

Strategic Cash Holding in Digitalized Corporations: The Impact of AI-Based Forecasting and the Moderating Role of CFO Digital Competency

HOANG NGOC BAO TRAN¹, PHAM NGOC ANH², LE TRINH BAO NGHI³

¹Faculty of Business Management, University of Greenwich, London, UK

²The Macduffie School, Granby, Massachusetts, USA

³Archbishop Riordan high school, San Francisco, California, USA

ABSTRACT: This study investigates the determinants of strategic cash holding (SCH) in digitalized corporations, with a specific focus on the roles of AI-driven financial forecasting, ERP-integrated data analytics, and CFO digital competency. Guided by the Dynamic Capabilities Theory (Teece et al., 1997) and the Upper Echelons Theory (Hambrick & Mason, 1984), the research conceptualizes SCH as a proactive and data-informed financial strategy rather than a passive liquidity buffer. Employing a probability-based stratified sampling method, data were collected from 610 respondents across Vietnam, comprising senior financial executives, ERP consultants, academics, and corporate data analysts. After data cleaning, 385 valid responses were retained for analysis. Using a 5-point Likert scale survey and quantitative modeling, the findings reveal that both AI-based forecasting ($\beta = 0.50$, $p < 0.05$) and ERP-integrated analytics ($\beta = 0.47$, $p < 0.05$) exert significant positive effects on SCH. Furthermore, CFO digital competency demonstrates a moderating effect ($\beta = 0.42$, $p < 0.05$), amplifying the impact of ERP analytics on liquidity management. The results extend theoretical discourse by confirming that digital technologies function as dynamic capabilities and that leadership cognition critically mediates their effectiveness. Practically, the study underscores the importance of integrating technological adoption with executive upskilling to achieve financial resilience. While limited to Vietnamese enterprises and cross-sectional data, the research provides a robust framework for future investigations into the interplay between technology, leadership, and financial governance in emerging markets.

KEYWORDS: Strategic Cash Holding, AI-Driven Financial Forecasting, ERP-Integrated Data Analytics, CFO Digital Competency, Dynamic Capabilities Theory

1. INTRODUCTION

Strategic cash holding (SCH) within digitalized enterprises represents a sophisticated financial management approach that grapples with uncertainty, facilitates liquidity management, and leverages technology-driven forecasting. Maintaining cash reserves is crucial for mitigating volatility and promoting innovation; however, excessive cash reserves may indicate inefficiency or a lack of investment opportunities (Bates et al., 2009). In environments characterized by rapid data dissemination and instantaneous decision-making, organizations experience increased pressure to optimize their cash positions. Despite advancements in artificial intelligence and enterprise resource planning (ERP) systems, companies often encounter difficulties in harmonizing predictive analytics with their strategic liquidity goals, primarily due to fragmented systems and a low level of financial digital maturity (Appelbaum et al., 2017). Additionally, cash hoarding can exacerbate agency conflicts and diminish shareholder value if not guided by a clear strategic framework (Opler et al., 1999). This tension highlights the pressing need to reevaluate how digital tools can enhance cash management strategies within complex, data-rich settings.

Prior studies of strategic cash holding (SCH) name precautionary reasons, agency theory, and volatility in the market as key reasons (Bates et al., 2009; Opler et al., 1999). More recent studies include digital finance variables, exploring how AI and ERP maximize forecasting and liquidity (Rikhardsson & Yigitbasioglu, 2018). However, cash management digital analytics remain untapped, specifically, the extent to which digital competences at the executive level, such as CFO digital competency, mediate this impact. Again, existing literature fails to examine empirically how ERP-integrated analytics accompany cash strategy decision quality (Appelbaum et al., 2017). The paper fills the gap by examining how CFO digital capability intervenes

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in the relationship between ERP-integrated data analysis and SCH, thus contributing to higher-level literature that recouples digital transformation and financial strategy.

The primary objective of this research is to investigate the influence of newly developed digital technologies particularly AI-driven financial forecasting and ERP enhanced data analytics on strategic cash retention in companies undergoing digital transformation. Unlike traditional literature that views cash retention as a passive buffer against uncertainty, this study conceptualizes it as an active, data-informed strategic process. The research seeks to reveal the extent to which real-time data provided by ERP systems affects liquidity planning, an effect that is contingent upon the digital literacy of senior financial managers. Understanding this relationship aims to contribute theoretically to the existing literature on digital financial management and organizational value for firms in the process of digitalization. The goal is not only to ascertain causality but also to identify conditional effects, thereby yielding a more nuanced perspective on how the digital competencies of Chief Financial Officers (CFOs) can either facilitate or hinder strategic value creation through cash optimization.

2. LITERATURE REVIEW

2.1. Strategic Cash Holding

Bates et al. (2009) define strategic cash holding as the intentional retention of liquid assets by a firm to effectively manage uncertainty, enhance investment flexibility, and maintain operational resilience. In digitally transformed firms, strategic cash holding transcends simple risk management; it evolves into an adaptive financial strategy that draws upon real-time data, AI forecasts, and interconnected ERP systems (Appelbaum et al., 2017). For instance, Apple Inc. strategically maintains over \$50 billion in cash reserves to ensure agility in acquisitions and funding for research and development (R&D) initiatives, thereby illustrating an active financial policy aimed at sustaining long-term innovation and flexibility in the global market (Nicolás et al., 2014). Consequently, in digital economies, the strategic holding of cash is not merely a passive reserve but an actively employed, data-driven approach to maintaining competitive advantage.

