, especially with (Sayed & Nefzi, 2024) which found a positive impact for IC on ROA. Moreover, (Xu & Wang, 2018), (Ozkan, Cakan, & Kayacan, 2016), (XU & LIU, 2021), (Liu, 2017), (Areiqat, 2019), (Aboody & Alamry, 2019), (Al-Kakaileh, 2020), and (Mondal & Ghosh, 2012), all of them found a positive impact on financial corporate performance.

H2: There is an impact between IC and EPS.

Table (7)

Regression results for EPS

VARIABLES	**(1)** **EPS**	**(2)** **EPS**	**(3)** **EPS**
IC	0.0251***	0.0251***	0.0222**
	(0.00957)	(0.00957)	(0.0130)
Solvency_Ratio	-0.144***	-0.144***	-0.0691**
	(0.0293)	(0.0293)	(0.0629)
Firmsize	0.124***	0.124***	0.228**
	(0.0254)	(0.0254)	(0.116)
Firm_Age	0.193***	0.193***	-0.754*
	(0.0444)	(0.0443)	(0.399)
Year fe	Yes	Yes	Yes
Firm fe	No	No	Yes
Country fe	No	Yes	Yes
Constant	-2.572***	-2.600***	-1.078
	(0.568)	(0.548)	(2.416)
Observations	220	220	220
R-squared	0.401	0.401	0.845

Note: Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The regression results show the relationship between IC and EPS with Solvency Ratio, Firm Size, and Firm Age as control variables.

In the beginning, the coefficient for IC is consistently positive across all models, with statistical significance at the 5% level in Model 3 ($p < 0.05$). This suggests that an increase in IC is associated with a higher EPS, indicating that IC positively influences a firm's profitability. Moreover, the negative coefficient for the Solvency Ratio implies that higher solvency is associated with a decrease in EPS, especially in Model 3 ($p < 0.05$), suggesting that controlling for firm and country-specific effects moderates this relationship. However, Firm size has a consistently positive impact on EPS, and it is statistically significant in all models, particularly in Model 3 where the coefficient increases to 0.228 ($p < 0.05$). This suggests that larger firms tend to have higher EPS, potentially due to economies of scale, better access to capital, or more diversified operations. But for firm Age we found a negative in Model 3 ($p < 0.10$), indicating that after controlling for firm and country-specific factors, older firms may face diminishing returns or slower growth compared to younger firms. This in turn might reflect a potential stagnation in performance for older firms in the sample.

Model Fit (R-squared)

Models 1 and 2: models with an R-squared of 0.401 show that in total 40% of variations in EPS is explained by these independent variables. This implies that there are other factors, possibly unmeasured, affecting the rate of EPS other than those captured in the model.

Model 3: The R-squared rises dramatically to 0.845, which is much improved. This could be because models adopted fixed effects for firms and countries, which mainly reduces heteroscedastic disturbances that intern enhance the explanatory power of the model.

Significance and Interpretation

It is noteworthy that the majority of the variables has even 1% level of significance which indicates rather close relationships between the IC and EPS. But to observe the variation

in the coefficients' significance and magnitude required to switch from Model 2 to Model 3 shows the rationale for using fixed effects in the true relationships' identification.

The findings imply that, though IC and firm size increased EPS, solvency may decrease and firm age has a U-shape effect when adjusted for firm-specific factors.

Based on the previous results, we can accept the hypothesis stating that there is an impact for IC on EPS.

The results discussed above show a significant positive impact between IC and EPS similar to previous studies that found positive impacts such as, especially with (Ozkan, Cakan, & Kayacan, 2016) which found a positive impact for IC on earnings. Moreover, (Xu & Wang, 2018), (Sayed & Nefzi, 2024), (XU & LIU, 2021), (Liu, 2017), (Areiqat, 2019), (Aboody & Alamry, 2019), (Al-Kakaileh, 2020), (Mondal & Ghosh, 2012), all of them found a positive impact on financial corporate performance.

