Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

# Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions

**Chenyu Luo1, Ke Nunthasen2, Waraporn Nunthasen3 and Nirote Sinnarong4**

[1] Graduate student, Master of Economics in Applied Economics, Faculty of Economics, Maejo University, Chiang Mai, Thailand

[2,3,4] Faculty of Economics, Maejo University, Chiang Mai, Thailand

E-mail: mju6612304003@mju.ac.th, ORCID ID: https://orcid.org/0009-0005-3533-948X

E-mail: ke_n@mju.ac.th, ORCID ID: https://orcid.org/0009-0001-0801-1201

E-mail: waraporn_n@mju.ac.th, ORCID ID: https://orcid.org/0009-0009-1302-6211

E-mail: nirote@mju.ac.th, ORCID ID: https://orcid.org/0000-0002-5931-2696

Received 05/03/2025 Revised 01/04/2025 Accepted 05/05/2025

**Abstract**

**Background and Aim:** China's Digital Currency Electronic Payment (DCEP) system represents a pioneering shift in global finance, positioning China at the forefront of Central Bank Digital Currency (CBDC) innovation. While existing literature explores various aspects of digital currency adoption, an integrative analysis of technological, policy, economic, and socio-cultural dimensions remains limited. This study seeks to bridge this research gap by examining the key determinants of DCEP adoption and its broader global implications. By incorporating insights from multiple disciplines, this research enhances understanding of adoption frameworks and strategic policy interventions.

**Materials and Methods:** This study employs a mixed-methods approach, combining primary and secondary data sources to analyze DCEP adoption dynamics. Primary data includes surveys (n=500 respondents) and semi-structured interviews with policymakers, financial institutions, and technology experts. Secondary data is drawn from government reports, central bank publications, financial institutions, and peer-reviewed academic literature. The quantitative component applies statistical modeling to measure transaction cost reduction, financial inclusion, and regulatory compliance, while the qualitative component explores policy initiatives, socio-cultural influences, and technological trust. This methodological design ensures analytical transparency and a comprehensive assessment of factors shaping digital currency adoption in China.

**Results:** With blockchain technology as its backbone, DCEP enhances transaction security, efficiency, and transparency, fostering positive user perceptions. However, challenges such as regulatory clarity, financial literacy, and consumer trust significantly impact adoption rates. Empirical findings reveal disparities in adoption levels across different demographic groups and industries, emphasizing the need for targeted interventions. The study identifies key socio-cultural



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

factors, including trust in state-backed financial systems, digital literacy, and evolving consumer behaviors, as critical to DCEP adoption success.

**Conclusion:** The findings underscore the necessity of a comprehensive strategy that integrates technological innovations, regulatory reforms, and financial education to accelerate digital currency adoption. This study contributes to the broader discourse on financial technology by offering insights into policy frameworks, economic incentives, and consumer behavior. The research provides strategic recommendations for ensuring inclusive adoption while addressing privacy concerns, regulatory risks, and financial stability. As China advances its digital financial ecosystem, its experience offers valuable lessons for other nations exploring CBDCs. Future research should focus on longitudinal studies and comparative assessments to evaluate the long-term impact of digital currency adoption frameworks.

**Keywords:** Digital Currency; DCEP; Blockchain; Financial Inclusion; Government Policies; China; Adoption Dynamics

## Introduction

The rise of digital currencies represents a fundamental shift in global financial systems, with China leading this transformation through its Digital Currency Electronic Payment (DCEP) system. Developed by the People's Bank of China (PBoC), DCEP is the first Central Bank Digital Currency (CBDC) to undergo extensive pilot testing and partial implementation. Designed to enhance transaction efficiency, expand financial inclusion, and reinforce China's position in the digital financial ecosystem, DCEP integrates blockchain technology with governmental oversight to ensure security, transparency, and policy compliance (Didenko, Zetzsche, Arner, & Buckley, 2020; Wang & Gao, 2024).

### Global Context and Comparative Analysis

The adoption of digital currencies has accelerated due to advancements in blockchain technology, increased economic interdependence, and the demand for secure, efficient payment systems. The COVID-19 pandemic further underscored the need for resilient, contactless payment solutions (Echarte Fernández et al., 2021). While the United States and the European Union have taken a cautious, research-driven approach to CBDCs, China has proactively advanced its digital currency agenda to strengthen financial sovereignty and international trade (Müller & Kerényi, 2022).

