International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Impact of Digital Transformation on Liquidity Management Among U.S. Multinational Corporations

Olusegun Adebayo[1], Gallas Tugli Attionu[2], Deeksha Singh[3], Nicholas Mensah[4], Tobias Kwame Adukpo[5]

[1]Department of Information Systems Technology, Wilmington University, Delaware, U.S.A.
[2,3]Department of Finance and Real Estate, Colorado State University, U.S.A.
[4]Department of Accounting, University of Ghana, Ghana.
[5]Department of Accounting, University for Development Studies, Ghana.

Abstract
This study investigates the impact of digital transformation on liquidity management in U.S. multinational corporations (MNCs) focusing on artificial intelligence (AI), blockchain, automation, and cloud-based treasury management systems. Using a qualitative research methodology, the paper integrates findings from the academic literature, the industry and case studies to examine how digital instruments provide actionable insights into cash flow visibility, predictive analytics, and financial risk management. The study found that digital transformation leads to better liquidity forecasting, cross-border transaction efficiency, and working capital optimization. Moreover, the research also indicates that there are still challenges like regulatory complexities, cybersecurity risks and integration barriers in effective liquidity management among U.S. MNCs. Emerging technologies such as AI-driven analytics, blockchain transactions, and automated treasury systems are recommended in the study to reinforce liquidity strategies and guarantee financial security.

KEYWORDS: Multinational Corporations, Digital Transformation, Liquidity Management

1.0 Introduction

Digital transformation, most recently inflamed by COVID-19, has impacted nearly every aspect of how companies operate, including liquidity management. The emergence of digital technologies, including artificial intelligence, automation, and cloud computing, has changed the way these companies manage their cash flows and working capital. This evolution has been further facilitated through the integration of sophisticated analytics and predictive models into liquidity management systems that have permitted U.S. MNCs to improve cash flow management decisions. Thus, through a data-driven approach, these organizations can enhance their ability to predict their future liquidity requirements, detect potential cash flow issues, and deploy preventative measures to avoid them.

Digital transformation is being used by US MNCs to simplify liquidity management (Ahern, 2021). Cloud-based accounting information systems, for example, allow companies to streamline their financial information, which helps to centralize information and offers real-time insight into cash balances and

forecasts (Rehm, 2017). As a result, this has led to better monitoring and allocation of liquidity across various subsidiaries and regions, maximizing how funds can be allocated (Ahern, 2021; Rehm, 2017).

U.S. MNCs have adopted digital transformation as an important mechanism for optimizing liquidity management in the rapid global economy environment (Mefford, 2017). Technologies of the future including artificial intelligence (AI), blockchain, and modern treasury management systems are fundamentally changing the way companies track, predict, and deploy cash resources in real time. These advancements not only provide increased visibility into cash flows but also reduce the risk of financial loss, and enable better decision-making (Effiong and Ejabu, 2020; Olise et al., 2025).

Regardless of an organization's size, maintaining the optimal cash flow is very relevant for the existence and success of the organization (Adam et al., 2021). Proper liquidity management enables businesses to meet their short-term financial commitments including payroll, supply payments, debt servicing, and operational expenses (Atisu et al., 2024). However, U.S. MNCs that do business in different jurisdictions have liquidity management issues that are complicated as a result of regulatory differences, currency fluctuations, and market volatility.

Liquidity management for MNCs is complex due to being exposed to many currencies, jurisdictions, and economic environments (Papathomas & Konteos, 2023; Kassem et al., 2022). U.S. nationals have to deal with foreign currency risk, the need to comply with a myriad of cross-border regulations, varying dynamics in the markets, complexities of embedding new digital technologies into legacy systems, and ensuring cross-operational data integration and security, all of which can lead to unpredictable cash flow. Moreover, the most recent pandemic COVID-19 drastically changed the work life environment and forced companies to adopt decentralized structured operations which called for more responsive and cash management solutions.

Digital transformation provides answers to these challenges through the adoption of predictive analytics, AI-generated forecasting models, and automated treasury functions that improve cash flow management (Ogbewele et al., 2024; Mensah et al, 2024). U.S. MNCs can hedge against risks due to foreign exchange fluctuations, regulatory changes, and business dislocations by taking a technology-enabled approach to liquidity management. Moreover, the efficient execution of financial transactions enabled by various digital tools, including AI-powered algorithms and blockchain-based smart contracts, minimizes errors and optimizes working capital cycles (Mokogwu et al., 2024; Maple et al., 2023). For example, AI when it is integrated into cash flow forecasting tools, evaluates past data and market trends to offer real-time insights which help firms to anticipate their liquidity needs and act in advance (Cao, 2020).

This paper discusses how digital transformation can contribute to improving liquidity management at U.S. multinational firms. The study addresses important issues in liquidity management among U.S. MNCs including AI-powered liquidity forecasting, blockchain use cases in treasury, and cash management process automation, etc. The review also investigates the obstacles U.S. MNCs encounter in deploying digital liquidity solutions, such as cybersecurity threats, integration difficulties, and complex regulations across different jurisdictions. It also evaluates the role of tech-driven liquidity management strategies in fostering financial resilience and operational efficiency.

2.0 Literature Review

2.1 Liquidity Management Among U.S. MNCs, Benefits and Challenges.

Profit maximization and shareholder value creation have become the primary focus of Multinational companies in the U.S., making liquidity decisions a matter of increased importance. Adequate liquidity

not only reduces risks but also improves net worth and financial performance (Danmulki et al., 2022; Abata & Migiro, 2016).