In this study, IC has a significant positive effect on both ROA and EPS in the ASE. These results align with previous studies, considering the various proxies of financial performance and various exchanges. Referring to the previous studies, we observe that all results indicate a positive impact of IC on financial performance, such as the studies conducted by (Al-Kakaileh, 2020); (Areiqat, 2019); (Aboody & Alamry, 2019); (Liu, 2017); (Mondal & Ghosh, 2012).

H3: There is an impact between IC and CSR

The regression results presented analyze the relationship between IC and CSR with Solvency Ratio, Firm Size, and Firm Age as control variables. See table (8) in appendix (C).

IC: In model 3, the coefficient for IC is 0.000419, with a statistically significant p-value (p-value < 0.01), indicating a strong positive effect on CSR ratio.

Solvency Ratio: In model 3, the coefficient is 0.00823, with a p-value < 0.01, indicating that the solvency ratio has a positive and statistically significant impact on CSR.

Firm Size: The coefficient in model 3 is 0.0161, meaning the effect of firm size is not

statistically significant.

Firm Age: In model 3, the coefficient significantly increased to 0.0613, with a very strong statistical significance (p-value < 0.01), suggesting that the effect of firm age on CSR strengthens over time.

Model Fit (R-squared)

Model 3: Introduces both the fixed firm effect (Firm FE) and the fixed country effect.

The adjusted r-square was 0.856 showing an improvement of the coefficient of multiple determination. These findings imply that augmenting the model with such fixed effects enhances significantly the capacity of the model to account for such differences in sustainability.

The parameters in the models are 0.101 (model 1), 0.0692 (model 2), and 0.202 (model 3). These constants depict the intercept of the CSR ratio model, which is also regarded as the baseline level of the CSR ratio, given that all independent variables are at zero, while in this study, none of the constants are statistically significant.

Significance and Interpretation

We also find that the Solvency Ratio and Firm Age have significant impacts on the CSR ratio among all the models. Similarly, Firm Size lacks influence, unlike what is obtained in many studies.

Importance of Fixed Effects

As seen in model 3, estimating Year FE, Firm FE, and Country FE significantly enhances the models' explanatory capability as indicated by R-squared of 0.856. Thus, these additional effects must be taken into escrow to get a better view of the entire situation.

H2 and H3 post that IC and Solvency Ratio are powerful indicators of sustainability, and that Firm Age also has a part to play when companies come of age. Year, firm, and country fixed effects are used to control for omitted variable bias and thus, increase the model's capacity to perform on the variance of the sustainability ratio.

Based on the previous results, we can accept the hypothesis stating that there is an impact for IC on corporate sustainability reports.

These findings suggest that IC recreates an important role in influencing corporate sustainability practices on both exchanges. Companies with higher levels of IC tend to show more substantial commitments to sustainability reporting. This highlights the significance of IC in driving sustainable business procedures and aligning with stakeholders' expectations for transparency and accountability.

The results discussed above are similar to the previous studies that found a positive impact between IC and CSR such as those of (Fajriyanti, Sukoharsono, & Adib, 2021), (Ghadim, Vaez, & Ensani, 2022), (Xu & Wang, 2018). However, it is contrasted with (Razafindrambinina & Kariodimedjo, 2011) which does not show a significant impact on corporate social responsibility disclosure.

Additional analysis

The purpose of this additional analysis was to broaden the scope of the study and strengthen the conclusions drawn from it. In order to provide a deeper knowledge of the characteristics and elements of each market independently, this part concentrated on performing in-depth analysis for each market separately. Furthermore, "Gross Domestic Product (GDP)" was added as a control variable in the statistical model, and its official data were taken from the World Bank's official website (World Bank Group, 2024). In order to provide a more accurate understanding of the correlations between the variables in various economic environments the inclusion of this variable attempts to investigate how the economic situation affects the primary research variables.

