







“The relationship between intellectual capital efficiency and firms’ dividend policy: Do CEO characteristics matter?”

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THE RELATIONSHIP BETWEEN INTELLECTUAL CAPITAL EFFICIENCY AND FIRMS' DIVIDEND POLICY: DO CEO CHARACTERISTICS MATTER?

Abstract

The financial challenges facing the Jordanian economy require careful attention and strategic responses. Addressing these challenges may necessitate increased investment. This study explores the relationship between intellectual capital efficiency and firms' dividend policies and the potential impact of CEO characteristics on this relationship. An analysis was based on data from 90 Jordanian service and manufacturing companies from 2015 to 2019. The study employs the value-added intellectual capital coefficient (VAIC) to measure intellectual capital efficiency and uses the dividend payout ratio to represent dividend policy. The findings indicate a positive relationship between VAIC and dividend policy, suggesting that companies with higher intellectual capital efficiency tend to distribute higher dividends. However, CEO characteristics, such as age, tenure, and educational background, do not significantly affect this relationship. These results imply that strong corporate governance mechanisms are likely in place, ensuring effective decision-making processes and protecting stakeholders' interests. By focusing on intellectual capital, firms can enhance their operational performance and attractiveness to investors, indirectly supporting economic stability.

Keywords

performance, profits, investment, duality, tenure, qualification, Jordan

JEL Classification

M41, O34, G35

INTRODUCTION

In corporate finance, the shareholder theory emphasizes that a firm's primary responsibility is to maximize the wealth of its shareholders. This principle underpins managerial duties, guiding decisions related to investment, financing, and dividends to ensure optimal shareholder value creation. Managers are expected to utilize available resources effectively to achieve returns that enhance shareholder value. The resource-based theory further elaborates on this by suggesting that a firm's competitive advantage and performance variations can be attributed to the superior management of both tangible and intangible resources. In contemporary research, intellectual capital (IC) – encompassing human capital, structural capital, and relational capital – has been recognized as a critical intangible asset that significantly influences a company's financial performance and value creation.

From the perspective of investors, value creation comes in the form of increased share prices or dividends. Therefore, while IC has the potential to generate substantial value for investors, the extent to which this value translates into actual returns can be contingent on a company's dividend policy. This policy, formulated by the board of directors based on managerial recommendations, aims to balance profit distribution

and reinvestment in a manner that maximizes shareholder wealth. Given this context, a pertinent question arises: Is there a relationship between a firm's dividend policy and its IC performance? This query is crucial as dividend distribution decisions involve determining the portion of income to distribute to shareholders versus the amount to reinvest in the business. However, these decisions can be influenced by managerial behavior, as posited by agency theory. The theory suggests that managers, driven by self-interest, may sometimes act in ways that do not align with maximizing shareholder wealth.

Furthermore, the upper echelons theory postulates that the characteristics and backgrounds of top executives, such as CEOs, can shape their perceptions and decision-making processes. Consequently, it is reasonable to hypothesize that a CEO's attributes might moderate the relationship between IC and dividend policy.

Despite the growing body of research on the impact of IC and CEO characteristics on corporate performance and policy, most studies have predominantly focused on developed markets. Jordan, as an emerging market, presents a unique context where the dynamics of intellectual capital and executive influence may differ significantly from those in more developed economies. To the best of the researchers' knowledge, this study is the first to examine these dynamics within the context of Jordanian firms. This investigation into the relationship between IC efficiency and dividend policy, with a particular focus on the potential moderating effect of CEO characteristics, aims to fill this gap in the literature and provide insights relevant to both academia and practitioners in emerging markets.

1. LITERATURE REVIEW AND RESEARCH HYPOTHESES

Several prior studies have investigated the value-creation ability of intellectual capital. These studies are largely based on the resource-based theory which suggests that companies can develop competitive advantages by efficiently using their available resources (Caribano et al., 2000). These competitive advantages, in turn, can help these companies to achieve high profits. Under the resource-based theory, firms' resources include tangible and intangible resources. They consist of assets, organizational processes, knowledge, and capabilities available and allow these companies to develop and implement appropriate effective business strategies (Barney, 1991).

IC represents intangible assets not reported in the financial statements of a company. It refers to the knowledge, experience, organizational infrastructure, and other intellectual material that would create value for the company (Steward, 2000). It includes two main components: human and structural capital (Edvinsson, 1997). Human capital represents skills, knowledge, and experience possessed by employees, while

structural capital represents organizational infrastructure, information systems, databases, business strategies, and production techniques within the company.

Prior empirical findings indicate that IC is a key player in firms' performance, which is the ultimate goal for a company by which the profit accruing to its shareholders is maximized. Chen et al. (2005), for example, indicate that IC has a positive association with firm performance (employee productivity, growth in revenues, MBV ratio, ROA, and ROE) of listed firms in Taiwan. They also show that the current year's IC enhances the next two years' performance. Likewise, Clarke et al. (2011) find that IC is positively associated with ROA, ROE, and employees' productivity as measures of the financial performance of listed Australian firms. Smriti and Das (2018) also provide evidence from listed Indian firms that IC is positively associated with Tobin's Q, sales growth, asset turnover ratio, and ROA. Evidence is also provided by Alturiqi and Halioui (2020) from Saudi Arabia. They support a positive relationship between IC and performance (Tobin's Q, ROA, and ROE ratios). Finally, using different samples of listed firms in Jordan, Bataineh et al. (2022) and Odat and Bsoul (2022) show that IC is associated with higher performance.

In addition to firm performance, investors' wealth maximization is, to some extent, affected by the company's dividend policy. Payment of dividends affects both shareholders' wealth and the company's ability to exploit future investment opportunities and expansion (Baker & Kolb, 2009). Dividend payment sometimes is used as a signal to shareholders about the performance of the firm (Khan et al., 2016). A firm's dividend policy is determined by its board of directors, based on information and advice provided by the CEO of the company. It refers to the financial decision related to determining the portion of income to distribute to shareholders of the company in the form of dividends.

