The Effect of Human Capital Disclosure in Integrated and Sustainable Reports on the Financial Performance of Companies Listed in a Stock Exchange

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Abstract "The purpose of this study" was to (analyze the effect of "HC dis-closure" in integrated and sustainable reports on the financial performance of companies). The study examined 30 joint stock companies listed on the Palestine Stock Exchange from 2018 to 2022 using SPSS and Excel. The findings revealed that improved disclosure of HC information significantly reduces a firm's cost of capital and enhances its firm value. With a WACC of 6.9% and TQ at 75.09%, the results indicate efficient financing management. However, the results indicated that the disclosure more information about HC has a significant and weak effect on a firm's "cost of capital". This implies that improving HCDL can lower the perceived investment risk in a company among investors, leading to a lower cost of capital and thus there is a noticeable positive effect on company value due to increased levels of high-risk disclosure. This suggests that better HC disclosure is associated with improved access to external financial resources, thus enhancing firm value. Based on the results, the researchers recommend improving the quality of HC disclosure, which leads to reducing the "cost of capital" and increasing value of the company. It is recommended to improve the quality and transparency of this type of disclosure and enhance the competitive environment.

Keywords Human capital · Integrated reporting · Sustainable reporting · Human capital disclosure · Firm performance · Firm value · Cost of capital

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1 Introduction

The possession of information and the emergence of knowledge economies highlight the significance of intangible assets in generating wealth and achieving critical success factors [1, 2]. As the business environment transitions from the industrial age to the information age, knowledge and effective communication with customers become increasingly important. HC, which encompasses the organization's (knowledge volume, technical skills, creativity, and experience), is now recognized as a valuable asset rather than a costly one [3]. To stay competitive and meet financial goals, companies must capitalize on the expertise and abilities of their employees [4, 5]. Therefore, strategic management and protection of intangible assets are indispensable for organizations to maintain their market position and excel in the competitive business landscape [6].

HC is recognized as a crucial component of intellectual capital [7, 8], comprising the knowledge, skills, creativity, and experiences of a company's employees, which significantly contributes to its economic value [9]. It is viewed as a key resource that can foster "a sustainable competitive advantage" and influence a company's success [10]. The uniqueness and rarity of a company's HC distinguish it from competitors [11]. Increasing emphasis on HC underscores the importance of employee engagement and loyalty for a company's competitiveness and financial performance [12–14]. However, traditional financial reporting's failure to account for intangible assets like human resources has led to a push for voluntary disclosure [15, 16]. This movement seeks to offer "a more comprehensive view of a company's value" and performance by including information on its intangible assets, thereby providing investors, analysts, stakeholders with a clearer understanding of its strategic value drivers and business model [17, 18].

Integrated Reporting (IR) and sustainability reporting have emerged as means to fulfill stakeholders' needs for social and environmental information [19], incorporating both financial and non-financial aspects to highlight future value creation [20, 21]. These reports, encouraged by the International Integrated Reporting Council (IIRC), cover a range of capitals including financial, manufacturing, intellectual, human, social, and natural [22]. The practice, adopted across both public and private sectors [23], aims to showcase how investments in HC contribute to a company's performance and financial value, enhancing its appeal to investors and shareholders interested in the human elements driving success [24].

This research investigates the effect of HC disclosure on a (company's value and financial performance), emphasizing its importance in sustainable and integrated reporting. It explores how disclosing HC information can enhance a company's competitiveness, profitability, and attractiveness to investors by demonstrating the strategic management and investment in HC [25, 26]. The study aims to provide insights on the financial benefits of HC disclosure, advocating for practices that improve transparency, stakeholder understanding, and trust, while also addressing the challenges of balancing confidentiality. It underscores the role of HC in achieving sustainable development and enhancing corporate financial value [27]. This research

contributes to directing future research and practices in the field of HC disclosure and its role in achieving sustainability and financial success of companies.