Descriptive Analysis

PEX

For the PEX, the descriptive statistics are as follows See table (9) in appendix (C):

IC shows the minimum value is 1.150, and the maximum is 30.400. The mean is 8.644, with a standard deviation of 5.852, indicating a considerable spread in IC values among companies, ROA shows the minimum is 0.000, and the maximum is 0.225. The mean is

0.078, with a standard deviation of 0.050, showing that ROA values are relatively low with some variability, EPS presents values ranging from 0.000 to 3.120, with a mean of 0.390 and a standard deviation of 0.590, reflecting important variation in profitability, CSR presents Values range from 0.141 to 0.424, with a mean of 0.265 and a standard deviation of 0.097, suggesting moderate variability, and finally GDP presents the minimum is 10.191, and the maximum is 10.258. The mean is 10.220, with a standard deviation of 0.023, indicating minimal variability.

ASE

Table (10)

Descriptive Statistics for ASE

Descriptive Statistics					
VARIABLES	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
IC	139	0.000	35.149	3.990	3.942
ROA	107	0.001	0.225	0.054	0.045
EPS	107	0.001	4.060	0.237	0.525
Sustainability	165	0.000	0.434	0.166	0.063
GDP	165	10.619	10.666	10.642	0.015
Valid N (listwise)	106				

For the ASE, the Descriptive statistics are as follows:

IC shows the minimum is 0.000, and the maximum is 35.149. The mean is 3.990, with a standard deviation of 3.942, presenting high variability, ROA shows the minimum is 0.001, and the maximum is 0.225. The mean is 0.054, with a standard deviation of 0.045, indicating generally low returns with some variation, EPS presents Values ranging from 0.001 to 4.060, with a mean of 0.237 and a standard deviation of 0.525, reflecting wide variability in profitability, CSR presents the minimum is 0.000, and the maximum is 0.434. The mean is 0.166, with a standard deviation of 0.063, showing moderate variability, and GDP presents the minimum is 10.619, and the maximum is 10.666. The mean is 10.642, with a standard deviation of 0.015, indicating very low variability.

Correlation Analysis:

Table (11)

PEX correlations

VARIABLES		IC	ROA	EPS	Sustainability	GDP
IC	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	55				
ROA	Pearson Correlation	-.089-	1			
	Sig. (2-tailed)	0.544				
	N	49	49			
EPS	Pearson Correlation	-.207-	.364*	1		
	Sig. (2-tailed)	0.154	0.01			
	N	49	49	49		
Sustainability	Pearson Correlation	.665	-.052-	-.259-	1	
	Sig. (2-tailed)	0	0.722	0.072		
	N	55	49	49	55	
GDP	Pearson Correlation	-.004-	0.13	0.131	0.032	1
	Sig. (2-tailed)	0.975	0.373	0.371	0.816	
	N	55	49	49	55	55

Note: * Correlation is significant at the 0.05 level (2-tailed).

Correlation is significant at the 0.01 level (2-tailed).

The correlation matrix displays the results of a Pearson test for dependent and independent variables.

IC and Sustainability showed a (0.665, $p < 0.01$) correlation, indicating that stronger sustainability policies within banks are connected with greater levels of IC. There is a positive correlation (0.364, $p < 0.05$) between ROA and EPS. This indicates that increased profitability (ROA) is positively correlated with higher earnings per share. There is a negative correlation (-0.207) between IC and EPS, and a negative correlation (-0.261) between Solvency and EPS, indicating a negative association between them. The correlation between sustainability and earnings per share (EPS) is (-0.259), indicating a negative association between them. the correlations between GDP and other variables (IC, ROA, EPS, Sustainability) are weak and not statistically significant.

Table (12)

ASE correlations

VARIABLES		IC	ROA	EPS	Sustainability	GDP
IC	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	139				
ROA	Pearson Correlation	.427	1			
	Sig. (2-tailed)	0				
	N	106	107			
EPS	Pearson Correlation	.533	.660	1		
	Sig. (2-tailed)	0	0			
	N	106	107	107		
Sustainability	Pearson Correlation	.326	.284	.513	1	
	Sig. (2-tailed)	0	0.003	0		
	N	139	107	107	165	
GDP	Pearson Correlation	.171*	0.055	0.135	0.012	1
	Sig. (2-tailed)	0.045	0.571	0.167	0.877	
	N	139	107	107	165	165

Note: Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

In the above table, there is a positive correlation (0.326, $p < 0.01$) between IC and Sustainability, indicating that higher levels of IC are associated with better sustainability policies in the banks. There is a positive correlation (0.427, $p < 0.01$) between IC and ROA, implying that a high level of IC is linked to higher profitability. Additionally, there is a positive correlation (0.533, $p < 0.01$) between IC and EPS, suggesting that increased IC leads to a high level of EPS.