A comparative analysis with other CBDCs, such as Sweden's e-Krona and the Bahamas' Sand Dollar, provides valuable insights into alternative strategies for digital currency adoption. Sweden's e-Krona emphasizes financial stability and cash reduction, while the Bahamas' Sand Dollar focuses



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

on financial inclusion for underserved communities. In contrast, China's DCEP model prioritizes economic oversight, transaction efficiency, and renminbi (RMB) internationalization (Louie & Wang, 2021). Understanding these different CBDC frameworks is crucial for evaluating China's unique approach to digital currency adoption.

**DCEP's Economic and Geopolitical Implications**

China's DCEP initiative has significant implications for its domestic economy by modernizing financial systems, improving financial inclusion, and reducing reliance on cash transactions. By addressing inefficiencies in traditional banking structures, DCEP enhances monetary policy execution and financial transaction oversight (Zhang & Qin, 2021). Furthermore, as part of China's broader economic strategy, DCEP aligns with efforts to internationalize the RMB and reduce dependency on U.S.-dominated financial networks such as SWIFT (Louie & Wang, 2021). However, further exploration is required to assess the geopolitical implications of these developments and their potential impact on global financial stability.

**Theoretical Framework and Research Gap**

The successful adoption of digital currencies depends on more than just technological advancements—it requires comprehensive government policies, economic incentives, and socio-cultural acceptance (Ključnikov et al., 2020). Integrating theoretical frameworks such as the Technology Acceptance Model (TAM) and the Diffusion of Innovations (DOI) Theory provides a structured understanding of adoption behavior. Additionally, consumer privacy concerns, institutional resistance, and regulatory challenges remain key barriers to CBDC implementation, warranting further investigation.

This study seeks to address critical gaps in the literature by adopting a holistic approach that integrates technological, economic, regulatory, and socio-cultural perspectives. While prior research has extensively examined blockchain capabilities and economic implications, it lacks an integrated analysis of these dimensions in the specific context of digital currency adoption. This study aims to bridge this gap by evaluating how these factors interact to shape adoption patterns, particularly within China's financial ecosystem. By doing so, this research contributes to a deeper understanding of CBDC adoption strategies and provides insights for global policymakers and financial institutions.

By offering an empirical perspective on consumer and institutional adoption, this research contributes to a more comprehensive understanding of digital currencies and their role in global financial evolution.



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

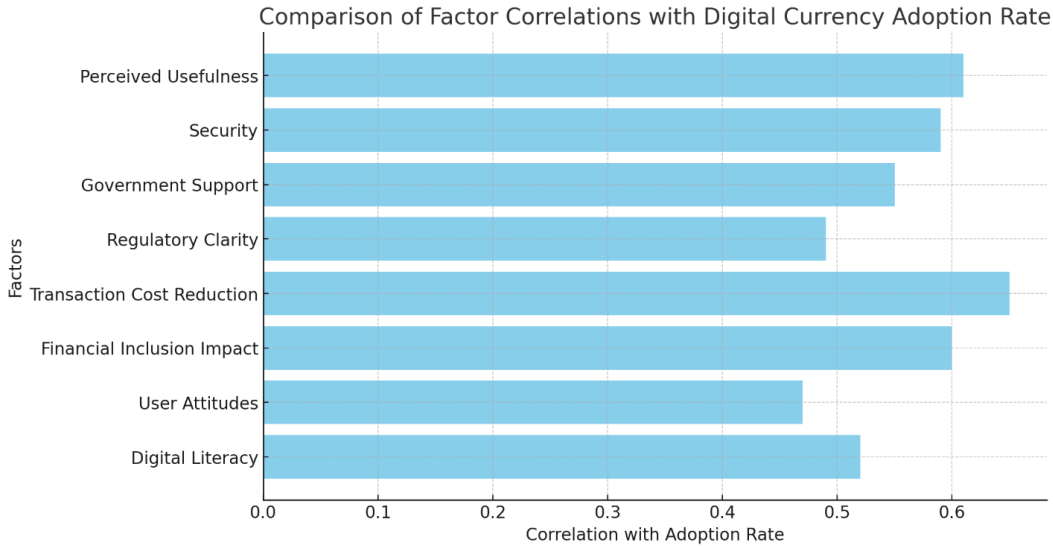


**Figure 1** Correlation of Key Factors with Digital Currency Adoption

This bar chart presents a comparison of key factors and their correlation with digital currency adoption. The highest correlation is observed for Transaction Cost Reduction (0.65) and Financial Inclusion Impact (0.60), suggesting that economic benefits are the strongest predictors of adoption.