2.2. THEORETICAL FRAMEWORK

2.2.1. Dynamic Capabilities Theory (DCT)

Dynamic Capabilities Theory (DCT), proposed by Teece et al. (1997), asserts that a firm's ability to absorb, construct, and reconfigure internal and external competencies in response to rapid environmental changes is essential for achieving sustainable competitive advantage. The theory is premised on the notion that firms operating in dynamic business environments particularly during periods of digital transformation—cannot rely on established assets but must continually refresh their processes and technologies to maintain flexibility. Capabilities such as AI-driven financial forecasting and ERP-integrated data analysis represent dynamic capabilities that empower firms to identify liquidity risks, manage financial resources effectively, and optimize strategic cash reserves (Sumi, 2024). ERP systems equipped with predictive analytics provide real-time data and support agile financial planning amid operational uncertainties. Under Digital Currency Theory (DCT), cash is reconceptualized not merely as a passive reserve but as an active asset integrated into digital decision-making frameworks. This perspective aligns with the findings of He et al. (2023), who argue that new digital capabilities allow organizations to respond more swiftly to market disruptions by realigning their financial strategies. The principal assumptions of DCT include: (1) continuous market volatility, (2) a firm's pursuit of innovation and strategic renewal, and (3) the establishment of competitive advantage through the realignment of processes and resources following periods of change.

2.2.2. Upper Echelons Theory (UET)

Upper Echelons Theory (UET), articulated by Hambrick and Mason (1984), posits that the values, experiences, and cognitive frameworks of top executives significantly influence strategic decisions and organizational performance. This theory is founded on several key assumptions: that managers operate under bounded rationality, that organizational choices are subjective interpretations shaped by executive characteristics, and that managerial traits such as digital competence impact the strategic direction of firms. In the context of this study, CFO Digital Competency serves as a moderating variable that influences how ERP analytics are interpreted and employed in financial decision-making. As Appelbaum et al. (2017) observed, digitally adept CFOs are more likely to effectively interpret insights generated from ERP systems and incorporate AI forecasts into cash management, especially in scenarios necessitating rapid and precise forecasting. Conversely, CFOs lacking digital skills may underutilize these systems, resulting in suboptimal cash distribution (Ghasemi et al., 2019). UET is particularly relevant in digitalized organizations, where the abundance of data does not automatically correlate with sound financial decision-making, as this is intrinsically linked to leadership capabilities. The theory elucidates why strategic cash decision outcomes may differ, all else being equal, depending on the digital proficiency of the CFO. The core assumptions of UET include the idea that executives possess significant control over

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corporate strategy, that managerial backgrounds shape strategic choices, and that leadership heterogeneity accounts for variations in organizational performance.

2.3. AI-Based Financial Forecasting

Artificial Intelligence (AI) has become a pivotal element in financial forecasting, employing machine learning algorithms and real-time data analytics to anticipate future financial outcomes, including cash inflows, outflows, capital requirements, and liquidity trends. Rada (2008) highlights that traditional forecasting systems often struggle within non-linear and volatile market conditions, whereas AI methodologies, such as neural networks and evolutionary algorithms, demonstrate enhanced adaptability and forecasting capabilities.

The efficacy of AI in this domain is underpinned by the Dynamic Capabilities Theory (DCT), which posits that a firm's ability to identify, harness, and reconfigure resources is essential in responding to increasing environmental complexities (Teece et al., 1997). Looking ahead, it is anticipated that AI will evolve into a crucial dynamic capability in financial forecasting, offering organizations timely insights into financial scenarios and enabling a proactive approach to fiscal management. In the context of contemporary digital practices, AI-driven forecasting transcends its traditional diagnostic role, positioning itself as a strategic facilitator for agile liquidity management and immediate decision-making processes. The adoption of AI-based financial forecasting is becoming increasingly prominent among companies that have undergone digital transformation. According to Stouthuysen (2023), over 70% of Chief Financial Officers (CFOs) from technologically advanced organizations utilize AI models in their financial planning processes to enhance the accuracy of cash flow forecasts and to detect financial risks in fluctuating markets. Additionally, AI models integrated into Enterprise Resource Planning (ERP) systems are emerging to assist in identifying anomalies, simulating crisis scenarios, and recommending suitable cash reserves. Nonetheless, there remains a disparity in adoption levels, particularly among organizations lacking data-centric infrastructure and digital leadership capabilities. Positivist frameworks often overlook the inherent unpredictability of real-world phenomena and the complexities associated with such systems. From a post-positivist viewpoint, especially aligned with Bhaskar's critical realism, financial forecasting is more appropriately conceptualized as a probabilistic and iterative modeling process that acknowledges the unpredictable nature of real-world mechanisms, akin to adaptive AI-based forecasting systems (Bhaskar, 2013). Furthermore, behavioral economists have highlighted that users exhibit tendencies toward algorithmic bias or uncritical trust in AI, particularly in situations where there is a deficiency in domain-specific or digital literacy (Dietvorst et al., 2015).