Thus, the distribution of income is an essential decision by management. This decision greatly depends on the profitability of the firm as indicated by previous research. For example, Gul et al. (2020) demonstrate that profitability is significantly associated with dividend payment. Their analysis shows that the amount of profit distributed is increasing in the ROA ratio as a measure of profitability. In addition, Turakpe and Fiiwe (2017) examined two Nigerian companies and found that dividend is positively related to return on assets. Further, Pattiruhu and Paais (2020) indicate that ROA is positively related to dividend payments.

Part of the value creation role of IC is the value created to shareholders through distributed dividends. In this respect, Lunawat (2013) suggests that IC significantly impacts investors, particularly when forecasting future dividend payments. He further suggests that effective IC management in an organization would increase firm performance and, as a result, the firm will decide to increase its shareholders' dividends. Thus, organizations with sufficient IC, such as reputable, knowledgeable, trustworthy, and innovative employees and management, are more likely to achieve better dividend yields than firms without substantial IC (Lunawat, 2013; Arvidsson, 2011). Battisti et al. (2022) also show a positive impact of IC on firms' dividend policy. Nielsen and Farooq (2015) indicate that firms with higher IC disclosures have a higher payout ratio. They show that lower information asymmetries, represented by high IC disclosure, are associated with higher dividend payments. However, contrary to the findings in sev-

eral previous studies regarding the link between IC and performance, and hence, on dividend payments, Wen and Jia (2010) and Kadim et al. (2020) find that IC is not related to dividend payment.

The potential moderating impact of CEO attributes on the relationship between IC and dividend policy is grounded in the upper echelons theory. This theory posits that executive decisions are influenced by their personal characteristics and backgrounds (Sanders & Hambrick, 2007; Gala & Kashmiri, 2022). In other words, they make decisions based on their values psychological and social attributes (Frag & Mallin, 2018; Hambrick & Mason, 1984). In this respect, prior research has largely examined the relationship between CEOs' attributes and different aspects of corporate decisions such as takeover (Li & Tang, 2010), risk-taking (Bsoul et al., 2022; Frag & Mallin, 2018), cash holdings (Orens & Reheul, 2013), and financial disclosure (Bamber et al., 2010).

Concerning the relationship between CEO attributes and decisions related to dividend payment or the efficiency of IC, Bertrand and Schoar (2003) indicate that CEOs holding MBA degrees are associated with fewer dividend payments (i.e., they are associated with higher Tobin's Q representing firm value). That is, they are more interested in reinvesting the generated profits rather than distributing them to shareholders. In addition, Patzelt (2010) finds that CEOs' qualifications are key players in enhancing IC efficiency within companies. In addition, although Battisti et al. (2022) find that IC is associated with higher dividend payments, they show that CEOs' qualifications do not affect the association between IC and dividend payments.

The CEO duality effect on dividend payment decisions takes different directions. On the one hand, CEOs with a duality position appear to pay generous dividends as indicated within the Tunisian context (Taleb and Ben Lahouel, 2020). On the other hand, Suwaidan and Khalaf (2020) find that CEO duality reduces dividend payout within the Jordanian context. Hossain et al. (2023) also find an inverse relationship between CEO duality and dividend payments. Yet, Faulkner and García-Feijóo (2022), Riaz et al. (2016), and Abdulwahab et al. (2023) show that CEO duality is not related to the dividend payout ratio.

Dividend payment is found to be negatively affected by CEO ownership. The reason is that CEOs are sometimes encouraged to reinvest all the profits and expand their business when their ownership increases (Riaz et al., 2016). In other cases, the reason is that they serve as substitutes for each other in addressing agency problems and, therefore, should have a negative relationship (Wen & Jia, 2010). Finally, Deshmukh et al. (2013) indicate that because of CEOs overconfidence resulting from their ownership interest, they would pay fewer dividends. This is due to their overestimating the value of future projects and their costly external financing view. Hossain et al. (2023) also suggest that CEO ownership is negatively related to dividend payment. On the contrary, Briano-Turrent et al. (2020) and Kumshe et al. (2020) show that CEOs' ownership has a positive relationship with dividend payment.

Moreover, several studies show that CEOs with long tenure are less concerned with increasing the value of the firm, and hence, they tend to pay more dividends rather than invest in value-increasing projects (Abdulwahab et al., 2023; Kumshe et al., 2020). On the contrary, Hossain et al. (2023) and Al-Ghazali (2014) support the idea that long tenure increases the CEO's power over the board. This, in turn, may cause a decrease in dividend payments to internally finance new projects. Likewise, Likitratcharoen et al. (2012) find that tenure is negatively related to firms' propensity to pay dividends.

Given the distinct economic context of Jordan, this study aims to explore the relationship between IC efficiency and firms' dividend policies, and whether CEO characteristics moderate this relationship. To address this, the following hypotheses are proposed:

H₁: Firms with higher intellectual capital efficiency have more favorable dividend policies.

H_{2a}: CEO qualification significantly moderates the positive relationship between IC efficiency and firms' dividend policy.

H_{2b}: CEO experience significantly moderates the positive relationship between IC efficiency and firms' dividend policy.

H_{2c}: CEO share ownership significantly moderates the positive relationship between IC efficiency and firms' dividend policy.

H_{2d}: CEO duality significantly moderates the positive relationship between IC efficiency and firms' dividend policy.

H_{2e}: CEO tenure significantly moderates the positive relationship between IC efficiency and firms' dividend policy.

2. DATA, MEASUREMENT, AND METHOD

The empirical analysis in this study is based on a sample of service and manufacturing companies listed on the Amman Stock Exchange (ASE). Companies within the financial sector were excluded since they are subject to specific laws that can affect the results. Companies that do not have the full data for the variables of interest are also excluded. In addition, at the time of data collection, the latest available data were for 2022, and since firms' operations were largely affected by the COVID-19 pandemic lock-down in 2020 and 2021, it has been decided to exclude the three years and limit the analysis to the financial years 2015 to 2019. The required data for the variables included were collected from the Jordanian Securities Depository Center (SDC) website, the ASE website, and the firms' annual reports. The final sample consists of 90 firms with 450 firm-year observations.