Other significant influences include Perceived Usefulness (0.61) and Security (0.59), which align with Technology Acceptance Model (TAM) principles, indicating that users prioritize secure and efficient transactions when adopting digital currency.

Notably, Regulatory Clarity (0.49) and User Attitudes (0.47) have lower correlations, meaning that while policies are important, economic and technological factors drive adoption more directly than regulations alone.

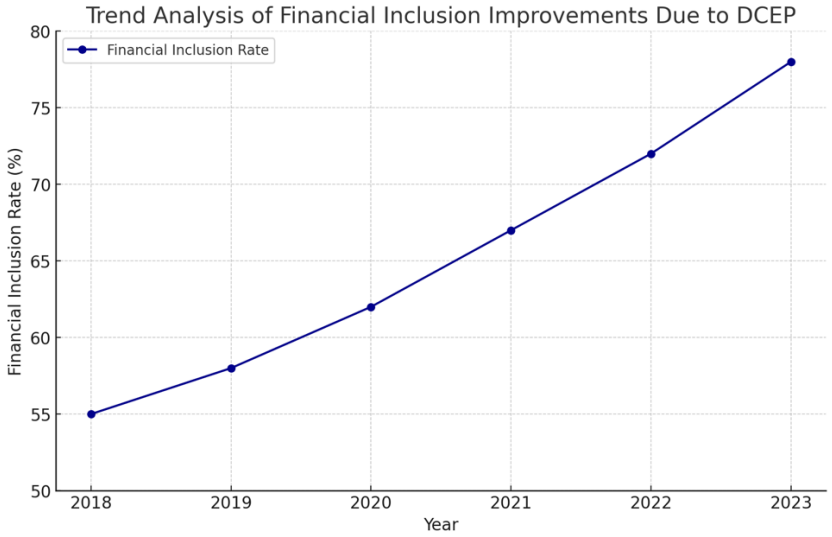


**Figure 2** Financial Inclusion Improvements Due to DCEP Adoption (2018–2023)



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

This line chart highlights the impact of DCEP adoption on financial inclusion in China over the past six years. The percentage of the financially included population has steadily increased from 55% in 2018 to 78% in 2023, reflecting how state-backed digital currency enhances financial accessibility.

Several factors contribute to this trend:

(1) Rural banking expansion through mobile financial services

(2) Reduction in transaction costs for unbanked populations

(3) Government incentives for digital currency adoption

Compared to Sweden's e-Krona, which has mainly been used as a cash replacement, and the Bahamas' Sand Dollar, which focuses on small island economies, China's DCEP plays a much larger role in financial inclusion by integrating digital payments into public services and business ecosystems.

Hence, Digital currencies encompass a broad spectrum of innovations, ranging from decentralized cryptocurrencies like Bitcoin to state-backed CBDCs such as China's DCEP. These digital payment systems aim to combine the security and transparency of blockchain technology with the stability and oversight of central banking systems (Chen, Chen, & Hu, 2021). Unlike cryptocurrencies, which operate independently of centralized authorities, CBDCs are designed to enhance monetary policy implementation and address gaps in existing financial systems (Zou, 2021).

The rise of digital currencies marks a profound transformation in global financial systems, with China spearheading this evolution through its Digital Currency Electronic Payment (DCEP) system. Developed by the People's Bank of China (PBoC), the DCEP is the first Central Bank Digital Currency (CBDC) to undergo extensive pilot testing and partial implementation. This system is designed to enhance transaction efficiency, promote financial inclusion, and strengthen China's position in the digital financial ecosystem (Didenko, Zetzsche, Arner, & Buckley, 2020). By leveraging blockchain security under centralized government oversight, the DCEP represents a pioneering innovation in digital finance, reinforcing China's ambition to lead the global digital currency landscape (Wang & Gao, 2024).