Liquidity management in this context is the process by which organizations, especially multinational corporations (MNCs) that are large and complex structures carefully plan, measure and manage their overall cash flows in such a way that they have sufficient liquidity to meet their short-term and long-term liabilities as they come (Umoren et al., 2025; Abata & Migiro, 2016). This includes balancing cash inflows and outflows, ensuring enough liquidity reservoirs, and using financial strategies to improve stability and competitiveness. Effective liquidity management is essential for Multinational Corporations (MNCs) to ensure financial stability, enhance operational efficiency, and drive growth in the contemporary interconnected global economy (Seong et al. 2022).

Liquidity management is crucial for solvency and financial stability. The effective management of liquidity is key to the day-to-day operating necessities of U.S. MNCs, liquidity for capital expenditures, and liquidity for debt servicing. The implication of ineffective liquidity management is dire for MNCs as it can lead to their inability to pay their suppliers, employees, or interest on loans outstanding, thus, halting operations which will erode stakeholders' confidence (Ogbewele et al,2024). Moreover, liquidity is essential to relieve financial pressure in times of market turbulence or economic uncertainty (Omri, 2022). Innovations in digital technologies, including AI-led predictive analytics, blockchain, etc. can further streamline firms' liquidity planning and risk-return trade-off in both up and downside scenarios by enhancing visibility into liquidity, including improving cash flow forecasting and boosting real-time decision-making ability (Adebayo et al., 2025; Agbadamasi et al., 2025).

Liquidity Management, enhanced by digital transformation can provide U.S. MNCs with a competitive advantage. U.S. MNCs using advanced treasury management systems accordingly can negotiate better terms with suppliers, get access to favorable credit, and minimize the cost of capital. Implementing digital liquidity solutions in MNCs improves credit ratings and reduces future borrowing costs. Cloud-based cash management platforms also empower firms with enhanced capabilities to understand global cash positions in real time, allowing rapid reallocation of resources as market conditions change (Ahern, 2021).

Furthermore, liquidity management is vital to MNCs in the banking sector, as banks have to ensure they have adequate funds to satisfy customers' withdrawals and other short-term obligations (Danmulki et al., 2022). Strong liquidity management not only enables the soundness of individual financial institutions but also strengthens the resilience of the financial system as a whole. Nevertheless, research has highlighted the need for consideration of both financial and operating measures of liquidity in order to understand the liquidity position of companies. This integrated approach enables managers and investors to evaluate the risk of default and its potential effect on financing costs and required returns.

The complex operational structures, geographical diversification, and exposure to different economic conditions make managing liquidity much more complicated for U.S. MNCs. Managing currency fluctuations and foreign exchange risks makes the management of liquidity significantly more complex among U.S. MNCs. One of the biggest challenges is the impact of currency fluctuations and foreign exchange risk. When U.S. MNCs do business in different countries, they generate revenues incur expenses in many currencies, and are exposed to foreign exchange rate volatility. A sudden depreciation of a key currency can erode the purchasing power of cash reserves, making the payment of liabilities denominated in other currencies problematic. With the rise of digital solutions like blockchain-enabled smart contracts and AI-driven hedging strategies, managing foreign exchange risks and automating cross-border transactions have been made increasingly efficient (Maple et al., 2023).

Managing different regulatory environments across jurisdictions is another key challenge faced by MNCs (Anagnostopoulos, 2018). Financial regulations, capital controls, and tax policies differ from one country to another, restricting the free flow of cash and hindering effective liquidity management. There are also countries that restrict capital repatriation, thus not allowing U.S. MNCs to withdraw funds from abroad-based subsidiaries in an easy way. This may lead to inefficiencies in cash pooling globally and hinder the ability to optimize liquidity. Cloud computing and digital automation-driven treasury management systems are helping MNCs not only get better visibility and compliance with regulatory requirements but also streamline their global cash flows.

The cash flows for U.S. MNCs are inherently difficult to forecast because of the varied nature of market conditions and variations in the economic cycles across countries. Inaccurate forecasts can lead to both excess liquidities, where funds remain dormant that could be used more effectively, or liquidity shortages that require expensive borrowing (Brunnermeier & Krishnamurthy, 2020). Cash flow forecasting is being improved to ensure increased accuracy levels, with AI and machine learning algorithms that analyze large data sets in real-time, minimizing forecasting errors and facilitating financial planning. U.S. MNCs can leverage digital tools to enhance efficiency, reduce financial risks, and better allocate working capital to manage liquidity.

These Challenges therefore require U.S. MNCs to develop strategies for liquidity management that utilize digital transformation to achieve a balance between risk management and growth initiatives (Rehm, 2017). U.S. MNCs need to integrate various digital treasury solutions to improve the way cash is utilized and lower financial risks. Adequate liquidity enables MNCs to respond to market changes and capitalize on new opportunities (Ochie et al., 2022). AI-powered liquidity management tools, for example, can automate decision-making, allocate capital more efficiently, and reduce financial risks in real-time. Moreover, blockchain-based financial transactions improve security and transparency while minimizing inefficiency in liquidity management (Mokogwu et al., 2024).