The dependent variable in this study is firms' dividend policy. This policy represents the financial decision related to the portion of earnings to be distributed to the company's shareholders. Similar to prior research, this variable is measured by the dividend payout ratio computed as dividends distributed to shareholders during the year divided by the company's net income for the year.

The independent variable is the value-added intellectual capital efficiency (VAIC) determined using Pulic's (1998) model. According to this model, VAIC is the sum of three elements: human capital efficiency (HCE), structural capital efficiency (SCE), and capital employed efficiency (CEE). A

company's human capital (HC) consists of knowledge, experiences, and skills possessed by its employees. It is determined as all expenditures paid during the year on employees, including training, salaries, and wages. Then, $HCE = VA / HC$, where VA represents the value added to all stakeholders during the year, including shareholders (net income), creditors (interests), government (taxes), and employees. It is calculated by adding back non-cash expense items to earnings before interest and taxes. That is, $VA = EBIT + W + D + A$, where EBIT is the firm's earnings before interest and tax, W is salaries and wages for the period, and D and A are depreciation and amortization expenses during the period, respectively. HCE indicates the value added to all stakeholders by each unit of currency spent on employees.

Structural capital (SC) refers to firms' information systems, databases, and other organizational infrastructure. SC is determined as $VA - HC$. Then, $SCE = SC / VA$ indicates the value added to all stakeholders by each unit of currency spent on structural capital. Finally, CE is the book value of the company's physical assets while $CEE = VA / CE$ represents the value added by each unit of physical capital.

The moderating variables examined are the CEOs' attributes. CEO qualification is given 1 if the CEO holds a bachelor's degree, 2 for Master's degrees, 3 for Ph.D. degrees, and 0 otherwise. CEO experience refers to the total number of years that the CEO has occupied a CEO position during his life. CEO ownership is measured as the percentage of the company's stocks held by the CEO during the year. CEO duality is used as a dummy variable given 1 if the CEO occupies the chairman of the board position and 0 if not. Finally, CEO tenure is the total number of years that the CEO held the CEO position within the company.

Several variables that have been documented to affect firms' dividend distribution have been controlled for. These variables include liquidity, firm size, profitability, and leverage. While liquidity, according to Kılıncarslan (2018), encourages management to distribute higher dividends, Griffin (2010) suggests an inverse relationship between liquidity and dividends. Faulkner and García-Feijóo (2022), Wen and Jia (2010),

Gul et al. (2020), and Kılıncarslan (2018) indicate that a larger firm pays higher dividends. In addition, Faulkner and García-Feijóo (2022), Gul et al. (2020), and Kılıncarslan (2018) show that profitability is positively related to distributed dividends, whereas Abdullah (2021) suggest that they are negatively related. Finally, Kılıncarslan (2018), Abdullah (2021), and Faulkner and García-Feijóo (2022) indicate that highly leveraged firms distribute fewer dividends. Therefore, all these four variables are controlled for in this analysis. The firm sector is also included to examine whether the results differ across industries. Liquidity is measured by the current ratio, firm size is measured by the natural logarithm of total assets, profitability is measured by the firm's ROA ratio, and leverage is measured by the ratio of total debts to total equity.

Finally, to explore the association between IC and dividend payment and examine the moderating effect of the CEO attributes, the following regression models have been developed:

Model 1

$$\begin{aligned} DivPay_{j,t} = & \alpha + \beta_1 VAIC_{j,t} + \beta_2 Liq_{j,t} \\ & + \beta_3 ROA_{j,t} + \beta_4 Lev_{j,t} + \beta_5 Ind_{j,t} \\ & + \beta_6 Size_j + \varepsilon_j. \end{aligned} \quad (1)$$

Model 2

$$\begin{aligned} DivPay_{j,t} = & \alpha + \beta_1 VAIC_{j,t} + \beta_2 Qualif_{j,t} \\ & + \beta_3 Qualif_{j,t} \cdot VAIC_{j,t} + \beta_4 Liq_{j,t} + \beta_5 ROA_{j,t} \\ & + \beta_6 Lev_{j,t} + \beta_7 Ind_{j,t} + \beta_8 Size_j + \varepsilon_j. \end{aligned} \quad (2)$$

Model 3

$$\begin{aligned} DivPay_{j,t} = & \alpha + \beta_1 VAIC_{j,t} + \beta_2 Exper_{j,t} \\ & + \beta_3 Exper_{j,t} \cdot VAIC_{j,t} + \beta_4 Liq_{j,t} + \beta_5 ROA_{j,t} \\ & + \beta_6 Lev_{j,t} + \beta_7 Ind_{j,t} + \beta_8 Size_j + \varepsilon_j. \end{aligned} \quad (3)$$

Model 4

$$\begin{aligned} DivPay_{j,t} = & \alpha + \beta_1 VAIC_{j,t} + \beta_2 Owner_{j,t} \\ & + \beta_3 Owner_{j,t} \cdot VAIC_{j,t} + \beta_4 Liq_{j,t} + \beta_5 ROA_{j,t} \\ & + \beta_6 Lev_{j,t} + \beta_7 Ind_{j,t} + \beta_8 Size_j + \varepsilon_j. \end{aligned} \quad (4)$$

Model 5

$$\begin{aligned} \text{DivPay}_{j,t} = & \alpha + \beta_1 \text{VAIC}_{j,t} + \beta_2 \text{Duality}_{j,t} \\ & + \beta_3 \text{Duality}_{j,t} \cdot \text{VAIC}_{j,t} + \beta_4 \text{Liq}_{j,t} + \beta_5 \text{ROA}_{j,t} \quad (5) \\ & + \beta_6 \text{Lev}_{j,t} + \beta_7 \text{Ind}_{j,t} + \beta_8 \text{Size}_j + \varepsilon_j. \end{aligned}$$