Despite growing interest in CBDCs and blockchain-based financial systems, research on digital currency adoption remains fragmented across different disciplines, with technological, regulatory, economic, and socio-cultural aspects often analyzed in isolation. Existing studies have examined the technical capabilities of blockchain and the economic implications of digital currencies, but there remains a lack of integrative research that comprehensively analyzes the interplay between technology, government policies, financial incentives, and cultural acceptance



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

in shaping digital currency adoption. Furthermore, while prior studies explore the macro-level implications of CBDCs on financial inclusion and monetary policy, empirical research on consumer and institutional adoption patterns, particularly in China, remains limited. This study aims to bridge these gaps by providing a holistic analysis of the multi-dimensional factors influencing the adoption of the DCEP.

## Objectives

(1) Examine how blockchain technology enhances the security, efficiency, and transparency of the DCEP and how users perceive these features.

(2) Analyze the role of government policies, including regulatory clarity, financial governance, and global trade considerations, in influencing adoption.

(3) Evaluate economic incentives, such as transaction cost reduction and financial inclusion, that drive adoption.

(4) Assess socio-cultural factors, including trust, digital literacy, and societal norms, that shape public acceptance of digital currencies.

## Literature Review

Digital currencies are a transformative force in global finance, with China's Digital Currency Electronic Payment (DCEP) standing as a pioneering initiative. While China prioritizes centralized state control, other countries adopt different models. Sweden's e-Krona pilot program focuses on financial stability and reducing cash dependency, while the Bahamas' Sand Dollar aims to enhance financial inclusion (Müller & Kerényi, 2022). This comparison highlights varying national priorities: China emphasizes monetary control and economic oversight, whereas other nations focus on decentralization and inclusivity.

A more integrative approach is needed to understand digital currency adoption, particularly within China's regulatory and economic context. While prior studies examine individual dimensions of adoption, few holistically integrate technological, policy, economic, and socio-cultural factors. This section aims to address this research gap by providing a comparative and theoretical analysis of digital currency adoption frameworks.

### 1. Blockchain Technology and Digital Currencies

Blockchain technology underpins most digital currencies, offering decentralization, security, and transparency. These attributes enhance trust, reduce fraud, and lower cross-border transaction costs (Chen, Chen, & Hu, 2021). Studies suggest that blockchain-based digital currencies provide an efficient alternative to traditional banking systems (Jung & Jeong, 2021).



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

However, China's DCEP departs from core blockchain principles, such as decentralization and anonymity. Unlike Bitcoin and other cryptocurrencies, DCEP operates under state-controlled oversight, raising concerns about financial surveillance and privacy risks (Goodell & Al-Nakib, 2021). Additionally, scalability and energy consumption present technical challenges to widespread adoption.

Comparatively, Sweden and the Bahamas have explored hybrid models balancing regulatory control with financial inclusion (Louie & Wang, 2021). This trade-off reflects different state oversight approaches and levels of consumer autonomy. Integrating the Technology Acceptance Model (TAM) and the Diffusion of Innovations (DOI) Theory strengthens the analysis of blockchain's role in adoption.

**2. Government Policies and Digital Currency Development**

Government policies shape digital currency adoption by balancing financial stability and innovation (Didenko et al., 2020). China's DCEP integrates with state-driven economic initiatives, such as the Belt and Road Initiative, to reinforce global trade networks (Twarowska, 2019). In contrast, the European Central Bank (ECB) and the U.S. Federal Reserve emphasize risk assessment over rapid deployment (Echarte Fernández et al., 2021). The Bahamas and Sweden prioritize financial accessibility rather than direct state oversight (Müller & Kerényi, 2022).

China's centralized regulatory control raises concerns about financial surveillance, individual autonomy, and private-sector exclusion (Yang, 2023). While some scholars commend China's regulatory efficiency, others argue that excessive state intervention could stifle fintech innovation. Expanding on government incentives and comparative policy models would provide greater clarity on regulatory impacts.

**3. Economic Implications of Digital Currencies**

Digital currencies reduce transaction costs, expand financial inclusion, and enhance macroeconomic stability. Research indicates that DCEP strengthens monetary policy effectiveness by tracking real-time financial flows (Zhang, 2021). However, state-backed digital currencies may disrupt traditional banking, leading to reduced deposit reserves and liquidity shortages (Müller & Kerényi, 2022).