Strategic Cash Holding (SCH) refers to the intentional retention of cash or its equivalents, motivated by the need for financial security, investment flexibility, and operational resilience (Xu & Jin, 2022). The advent of automated AI-Based Financial Forecasting significantly enhances this concept by providing companies with advanced predictive insights into their liquidity trajectories. Organizations employing AI forecasting systems benefit from more precise assessments of surplus and deficit scenarios, thereby aligning cash management policies with strategic objectives. This adaptability enables firms to minimize excessive cash reserves during uncertain times and facilitates the reallocation of capital in response to emerging opportunities or challenges (Rikhardsson & Yigitbasoglu, 2018). Empirical research underscores the significant impact of AI-driven predictions on cash management strategies. Evidence indicates that organizations utilizing AI models in the short term successfully optimized their cash efficiency ratios and diminished excess cash holdings by synchronizing online financial forecasts with capital allocation practices, thereby enhancing their financial agility (Wamba-Taguimdje et al., 2020). This phenomenon is particularly pronounced in dynamic sectors such as technology and logistics, where prompt and precise financial decisions are critical for competitive advantage. From a classical economic standpoint, these developments suggest an increase in allocative efficiency, as improved information processing leads to more rational financial behaviors (Fama, 1970). Conversely, Schumpeterian economics interprets AI-enabled forecasting as a disruptive innovation that reconfigures traditional financial frameworks and alters firms' perceptions of liquidity.

Academic consensus regarding the influence of artificial intelligence (AI) on cash management is not fully established. Certain literature asserts a significant, linear relationship wherein AI serves to transform cash management into a real-time, value-generating process by facilitating dynamic liquidity monitoring and intelligent capital allocation (Rahman et al., 2023; Appelbaum et al., 2017). Advocates maintain that integrating AI into enterprise resource planning (ERP) systems enables Chief Financial Officers (CFOs) to mitigate cash misallocations and respond adeptly under uncertain conditions. Conversely, alternative research presents a more nuanced perspective. For example, Li et al. (2024) argue that the impact of AI on cash holdings is diminished in firms characterized by low digital literacy and weakly integrated forecasting systems. This limitation is largely attributed to insufficient dynamic capabilities necessary for leveraging AI-generated insights effectively in decision-making and capital allocation. Additionally, Uyar and Kuzey (2019) emphasize that merely having access to AI tools does not guarantee improved

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decision-making outcomes; rather, successful implementation necessitates high-level interpretive skills and robust governance frameworks.

These divergent findings suggest a constructivist economic viewpoint, wherein AI is recognized as part of a broader socio-technical context, whereby its impact on strategic cash holdings (SCH) is contingent upon factors such as leadership capacity, organizational readiness, and strategic alignment, rather than the mere availability of technology.

Drawing on both theoretical and empirical foundations, the study proposes the first hypothesis presented below:

H1: The adoption of AI-based financial forecasting positively impacts strategic cash holdings in the digitalized corporations.

2.4. ERP-Integrated Data Analytics

ERP-Embedded Data Analytics refers to the incorporation of analytical and business intelligence functionalities within Enterprise Resource Planning (ERP) systems, enabling the transformation of transactional data into actionable financial and operational insights. These advanced systems unify information across various organizational departments such as finance, supply chain, and human resources, while integrating analytical capabilities that enhance predictive modeling, trend analysis, and scenario planning (Rikhardsson & Yigitbasioglu, 2018). Unlike traditional ERP systems, which primarily focused on data storage and coordination, modern solutions like SAP S/4HANA and Oracle Cloud ERP feature built-in analytics that facilitate the extraction of real-time financial insights from business operations.

The Dynamic Capabilities Theory posits that these analytics serve as dynamic capabilities, empowering organizations to adjust their financial strategies in response to market fluctuations (Teece et al., 1997). Additionally, they streamline the processes of identifying cash flow deficiencies, reallocating resources, and modifying liquidity, thereby enabling agile financial planning amid uncertainty. When utilized effectively, integrated analytics within Enterprise Resource Planning (ERP) systems significantly enhance Strategic Cash Holding by improving the precision of cash flow forecasts and facilitating scenario-based simulations amid uncertain conditions. Romero and Abad (2022) argue that ERP-embedded analytics in liquidity management reduce reliance on intuition, offering automated notifications for funding shortages, which assists in managing liquid assets during market fluctuations. However, the successful implementation of these systems hinges on data preparedness, the information technology environment, and the interpretation of leadership. According to Appelbaum, Kogan, Vasarhelyi, and Yan (2017), ERP-integrated analytics yield the greatest benefits in organizations characterized by advanced digital maturity, extensive cross-functional integration, and the involvement of Chief Financial Officers.