Model 6

$$\begin{aligned} \text{DivPay}_{j,t} = & \alpha + \beta_1 \text{VAIC}_{j,t} + \beta_2 \text{Tenure}_{j,t} \\ & + \beta_3 \text{Tenure}_{j,t} \cdot \text{VAIC}_{j,t} + \beta_4 \text{Liq}_{j,t} + \beta_5 \text{ROA}_{j,t} \quad (6) \\ & + \beta_6 \text{Lev}_{j,t} + \beta_7 \text{Ind}_{j,t} + \beta_8 \text{Size}_j + \varepsilon_j. \end{aligned}$$

where *DivPay* – *firm_i* dividend paid to shareholders in *year_p*, *VAIC* – value-added intellectual capital coefficient of *firm_i* in *year_p*, *QUAL* – qualifications of *firm_i* CEO in *year_p*, *EXP* – experience of *firm_i* CEO in *year_p*, *OWN* – share ownership of *firm_i* CEO in *year_p*, *DUAL* – CEO duality for *firm_i* in *year_p*, *TENR* – CEO tenure for *firm_i* in *year_p*, *LIQ* – current ratio for *firm_i* in *year_p*, *ROA* – return on assets ratio for *firm_i* in *year_p*, *LEV* – leverage ratio for *firm_i* in *year_p*, *IND* – *firm_i* sector: whether manufacturing or service company, *SIZE* – *firm_i* size in *year_p*, ε – error term.

3. RESULTS

Table 1 shows descriptive statistics for all the variables used in the analysis. According to the table, the average sample firms' dividend payout ratio for the five years is 35.19% with a standard deviation of 52.53 %, which suggests that, on average, firms distribute 35.19 percent of their generated profits to shareholders and keep 64.81% on hand for fu-

ture investment opportunities. The minimum and maximum values for the individual companies were 0.00 % and 413.52%, respectively. These values, besides the 52.53 % standard deviation, clearly show that the sample firms vary regarding their dividend payout propensity.

Regarding the independent variable, Table 1 shows that VAIC has a mean value of 2.88 and a standard deviation of 10.05, with minimum and maximum values of -140.12 and 54.81, respectively. These values indicate how efficiently the company is utilizing its IC. The higher this value, the more efficient the company is.

Table 1 also shows statistics for the moderator variables; the sample firms' CEOs hold, on average, a post-graduate degree. They also have 9.96 years, on average, practical experience as a CEO of a company. In addition, the CEOs own an average of 1.8 % of total shares issued by their companies. Regarding CEO duality, the table shows that 8% of CEOs serve both CEO and chairmen of the board of their companies. Finally, the CEO's average tenure is 7.76 years. This result is consistent with previous research by Bsoul et al. (2022) and Martino et al. (2020) who reported that the average CEO tenure in Jordanian and Italian firms, respectively, is 7 years.

As for the control variables, the statistics show that firms' liquidity has a mean of 7.38% with a standard deviation of 57.19 %. The mean and standard deviations for ROA are 1.35% and 17.80%, respectively, that is, Jordanian firms (particularly service and manufacturing firms) earn, on average, a 1.35% return on their total assets. Regarding lever-

Table 1. Descriptive statistics

Variable	Mean	S. Dev	Min	Max
DivPay	0.351955	0.5253024	0.000	4.135260
VAIC	2.8851	10.05409	-140.1194	54.81364
QUAL	1.375	0.701	0.000	3.000
EXP	9.96	10.923	1	56
OWN	0.0179	0.07108	0	0.589151
DUAL	0.08	0.279	0.000	1
TENR	7.76	9.630	1	56
LIQ.	7.3859727	57.19551172	.02087	902.16545
ROA	0.013479	.1780442	-1.9810331	1.360829
LEV	.619505	4.7049316	0.00111	1.9037200
IND.	0.57	0.496	0.000	1
SIZE	100,433,564.91	238,353,536.522	32,0140	1,440,221,599

age, the sample firms are 61.95% financed through debt during the study period. Finally, the average company size is approximately 100 million Jordanian dinars as measured by total assets.

Table 2 reports the Pearson correlation coefficients among the variables examined. As can be seen from the table, the CEO characteristics of qualification, experience, ownership, and tenure have a positive correlation with dividend payments. These results are logical and straightforward; higher CEOs' qualifications, experience, ownership, and tenure induce more efficiency in managing the firm resources, and correspondingly increase net income, and, as a result, dividends paid to shareholders increase. The table also shows that CEO duality has a negative correlation with dividend payments. In the presence of duality, a conflict of interest exists, and therefore, companies become more risk-averse and less willing to pay dividends (El Ammari, 2021). A negative correlation also exists between liquidity and dividend payments. This is because dividend payments are sometimes used to compensate shareholders for lower stock liquidity (Griffin, 2010). A positive logical and straightforward correlation also appears between VAIC with qualification, experience, ownership, duality, and tenure. This suggests that increases in the CEO's job experience and tenure as time passes, as well as the increases in ownership and the presence of duality, would increase management's ability to efficiently utilize IC, create value, and maximize the wealth of the shareholders.

All the correlation coefficients shown in Table 2 between the independent and the moderator vari-

ables are less than 0.70 suggesting the non-existence of multicollinearity that affects the analysis (Gujarati, 2003).

The data were analyzed using multiple regression analysis to examine the association between firms' IC and dividend payments, as well as the moderating effect of CEO traits. Table 3 reports the results for the six models developed above. The F-statistic, which is significant at the 5% level ($p < 0.05$), confirms the validity of the regression models for the analysis. Additionally, the R^2 values for the different models ranged from 0.313–0.354, which indicates that the variables examined explain approximately 33 % of the variation in firms' dividend policy.