However, there is a significant positive correlation (0.284, $p < 0.01$) between Sustainability and ROA, indicating that better sustainability practices are associated with a high level of profitability. Additionally, Sustainability and EPS show a significant positive correlation (0.513, $p < 0.01$), indicating that improved sustainability practices are correlated to a high level of earnings per share.

The correlation between GDP and IC (0.171, $p < 0.05$) is weak but significant, indicating that a high level of IC might be associated with a high level of GDP. However, the correlations between GDP and other variables (ROA, EPS, SOLV, Sustainability) are weak and not statistically significant.

Overall, The correlation between IC and ROA shows a negative low correlation in the PEX market, but in the ASE, the correlation is high and positive, indicating that the IC and ROA will increase with each other. The correlation between IC and EPS is similar to ROA, as the results between IC and EPS are negative, indicating a decrease with each other in PEX, while the correlation between them in the ASE is high and positive. The correlation matrix between IC and sustainability for PEX and ASE exchanges appears to have a positive correlation, indicating that the IC correlates positively with sustainability for each market. Finally, the correlation between IC and GDP in PEX is low and negative, indicating the weak economic conditions of Palestine. However, in the ASE, the correlation is high and positive, indicating that the economic conditions of the ASE are better than the economic conditions of the PEX exchange.

Regression Analysis

ROA

See table (13) in appendix (C).

ASE

Variance Inflation Factor (VIF) Test

The VIF values for IC and GDP are both 1.024, indicating a low multicollinearity. This indicates that IC and GDP are not strongly correlated, which is favorable for regression analysis.

Regression Analysis

For the ASE, the R-squared value is 0.183, meaning that about 18.3% of the variation in ROA is explained by IC and GDP. The F statistic is statistically significant, indicating that the model as a whole has a meaningful impact on ROA because the value is 0.

The coefficient for IC is 0.004 with a p-value of 0, showing a statistically significant effect. This means that an increase in IC is correlated with an increase in ROA. The coefficient for GDP is -0.073 with a p-value of 0.78, indicating it is not statistically significant in affecting ROA. This means that GDP does not have an impact on ROA for ASE-listed companies.

PEX

Variance Inflation Factor (VIF) Test

The VIF values for both IC and GDP are around 1.007. This indicates that there's low multicollinearity between these variables, similar to what was observed in the ASE analysis. these results indicate that the independent variables are not strongly correlated with each other.

Regression Analysis

For the PEX, the R-squared value is 0.027, meaning that only about 2.7% of the variation in ROA is explained by IC and GDP in the model. The F statistic has a non-significant value of 0.535, which means the regression model is not statistically significant.

The coefficient for IC is -0.001 with a p-value of 0.5, showing it is not statistically significant in predicting ROA for PEX. This indicates that IC likely does not affect ROA for companies on the Palestine Exchange. Similarly, the coefficient for GDP is 0.384 with a p-value of 0.35, which means it is also not statistically significant in predicting ROA. This suggests that GDP might not influence ROA for PEX-listed companies.

EPS

See table (14) in appendix (C).

ASE

Variance Inflation Factor (VIF) Test

The VIF values for both IC and GDP are around 1.024, indicating a low level of multicollinearity. This indicates that there is no multicollinearity problem between the independent variables.

Regression Analysis:

For the ASE, the R-squared value is 0.286, meaning that approximately 28.6% of the variation in EPS is explained by IC and GDP in the model. The F statistic is 0, which means that the regression model is statistically significant.

The coefficient for IC is 0.063 with a p-value of 0, indicating a significant positive impact on EPS for companies listed on ASE. This indicates that IC had appositive effects on EPS. and the coefficient for GDP is 1.694 with a p-value of 0.55, indicating that GDP does not have a significant effect on EPS for ASE-listed companies.