From a post-positivist standpoint, ERP-enabled analytics serve as a means to approximate objective truth through quantifiable, real-time insights. Conversely, from a behavioral economics perspective, data interpretation is susceptible to psychological biases, particularly among users lacking digital literacy or contextual comprehension. Dietvorst et al. (2015) indicate that decision-making can be adversely affected by insufficient knowledge or unrealistic expectations, often resulting in algorithm aversion, where individuals undervalue algorithmically derived recommendations following minor errors.

The importance of ERP-integrated data analytics concerning Strategic Cash Holding (SCH) has become increasingly prominent. Through integrated dashboards, real-time liquidity management, and predictive variance analysis, ERP systems provide financial managers with insights into trends, anomalies, and funding needs within specified timeframes. This enhanced visibility enables organizations to optimize their cash reserves, avoiding the pitfalls of excessive cash holdings that can diminish investment efficiency and inadequate cash levels that may elevate liquidity risks (Bates et al., 2009). Furthermore, effective utilization of ERP-driven analytics significantly improves the accuracy of cash flow forecasts and offers simulation capabilities for various uncertain scenarios. By minimizing reliance on intuition and providing automated alerts for potential funding discrepancies, these tools facilitate more strategic management of liquid assets in anticipation of market fluctuations, which is particularly advantageous for multinational corporations with multiple subsidiaries and currencies (Romero & Abad, 2022). Embedded analytics within Enterprise Resource Planning (ERP) systems contribute to approximately a 24% enhancement in the accuracy of financial planning, which has significant implications for optimizing cash positions, managing debt repayment, and making short-term investment decisions (Gadam et al., 2024). This finding aligns with the resource-based view (RBV), which posits that data analytics are critical organizational assets that are valuable, rare, difficult to imitate, and ingrained within the organization, yielding financial advantages. However, the existing literature presents contrasting perspectives on the magnitude of this impact. Proponents argue for a strong, direct influence, suggesting that ERP analytics facilitate cash intelligence by transforming static data into dynamic liquidity strategies (Appelbaum et al., 2017; Rikhardsson & Yigitbasioglu, 2018), effectively positioning ERP systems as "financial nervous systems" that influence strategic development.

Critics contend that the effectiveness of business intelligence systems is significantly moderated by cognitive and contextual factors. According to Yeoh and Popovič (2016), the strategic advantages of these systems diminish in the absence of robust data

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integration and organizational coherence. Similarly, organizations facing fragmented ERP implementations or ineffective interdepartmental data exchanges often experience a reduced value from ERP-embedded analytics. Uyar and Kuzey (2014) further emphasize that the policies governing corporate cash holdings are influenced by various contextual and structural contingencies. This suggests that unless data-driven insights are integrated into broader strategic and financial frameworks, their influence on liquidity-related decisions remains limited. This perspective aligns with constructivist economic theory, which posits that the effectiveness of technology is influenced by human agency, institutional norms, and managerial interpretation. Consequently, the integration of ERP-embedded analytics is unlikely to enhance sustainable corporate health unless it is supported by a culture of data-driven decision-making and effective digital leadership.

Grounded in theoretical and empirical insights, the study advances the following second hypothesis:

H2: ERP-integrated data analytics positively impacts strategic cash holdings in the digitalized corporations.

2.5. CFO Digital Competency

CFO Digital Competency encompasses the Chief Financial Officer's capability to comprehend and utilize digital technologies, including data analytics, artificial intelligence, and integrated enterprise systems, to enhance strategic financial decisions (Quattrone, 2016). Within organizations, digital competence manifests through various elements such as digital infrastructure, integration, and management (Yu & Moon, 2021). Effective CFOs exhibit not only technical proficiency but also a holistic amalgamation of cognitive, strategic, and behavioral competencies (Doody, 2000).

Upper Echelons Theory suggests that CFOs with advanced digital skills influence organizational results by processing complex digital information through their cognitive frameworks (Hambrick & Mason, 1984). In digital enterprises, the role of CFOs shifts from traditional financial managers to strategic technology facilitators. From a resource-based perspective, CFO digital competence is seen as an intangible asset that boosts the firm's ability to adapt internal resources in changing environments (Barney, 1991). Within financial institutions, the digital skills of CFOs vary widely. Many companies invest in improving C-suite capabilities while still relying on traditional financial controls, leading to a significant digital gap at the executive level (Gilli et al., 2024). This digital divide can reduce the value gained from ERP-based analytics, making strong financial leadership essential to address these issues (Green, 2020).