Column 2 in Table 3 reports the results for model 1 which tests the direct relationship between VAIC and dividend policy. It indicates a positive and statistically significant relationship at the 1 % level between VAIC and dividends policy ($t = 4.262$; $p < 0.01$). Hence, the first hypothesis ($H1$) is accepted. CEO qualification and the interaction between VAIC and qualification as a moderator variable are added in Model 2. The results show no significant relationship between CEO qualification and dividends policy, and there is no effect of CEO qualification on the relationship between VAIC and dividends policy. Accordingly, H_{2a} is rejected. In model 3, CEO experience and the interaction of VAIC and experience are included. The results show that there is a significant influence of the CEO's experience on dividends policy, but unexpectedly, there is no significant impact of experience on the relationship between VAIC and dividends policy, and thus, H_{2b} is rejected. When

Table 2. Pearson correlation matrix

Variable	DivPay	VAIC	QUAL	EXP	OWN	DUAL	TENR	LIQ.	ROA	LEV	IND.	SIZE
DivPay	1											
VAIC	.152	1										
QUAL	.018	.065	1									
EXP	.138	.065	–	1								
OWN	.044	.022	–	–	1							
DUAL	–.012	.026	–	–	–	1						
TENR	.120	.050	–	–	–	–	1					
LIQ.	–.056	–.094	–.164	–.054	.010	.197	–.044	1				
ROA	.282	.194	.040	.027	.117	.056	.076	–.011	1			
LEV	–.046	.021	–.021	.079	–.011	–.013	.224	–.139	–.076	1		
IND.	–.289	.003	.046	.045	–.102	.138	.088	–.089	–.112	.044	1	
SIZE	.132	.136	.102	.160	–.016	.001	.224	–.040	.094	–.007	–.113	1

Table 3. Regression results

Variable	Model 1 <i>t</i> (<i>p</i>)	Model 2 <i>t</i> (<i>p</i>)	Model 3 <i>t</i> (<i>p</i>)	Model 4 <i>t</i> (<i>p</i>)	Model 5 <i>t</i> (<i>p</i>)	Model 6 <i>t</i> (<i>p</i>)
VAIC	4.262 (.000)*	3.002 (.003)*	3.773 (.000)*	3.996 (.000)*	4.055 (.000)*	3.735 (.000)*
QUAL		1.181 (.238)				
VAIC * QUAL		-.578 (.564)				
EXP			1.888 (.060)***			
VAIC * EXP			-.375 (.708)			
OWN				-1.074 (.284)		
VAIC * OWN				.914 (.361)		
DUAL					-.683 (.495)	
VAIC * DUAL					.921 (.358)	
TENR						1.355 (.176)
VAIC * TENR						-.157 (.876)
LIQ.	1.724 (.085)***	1.712 (.088)***	1.158 (.247)	1.733 (.084)***	1.674 (.095)***	-.707 (.480)
ROA	4.159 (.000)*	4.062 (.000)*	4.298 (.000)*	4.317 (.000)*	4.140 (.000)*	4.491 (.000)*
LEV	-1.774 (.077)***	-1.801 (.072)***	-2.082 (.038)**	-1.846 (.065)***	-1.677 (.094)***	-3.413 (.001)*
IND.	-5.065 (.000)*	-5.156 (.000)*	-5.043 (.000)*	-5.221 (.000)*	-5.073 (.000)	-4.854 (.000)*
SIZE	2.747 (.006)*	2.518 (.012)**	2.678 (.008)*	2.811 (.005)*	2.558 (.011)**	3.320 (.001)*
F	38.783	29.233	30.194	29.356	29.117	28.765
Sig.	0.000	0.000	0.000	0.000	0.000	0.000
R ²	.344	.347	.354	.347	.346	.313
Adjusted R ²	.335	.335	.342	.336	.334	.302

Note: *** The result is significant at 0.10 level ($p \leq 0.10$). * The result is significant at 0.01 level ($p \leq 0.01$). ** The result is significant at 0.05 level ($p \leq 0.05$).

CEO ownership, as well as the interaction between VAIC and ownership, are added in model 4, the result indicates no significant effect of CEO ownership on dividend policy and no significant effect of CEO ownership on the relationship between VAIC and dividends policy; therefore, H_{2c} is also rejected. In model 5, CEO duality is added in addition to the interaction of VAIC and duality. The results also do not show any significant relationship for both duality and dividends policy or for duality on the relationship between VAIC and dividends policy; hence H_{2d} is rejected. Finally, when the CEO tenure and the interaction between VAIC and tenure are added in model 6, the results indicate no relationship between tenure and dividend payment or any moderating effect on the association between VAIC and dividends policy; therefore, H_{2e} is rejected.

As for the control variables, liquidity has a positive impact in five of the six models but is significant in four of them. This means that firms with more liquid assets pay higher dividends than firms with less liquid assets. All six models show a significant positive association between ROA and firm size with dividend payment, which means that large and high-profitability companies tend to pay

more dividends than small and low-profitability companies. Regarding leverage, all the models indicate a negative association between leverage and dividends paid, which indicates that firms with higher debt levels pay less dividends, which is consistent with the priority of payment of the debt and obligation before the payment of dividends to shareholders. Additionally, according to the coefficient on IND, manufacturing firms have lower dividend payments than service firms.

4. DISCUSSION

The results of this study suggest that VAIC has a positive relationship with dividend payments. The more efficient the company is using its IC, the higher the profitability/financial performance of the company (see, e.g., Odat & Bsoul, 2022) and, therefore, the higher distributable income that can be paid to shareholders (see, e.g., Gul et al. 2020). This result is consistent with prior research, such as Battisti et al. (2022), but inconsistent with Wen and Jia (2010) and Kadim et al. (2020). However, regarding the moderating effects of CEOs' traits on the relationship between VAIC and dividends policy, the result is inconsistent with what was expected; the results

show that there is no effect for the tested traits on such a relationship. As for CEOs' qualifications, the no-effect result is consistent with Battisti et al. (2022) but inconsistent with Bertrand and Schoar (2003), who indicate that CEOs with MBA degrees are associated with fewer dividends. The results also show that CEO experience positively correlates with dividends policy. As the CEO's experience increases, they can run the firm more efficiently and achieve higher profits, and as a result, the dividend distributed to shareholders would increase. Despite this finding, however, no significant effect of the CEO experience on the relationship between VAIC and dividend policy was found.