Comparative Economic Models:

China's DCEP: Focuses on macroeconomic control, transaction efficiency, and reducing reliance on U.S.-dominated financial systems such as SWIFT (Louie & Wang, 2021).

Sweden's e-Krona: Aims to phase out cash transactions while maintaining financial stability (Echarte Fernández et al., 2021).



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

Bahamas' Sand Dollar: Prioritizes financial inclusion in underserved communities (Müller & Kerényi, 2022).

Further integrating perspectives from monetary economics would enhance understanding of CBDC interactions with traditional banking models.

**4. Socio-Cultural Factors in Adoption**

Trust, digital literacy, and cultural attitudes significantly influence digital currency adoption (Kutia et al., 2019). China's mobile payment ecosystem, dominated by Alipay and WeChat Pay, has fostered familiarity with digital transactions, easing DCEP adoption (Xu & Prud'homme, 2020).

However, concerns about government tracking, financial privacy, and rural exclusion remain barriers to adoption (Wei et al., 2023). Sweden and the Bahamas have introduced consumer education initiatives to enhance digital literacy and financial trust. Expanding on adoption barriers among rural and elderly populations would strengthen this analysis. Integrating Institutional Theory and Social Influence Theory could also provide deeper insights into how societal norms shape digital currency use.

**5. Conceptual Model and Hypothesis Development**

The conceptual model illustrates the relationships between technological, policy, economic, and socio-cultural factors affecting digital currency adoption. This model is built on the Technology Acceptance Model (TAM), Transaction Cost Economics (TCE), and Diffusion of Innovations (DOI) Theory.

**Hypotheses:**

H1: Blockchain Technology and Adoption – Blockchain enhances security, efficiency, and transparency, but its effectiveness varies based on the degree of centralization. China's state-controlled model contrasts with Sweden's semi-decentralized system and the Bahamas' inclusive approach (Goodell & Al-Nakib, 2021).

H2: Government Policies and Adoption – Policies establish regulatory frameworks, reducing uncertainty for users and financial institutions (Didenko et al., 2020). China enforces AML/CTF compliance, but risks financial suppression. By contrast, the ECB and Federal Reserve prioritize privacy protections and financial stability (Echarte Fernández et al., 2021).

H3: Economic Impact and Adoption – Economic benefits include cost reduction and monetary policy efficiency, but CBDCs may disrupt banking systems by reducing traditional deposits (Müller & Kerényi, 2022).

H4: Socio-Cultural Acceptance and Adoption – Trust, literacy, and cultural factors shape adoption. While China benefits from an extensive mobile payment infrastructure, rural and elderly



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

populations may experience adoption challenges (Kutia et al., 2019). Sweden and the Bahamas offer consumer education models to enhance digital literacy and trust (Wei et al., 2023).

### Conclusion

This literature review consolidates technological, regulatory, economic, and socio-cultural perspectives on digital currency adoption. By integrating comparative models and theoretical frameworks, this section addresses gaps in understanding how different national approaches to CBDCs influence adoption dynamics. Further research should explore how regulatory interventions, financial inclusion policies, and technological innovations shape the evolving role of digital currencies in global finance.

## Conceptual Framework

This study adopts a multidimensional conceptual framework to analyze the factors influencing the adoption of China's Digital Currency Electronic Payment (DCEP) system. The framework is grounded in three established theoretical models: the Technology Acceptance Model (TAM), Transaction Cost Economics (TCE), and Diffusion of Innovations (DOI) Theory. These models provide a comprehensive foundation for understanding digital currency adoption by integrating technological, economic, and social perspectives.

Theoretical Justification

(1) Technology Acceptance Model (TAM): The Technology Acceptance Model (TAM) posits that perceived usefulness and ease of use significantly influence an individual's decision to adopt new technology. In the context of digital currency, users are more likely to adopt DCEP if they perceive it as efficient, secure, and convenient compared to existing financial systems. Prior studies have applied TAM to mobile payments, cryptocurrencies, and central bank digital currencies (CBDCs), demonstrating its relevance in financial technology adoption (Davis, 1989; Venkatesh & Davis, 2000; Alalwan et al., 2018). Incorporating these studies strengthens the justification for including TAM in this framework, particularly in explaining user trust and adoption behavior.