ERP-Integrated Data Analytics refers to the ability of Enterprise Resource Planning (ERP) systems to collect, process, and analyze financial data in real-time across different units, enabling faster and more accurate decision-making. These systems offer valuable insights for strategic cash management, which involves efficiently handling liquid assets amid uncertainty, investment opportunities, and maintaining solvency (Opler et al., 1999). The value of insights from ERP systems largely depends on how Chief Financial Officers (CFOs) interpret and act on them. CFO digital competency is a key moderating factor that influences how much these analytics impact strategic financial decisions concerning cash holdings. A digitally skilled CFO improves the ability to interpret predictive analytics, customize dashboards, and align forecasts with the organization's liquidity goals (Stouthuysen, 2023). Conversely, a CFO without digital skills may underuse ERP insights, resulting in inadequate cash reserves or overly conservative financial strategies. Philosophically, instrumental rationality in decision theory suggests that individuals should choose the most effective means to achieve their goals. CFOs with high digital literacy are more likely to use ERP data as tools for optimizing cash management. Under bounded rationality, less digitally skilled CFOs may encounter issues such as information overload or misinterpretation, which can limit the benefits of integrated analytics (Simon, 1972). Recent studies validate the transformative role of digital competency within financial management. Observations from practitioners indicate that Chief Financial Officers (CFOs) increasingly recognize the critical role of digital agility in navigating financial uncertainty. The 2024 CFO Outlook highlights the necessity for finance leaders to adopt digital technologies and analytics to effectively manage liquidity and business performance amidst volatile conditions (Butcher, 2024). This reinforces the assertion that digital competency enhances the marginal advantages of Enterprise Resource Planning (ERP) information concerning cash management efficiency. Contrasting views exist regarding this dynamic. Dumitru et al. (2023) suggest that highly automated ERP environments may diminish the relevance of CFO competencies, as algorithmic decision-making frameworks establish predetermined liquidity protocols, limiting opportunities for human discretion. In such scenarios, ERP systems operate autonomously, with digital proficiency serving merely to ensure compliance rather than contributing operational value. The effectiveness of this moderation emerges as context-specific. In rapidly evolving markets characterized by substantial uncertainty, the digital agility of a CFO proves vital. Conversely, in stable environments with consistent ERP processes, the significance of this moderating effect may diminish, taking on a more symbolic rather than practical role (Moll & Yigitbasioglu, 2019).

From the above conceptual and empirical foundation, we propose the following third hypothesis:

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H3: CFO Digital Competency positively moderates the influence of ERP-Integrated Data Analytics on Strategic Cash Holding in digitalized corporations, such that the effect of ERP analytics on strategic cash holding is stronger when CFO digital competency is high.

Built upon strong theoretical underpinnings, this study strengthens its contribution by proposing the following conceptual framework:

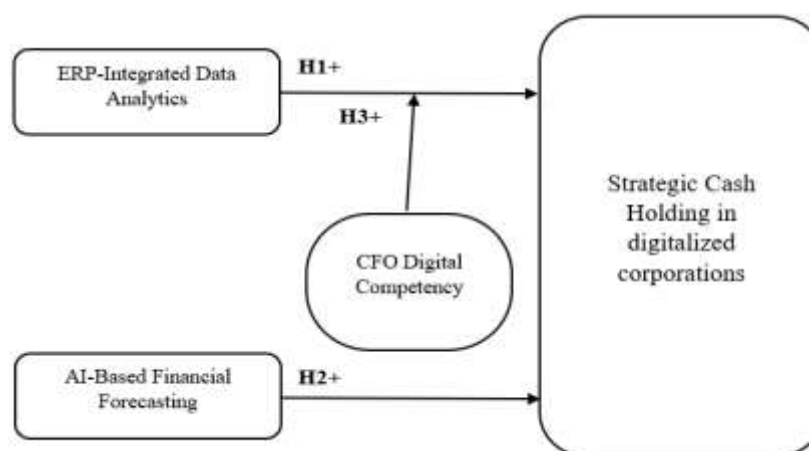


Figure 1 : The paper's Conceptual Framework

3. METHODOLOGY

This research employed a probability-based stratified sampling method to ensure adequate representation among distinct groups involved in digital financial decision-making within transforming Vietnamese enterprises (Bryman, 2016). A meticulously crafted questionnaire, grounded in established scholarly work on Dynamic Capabilities Theory (Teece et al., 1997) and Upper Echelons Theory (Hambrick & Mason, 1984), formed the basis of the survey. A 5-point Likert scale assessed participant perspectives on AI-driven financial forecasting, ERP-integrated data analytics, CFO digital proficiency, and strategic cash holding behaviors, yielding quantitative insights into the interrelationships among these variables.

The study categorized participants into four primary groups: (1) Senior financial executives, such as Chief Financial Officers and Finance Directors in medium to large enterprises; (2) Experts in digital transformation and ERP consulting; (3) Academics and postgraduate researchers at institutions focusing on digital finance and enterprise resource planning; (4) Corporate data analysts possessing practical expertise in liquidity forecasting and financial modeling. Each group constituted approximately 25% of the overall sample, ensuring a comprehensive representation of theoretical knowledge, practical experience, and technical skills.

To achieve demographic and contextual diversity, data collection employed a combination of offline and online methodologies. Online distributions occurred via professional finance networks, academic mailing lists, and forums dedicated to digital transformation. Offline data collection involved participation in financial conferences, ERP workshops, and executive training programs throughout Vietnam's principal economic regions. A total of 610 responses emerged from this process. Subsequent data cleaning, which entailed discarding incomplete and inconsistent responses, resulted in the retention of 385 valid cases selected through simple random sampling. The final sample encompassed a variety of industry sectors, including manufacturing, fintech, and logistics, as well as diverse geographical representations from North, Central, and South Vietnam. This diversity mirrored the varying digital transformation paths undertaken by contemporary Vietnamese enterprises. Participant selection methodology aligned with the research objective of examining the contingent effect of CFO digital competency on the relationship between ERP-integrated data analytics and strategic cash reserves, thereby addressing a significant gap at the intersection of technology, leadership, and financial policymaking.