2 Theoretical Aspect, Previous Studies and Developing Hypotheses

The study [11] on the National Insurance Corporation of Eritrea, involving all 73 employees at the company's headquarters, identified challenges in implementing Strategic Human Resource Management (SHRM) practices due to the lack of a formal strategic plan and a shortage of qualified staff, alongside a need for better employee motivation strategies. The study [28], which surveyed 397 employees across various departments in eight Nigerian banks, revealed that HRM practices, especially in reward and employee performance management, significantly influence (the non-financial performance of banks, while employee resourcing had minimal impact. It suggests banks should enhance their reward and performance management strategies to improve non-financial performance).

The study [29] highlighted the critical role of human resources in giving companies a unique competitive advantage in Mogadishu-Somalia, focusing on the "effects of recruitment, selection, and compensation on organizational performance", and found a positive influence of organizational performance on HC. Study [30] examined the influence of HC on the return on equity (ROE) of commercial banks in Jordan using the VAIC model from 2010–2015, revealing HC as a major component of IC but found no significant impact on ROE, suggesting banks to prioritize HC. Study [31] explored the concept of "human capital" in integrated and sustainability reports, proposing a theoretical model for its presentation and developing specific public disclosure indicators, emphasizing the importance of HC in corporate reporting.

The study [32] explores how disclosing intellectual capital (IC) quality affects firm value, based on 110 companies. It reveals a positive link between IC components (structural, human, social/relationship) and firm value, emphasizing the significance of IC disclosure for entities, investors, regulators, and managers in firm evaluations. Meanwhile, study [33] investigated the adoption of Integrated Reporting (IR) in Malaysia, following the MCCG 2017 guidelines, to enhance corporate governance and investor relations. It proposed a framework to explore the role of sustainability reporting in improving IR adoption, aiming to reduce information asymmetry and enhance transparency and value creation among the largest Malaysian public companies.

The study [34] demonstrated that disclosing human capital (HC) information in integrated reports significantly lowers a company's cost of capital and enhances its value, based on an analysis of 375 observations from 125 firms between 2017 and 2019. This suggests that better HC disclosure can mitigate investor risks and improve financial resource access. Study [35] found a significant positive relationship between human capital investment and the sustainable performance of institutions

in M'sila, Algeria, highlighting HC's importance in ensuring institutional success and sustainability, based on feedback from 110 administrative workers across twelve institutions.

Human capital (HC)

The human element "is one of the most important components of intellectual capital (IC)", highlighting the economic value of employees' collective knowledge, skills, and experiences, traces its roots back to Adam Smith's 1776 work, The Wealth of Nations. The term gained prominence in the 1960s with American economists demonstrating HC's direct contribution to income growth [36]. HC is essential for an organization's competitiveness and economic value [37], marked by education, experience, and skills that enhance performance and competitive market advantage [38]. HC is also seen as a strategic, difficult-to-imitate resource, highlighting its importance in leveraging economic resources and driving success [39, 40]. Investing in HC through skill and knowledge development leads to increased productivity, better adaptation to economic and technological changes, and higher profits [41, 42]. Incorporating HC information into sustainability reports, using both financial and non-financial indicators, offers insights into its impact on organizational sustainability and growth, underlining HC's role in economic and social development [43].

Therefore, Sustainable performance indicators can improve a company's financial performance by making it more appealing to investors and customers, reducing risks, and enhancing sustainable returns [44]. The relationship between HC and financial performance is crucial, as it boosts employee commitment, productivity, reduces costs, and increases revenues, leading to better financial outcomes. Integrating financial with sustainable performance grants companies a competitive edge. Transparency in sustainability reporting, especially regarding human capital, can attract sustainability-focused investors and customers, contributing to a company's long-term success and sustainability goals [45].

In summary, the research emphasizes the importance of integrating HC and financial performance data into sustainable reports to enhance transparency and support social, environmental, and financial objectives. HC, highlighting the collective skills, knowledge, and abilities of individuals, "plays a crucial role in economic development and organizational success". The study aims to explore how effectively disclosing HC information can boost investor confidence, increase company valuations, and ultimately improve financial performance, underscoring HC growing significance in achieving sustainability and future growth.

Study problem

However, the main problem is accurately measuring the financial consequences of such disclosure. If these consequences are not carefully evaluated, they may result in additional costs for companies, including costs for developing human capital management systems and training employees. It is also important for companies to understand the impact of such disclosure on the stock market and their relationship with investors, as inappropriate disclosure may reduce confidence and investment.