2.2 Centralized vs. Decentralized Liquidity Management

A key decision in liquidity management is whether to adopt a centralized or decentralized cash management approach, and this decision is increasingly being influenced by digital tools. In a centralized approach, cash from different subsidiaries is pooled into one treasury center, generally backed by treasury management systems (TMS) which deliver real-time cash visibility and automated movement of funds (Danmulki et al., 2022; Kubranová, 2020). It allows better optimization of cash usage, lower cost of capital, and supports real-time decisions on liquidity. Centralized models with AI-powered analytics also assist U.S. MNCs in predicting liquidity requirements and optimizing interest income and expenses.

However, in some cases, regulatory constraints and operational requirements demand a decentralized approach in which subsidiaries control their own cash flows (Danmulki et al., 2022; Solms & Langerman, 2021). Though this allows for operational flexibility, it creates inefficiencies and a lack of global cash visibility. Cloud-based treasury platforms have enabled hybrid models to retain centralized oversight while empowering local subsidiaries with treasury tools for digital liquidity. Through the use of real-time dashboards and the application of AI for decision-making processes, MNCs can achieve a mix of liquidity optimization and operational autonomy.

Moreover, several other factors may influence the decision between centralizing or decentralizing liquidity management, such as the organizational complexity, the level of autonomy preferred by the business units, and the degree of technological adoption within the financial ecosystem (Solms & Langerman, 2021; Hlebik & Ghillani, 2017). As a result of the technological advancements in data analytics, real-time

information sharing, and cloud-based platforms, digitalization has become an integral part of how liquidity management strategies have evolved.

The main advantage of digitalization on centralized liquidity management is the improved supervision and prediction of cash flows across the MNC (Hlebik & Ghillani, 2017). Data-driven analytical tools can offer treasury teams a deeper view of the overall liquidity position of the MNC, allowing them to make more informed decisions and allocate financial resources accordingly. With decentralized liquidity management in a digital environment, faster responsiveness to local market conditions can be achieved. Decentralized models can also allow for innovation and experimentation with new financial technologies, including blockchain-based payment systems or digital currencies. Nonetheless, moving to centralized or decentralized digitalized liquidity management is not without its challenges.

2.3 AI-Driven Cash Flow Forecasting and Real-Time Monitoring

Cash flow forecast accuracy and the ability to measure financial health with real-time data have become an indispensable part of the corporate strategy and decision-making process in today's evolving business environment (Westerman, 2020; Hlebik & Ghillani, 2017). Cash flow is always an important area of financial planning, but the adoption of AI has the potential to revolutionize important aspects as it provides predictive tools, automation, and data-driven insights available at the click of a button (Adebayo et al., 2025; Maple et al., 2023; Ashta & Herrmann, 2021; Mefford, 2017). One key area of such a technology-based growth opportunity is the power of AI-driven predictive analytics that U.S. MNCs are exploring to better cash flow estimates. Traditional forecasting methods are generally limited to historical data, while AI-powered systems analyze multiple variables that include payment cycles, market trends, and even geopolitical risks to offer more accurate cash flow predictions.

The emergence of AI-driven fintech solutions heralds a new age for cash flow forecasting and real-time financial tracking. Harnessing the potential of machine learning algorithms, natural language processing, and predictive modeling, these statistical models and advanced descriptive analytics extract relevant knowledge from extensive datasets to allow MNCs to forecast and respond quickly to financial changes (Umoren, et al., 2025; Amoako et al., 2025; Liu, 2024; Maple et al., 2023; Cao, 2020).

Continuous visibility of liquidity positions across subsidiaries can be enhanced with real-time cash flow monitoring tools that integrate with enterprise resource planning (ERP) and treasury management systems. These tools help MNCs manage liquidity fluctuations (Liu, 2024) by keeping track of inflows and outflows in real-time. By automating and using machine learning, companies can predict shortages, maximize working capital, and reduce reliance on short-term finance.

2.4 Automation and Digital Tools for Working Capital Optimization

Working capital optimization is crucial for enhancing liquidity efficiency and is facilitated through automation tools of digital transformation that provide the means to reduce the length of accounts receivable/ payable cycles (Adebayo et al., 2025; Khalaf et al., 2023). Companies should always try to optimize their working capital due to the detrimental effects of the economic crisis and take advantage of the potential opportunities (Adebayo, et al., 2025; Khalaf et al., 2023; Al-Shattarat, 2022). The time spent on collections and payments is shortened through automated invoicing, electronic payment processing, and blockchain-based smart contracts, which enhances liquidity. Additionally, AI-driven credit risk assessment tools aid in accounts receivable management by recognizing the risk of payment delays and offering suggestions for anticipatory action.

Just-in-time (JIT) inventory management fueled by digital supply chain platforms has likewise enhanced liquidity management. With predictive analytics and real-time tracking, U.S. MNCs can ensure inventory

levels are optimized with minimal surplus, optimizing cash flow. Moreover, supply chain financing platforms allow suppliers to receive early payments, while extending payment terms for buyers, providing liquidity benefits without putting significant pressure on business relationships (Umoren et al., 2025; Mensah & Adukpo, 2025).

Treasury Management Systems (TMS) is considered a key pillar in the drive towards working capital management. This gives U.S. MNCs a holistic view of every cash position, bank account, and financial transaction across global operations. TMS applications automate significant processes like cash pooling, debt management, and payments, thereby improving liquidity management efficiency and helping to mitigate the risk of cash shortfalls or excess reserves (Guo & Polak, 2021). Furthermore, TMS solutions enable U.S. MNCs to streamline finance and operations processes through real-time capabilities that allow for rapid responses to market fluctuations, thereby ensuring financial agility in a fast-paced world economy.