4. RESULTS

4.1. Reliability analysis

Table 1: Reliability analysis of the dependent variable. Source: (The authors, 2025)

Reliability Statistics	
Cronbach's Alpha	N of Items
.865	4

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Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SCH1	5.963	8.222	.819	.845
SCH2	6.666	7.613	.827	.832
SCH3	7.351	7.643	.782	.794
SCH4	8.510	8.003	.600	.614

Where SCH1 to SCH4 represent survey questions 1 through 4 measuring strategic cash holding

As shown in Table 1, all dependent sub-variables achieved adjusted item–total correlation coefficients of at least 0.3. The overall Cronbach’s alpha was 0.865, exceeding the generally accepted minimum benchmark of 0.7 and remaining higher than the values that would have resulted from eliminating any single item. Moreover, each sub-variable displayed a Cronbach’s alpha greater than its adjusted item–total correlation, even when tested under item deletion scenarios. Consequently, all items were retained for subsequent analysis. Similar reliability patterns were observed for the other variables.

4.2. Exploratory factor analysis (EFA)

Table 2: Rotated Component Matrix. Source: (The authors, 2025)

Rotated Component Matrix ^a				
Component with loading factors				
1	2	3	4	
SCH1 .500	AIFF1 .702	ERP1 .501	CFO1 .729	
SCH2 .596	AIFF2 .616	ERP2 .510	CFO2 .528	
SCH3 .676	AIFF3 .642	ERP3 .661	CFO3 .563	
SCH4 .672	AIFF4 .731	ERP4 .671	CFO4 .633	
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 7 iterations.				

Where the survey items AIFF1–AIFF4, ERP1–ERP4, and CFO1–CFO4 correspond to questions 1 through 4 measuring the two independent variables and the moderator respectively.

As shown in Table 2, the rotated component matrix effectively grouped the 16 sub-variables into four distinct factors, consistent with the dependent variable, two independent variables, and the moderator. All items recorded factor loadings above 0.5, and none were eliminated during the factor analysis

4.3. Multiple linear regression model

Table 3: Coefficients^a. Source: (The authors, 2025)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	7.848	.626		4.551	.000
1 AIFF	.435	.863	.500	3.654	.037
ERP	.302	.791	.470	3.787	.015

a. Dependent Variable: SCH

Where **SCH**: mean of SCH1 to SCH4; **AIFF**: mean of AIFF1 to AIFF4; **ERP**: mean of ERP1 to ERP4

As indicated in Table 3, the significance (Sig.) values obtained from the t-tests are .037 and .015, which fall below the standard alpha level of 0.05. This indicates that both independent variables, AI-driven financial forecasting and ERP-integrated data analysis, have a statistically significant effect on the dependent variable, strategic cash holding in digitalized corporations. Consequently, the findings provide empirical support for both hypotheses.

4.4. Moderator analysis

Table 4: Results analysis of “CFO Digital Competency”. Source: (The authors, 2025)

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Model : 1

Y : SCH

X : ERP

W : CFO

Sample Size: 385

OUTCOME VARIABLE:

SCH

Model Summary

R	R-sq	MSE	F	dl1	dl2	p
.648	.420	.763	5.052	3.000	381.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	7.078	.898	63.792	.000	7.821	7.434
ERP	.524	.699	4.693	.000	.711	.709
CFO	.517	.807	4.612	.000	.575	.568
Int_1	.420	.772	4.400	.000	.574	.562

Where **CFO**: mean of CFO1 to CFO4

Table 4 reveals that the p-value for the interaction term (Int_1) is 0.000, which is well below the conventional significance threshold of 0.05. This confirms a statistically significant interaction between AI-driven financial forecasting and ERP-integrated data analysis in shaping strategic cash holding in digitalized corporations. The interaction coefficient of 0.420 suggests that stronger government adaptation efforts amplify the positive impact of infrastructure resilience on strategic cash holding in digitalized corporations. As a result, hypothesis H3 is supported.

5. DISCUSSION

5.1. Result summary

The linear regression analysis indicates that AI-driven financial forecasting (AIFF) is the most influential factor in promoting strategic cash holding in digitalized corporations, as reflected by a strong coefficient of 0.50. Although ERP-integrated data analysis also shows a statistically significant impact, its effect is comparatively smaller ($\beta = 0.47$). Furthermore, the analysis confirms the moderating influence of CFO digital competency on the relationship between ERP-integrated data analysis and strategic cash holding in digitalized corporations, with a moderation coefficient of 0.42. Taken together, these findings effectively address the three proposed research questions.