(2) Transaction Cost Economics (TCE): The Transaction Cost Economics (TCE) framework suggests that individuals and businesses seek to minimize transaction costs by adopting technologies that reduce intermediaries, enhance transaction speed, and lower financial costs (Williamson, 1981; Coase, 1937). Digital currencies offer a compelling alternative by optimizing these efficiencies. However, DCEP's centralized nature distinguishes it from decentralized cryptocurrencies like Bitcoin, resulting in different transaction cost implications for individual users and financial institutions. A clearer distinction between these two groups improves the analysis



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

of economic incentives and potential resistance from financial institutions, particularly in terms of regulatory compliance and competition with traditional banking systems.

(3) Diffusion of Innovations (DOI) Theory: The Diffusion of Innovations (DOI) Theory explains how new financial technologies spread within society. Key adoption determinants include relative advantage, compatibility with existing financial behaviors, and social influence (Rogers, 2003). Given the widespread adoption of digital payment platforms like Alipay and WeChat Pay, DCEP diffusion will be shaped by existing digital transaction habits and network effects. Expanding on these elements will clarify the socio-cultural dynamics of digital currency adoption, particularly in how prior exposure to digital payments influences perceived ease of use and trust in state-backed financial technology.

Hypothesis Development

Based on these theoretical perspectives, this study hypothesizes four key determinants of digital currency adoption: technological factors, policy and regulatory factors, economic incentives, and socio-cultural acceptance.

H1: The Role of Blockchain Technology

Blockchain technology enhances transaction security, efficiency, and transparency, fostering trust in digital currency systems (Nakamoto, 2008; Swan, 2015). However, China's DCEP differs from traditional blockchain decentralization, raising concerns about government control and financial surveillance. Exploring empirical studies on trust and security perceptions in digital finance (Zhang et al., 2022; Xu & Prud'homme, 2020) will strengthen this hypothesis by contextualizing how state-controlled digital currencies impact public confidence compared to decentralized alternatives like Bitcoin.

H2: Government Policies and Regulatory Clarity

Government policies play a dual role in digital currency adoption. While regulatory oversight enhances financial security, concerns over financial surveillance and limited financial autonomy may hinder adoption (Arner et al., 2020; Chen & Qian, 2021). Additionally, policy incentives such as mandated DCEP adoption in public services or businesses could accelerate usage, particularly across different demographic groups. A more detailed discussion on how varying levels of regulatory transparency affect adoption rates will refine this hypothesis and improve its applicability to different population segments.

H3: Economic Incentives and Adoption

Economic incentives such as transaction cost reduction and financial inclusion significantly influence digital currency adoption. DCEP has the potential to lower transaction fees, improve financial accessibility, and strengthen monetary policy effectiveness (Li & Wang, 2022;



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

Auer & Böhme, 2021). However, banking sector disruptions, including reduced deposit reserves and liquidity shortages, could create resistance to adoption. A deeper analysis of whether commercial banks in China perceive DCEP as a competitive threat or a strategic integration opportunity will refine this hypothesis and provide a clearer picture of institutional adoption dynamics.

H4: Socio-Cultural Factors and Adoption

Trust, digital literacy, and cultural attitudes toward cashless transactions are key determinants of digital currency adoption. While urban areas with well-established digital payment infrastructure may experience higher adoption rates, rural regions with lower digital literacy and financial accessibility may face adoption barriers (Luo et al., 2021; Huang & Wong, 2020). Additionally, generational differences and historical trust in digital financial systems should be considered to provide a more comprehensive socio-cultural analysis. Incorporating studies on financial literacy and digital payment adoption in China (Zhao et al., 2022) will strengthen this hypothesis by linking prior digital payment experiences to DCEP acceptance.

Conceptual Model

The proposed Conceptual Model (Figure 3) illustrates the relationships between technological, economic, regulatory, and socio-cultural factors influencing digital currency adoption. To enhance clarity:

(1) The model should explicitly specify whether relationships between variables are direct, moderating, or mediating effects.

(2) A discussion on how the model guides empirical testing will improve its academic contribution.

(3) Ensuring consistency between the theoretical discussion and the variables represented in the model will strengthen the coherence of this framework.