Blockchain technology is a game-changer in liquidity management, particularly because it helps facilitate secure and efficient cross-border transactions. Traditional international payments often require multiple intermediaries which can lead to delays and higher transaction costs (Belke and Beretta, 2020). Blockchain is a decentralized and transparent digital ledger, which removes intermediaries, hence lowering the costs and processing times of cross-border cash transfers (Tseng and Shang, 2021; Chen et al., 2019). Moreover, the use of blockchain ensures an unchangeable ledger of transactions, which also enhances security while minimizing fraud risk and ensuring compliance with regulatory requirements. For U.S. MNCs that face complex international financial markets, blockchain also presents a novel means to manage liquidity and increase financial transparency.

2.5 Mitigating Foreign Exchange Risk Among MNCs

Digital tools have fundamentally transformed foreign exchange (FX) risk management for U.S. MNCs conducting businesses in various currency zones (Mefford, 2017). Liquidity is highly sensitive to fluctuation of the exchange rate, and thus, hedging strategies are needed (Downes et al., 2020; Mefford, 2017; Klement & Longchamp, 2010). Modern FX risk management platforms leverage AI-driven models to recommend hedging strategies derived from predictive analytics, market trends, and real-time economic indicators.

In recent years, there has been rising interest and concern about turbulence in the currency markets among U.S. MNCs (Mefford, 2017). High levels of volatility in foreign exchange rates can pose a significant challenge to an MNCs strategy, investment and finance, operations, and risk management. MNCs have a range of digital strategies and tools at their disposal to overcome these challenges.

Also, employing technical hedging instruments such as the spot, forward, futures, or option-based spot and futures markets can be effective in hedging against currency risks (Mefford, 2017; Ekeha, 2010). Another key factor is how political risks affect the currency exposure of U.S. MNCs. The MNCs can devise comprehensive policies for managing these risks in order to be better prepared for the complex global market (Ekeha, 2010).

2.6 Demographic, Regional, and Regulatory Issues in Liquidity Management Among U.S. MNCs

Liquidity management has emerged as an increasingly important feature of financial services, as fintech developments have enabled new liquidity strategies and capital market products that support a more dynamic view of balance sheet liquidity. Effective liquidity management is important for MNCs not just to ensure operational efficiency but also compliance with a complex web of regulatory requirements

(Anagnostopoulos, 2018). The changing global regulatory landscape creates both challenges and opportunities for U.S. MNCs looking to optimize their liquidity through digital transformation.

Indeed, for a long time, lots of research was dedicated to the challenges of liquidity management in financial institutions. For MNCs, this problem is compounded by the need to manage liquidity across dispersed geographical areas and subsidiaries. MNCs have identified some challenges in managing liquidity such as regulatory requirements and volatile foreign exchange markets (Danmulki et al., 2022 & Hasan & Nasrin, 2019).

U.S. MNCs are subject to multiple jurisdictions with differing regulatory requirements regarding liquidity management and capital requirements. One of the foremost challenges for U.S. MNCs is ensuring compliance with these varying regulations. Thus, regional liquidity and capital requirements vary considerably, and failing to meet them can lead to heavy penalties, legal actions, or reputational damage (Smoleńska et al., 2020).

The Basel III standard set out by the Basel Committee on Banking Supervision is one of the most recognized regulatory standards for enhancing the stability of the financial system. Basel III sets out requirements for banks to hold more and higher quality capital and to increase liquidity buffers to withstand shocks to the financial system. U.S. MNCs that adopt digital liquidity management systems should also ensure that such systems comply with Basel III's liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) regulatory requirements that help to mitigate liquidity risk and enhance financial stability (Mefford, 2017; Basel III Accord, 2010). Advanced AI-driven analytics and blockchain-enabled real-time liquidity monitoring can help MNCs ensure accurate reporting and predictive risk management.

In addition to Basel III, U.S. MNCs face local and international regulations mandating certain liquidity requirements. Each country has its own regulatory body and rules concerning liquidity buffer, capital adequacy, and financial reporting. It requires constant monitoring of changes in local laws in order to comply with these regional regulations, making liquidity management more complex. This is precisely where digital treasury management systems can help with compliance by automating regulatory reporting and integrating real-time updates to changes in the policy framework.

U.S. MNCs must also consider taxation when managing digital liquidity, especially with regard to the repatriation of cash from foreign subsidiaries to the parent company. Optimizing liquidity across global operations requires tax-efficient digital strategies for repatriating profits. Depending on the laws of the jurisdiction, repatriation of funds can have substantial tax consequences, including withholding taxes on dividends, interest, and royalties. MNCs are increasingly making use of blockchain-based smart contracts, automated intercompany lending platforms, and AI-driven tax planning tools to reduce these costs (Belke and Beretta, 2020).