PEX

Variance Inflation Factor (VIF) Test

The VIF values for both IC and GDP are around 1.007, providing a low level of multicollinearity between these variables, so there is no multicollinearity problem.

Regression Analysis

The R-squared value is 0.065, meaning that only about 6.5% of the variance in EPS is explained by IC and GDP. The F statistic of 0.215 indicates that the regression model does not have statistical significance, indicating that the effect of IC and GDP on EPS is not trusted.

The coefficient for IC is -0.027 with a p-value of 0.13, which means the IC does not have a significant impact on EPS for companies listed in the PEX exchange. The coefficient for GDP is 3.717 with a p-value of 0.3, suggesting that GDP does not significantly affect EPS for companies listed on PEX.

CSR

See table (15) in appendix (C).

For the ASE

Variance Inflation Factor (VIF) Test

The VIF values for the independent variables (IC and GDP) are both around 1.03, indicating there is a low level of multicollinearity. VIF values close to 1 means there is no multicollinearity problem in the model.

Regression Analysis

For the ASE, the R-squared value of 0.107, indicates that approximately 10.7% of the variance in the dependent variable (sustainability) is explained by the independent variables (IC and GDP) in the model. The F statistic of 0 indicates that the regression model is statistically significant.

The coefficient for IC is 0.005 and statistically significant with a p-value of 0, indicating that IC has a significant positive impact on sustainability for companies listed on ASE. The coefficient for the control variable GDP is not statistically significant with a p-value 0.82 with a coefficient of 0.082, indicating that GDP does not significantly impact sustainability for companies listed on the ASE.

Chapter Four

Conclusion and Recommendations

4.1 Conclusions

The study aimed to explore the impact of IC on financial performance and CSR among industrial firms listed on the Palestine, and Amman Stock Exchanges by using published data from 2017 to 2021. The study's hypothesis was tested, using regression models, and correlation analysis approaches.

The study's key conclusions are twofold. First, the descriptive analysis shows that one compane of all industrial companies listed on the Palestine, and Jordanian Stock Exchanges issue dedicated sustainability reports separate from their annual disclosures (1 company from PEX), while 43 companies include sustainability disclosures within their annual reports.

Second, The CSR and financial performance of industrial companies in PEX, and ASE is positively influenced by IC.

These conclusions highlight the dynamic nature of the relationship between IC, CSR, and financial performance across different stock exchanges.

4.2 Recommendations

Based on the above conclusions, the recommendations below are mentioned:

1- Institutions and supervisory bodies are tasked with developing and adopting robust governance practices aimed at ensuring compliance with sustainability standards and the effective management of IC. By doing so, they contribute significantly to enhancing the competitiveness and financial performance of companies. Moreover, these institutions must actively monitor and oversee the implementation of these practices and standards to ensure their effective application across organizations. This proactive approach not only enhance sustainable business practices but also reinforces accountability, transparency, and long-term value creation within the corporate sector.

2- Given that IC influences various organizational variables, businesses should strive to enhance current procedures for disclosing it and represent its components accurately to reflect their true value.

3- Businesses must develop and implement key performance indicators (KPIs) to systematically and regularly assess the impact of IC on both financial performance and sustainability.

4- Companies should endeavor to compile and publish sustainability reports separately from other disclosures to enhance awareness, promote transparency, and enable accurate assessment by investors.

5- Companies are encouraged to adopt and adhere to global reporting standards, such as the GRI standard, to enhance the quality of sustainability reports and foster confidence among investors and stakeholders.

6- Human capital, a crucial component of IC, necessitates organizations to invest in employee training and development. This investment has the potential to enhance the company's financial performance, increase competitive advantage, and foster innovation.

7- Organizations should adopt best practices by benchmarking their sustainability and IC strategies against industry leaders. This approach can inspire performance improvements and uncover opportunities for growth.

8- We recommend researchers to extend their exploration of the factors influencing the relationship between variables across different countries. It is also important to identify the underlying causes for the observed differences in the nature of results between markets, which will contribute to a deeper and more nuanced understanding of these interactions.