Therefore, companies must carefully consider the balance between the potential benefits and financial costs of exposing HC [41].

Accordingly, the problem of the study can be formulated through the following main question: "What is the effect of disclosing HC in integrated and sustainable reporting on the financial performance of companies Listed in Palestine Stock Exchange?".

Study hypotheses

H0: There is no statistical significance about the effect of disclosing HC in integrated and sustainable reports on the financial performance of "companies Listed in Palestine Stock Exchange" at the significance level (0.05).
H1: There is no effect between WACC and HCDL at the significance level (0.05).
H2: There is effect between TQ and HCDL at a significance level (0.05).

3 Methodology

Study population and sample

The study population includes (joint-stock) companies listed on the Palestine Stock Exchange. The study sample was 30 companies selected. Financial companies represented in different sectors were excluded, noting that the study will take place over a period of five years (2018–2022). However, Table 1 shows that 5 companies were taken from (the insurance sector and 4 from the banking sector, 6 from the services sector, 8 from the industrial sector, and 7 from the investment sector).

Measuring variables

First: Independent variables:

In this study, the "independent variable" is identified as the level of disclosure of human capital (HCDL), which is quantified using a manual content analysis approach. Krippendorff [46] content analysis is defined as a methodological approach utilized in research for drawing valid and reliable conclusions from data, taking into account the context of the data.

Thus, identifying elements that represent more specific and precise elements, that is, if the level of disclosure about HC that the joint stock companies disclose within the integrated reports is measured. The identified elements were sorted and analyzed, resulting in the removal of certain items and the consolidation of others

Table 1 Selected sample

Total	Investment sector	Industry sector	Insurance sector	Services sector	Banking sector	Year
30	7	8	5	6	4	2022–2018

to prevent duplication. This evaluation was conducted using a binary system, minimizing subjectivity in the assessment of our "independent variable" and facilitating comparison with other studies on HC detection for each element [46Scores are assigned a value of 1 if an element is present and 0 if it is absent [47, 48]. Consequently, HCDL scores may vary from 0 to 30, as illustrated in Table 2, As shown in Table 2, the survey list was developed from a study referenced as [34]. The researchers adapted it to better fit the Palestinian context. They selected 30 companies to observe over a period of 5 years, indicating that there should be a total of 150 observations.

Second: Dependent variables:

The study utilized "two (dependent variables): the Cost of Capital (WACC) and the TOPIK (TQ)", which represents that the (cost of capital) is a measure used to calculate the average "cost of capital" for a company, and it includes both the cost of debt and the cost of equity. WACC is commonly "applied as the discount rate for assessing the viability of future investments or projects". It is a way to measure the cost a company incurs to finance its assets. WACC is calculated as follows (Table 3).

WACC represents the total capital cost for a company, calculated by "averaging the costs of debt and equity capital", weighted according to the proportions used in previous research methodologies [49].

(Tobin's Q) is a gauge used in financial analysis to evaluate companies. It was developed by James Tobin, Nobel Prize winner in economics. This measure compares a company's total market value to the total book value of its assets. This measure was introduced [13] as an indicator of a company's future investment activities. The TQ law calculates the ratio of the total market value to the total book value of physical assets [13].

Third: Control variables:

See Table 4.

Statistical analysis

In order to reach the results of the study and test the validity of the hypotheses, the statistical package program Spss and Excel was used, by analyzing the data available in the "financial statements of stock companies listed in the Palestine Stock Exchange".