Liquidity management has also been determined to closely interact with transfer pricing which can lead to essential tax consequences (Korol et al., 2022). Transfer pricing helps optimize profit allocation among companies in different jurisdictions, but it needs to comply with the arm's length principle, which means the pricing of transactions between related parties should be the same as transactions between unrelated parties. There are also significant risks when local tax authorities determine that the transfer price is not at arm's length such as penalties and recharacterization of the MNC profit, affecting its liquidity. With the emergence of AI-based risk assessment tools and blockchain-based transaction tracking, digital transformation is changing the landscape of transfer pricing compliance. It facilitates real-time tracking of intercompany transactions, minimizing the risk of regulatory breaches and facilitating adherence to both local and global tax frameworks, including OECD transfer pricing principles.

2.7 What Does the Future Hold for Liquidity Management in MNCs?

2.7.1 ESG-Driven Liquidity Management

The US. MNCs have revised their liquidity management strategy due to the global change towards sustainable and responsible business practices. As ESG concerns gain traction, organizations need to reconcile profitability and liquidity in accordance with ESG while ensuring their operations are environmentally friendly (Mensah et al., 2024; Mohanty & Mehrotra, 2018; Kareiva et al., 2015). Studies show that ESG integration can boost financial performance and decrease investment risk (Hughes et al., 2021). By taking a proactive approach toward liquidity management, U.S. MNCs will be better positioned to anticipate and respond to ESG-related disruptions and thereby maintain their competitive edge.

Digitization is ideal also as a facilitator of ESG-driven financial decisions in the areas of transparent reporting, monitoring of ESG-linked financial instruments, and capital allocation to sustainable initiatives (Doyran, 2022). In the U.S., AI-driven analytics enable corporations to quantify ESG-related financial risks, whether from climate change effects on supply chains or regulatory compliance costs (Umoren et al., 2025). Moreover, because blockchain can track the deployment of sustainability-linked loans or green bonds securely, it can also ensure transparency in green financing (Farhan et al., 2023; Mensah et al., 2024). Companies issuing these instruments receive better loan terms, but they have to show continuous progress toward ESG goals.

2.7.2 The Future: AI, ML, and Blockchain.

The rapid evolution of digital technologies has transformed liquidity management practices among U.S. MNCs. Artificial intelligence (AI) and machine learning (ML) are automating cash management, creating real-time decision-making, and minimizing human error in liquidity planning (Amoako et al., 2025; Adukpo & Mensah, 2025; An et al., 2021). AI-powered cash flow forecasting solutions leverage machine learning algorithms to provide predictive insights into the cash position of MNCs, enabling companies to identify and minimize inefficiencies in working capital across accounts receivable & payable cycles, excess liquidity holdings, and ensure optimized capital allocation across global operations.

Blockchain technology can be used to improve liquidity, especially in cross-border transactions. Traditional international payments often require many intermediaries, incurring high transaction costs and substantial delays. Blockchain's decentralized and transparent ledger system can enable swift cross-border settlements, minimizing the time and cost of moving global liquidity transfers (Charles et al., 2023). In the case of liquidity management, smart contracts using blockchain technology are capable of automating and executing agreements related to liquidity, thus facilitating transfers of funds internationally among subsidiaries without risk (Mohamed, 2020).

3.0 Methodology

This research qualitatively examines how liquidity management is affected by digital transformation in U.S. MNCs. A rigorous literature review was performed covering academic papers, articles, industry reports, and regulatory documents regarding AI-based liquidity forecasting, blockchain in treasury management, and digital cash flow optimization. It then draws from case studies in the field to explore how MNCs utilize digital tools for enhancing liquidity efficiency, financial stability, and mitigation of risks. Reflecting on the current technological landscape and recent regulatory developments, this qualitative approach fuels an understanding of the evolving liquidity strategies by synthesizing diverse perspectives.

4.0 Conclusion

Digital transformation of liquidity management has fundamentally changed how U.S. multinational corporations (MNCs) approach financial stability in a complex and interconnected world economy. Artificial intelligence (AI), machine learning (ML), blockchain, and cloud-based treasury management systems are introducing liquidity solutions that enhance visibility, enable prediction, and promote automation of cash flow management. These advanced technologies enhance the capacity of U.S. MNCs to better forecast expenses, allocate capital, and hedge against financial risks arising as a result of regulatory differences, currency movements, and volatility in the global marketplace.

Although there is advancement in technology, however, liquidity management continues to be a challenge among firms, especially with MNCs as they often need to simultaneously navigate real-time financial decision-making, regulatory adherence, cybersecurity threats, and complexities in integration. Traditional liquidity management practices like cash pooling and hedging strategies continue to play an important role, but their efficiency is now enhanced by digitized treasury systems and AI-enabled analytics. In addition, the study found that Environmental, Social, and Governance factors are redefining liquidity strategies as green finance and ethical investment considerations become the core of corporate strategies.

5.0 Recommendation

The study recommends that U.S. MNCs should adopt robust AI-driven predictive analytics, blockchain, and automated treasury management systems to improve liquidity management. This is key to efficient liquidity management because AI helps them forecast cash flows, detect risks, and anticipate liquidity needs. Blockchain technology can pave the way for ensuring secure, transparent cross-border transactions, thereby minimizing fraud and inefficiencies in fund transfers.

Moreover, AI-powered hedging solutions can assist MNCs in minimizing foreign exchange risks through dynamically tracking real-time market trends and lowering financial losses caused by currency volatility. To navigate through complex international financial regulations, the adoption of RegTech tools that ensure compliance such as AI-powered reporting systems can help optimize global cash repatriation strategies. Moreover, the adoption of sustainability financing tools such as green bonds and ESG-oriented liquidity practices will facilitate the alignment of financial strategies with corporate sustainability goals.