5.2. Theoretical Implication

The results lend strong empirical support to the Dynamic Capabilities Theory (DCT), validating that AI-based financial forecasting functions as a dynamic resource that empowers firms to respond swiftly to liquidity uncertainties. The significant effect ($\beta = 0.50$) confirms the argument by Wamba-Taguimdje et al. (2020) and Rahman et al. (2023) that AI enhances cash optimization by aligning forecasts with capital allocation. This outcome also supports Rikhardsson and Yigitbasoglu's (2018) assertion that predictive AI systems reduce excess liquidity while improving financial agility. However, this finding partially contradicts Li et al. (2024), who argue that the benefits of AI are contingent upon firms' digital maturity and may be diminished without strong data infrastructure. The study's results diverge from critiques by Uyar and Kuzey (2019), who suggest that AI adoption alone does not ensure improved decision-making without governance alignment. By showing that AIFF directly influences SCH regardless of ERP integration, this study challenges constructivist views that downplay AI's standalone impact and reinforces DCT's emphasis on technological adaptability as a driver of financial resilience.

The results affirm that ERP-integrated analytics significantly improve strategic cash holding, supporting both the Dynamic Capabilities Theory (Teece et al., 1997) and the resource-based view (Barney, 1991). The finding ($\beta = 0.47$) aligns with Romero and Abad (2022) and Appelbaum et al. (2017), confirming that ERP-enabled forecasting enhances liquidity precision and cash flow simulation. However, the empirical evidence does not fully support Yeoh and Popovič's (2016) criticism that ERP benefits are constrained by organizational integration weaknesses. Instead, this study implies that ERP-based analytics, even without full-scale cross-functional maturity, can still significantly influence liquidity management. Yet, the relatively lower coefficient compared to AI-based forecasting suggests partial agreement with critics like Uyar and Kuzey (2014), who argue that ERP value depends on

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interpretive capacity and contextual fit. This nuanced result bridges positivist and constructivist views by suggesting that while ERP analytics offer quantifiable benefits, their strategic utility is shaped by implementation conditions. Ultimately, the findings strengthen the theoretical claim that ERP analytics serve as real-time financial instruments that transform liquidity planning into a proactive, data-informed process.

The confirmed moderating role of CFO Digital Competency (moderation coefficient = 0.42) lends strong support to Upper Echelons Theory (Hambrick & Mason, 1984), affirming that strategic financial decisions are filtered through the cognitive and digital schemas of top executives. This study strongly concurs with Beier and Wagner (2023) and Khurram et al. (2023), who emphasize the strategic value of digitally literate CFOs in converting ERP insights into actionable liquidity strategies. It partially challenges Ahmed and Khatri's (2022) contention that algorithmic systems can neutralize human discretion, suggesting instead that digital competency enhances—rather than merely complies with—ERP functionality in volatile markets. However, findings also acknowledge the contingent validity of Moll and Yigitbasioğlu's (2019) claim that in static environments, the moderator effect may be symbolic. This study enriches the theoretical discourse by demonstrating that CFOs' digital proficiency amplifies ERP's strategic value, particularly under environmental dynamism, and reflects instrumental rationality where competent actors choose optimal financial actions. Hence, UET remains highly relevant in digital finance, showing that leadership traits still mediate technological efficacy in liquidity optimization.

5.2 Practical Implications

This study offers several actionable insights for financial managers and digital transformation leaders. First, the strong influence of AI-based financial forecasting on strategic cash holding (SCH) underscores the urgency for firms to prioritize the adoption and refinement of AI-driven predictive systems. By doing so, companies can transition from reactive liquidity strategies to proactive, data-enabled financial planning. In industries marked by rapid capital cycles and uncertainty, AI tools enable CFOs to simulate market shocks, manage cash buffers dynamically, and align liquidity reserves with strategic investments. Therefore, financial departments must not only invest in AI systems but also ensure their contextual customization to organizational needs.

Second, the significant yet slightly lesser effect of ERP-integrated analytics suggests that while these systems enhance visibility and financial integration, their impact is maximized only when embedded within a broader decision-making infrastructure. Organizations should ensure that ERP dashboards are user-friendly, tailored for liquidity metrics, and synchronized across departments. Investing in system training and cross-functional integration would enhance ERP's capacity to inform timely and rational cash-holding decisions.

Third, the moderating role of CFO digital competency calls for urgent reskilling and upskilling initiatives at the executive level. The findings clearly show that even advanced ERP systems can fall short if interpreted by digitally illiterate CFOs. Companies must treat digital literacy as a strategic asset for finance leadership and incorporate digital fluency metrics into executive evaluations. Board-level support for executive digital training programs and inclusion of digital readiness in CFO succession planning are practical steps. Moreover, firms may consider aligning ERP investment decisions with assessments of top management's digital adaptability to ensure technology's financial potential is fully realized. Collectively, these implications emphasize that technological adoption alone is insufficient; its effectiveness in shaping cash strategy depends on digital leadership and system alignment. Firms seeking to enhance financial resilience through strategic cash holding must pursue an integrated approach—merging technological, structural, and human capital reforms within financial governance frameworks.