Regarding CEOs' share ownership, the results indicate that ownership is not related to dividend payment and has no effect on the association between VAIC and dividend payment. This may be due to the low percentage of CEO ownership in their companies' shares (on average, they own only 1% of total shares issued by the service and manufacturing Jordanian firms). The result is consistent with Al-Ghazali (2014) but inconsistent with Deshmukh et al. (2013) and Briano-Turrent et al. (2020). As for CEO duality, the results indicate that it does not have any significant effect on dividend payment, or on the relationship between VAIC and dividend payments. This result is consis-

tent with Abdulwahab et al. (2023) and Al-Ghazali (2014), while it is inconsistent with El Ammari (2021), Hossain et al. (2023), and Suwaidan and Khalaf (2020) who find that CEO duality negatively affects firms' dividend policies. Regarding CEO tenure, the results show no significant relationship with dividend policy and no moderating effect on the positive relationship between VAIC and dividend payments. This is consistent with Kumshe et al. (2020) and Al-Ghazali (2014) but is inconsistent with Hossain et al. (2023), who show a significant negative relationship between CEOs' tenure and dividends policy, and Abdulwahab et al. (2023), who reveal a significant positive relationship between CEO tenure and dividend policy.

Finally, regarding the control variables, as expected, liquidity, return on assets, and firm size are positively and significantly related to dividend distribution. That is, firms with more liquid assets, high profit, and large size tend to pay more dividends. Usually, these firms have sufficient funds and less financial constraints. These results are in line with Faulkner and García-Feijóo (2022), Gul et al. (2020), and Kılıncarslan (2018). Moreover, it was found that leverage has a significant negative effect on dividends paid; that is, when using excess cash, firms with high leverage give priority to settling the debt rather than paying dividends to shareholders.

CONCLUSION

This study investigated the relationship between intellectual capital efficiency (VAIC) and dividend policy among Jordanian firms listed on the Amman Stock Exchange. The findings reveal a significant positive association between VAIC and dividends paid, indicating that firms with higher intellectual capital efficiency tend to distribute more dividends to shareholders. Surprisingly, CEO qualifications, experience, ownership, duality, and tenure did not moderate the positive relationship between VAIC and dividend policy as hypothesized. This unexpected outcome suggests that other factors or more nuanced governance mechanisms beyond CEO traits may influence dividend decisions in these firms. In addition, firms' liquidity, return on assets, and size positively and significantly affect dividends paid, while industry and leverage are negatively related to dividends paid.

A plausible explanation for the lack of moderating effects could be attributed to effective corporate governance practices. The presence of independent boards, as evidenced by the low incidence of CEO duality (only 8% in the sample), likely plays a pivotal role in aligning managerial decisions with shareholder interests. These governance mechanisms serve as controls to mitigate managerial opportunism and ensure prudent dividend policies.

This study contributes valuable insights by highlighting the importance of intellectual capital in shaping financial outcomes and shareholder value creation. Policymakers might consider promoting greater

transparency in financial reporting by acknowledging the impact of intellectual capital on firm performance. Similarly, investors are encouraged to incorporate non-financial metrics, such as intellectual capital efficiency, into their investment analyses to gain a more comprehensive view of firm prospects.

While the findings significantly contribute to the literature, several limitations should be noted. The study's reliance on a relatively small sample over a five-year period may restrict the generalizability of the results. Future research could explore additional CEO traits, such as political connections or behavioral characteristics, to further elucidate their impact on dividend policies.

In conclusion, this study underscores the complex interplay between intellectual capital, corporate governance, and dividend policy in Jordanian firms. By addressing these dynamics, firms can potentially enhance investor confidence, attract new capital, and contribute positively to the Jordanian economy.

AUTHOR CONTRIBUTIONS

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REFERENCES

1. Abdullah, H. (2021). Profitability and Leverage as Determinants of Dividend Policy: Evidence of Turkish Financial Firms. *Eurasian Journal of Management & Social Sciences*, 2(3). <http://dx.doi.org/10.23918/ejmss.V2i3p15>
2. Abdulwahab, A. I., Bala, H., Yahaya, O., & Khatoon, G. (2023). Moderating Effect of Risk Committee Presence on The Nexus Between CEO Characteristics and Dividends Policy: Evidence from Listed Companies in Nigeria. *Nigerian Journal of Management Sciences*, 24(1). Retrieved from <https://www.researchgate.net/publication/368873898>
3. Ahangar, R. G. (2011). The Relationship between Intellectual Capital and Financial Performance: An Empirical Investigation in an Iranian Company. *African Journal of Business Management*, 5, 88-95. Retrieved from <https://www.researchgate.net/publication/228913121>
4. Al-Ghazali, A. M. (2014). *The Economic and Behavioral Factors Affecting Corporate Dividend Policy: Theory and Evidence* (Doctoral Dissertation). University of Bath. Retrieved from <https://researchportal.bath.ac.uk/en/studentTheses>
5. Alturiqi, A., & Halioui, K. (2020). The Impact of Intellectual Capital on Firms' Performance: Evidence from Saudi Arabia. *Accounting and Finance Research*, 9(4), 1-26. <https://doi.org/10.5430/afr.v9n4p44>
6. Arvidsson, S. (2011). Disclosure of Non-Financial Information in the Annual Report: A Management Team Perspective. *Journal of Intellectual Capital*, 12(2), 277-300. <http://dx.doi.org/10.1108/1469193111123421>
7. Baker, H., K., & Kolb, R., W. (2009). *Dividends and Dividend Policy*. John Wiley & Sons, New Jersey. Retrieved from <https://www.wiley.com/en-gb/Dividends+and+Dividend+Policy-p-9780470471227>
8. Bamber, L. S., Jiang, J., & Wang, I. Y. (2010). What's My Style? The Influence of Top Managers on Voluntary Corporate Financial