- Descriptive analysis of study variables

Table 5 shows "the arithmetic means and standard deviations for the study variables". The dependent variables are the WACC of 6.9% and the TQ of 75.09%. These results are consistent with previous studies [52, 54–56]. As for the independent variable HCDL, the average value is 11.3, and the minimum ranges from 7 to the maximum of 15. As for the (control variables), the "average values" for LNTA are 16.78, MTA is 1.18, DA is 11.3%, SG is 13.81%, and ROA is 3.97%. Thus, the WACC indicates that the company is obtaining financing at a relatively low cost, which reflects efficiency in managing its financing structure. On the other hand, a TQ of 75.09% indicates that the market values the company as being worth less than

Table 2 HC

S. no.	HC items	Repetitions	Percentage
1	Employee headcount	130	86
2	Termination count	40	26.67
3	New hires	45	30
4	Staffing shortages	55	36.67
5	Internal staff mobility	20	13.33
6	External staff mobility	50	33.33
7	Age distribution of employees	60	40
8	Employee seniority levels	70	46.67
9	Employee gender distribution	70	46.67
10	Staff sorted by educational qualifications	70	46.67
11	Employees sorted by job functions	40	26.67
12	Employee distribution across regions	55	36.67
13	Educational workshops	85	65.67
14	Costs of training programs	70	46.67
15	Hiring strategies	60	40
16	Payroll policies	65	43.33
17	Incentive program rules	90	60
18	Health and safety standards	75	50
19	Staff culture and values	20	13.33
20	Staff leadership initiatives	40	26.67
21	Staff perks and advantages	40	26.67
22	Satisfaction levels of staff	70	46.67
23	Staff participation in community initiatives	50	33.33
24	Productivity of employees	25	16.67
25	HC metrics, such as sales and profitability per employee	40	26.67
26	Opportunities for career progression	15	10
27	Joint labor agreements	70	46.67
28	Education for top-level executives	40	26.67
29	Executive management's work experience	20	13.33
30	Entrepreneurial enthusiasm	25	16.67

the replacement value of its assets, which may indicate market conservatism about a company's growth potential or market valuation.

- Correlation analysis

The Pearson correlation coefficient analysis is shown in the Table 6, which shows the correlation matrix between the various independent and dependent variables of the study. As there is a strong positive relationship between TQ and HCDL with a

Table 3 WACC measurement

WACC = (E/V) * re + (D/V) * rd * (1−T) where;	
E	Is the market value of the firm's equity
D	Is the market value of the firm's debt
V	The market value of the company
re	Is the firm's cost of equity capital
rd	Is the firm's cost of (debt capital)
T	Represents the firm's (corporate tax rate)

Table 4 The measurement of control variables

Variable	Symbol	Description	Source
Firm size	LNTA	Natural logarithm of a firm total assets	Al Momani et al. [50], Nour et al. [51]
Leverage	DA	Total debt divided by total assets	Al Momani et al. [52]
Market to book ratio	MTB	Market value of equity at the end of the fiscal year divided by the book value of equity at the fiscal year close	Fama and French [53]
Return On Assets	ROA	Ratio of net income to total assets	The financial statements of joint stock companies listed on the Palestine Stock Exchange were relied upon
Sales growth rate	SG	Change in sales (%) respect to the previous year	The financial statements of joint stock companies listed on the Palestine Stock Exchange were relied upon

Table 5 Descriptive statistics analysis of variables

Descriptive statistics					
	N	Minimum	Maximum	Mean	Std. deviation
WACC	150	0.00	0.28	0.0697	0.05627
TQ	150	0.00	2.39	0.7509	0.61425
HCDL	150	7.00	15.00	11.3000	2.26069
LNTA	150	0.00	22.60	16.7824	4.65747
DA	150	0.00	0.62	0.1138	0.15037
MTB	150	0.00	5.46	1.1821	0.89541
ROA	150	0.00	0.15	0.0397	0.03858
SG	150	0.00	3.12	0.1381	0.39876
Valid N (listwise)	150				

value of 0.713, while the correlation coefficient between HCDL and WACC with a value of 0.205 is a "weak positive relationship". As for the control variables, the relationship between HCDL and the control variables is very weak, while the relationship between TQ and MTB is strong at 0.662 and the rest of the variables are very weak, while the relationship between WACC and ROA is strong at 0.630 and the rest of the variables are very weak.

Regression analysis and hypothesis testing

To test the "validity of the study hypotheses" and to know the impact of disclosing the level of HC disclosure as part of integrated and sustainable reports, a simple and multiple linear regression model was used, and the results of the regression analysis were as follows:

First hypothesis: There is no effect between WACC and HCDL at the significance level (0.05).