As the landscape of technologies continues to progress, future research should focus on the impact of Advanced technologies such as AI and blockchain on liquidity management in developing and developed economies (comparative study). Moreover, research should explore how changing regulatory frameworks influence corporate strategies on liquidity management across different sectors.

References

1. Abata, M. A., & Migiro, S. O. (2016). Does Liquidity Management Affect Profitability in Selected Nigerian-Quoted Manufacturing Firms? In Journal of Economics and Behavioral Studies (Vol. 8, p. 41). International Foundation for Research and Development. https://doi.org/10.22610/jebs.v8i4(j).1362
2. Adam, A., Hassan, R., & Abdullah, H. (2021). Maintaining the survival of Malaysian SMEs during Covid-19 outbreak: Challenges and suggestion for management. ASEAN Entrepreneurship Journal (AEJ), 7(1), 27-33.

3. Adukpo, T. K., & Mensah, N. (2025). Financial technology and its effects on small and medium-scale enterprises in Ghana: An Explanatory Research. Asian Journal of Economics, Business and Accounting, 25(3), 268-284. https://doi.org/10.9734/ajeba/2025/v25i31709
4. Agbadamasi, T. O., Opoku, L. K., Adukpo, T. K., Mensah, N. (2025). The Role of Business Intelligence in AI Ethics: Empowering U.S. Companies to Achieve Transparent and Responsible AI. EPRA International Journal of Economics, Business and Management Studies (EBMS), 12(3), 8-14. https://doi.org/10.36713/epra20314
5. Ahern, D. (2021). Regulatory Lag, Regulatory Friction and Regulatory Transition as FinTech Disenablers: Calibrating an EU Response to the Regulatory Sandbox Phenomenon. In European Business Organization Law Review (Vol. 22, Issue 3, p. 395). Springer Science+Business Media. https://doi.org/10.1007/s40804-021-00217-z
6. Al-Shattarat, H. K. (2022). The Effect of The Asset Management Efficiency on Financial Performance "Evidence From Jordanian Industrial Firms." In Global Journal of Economic and Business (Vol. 12, Issue 6, p. 870). Research, Enlightment, Findings Accelerated Applications Development (REFAAD). https://doi.org/10.31559/gjeb2022.12.6.11
7. Amoako, E.K.W., Boateng, V., Ajay, O., Adukpo, T.K., Mensah, N. (2025). Exploring the Role of Machine Learning and Deep Learning in Anti-Money Laundering (AML) Strategies within U.S. Financial Industry: A Systematic Review of Implementation, Effectiveness, and Challenges. Finance & Accounting Research Journal, 7(1). https://doi.org/10.51594/farj.v7i1.1808
8. An, Y.J., Choi, P.M.S., & Huang, S.H. (2021). Blockchain, cryptocurrency, and artificial intelligence in finance. In Fintech with artificial intelligence, big data, and blockchain (1-34). Singapore: Springer Singapore.
9. Anagnostopoulos, I. (2018). Fintech and regtech: Impact on regulators and banks. In Journal of Economics and Business (Vol. 100, p. 7). Elsevier BV. https://doi.org/10.1016/j.jeconbus.2018.07.003
10. Ashta, A., & Herrmann, H. (2021). Artificial intelligence and fintech: An overview of opportunities and risks for banking, investments, and microfinance. In Strategic Change (Vol. 30, Issue 3, p. 211). Wiley. https://doi.org/10.1002/jsc.2404
11. Atisu, J. C., Mensah, N., Alipoe, S. A., & Rahman, S. A. (2024). The Effect Of Non-Performing Loans On The Financial Performance Of Commercial Banks In Ghana. IOSR Journal of Economics and Finance, 15(5), 42-48. https://doi.org/10.9790/5933-1505054248
12. Atisu, J. C., Mensah, N., Junior, K. N., & Akuamoah, O. A. (2024). Board Gender Diversity and Financial Performance of Listed and Unlisted Firms in Ghana. International Journal of Research Publication and Reviews, 5(9), 2788-2796. https://doi.org/10.55248/gengpi.5.0924.2658
13. Basel Committee on Banking Supervision (2010). "Basel III: International framework for liquidity risk measurement, standards and monitoring," Bank for International Settlements, December.
14. Belke, A., & Beretta, E. (2020). From cash to central bank digital currencies and cryptocurrencies: A balancing act between modernity and monetary stability. Journal of Economic Studies, 47(4), 911-938.
15. Brunnermeier, M., & Krishnamurthy, A. (2020). Corporate debt overhang and credit policy. Brookings Papers on Economic Activity, 2020(2), 447-502.
16. Byrum, J. (2022). The past, present, and future of the payment system as trusted broker and the implications for banking. Innovative Technology at the Interface of Finance and Operation, I, 101-151.