4.3 Limitations

Our study encountered several limitations. Firstly, the absence of sustainability reports and disclosures by listed companies complicates the measurement of CSR compared to other metrics. Second , the scarcity of prior studies, particularly comparative ones, on our specific subject area also posed a challenge.

These limitations underscore the challenges and difficulties faced in conducting comprehensive research in this domain, and point out areas for potential improvement in future studies.

List of Abbreviations

Abbreviation	Meaning
IC	intellectual capital efficiency
CSR	corporate sustainability reporting
ROA	return on assets
EPS	earnings per share
SOLV.	solvency
GRI	Global Reporting Initiative
PEX	Palestine Stock Exchange
ASE	Amman Stock Exchange

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Appendices

Appendix (A)

Sustainability Checklist According to GRI Standards

Sustainability Checklist	
GRI STANDARD	**DISCLOSURE**
GRI 2: General Disclosures 2021	2-1 Organizational details
	2-2 Entities included in the organization's sustainability reporting
	2-3 Reporting period, frequency and contact point
	2-4 Restatements of information
	2-5 External assurance
	2-6 Activities, value chain and other business relationships
	2-7 Employees
	2-8 Workers who are not employees
	2-9 Governance structure and composition
	2-10 Nomination and selection of the highest governance body
	2-11 Chair of the highest governance body
	2-12 Role of the highest governance body in overseeing the management of impacts
	2-13 Delegation of responsibility for managing impacts
	2-14 Role of the highest governance body in sustainability reporting
	2-15 Conflicts of interest
	2-16 Communication of critical concerns
	2-18 Evaluation of the performance of the highest governance body
	2-19 Remuneration policies
	2-20 Process to determine remuneration
	2-21 Annual total compensation ratio
	2-22 Statement on sustainable development strategy
	2-23 Policy commitments
	2-24 Embedding policy commitments
	2-25 Processes to remediate negative impacts
	2-26 Mechanisms for seeking advice and raising concerns
	2-27 Compliance with laws and regulations
	2-28 Membership associations
	2-29 Approach to stakeholder engagement
	2-30 Collective bargaining agreements
GRI 3: Material Topics 2021	3-1 Process to determine material topics
	3-2 List of material topics
	3-3 Management of material topics

GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed
	201-2 Financial implications and other risks and opportunities due to climate change
	201-3 Defined benefit plan obligations and other retirement plans
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage
	202-2 Proportion of senior management hired from the local community
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported
	203-2 Significant indirect economic impacts
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption
	205-2 Communication and training about anti-corruption policies and procedures
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices
GRI 207: Tax 2019	207-1 Approach to tax
	207-3 Stakeholder engagement and management of concerns related to tax
	207-4 Country-by-country reporting
GRI 301: Materials 2016	301-1 Materials used by weight or volume
	301-2 Recycled input materials used
	301-3 Reclaimed products and their packaging materials
GRI 302: Energy 2016	302-1 Energy consumption within the organization
	302-2 Energy consumption outside of the organization
	302-3 Energy intensity
	302-4 Reduction of energy consumption
	302-5 Reductions in energy requirements of products and services
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource
	303-3 Water withdrawal
	303-4 Water discharge
	303-5 Water consumption
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas
	304-2 Significant impacts of activities, products and services on biodiversity
	304-3 Habitats protected or restored
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions
	305-2 Energy indirect (Scope 2) GHG emissions
	305-3 Other indirect (Scope 3) GHG emissions
	305-4 GHG emissions intensity

	305-5 Reduction of GHG emissions
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts
	306-2 Management of significant waste-related impacts
	306-3 Waste generated
	306-4 Waste diverted from disposal
	306-5 Waste directed to disposal
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria
	308-2 Negative environmental impacts in the supply chain and actions taken
GRI 401: Employment 2016	401-1 New employee hires and employee turnover
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees
	401-3 Parental leave
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system
	403-2 Hazard identification, risk assessment, and incident investigation
	403-3 Occupational health services
	403-4 Worker participation, consultation, and communication on occupational health and safety
	403-5 Worker training on occupational health and safety
	403-6 Promotion of worker health
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships
	403-8 Workers covered by an occupational health and safety management system
	403-9 Work-related injuries
	403-10 Work-related ill health
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee
	404-2 Programs for upgrading employee skills and transition assistance programs
	404-3 Percentage of employees receiving regular performance and career development reviews
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees
	405-2 Ratio of basic salary and remuneration of women to men
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs

	413-2 Operations with significant actual and potential negative impacts on local communities
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling
	417-2 Incidents of non-compliance concerning product and service information and labeling

Appendix (B)

Study Sample

No	Market	Firms	Symbols
1	PEX	Arab Company For Paints Products	APC
2	PEX	Jerusalem Pharmaceuticals	JPH
3	PEX	The National Carton Industry	NCI
4	PEX	Birzeit Pharmaceuticals	BPC
5	PEX	Golden Wheat Mills	GMC
6	PEX	National Aluminum And Profiles	NAPCO
7	PEX	Palestine Poultry	AZIZA
8	PEX	Jerusalem Cigarette	JCC
9	PEX	Palestine Plastics Industries	LADAEN
10	PEX	The Vegetable Oil Industries	VOIC
11	PEX	Beit Jala Pharmaceutical	BJP
12	ASE	Dar Al Dawa Development & Investment	DADI
13	ASE	Hayat Pharmaceutical Industries Co.	HPIC
14	ASE	Philadelphia Pharmaceuticals	PHIL
15	ASE	The Industrial Commercial & Agricultural	ICAG
16	ASE	Jordan Industrial Resources	JOIR
17	ASE	The Arab Pesticides & Veterinary Drugs Mfg.	MBED
18	ASE	Intermediate petrochemicals industries co.	IPCH
19	ASE	Jordan Poultry Processing & Marketing	JPPC
20	ASE	Jordan Dairy	JODA
21	ASE	General Investment	GENI
22	ASE	Universal Modern Industries	UMIC
23	ASE	NUTRI DAR	NDAR
24	ASE	Jordan Vegetable Oil Industries	JVOI
25	ASE	Siniora Food Industries Plc	SNRA
26	ASE	Union Tobacco & Cigarette Industries	UTOB
27	ASE	Arab Aluminium Industry /Aral	AALU
28	ASE	National Steel Industry	NAST
29	ASE	Jordan Phosphate Mines	JOPH
30	ASE	The Arab Potash	APOT
31	ASE	Jordan Steel	JOST
32	ASE	National Aluminium Industrial	NATA
33	ASE	Northern Cement Co.	NCCO
34	ASE	Afaq holding for investment & real estate Co.	MANR
35	ASE	The Jordan Pipes Manufacturing	JOPI
36	ASE	Ready Mix Concrte And Construction Supplies	RMCC
37	ASE	Arabian Steel Pipes Manufacturing	ASPMM
38	ASE	Al-Quds Ready Mix	AQRM
39	ASE	Assas For Concrete Products Co. Ltd	ASAS
40	ASE	Sheba metal casting	SHBA
41	ASE	National Cable & Wire Manufacturing	WIRE
42	ASE	United Cable Industries	UCIC
43	ASE	The Jordan Worsted Mills	JOWM
44	ASE	Premier Business And Projects Co.Ltd	ACDT

Appendix (C)

Tables

Table (8)

Regression results for CSR

VARIABLES	(1) sustnabilityratio	(2) sustnabilityratio	(3) sustnabilityratio
IC	0.00775***	0.00775***	0.000419**
	(0.00170)	(0.00170)	(0.000341)
Solvency_Ratio	0.0125**	0.0124**	0.00823**
	(0.00575)	(0.00575)	(0.00447)
Firmsize	0.00512	0.00513	0.0161
	(0.00418)	(0.00419)	(0.0115)
Firm_Age	0.00981*	0.00983*	0.0613**
	(0.00702)	(0.00702)	(0.0246)
Year fe	Yes	Yes	Yes
Firm fe	No	No	Yes
Country fe	No	Yes	Yes
Constant	0.101	0.0692	0.202
	(0.0860)	(0.0826)	(0.207)
Observations	220	220	220
R-squared	0.473	0.472	0.856