- Disclosure. *The Accounting Review*, 85(4), 1131-1162. <https://doi.org/10.2308/accr.2010.85.4.1131>
9. Barney, J. (1991). Special Theory Forum the Resource-Based Model of the Firm: Origins, Implications, and Prospects. *Journal of Management*, 17(1), 97-98. <https://doi.org/10.1177/014920639101700107>
 10. Bataineh, H., Abbadi, S. S., Alabood, E., & Alkurdi, A. (2022). The Effect of Intellectual Capital on Firm Performance: The Mediating Role of Family Management. *Journal of Islamic Accounting and Business Research*, 13(5), 845-863. <https://doi.org/10.1108/JIABR-02-2022-0032>
 11. Battisti, E., Nirino, N., Christofi, M., & Vrontis, D. (2022). Intellectual Capital and Dividend Policy: The Effect of CEO Characteristics. *Journal of Intellectual Capital*, 23(1), 127-143. <https://doi.org/10.1108/JIC-11-2020-0354>
 12. Bertrand, M., & Schoar, A. (2003). Managing with Style: The Effect of Managers on Firm Policies. *The Quarterly Journal of Economics*, 118(4), 1169-1208. <https://doi.org/10.1162/003355303322552775>
 13. Briano-Turrent, G. D., Li, M., & Peng, H. (2020). The Impact of Family-CEOs and their Demographic Characteristics on Dividend Payouts: Evidence from Latin America. *Research in International Business and Finance*, 51, 101086. <https://doi.org/10.1016/j.ribaf.2019.101086>
 14. Bsoul, R., Atwa, R., Odat, M., Haddad, L., & Shakhathreh, M. (2022). Do CEOs' Demographic Characteristics Affect Firms' Risk-Taking? Evidence from Jordan. *Cogent Business & Management*, 9(1), 2152646. <https://doi.org/10.1080/23311975.2022.2152646>
 15. Caribano, L., Garcia-Ayuso, M., & Sanchez, P. (2000). Accounting for Intangibles: A literature Review. *Journal of Accounting Literature*, 19, 102-130. Retrieved from <https://www.researchgate.net/profile/Manuel-Garcia-Ayuso-Covarsi/publication/228291916>
 16. Chen, Z., Cheung, Y.-L., Stouraitis, A. & Wong, A.W.S. (2005). Ownership Concentration, Firm Performance, and Dividend Policy in Hong Kong. *Pacific-Basin Finance Journal*, 13(4), 431-449. <https://doi.org/10.1016/j.pacfin.2004.12.001>
 17. Clarke, M., Seng, D., & Whiting, R.H. (2011). Intellectual Capital and Firm Performance in Australia. *Journal of Intellectual Capital*, 12(4), 505-530. <https://doi.org/10.1108/14691931111181706>
 18. Deshmukh, S Goel, A. M., & Howe, K. M. (2013). CEO Overconfidence and Dividend Policy. *Journal of Financial Intermediation*, 22, 440-463. <https://doi.org/10.1016/j.jfi.2013.02.003>
 19. El Ammari, A. (2021). Do CEO Duality and Ownership Concentration Impact Dividend Policy in Emerging Markets? the Moderating Effect of Crises Period. *International Journal of Financial Studies*, 9(4), 62. <https://doi.org/10.3390/ijfs9040062>
 20. Edvinsson, L. (1997). Developing Intellectual Capital at Skandia. *Long Range Planning*, 30(3), 366-373. [https://doi.org/10.1016/S0024-6301\(97\)90248-X](https://doi.org/10.1016/S0024-6301(97)90248-X)
 21. Farag, H., & Mallin, C. (2018). The Influence of CEO Demographic Characteristics on Corporate Risk-Taking: Evidence from Chinese IPOs. *The European Journal of Finance*, 24(16), 1528-1551. <https://doi.org/10.1080/1351847X.2016.1151454>
 22. Faulkner, M., & García-Feijóo, L. (2022). Hot-Stove Effects: The Impact of CEO Past Corporate Experiences on Dividend Policy. *Journal of Financial and Quantitative Analysis*, 57(5), 1695-1726. <https://doi.org/10.1017/S002210902100034X>
 23. Gala, P., & Kashmiri, S. (2022), Exploring the Dark Side of Integrity: Impact of CEO Integrity on Firms' Innovativeness, Risk-Taking and Proactiveness. *European Journal of Marketing*, 56(7), 2052-2102. <https://doi.org/10.1108/EJM-02-2021-0095>
 24. Griffin, C. H. (2010). Liquidity and Dividend Policy: International Evidence. *International Business Research*, 3(3), 3. <https://doi.org/10.5539/ibr.v3n3p3>
 25. Gujarati, D. (2003). Basic Econometrics. McGraw- Hill, NewYork.
 26. Gul, S., Ullah, I., Gul, H., & Rasheed, S. (2020). The Factors Affecting Dividend Policy: Empirical Study from Pharmaceutical's Companies in Pakistan (PSX). *European Journal of Business and Management Research*, 5(5). <http://dx.doi.org/10.24018/ejbmr.2020.5.5.464>
 27. Hambrick, D.C. & Mason, P.A. (1984). Upper Echelons: The Organization as a Reflection of its Top Managers. *The Academy of Management Review*, 9(2), 193-206. <https://doi.org/10.5465/amr.1984.4277628>
 28. Hossain, M. N., Rabarison, M. K., Ater, B., & Sobngwi, C. K. (2023). CEO marital status and dividend policy. *Journal of Corporate Finance*, 78, 102342. <https://doi.org/10.1016/j.jcorpfin.2022.102342>
 29. Kadim, A., Sunardi, N., & Husain, T. (2020). The Modeling Firm's Value Based on Financial Ratios, Intellectual Capital and Dividend Policy. *Accounting*, 6(5), 859-870. <https://doi.org/10.5267/j.ac.2020.5.008>
 30. Khan, M. N., Naeem, M. U., Rizwan, M., & Salman, M. (2016). Factors Affecting the Firm Dividend Policy: An Empirical Evidence from Textile Sector of Pakistan. *International Journal of Advanced Scientific Research and Management*, 1(5), 144-149. Retrieved from https://ijasrm.com/wp-content/uploads/2016/05/IJASRM_V1S5_046_144_149.pdf
 31. Kılınçarslan, E. (2018). The Factors Determining Dividend Policy of Financial Firms Listed on the Borsa Istanbul. *Boğaziçi Journal Review of Social, Economic and Administrative Studies*, 32(1), 75-109. <http://dx.doi.org/10.21773/boun.32.1.5>
 32. Kim, J., & Jang, S. (2010). Dividend Behavior of Lodging Firms: Heckman's Two-Step Approach. *International Journal of Hospitality Management*, 29, 413-420. <https://doi.org/10.1016/j.ijhm.2009.08.009>