17. Cao, L. (2020). AI in Finance: A Review [Review of AI in Finance: A Review]. SSRN Electronic Journal. RELX Group (Netherlands). https://doi.org/10.2139/ssrn.3647625
18. Charles, V., Emrouznejad, A., & Gherman, T. (2023). A critical analysis of the integration of blockchain and artificial intelligence for supply chain. In Annals of Operations Research (Vol. 327, Issue 1, p. 7). Springer Science+Business Media. https://doi.org/10.1007/s10479-023-05169-w
19. Chen, F., Wan, H., Cai, H., & Cheng, G. (2019). Machine Learning in/for Blockchain: Future and Challenges. In arXiv (Cornell University). Cornell University. https://doi.org/10.48550/arxiv.1909.06189
20. Danmulki, B. I., Agbi, E. S., & Mustapha, L. O. (2022). LIQUIDITY MANAGEMENT AND FINANCIAL PERFORMANCE OF LISTED DEPOSIT MONEY BANKS IN NIGERIA. In Gusau Journal of Accounting and Finance (Vol. 3, Issue 2, p. 18). https://doi.org/10.57233/gujaf.v3i2.144
21. Downes, J.F., Mathis, M.E., & Kutcher, L. (2020). Firm-specific currency exposure, repatriation, and the market value of repatriation taxes. The Journal of the American Taxation Association, 42(2), 29-56.
22. Doyran, M. (2022). The contribution of multinational enterprises to the United Nations SDGs: A review of corporate governance and sustainability research. The Role of Multinational Enterprises in Supporting the United Nations' SDGs, 164-188.
23. Effiong, S.A., & Ejabu, F.E. (2020). Liquidity risk management and financial performance: Are consumer goods companies involved. International Journal of Recent Technology and Engineering, 9(1), 580-589.
24. Ekeha, G. E. (2010). Evaluation of Hedging Techniques as Instruments to Minimise the Impact of Transaction and Translation Risks in Global Business Market. https://www.researchgate.net/profile/George_Ekeha/publication/228204537_Evaluation_of_Hedging_Techniques_as_Instruments_to_Minimise_the_Impact_of_Transaction_and_Translation_Risks_in_Global_Business_Market/links/54e703040cf2b19906093752.pdf
25. Farhan, N.H., Almaqtari, F.A., Hazaea, S.A., & Al-Ahdal, W.M. (2023). The moderating effect of liquidity on the relationship between sustainability and firms' specifics: Empirical evidence from indian manufacturing sector. Heliyon, 9(4).
26. Guo, H., & Polak, P. (2021). Artificial intelligence and financial technology FinTech: How AI is being used under the pandemic in 2020. The fourth industrial revolution: implementation of artificial intelligence for growing business success, 169-186.
27. Hasan, M. A., & Nasrin, F. (2019). Problems Associated with Liquidity Management of Commercial Banks of Bangladesh. In Research Journal of Finance and Accounting. IISTE. https://doi.org/10.7176/rjfa/10-4-10
28. Hlebik, S., & Ghillani, L. (2017). Management Strategies for Bank's Liquidity Risk. In International Journal of Economics and Finance (Vol. 9, Issue 6, p. 98). Canadian Center of Science and Education. https://doi.org/10.5539/ijef.v9n6p98
29. Hughes, A. M., Urban, M., & Wójcik, D. (2021). Alternative ESG Ratings: How Technological Innovation Is Reshaping Sustainable Investment. In Sustainability (Vol. 13, Issue 6, p. 3551). Multidisciplinary Digital Publishing Institute. https://doi.org/10.3390/su13063551
30. Kareiva, P., McNally, B. W., McCormick, S., Miller, T. E. X., & Ruckelshaus, M. (2015). Improving global environmental management with standard corporate reporting. In Proceedings of the National

Academy of Sciences (Vol. 112, Issue 24, p. 7375). National Academy of Sciences. https://doi.org/10.1073/pnas.1408120111