Note: Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table (9)

Descriptive Statistics for PEX

Descriptive Statistics					
VARIABLES	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
IC	55	1.150	30.400	8.644	5.852
ROA	49	0.000	0.225	0.078	0.050
EPS	49	0.000	3.120	0.390	0.590
Sustainability	55	0.141	0.424	0.265	0.097
GDP	55	10.191	10.258	10.220	0.023
Valid N (listwise)	49				

Table (13)

ROA Coefficients

Country	Dependent Variable	Independent Variables	Coefficients B	Sig.	VIF	R Square	F
ASE	ROA	(Constant)	0.815	0.77			
		IC	0.004	0	1.024	0.183	0
		GDP	-.073-	0.78	1.024		
PEX	ROA	(Constant)	-3.832-	0.36			
		IC	-.001-	0.5	1.007	0.027	0.535
		GDP	0.384	0.35	1.007		

Table (14)

EPS Coefficients

Country	Dependent Variable	Independent Variables	Coefficients B	Sig.	VIF	R Square	F
ASE	**EPS**	(Constant)	-18.081-	0.55			
		IC	0.063	0	1.024	0.286	0
		GDP	1.694	0.55	1.024		
PEX	**EPS**	(Constant)	-37.393-	0.31			
		IC	-.027-	0.13	1.007	0.065	0.215
		GDP	3.717	0.3	1.007		

Table (15)

CSR Coefficients

Country	Dependent Variable	Independent Variables	Coefficients B	Sig.	VIF	R Square	F
ASE	sustainability	(Constant)	-.725-	0.85			
		IC	0.005	0	1.03	0.107	0
		GDP	0.082	0.82	1.03		
PEX	sustainability	(Constant)	-1.306-	0.77			
		IC	0.011	0	1	0.444	0
		GDP	0.144	0.74	1		

جامعة النجاح الوطنية
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إعداد
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إشراف
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د. معز أبو عليا

قدمت هذِه الرسالة استكمالاً لمتطلبات الحصول على درجة الماجستير في المحاسبة، من كلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس، فلسطين.

2024

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الملخص

هدفت هذه الدراسة إلى تحليل تأثير كفاءة رأس المال الفكري على الأداء المالي وإعداد تقرير الاستدامة في الشركات الصناعية المدرجة في بورصات فلسطين، وعمان. كما سعت إلى استكشاف اختلافات هذه التأثيرات حسب الأسواق المالية المختلفة. تم تطبيق الدراسة على عينة مكونة من 44 شركة صناعية خلال الفترة من 2017 إلى 2021.

لتقييم كفاءة رأس المال الفكري، استخدمت الدراسة نموذج رأس المال الفكري ذو القيمة المضافة. وتم قياس مستويات الإفصاح عن استدامة للشركات باستخدام قائمة تستند إلى معايير مبادرة إعداد التقارير العالمية. بالإضافة إلى ذلك، تم تحليل الأداء المالي للشركات باستخدام مؤشرات رئيسية: العائد على الأصول، ونسبة الربح لكل سهم.

أشارت النتائج إلى أن تطبيق الاستجامة للشركات والأداء المالي للشركات الصناعية المدرجة في بورصة فلسطين وبورصة عمان يتأثر بشكل إيجابي براس المال الفكري لهذه الشركات.

بناءً على هذه النتائج، توصي الدراسة الشركات الصناعية بتعزيز ممارسات الإفصاح عن رأس المال الفكري والاستثمار في تدريب وتطوير الموظفين، لما لذلك من تأثير محتمل في تعزيز الأداء المالي، وتحسين الميزة التنافسية، وتشجيع الابتكار. كما توصي الدراسة بتبني معايير إعداد التقارير العالمية والالتزام بها لتحسين جودة تقارير الاستدامة وبناء ثقة المستثمرين وأصحاب المصلحة.

الكلمات المفتاحية: راس المال الفكري؛ تقارير الاستدامة؛ الأداء المالي؛ بورصة فلسطين؛ بورصة الأردن.