33. Kumshe, A. M., Anaso, I. O., & Gulani, M. G. (2020). CEO Characteristics and Dividend Payout in Sub-Saharan Africa. *European Journal of Accounting, Auditing and Finance Research*, 8(6), 46-63. <https://doi.org/10.37745/ejaaf/vol8.no6.pp46-63.2020>
34. Li, J., & Tang, Y. I. (2010). CEO Hubris and Firm Risk-Taking in China: The Moderating Role of Managerial Discretion. *Academy of Management Journal*, 53(1), 45-68. <https://doi.org/10.5465/amj.2010.48036912>
35. Likitracharoen, D., Jiraporn, P., & Kanitpong, T. (2012). Propensity to Pay Dividends and CEO Reputation. *European Journal of Scientific Research*, 82(1), 82-88. Retrieved from <https://pure.psu.edu/en/publications/propensity-to-pay-dividends-and-ceo-reputation>
36. Lunawat, R. (2013). The role of Information in Building Reputation in an Investment/Trust Game. *European Accounting Review*, 22(3), 513-532. <https://doi.org/10.1080/09638180.2012.748256>
37. Martino, P., Rigolini, A., & D'Onza, G. (2020). The Relationships between CEO Characteristics and Strategic Risk-Taking in Family Firms. *Journal of Risk Research*, 23(1), 95-116. <https://doi.org/10.1080/13669877.2018.1517380>
38. Nielsen, C., & Farooq, O. (2015). Intellectual Capital Disclosure and Dividend Policy: Evidence from the Danish Biotechnology Sector. *International Journal of Learning and Intellectual Capital*, 12(1), 82-102. Retrieved from <https://ideas.repec.org/a/ids/ijlica/v12y2015i1p82-102.html>
39. Odat, M., & Bsoul, R. (2022). The Role of Intellectual Capital in Firms' Performance and Market Value: Evidence from Jordan. *International Journal of Management and Sustainability*, 11(4), 258-272. <https://doi.org/10.18488/11.v11i4.3232>
40. Orens, R., & Reheul, A. M. (2013). Do CEO Demographics Explain Cash Holdings in SMEs? *European Management Journal*, 31(6), 549-563. <https://doi.org/10.1016/j.emj.2013.01.003>
41. Pattiruhu, J. R., & Paais, M. (2020). Effect of Liquidity, Profitability, Leverage, and Firm Size on Dividend Policy. *The Journal of Asian Finance, Economics and Business* (JAFEB), 7(10), 35-42. <http://dx.doi.org/10.13106/jafeb.2020.vol7.no10.035>
42. Patzelt, H. (2010). CEO Human Capital, Top Management Teams, and the Acquisition of Venture Capital in New Technology Ventures: An Empirical Analysis. *Journal of Engineering and Technology Management*, 27(3-4), 131-147. <https://doi.org/10.1016/j.jengtecman.2010.06.001>
43. Pulic, A. (1998). Measuring the Performance of Intellectual Potential (IP) in Knowledge Economy. In Tiffany, C. & Jennifer, S. (Eds.). Paper Presented at the 19th Annual National Business Conference. DeGroote School of Business.
44. Riaz, S., Liu, Y., & Ahmad, M. I. (2016). Dividend Policy and Corporate Governance Perspective. *Accounting and Finance Research*, 5(3), 77-86. <http://dx.doi.org/10.5430/afr.v5n3p77>
45. Sanders, S. G., & Hambrick D. C. (2007). Swinging for the Fences: The Effects of CEO Stock Options on Company Risk-Taking and Performance. *Academy of Management Journal*, 50, 1055-1078. <https://doi.org/10.5465/amj.2007.27156438>
46. Shubiri, D. F. (2011). Determinants of Changes Dividend Behavior Policy: Evidence from the Amman Stock Exchange. *Far East Journal of Psychology and Business*, 4(2), 1-5. Retrieved from <https://ideas.repec.org/a/fej/article/v4by2011i1p1-15.html>
47. Smriti, N., & Das, N. (2018). The Impact of Intellectual Capital on Firm Performance: A Study of Indian Firms Listed in COSPI. *Journal of Intellectual Capital*, 19(5), 935-964. <https://doi.org/10.1108/JIC-11-2017-0156>
48. Steward, T. A. (2000). Intellectual Capital: The New Wealth of Organization. *Journal of Intellectual Capital*, 21(1), 60-70. <http://dx.doi.org/10.1108/pr.2000.29.1.115.1>
49. Suwaidan, M.S., & Khalaf, L. S. (2020). The Effect of Board Composition and Ownership Structure on Dividend Policy: Evidence from Jordan. *International Journal of Innovation, Creativity and Change*, 8(14), 550-567. Retrieved from <https://api.semanticscholar.org/CorpusID:229379377>
50. Taleb, Lotfi, and Béchir Ben Lahouel. (2020). Dividend Policy: A Governance Tool in Times of Crisis? *Question(s) of Management*, 4, 45-61. <https://doi.org/10.1016/j.heliyon.2023.e20586>
51. Turakpe, M. J., & Fiiwe, J. (2017). Dividend Policy and Corporate Performance: A Multiple Model Analysis. *Equatorial Journal of Finance and Management Sciences*, 2(2), 1-16. <http://dx.doi.org/10.2139/ssrn.2947308>
52. Wen, Y., & Jia, J. (2010). Institutional Ownership, Managerial Ownership and Dividend Policy in Bank Holding Companies. *International Review of Accounting, Banking and Finance*, 2(1), 8-21. Retrieved from http://irabf.org/upload/journal/prog/2010v2n1_2.pdf