31. Kassem, R.G., Akachukwu, O.M., Precous, A.U., Luqman, A.A., & Eigbokhan, G.O. (2022). Digital transformation in pharmacy marketing: Integrating AI and machine learning for optimized drug promotion and distribution. World Journal of Advanced Research and Reviews, 15(02), 749–762. https://doi.org/10.30574/wjarr.2022.15.2.0792
32. Khalaf, B. A., Awad, A. B., & Nassr, M. (2023). Investigating the determinants of working capital in the Gulf Cooperation Council. In Journal of Governance and Regulation (Vol. 12, Issue 3, p. 8). Publishing house "Virtus Interpress." https://doi.org/10.22495/jgrv12i3art1
33. Korol, S.Y., Nykyforuk, O.I., Pelekh, U.V., Barabash, N.S., & Romashko, O.M. (2022). Transfer pricing documentation: Globalization and regional optimization. Universal Journal of Accounting and Finance, 10(1), 219-230.
34. Kubranová, M. (2020). Cash Concentration and Liquidity Policy. In SHS Web of Conferences (Vol. 83, p. 1039). EDP Sciences. https://doi.org/10.1051/shsconf/20208301039
35. Liu, J. (2024). A Survey of Financial AI: Architectures, Advances and Open Challenges. In arXiv (Cornell University). Cornell University. https://doi.org/10.48550/arxiv.2411.12747
36. Maple, C., Szpruch, Ł., Epiphaniou, G., Staykova, K., Singh, S. B., Penwarden, W., Wen, Y., Wang, Z., Hariharan, J., & Avramović, P. (2023). The AI Revolution: Opportunities and Challenges for the Finance Sector. In arXiv (Cornell University). Cornell University. https://doi.org/10.48550/arxiv.2308.16538
37. Mefford, R. N. (2017). Turbulence in the Currency Markets-What Does It Mean for International Business? In AIB Insights (Vol. 17, Issue 4). https://doi.org/10.46697/001c.16852
38. Mensah, N., Adukpo, T. K. (2025). Impact of Government Expenditure on Economic Growth of Ghana. Asian Journal of Economics, Business and Accounting, 25(3), 232-247. https://doi.org/10.9734/ajeba/2025/v25i31706
39. Mensah, N., Atisu, J. C., Akuamoah, O. A. (2024). Sustainability Reporting Quality and Earnings Management (EM) Practices: Empirical Evidence from Oil and Gas Firms in Africa. International Journal of Research Publication and Reviews, 5(10), 3442-3451. https://doi.org/10.5281/zenodo.13997517
40. Mensah, N., Atisu, J. C., Alipoe, S. A., Ofori, D. E. K. (2024). Impact of Corporate Governance Structure on Profitability of Quoted and Unquoted Firms in Ghana. International Journal of Research Publication and Reviews, 5(10), 1026-1033. https://doi.org/10.55248/gengpi.5.1024.2731
41. Mohamed, H. (2020). Beyond Fintech. https://doi.org/10.1142/11885
42. Mohanty, B., & Mehrotra, S. (2018). Relationship between Liquidity and Profitability: An Exploratory Study of SMEs in India. In Emerging Economy Studies (Vol. 4, Issue 2, p. 169). SAGE Publishing. https://doi.org/10.1177/2394901518795069
43. Mokogwu, C., Achumie, G.O., Adeleke, A.G., Okeke, I.C., & Ewim, C.P.M. (2024). A strategic IT policy implementation model for enhancing customer satisfaction in digital markets.
44. Ochie, C., Nyuur, R.B., Ludwig, G., & Cunningham, J.A. (2022). Dynamic capabilities and organizational ambidexterity: New strategies from emerging market multinational enterprises in Nigeria. Thunderbird International Business Review, 64(5), 493-509.
45. Olise, P., Opoku, L. K., Mensah, N. (2025). Innovative Strategies for Cost Reduction and Risk Mitigation in Event and Public Safety Management (Noting a Case Study of Large-Scale Event).

EPRA International Journal of Economics, Business and Management Studies (EBMS), 12(1). https://doi.org/10.36713/epra19964

46. Olise, P., Opoku, L. K., Mensah, N. (2025). The impact of advanced safety leadership training programs on reducing workplace accidents and enhancing asset reliability in U.S. industrial sectors. International Journal of Science and Research Archive, 14(1), 25-33. https://doi.org/10.30574/ijsra.2025.14.1.2594
47. Omri, M.B. (2022). Understanding the relationship between liquidity and banking financial stability in Islamic and conventional banks. Journal of Business and Economic Options, 5(1), 39-47.
48. Papathomas, A., & Konteos, G. (2023). Financial institutions digital transformation: the stages of the journey and business metrics to follow. In Journal of Financial Services Marketing (Vol. 29, Issue 2, p. 590). Palgrave Macmillan. https://doi.org/10.1057/s41264-023-00223-x
49. Rehm, S. (2017). Accounting Information Systems and how to prepare for Digital Transformation. In Routledge eBooks (p. 69). Informa. https://doi.org/10.4324/9781315647210-6
50. Seong, J., White, O., Woetzel, J., Smit, S., Devesa, T., Birshan, M., & Samandari, H. (2022). Global flows: The ties that bind in an interconnected world. The McKinsey Global Institute Discussion Paper.
51. Smoleńska, A., Ganderson, J., & Héritier, A. (2020). The impacts of technological innovation on regulatory structure: Fintech in post-crisis Europe. In Edward Elgar Publishing eBooks. Edward Elgar Publishing. https://doi.org/10.4337/9781839101120.00017
52. Solms, J. von, & Langerman, J. (2021). Digital technology adoption in a bank Treasury and performing a Digital Maturity Assessment. In African Journal of Science Technology Innovation and Development (Vol. 14, Issue 2, p. 302). Taylor & Francis. https://doi.org/10.1080/20421338.2020.1857519
53. Solms, J. von. (2020). Integrating Regulatory Technology (RegTech) into the digital transformation of a bank Treasury. In Journal of Banking Regulation (Vol. 22, Issue 2, p. 152). Palgrave Macmillan. https://doi.org/10.1057/s41261-020-00134-0
54. Tseng, C.T., & Shang, S.S. (2021). Exploring the sustainability of the intermediary role in blockchain. Sustainability, 13(4), 1936.
55. Umoren, J., Adukpo, T. K., & Mensah, N. (2025). Exploring factors, outcomes, and benefits in supply chain finance: Insights and future directions for the US healthcare system. https://doi.org/10.30574/wjarr.2025.25.2.0345
56. Umoren, J., Adukpo, T. K., & Mensah, N. (2025). Leveraging Artificial Intelligence in Healthcare Supply Chains: Strengthening Resilience and Minimizing Waste. EPRA International Journal of Economics, Business and Management Studies (EBMS), 12(2), 190-196. https://doi.org/10.36713/epra20385
57. Vojtková, M., & Mihalech, P. (2023). Intraday liquidity modelling using statistical methods. In Argumenta Oeconomica (Vol. 2023, Issue 2, p. 151). https://doi.org/10.15611/aoe.2023.1.08
58. Westerman, W. (2020). Cash management organisation decision-making: economics, strategy and operations. Central European Review of Economics and Management (CEREM), 4(2), 155-166.