Whereas Tables 7 and 8 shows the effect of a relationship between the WACC and disclosure of the level of HC. The results of the statistical analysis showed that (there is no statistically significant effect between WACC and HCDL), as the correlation coefficient reached 0.205 at the significance level (0.05), that is, there is no effect between WACC and HCDL. The correlation between the two variables is weak.

The adjusted R square was 0.042, meaning that disclosure of the level of HC explains 4.2% of the WACC. The value of the degree of influence (the slope of the regression equation β) was -0.045. This means that the beta value is very small, and

Table 6 Pearson correlation matrix between study variables

Correlations								
SG	ROA	MTB	DA	LNTA	TQ	WACC	HCDL	
							1	HCDL
						1	0.205	WACC
					1	0.213	0.713**	TQ
				1	0.133	0.167	0.164	LNTA
			1	0.049	0.095	− 0.112	0.242	DA
		1	− 0.138	0.054	0.662**	0.172	0.456	MTB
	1	0.192	0.014	0.105	0.379	0.630**	0.342*	ROA
1	− 0.078	− 0.030	− 0.083	0.069	− 0.078	− 0.133	− 0.146*	SG

Table 7 The strength of the connection between WACC and HCDL

Model summary				
Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.205[a]	0.042	0.035	0.05526

[a]Predictors: (Constant), HCDL

Table 8 Regression analysis between WACC and HCDL

Coefficients[a]						
Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	0.024	0.021		1.146	0.254
	HCDL	− 0.001	0.002	− 0.045	− 0.589	0.557
	LNTA	0.001	0.001	0.120	1.871	0.063
	DA	− 0.051	0.024	− 0.137	− 2.107	0.037
	MTB	0.005	0.004	0.085	1.203	0.231
	ROA	0.889	0.098	0.610	9.090	0.000
	SG	− 0.015	0.009	− 0.109	− 1.716	0.088

[a]"Dependent Variable": WACC

this influences the reduction of capital costs via disclosure through the level of risk in estimating its impact on investors' preferences and information asymmetry. The value of F reached – 0.589, which is not significant at the significance level (0.05 > a), and this is confirmed by the fact that Sig F equals 0.557, and this "value is greater than the level of significance (0.05 > a)", so it confirms that acceptance of the hypothesis.

The following model measures these variables:

$$\mathrm{H1}: \mathrm{WACC} = \alpha 0 + \alpha 1\,\mathrm{HCDL} + \alpha 2\,\mathrm{LNTA} + \alpha 3\,\mathrm{DA} + \alpha 4\,\mathrm{MTB} + \alpha 5\,\mathrm{ROA} + \varepsilon$$

Second hypothesis: There is effect between TQ and HCDL at a significance level (0.05).

Whereas Tables 9 and 10 shows the effect of (a relationship between Tobin's Q and disclosure of the level of HC). The results of the statistical analysis showed the presence of a statistically significant effect between TQ and HCDL, as the correlation coefficient reached 0.713 at a significance level of (0.05), meaning that the relationship is strong between the two variables.

The "adjusted R square" was 0.509, meaning that disclosure of the level of human capital explains 50.9% of TQ. The value of the degree of influence (the slope of the regression equation β) was 0.495. This means that managers use HC to improve and

Table 9 The strength of the connection between TQ and HCDL

Model summary				
Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.713[a]	0.509	0.506	0.43192

[a]Predictors: (Constant), HCDL

Table 10 Regression analysis between TQ and HCDL

Coefficients[a]						
Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	1.198	0.177		− 6.770	0.000
	HCDL	0.135	0.016	0.495	8.493	0.000
	LNTA	0.003	0.006	0.019	0.395	0.694
	DA	0.346	0.202	0.085	1.717	0.088
	MTB	0.290	0.037	0.423	7.870	0.000
	ROA	2.047	0.812	0.129	2.521	0.013
	SG	0.013	0.075	0.008	0.170	0.865

[a]Dependent Variable: TQ

enhance the value of the company and thus reduce TQ through non-diversifiable risks to estimate and enhance investors' outlook regarding the company's earnings potential and expansion. F reached a value of 8.493, which is A function at a significance level of (0.05 > a), and this is confirmed by the fact that Sig F equals 0.000, and this value is less than the significance level of (0.05 > a), so it confirms that accepting the hypothesis. These results are consistent with previous studies [55, 57, 58].