5.3 Limitation

Despite its contributions, this study has several limitations. First, the sample is limited to Vietnamese digitalized corporations, which may restrict the generalizability of the findings to broader or non-emerging market contexts. Second, while the study captures cross-industry variation, it does not deeply explore sector-specific dynamics in digital transformation and liquidity strategies. Third, the measurement of CFO digital competency is based on self-reported perceptions, which may carry social desirability bias. Lastly, the study relies on cross-sectional data, limiting the ability to draw causal inferences or assess the evolution of strategic cash holding over time.

5.4 Future Research Direction

Future research could expand the geographic scope to include comparative cross-country analyses between emerging and developed markets to examine how digital maturity levels moderate the effects observed. Longitudinal studies would also be valuable to assess how strategic cash holding behavior evolves as firms progress through digital transformation stages. Additionally, future research should incorporate industry-specific models, particularly in fintech and manufacturing, where liquidity dynamics vary significantly. Exploring behavioral factors—such as CFO risk appetite or algorithm aversion—could also

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offer more granular insights into how digital tools are interpreted in practice. Finally, integrating qualitative case studies could enrich understanding of the sociotechnical interactions between technology, leadership, and financial governance.

5.5 Conclusion

This study advances the theoretical and practical understanding of strategic cash holding in digitalized corporations by empirically examining the roles of AI-based financial forecasting, ERP-integrated analytics, and CFO digital competency. Findings confirm that AI and ERP systems significantly influence cash management decisions, with the latter's effectiveness enhanced by the digital literacy of CFOs. These insights contribute to both Dynamic Capabilities Theory and Upper Echelons Theory, highlighting the interplay between technological infrastructure and executive cognition. Practically, the research urges firms to pursue an integrated strategy of technological investment and leadership upskilling. While limitations exist, the study lays the foundation for future explorations into digital finance, offering a framework for optimizing liquidity strategies in the era of algorithmic decision-making.

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APPENDIX: Survey

Table 6. Survey Questionnaire

1	What is your current professional role?	Chief Financial Officer / Finance Director	ERP or Digital Transformation Consultant	Academic Postgraduate Researcher in Digital Finance or ERP	Corporate Data Analyst
2	Which industry sector does your organization primarily operate in?	Manufacturing	Fintech	Logistics	Other (please specify)
3	Which region of Vietnam is your organization mainly located in?	Northern Vietnam	Central Vietnam	Southern Vietnam	Other (please specify)
4	How many years of professional experience do you have in the field of financial management,	Less than 2 years	2 – 5 years	6 -10 years	More than 10 years

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digital transformation, or ERP systems?				
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BACKGROUND INFORMATION

No.	Variables	Coded Sub-Variables	Content
1	Strategic Cash Holding (SCH)	SCH1	Our company intentionally retains cash reserves to mitigate operational uncertainties and market volatility (Bates et al., 2009).
		SCH2	Cash holdings in our organization are strategically used to support future investment opportunities and innovation (Appelbaum et al., 2017).
		SCH3	We use real-time data and forecasting tools to optimize the level of cash held across financial cycles (Rikhardsson & Yigitbasioglu, 2018).
		SCH4	Maintaining a high level of liquidity is considered a proactive financial strategy in our digitalized firm (Xu & Jin, 2022).
2	AI-Based Financial Forecasting (AFF)	AFF1	Our organization uses AI-based models to predict cash inflows and outflows under market uncertainty (Rada, 2008).
		AFF2	CFOs and financial teams in our firm rely on AI tools to enhance the accuracy of cash flow forecasting (Stouthuysen, 2023).
		AFF3	AI technologies have improved the efficiency and precision of our capital allocation decisions (Wamba-Taguimdje et al., 2020).
		AFF4	AI-driven forecasts help our organization identify financial risks and prepare suitable cash reserves (Rahman et al., 2023).
3	ERP-Integrated Data Analytics (ERP)	ERP1	Our ERP system provides real-time liquidity insights that support effective financial decision-making (Appelbaum et al., 2017).
		ERP2	We use ERP-integrated dashboards to simulate cash flow scenarios under uncertain conditions (Romero & Abad, 2022).
		ERP3	ERP analytics help detect funding shortages and provide automated alerts to manage liquidity (Rikhardsson & Yigitbasioglu, 2018).
		ERP4	ERP-based data analytics have improved our financial planning accuracy and short-term investment decisions (Gadam et al., 2024).
4	CFO Digital Competency (CFO)	CFO1	Our CFO demonstrates strong capabilities in interpreting digital financial tools, including AI and ERP platforms (Quattrone, 2016).
		CFO2	CFO-led initiatives in our company actively promote the use of real-time analytics for liquidity management (Beier & Wagner, 2023).
		CFO3	Our CFO's digital literacy enhances the integration of digital technologies into financial strategy (Saxena & Srinivasan, 2021).
		CFO4	The CFO in our firm effectively aligns digital transformation efforts with financial resilience under uncertainty (Khurram et al., 2023).

Survey link: https://docs.google.com/forms/d/e/1FAIpQLSe1Go-Qh0PycqIVCa9W8OZf_poxV6xCQVZBrOCFgMnPoP-LYA/viewform?usp=header