The following model measures these variables:

$$H2 : TQ = \alpha 0 + \alpha 1\, HCDL + \alpha 2\, LNTA + \alpha 3\, DA + \alpha 4\, SG + \alpha 5\, ROA + \varepsilon$$

4 Conclusion

This research demonstrates the importance of disclosing HC as part of integrated reports and sustainability reports in improving investors and stakeholders' understanding and appreciation of the role of HC in achieving the success and sustainability of joint stock companies in Palestine. By analyzing the financial and economic consequences of such disclosure, we find that there is an opportunity to enhance transparency and build trust between companies and all stakeholders. Striking the balance between maintaining confidentiality and disclosing sensitive information remains an ongoing challenge. However, "companies can benefit from the guidance of this research to develop better and sustainable disclosure practices that contribute to enhancing the financial value of the company".

The Weighted Average Cost of Capital (WACC) standing at 6.9% suggests that the company is able to obtain financing at a relatively low cost, reflecting an efficient management of its financing structure. Conversely, Tobin's Q ratio at 75.09%

indicates that the market values the company lower than the replacement value of its assets. This discrepancy could signal a conservative market stance towards the company's growth prospects or overall market valuation.

A significant positive correlation has been identified between TQ and HCDL with a coefficient of 0.713, illustrating a strong relationship. However, the correlation between HCDL and WACC is relatively weak, with a coefficient of 0.205, indicating only a slight positive association. Other study variables show no significant relationship, highlighting their weak impact within this context.

The research reveals that increased transparency in human capital information significantly lowers the firm's (cost of capital). This phenomenon suggests that by enhancing HCDL, companies can reduce the perceived risk among investors, leading to a decrease in capital costs.

Furthermore, the study notes "a positive impact on the company's value" associated with higher levels of risk disclosure. This observation suggests that improved disclosure regarding HC correlates thus improving the company's value by facilitating greater access to external financial resources.

The financial advantages of HC disclosure prompt firms to offer more comprehensive details on their HR within integrated reporting. This practice not only lowers the cost of capital but also increases the company's value, supporting the broader adoption of integrated reporting.

These findings underscore the importance of interconnectedness in preparing integrated and sustainable reports. They highlight how such reporting can aid in understanding (the value creation process and improve decision-making among investors).

Finally, the study offers empirical evidence that transparent and comprehensive reporting on HC serves as a mechanism to mitigate investment risks and enhance the company's value. It posits that HC disclosure transcends corporate transparency, carrying significant financial implication.

Based on the findings of the previous study, researchers have made several recommendations to enhance "the financial performance and sustainability" of companies through improved HC disclosure. They suggest that companies should enhance the transparency of their integrated reports by offering detailed and clear information about human capital. This includes insights into training and development, well-being, organizational culture, and other relevant areas.

There is an emphasis on increasing both internal and external training courses for employees at all job levels to develop their knowledge and keep them updated on new developments in their work fields. The recommendations extend to banks, advising them to invest in HC by employing competent and experienced individuals and providing training for current employees. Moreover, it is suggested that financial rewards be given to experienced employees who possess practical and scientific competencies capable of supporting company objectives, thereby enhancing productivity and positively influencing financial performance, which is foundational for sustainable growth and achieving strategic goals. Improving the quality of HC disclosure is identified as crucial since such disclosure can lead to reduced capital costs and increased company value. Companies are encouraged to provide more

detailed and specific data regarding employee development, training, organizational culture, and other HC aspects to improve investors' and stakeholders' understanding. Linking HC information directly "to the company's financial performance is recommended to demonstrate how HC contributes to the company's financial and competitive success". Additionally, companies are urged to underscore the role of HC in governance strategies and its contribution to achieving sustainability and corporate social responsibility goals.

Finally, the use of modern technology for analyzing and presenting HC data is advocated to offer deeper and more accurate insights, facilitating a more comprehensive understanding of HC impact on company performance and value.

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