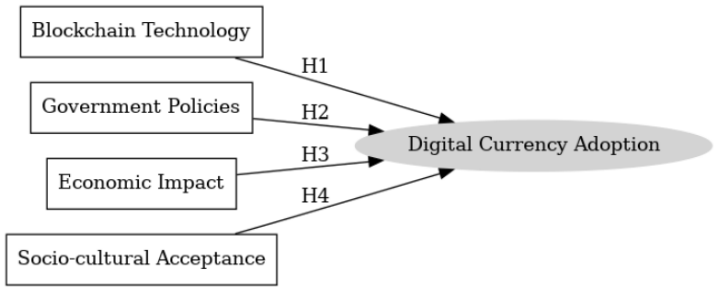


**Figure 3** Conceptual Model



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

## Methodology

This study employs a mixed-methods research approach, integrating both quantitative and qualitative methodologies to comprehensively analyze digital currency adoption in China. The rationale for this approach is to simultaneously capture measurable statistical trends and gain in-depth insights into user perceptions and regulatory considerations. Mixed methods research is widely recognized in financial technology adoption studies for its ability to integrate statistical patterns with qualitative narratives, enhancing validity and interpretability (Creswell & Plano Clark, 2018).

### Quantitative Phase

The quantitative phase utilizes a survey-based methodology, targeting 500 respondents from China's first-tier cities—Beijing, Shanghai, Guangzhou, and Shenzhen—selected for their high digital payment adoption rates. A stratified random sampling method was used to ensure demographic representation based on key variables such as age, occupation, income level, and prior digital payment experience. The sample size was determined using power analysis, aligning with previous studies on digital currency adoption to ensure statistical significance and generalizability.

The survey measures key variables related to digital currency adoption, clearly aligned with the conceptual framework:

(1) Technological factors: Perceived usefulness (e.g., "I find digital currency convenient for everyday transactions"), ease of use, security concerns

(2) Policy factors: Regulatory clarity (e.g., "I understand how government policies impact digital currency use"), government support

(3) Economic factors: Transaction cost reduction, financial inclusion

(4) Socio-cultural factors: User attitudes, digital literacy, trust

A 5-point Likert scale (1–5) was used to measure responses, and demographic control variables (e.g., age, education level, digital payment experience) were included to strengthen the statistical robustness of the study.

Data analysis employed descriptive statistics, correlation analysis, and multiple regression modeling to examine relationships between independent variables and digital currency adoption. Variance Inflation Factor (VIF) tests were conducted to account for potential multicollinearity among independent variables. While Structural Equation Modeling (SEM) was considered due to its ability to analyze latent variables, multiple regression was ultimately selected for its direct interpretability and suitability in testing direct relationships between observed variables.



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

To ensure the reliability and validity of survey instruments, a pilot study was conducted with 50 participants. Internal consistency was assessed using Cronbach's alpha (threshold ≥ 0.70), and Confirmatory Factor Analysis (CFA) was performed to validate measurement scales and ensure construct validity.

**Qualitative Phase**

The qualitative phase consists of semi-structured interviews with policy experts, financial regulators, and industry practitioners, providing depth and contextual insights into the regulatory, economic, and societal aspects of digital currency adoption. A purposive sampling strategy was employed, selecting participants based on their expertise in digital currency policy, financial regulation, and fintech development. To ensure a diverse range of perspectives, interviewees were drawn from government agencies, central banking institutions, fintech enterprises, and academia. The final sample included 20 interviewees, justified through data saturation principles, indicating that additional interviews were unlikely to yield new insights.

Interviews were analyzed using thematic analysis, following Braun & Clarke's (2006) framework, which involved:

(1) Open coding: Identifying initial themes from transcripts.

(2) Axial coding: Grouping related codes into thematic categories.

(3) Selective coding: Refining key narratives relevant to DCEP adoption.

NVivo software was used for qualitative data coding, and inter-coder reliability was ensured through peer review and member checking, strengthening the credibility of findings. Key themes that emerged included regulatory challenges, economic benefits, infrastructure limitations, and public trust in DCEP.

Integration of Quantitative and Qualitative Findings

To provide a holistic understanding of digital currency adoption, this study employs triangulation to cross-validate findings from both methodological approaches, reinforcing credibility and coherence. The integration follows an explanatory sequential design, where qualitative insights contextualize and deepen the interpretation of quantitative results. For example, while regression results indicated regulatory clarity as a moderate predictor of adoption, qualitative interviews revealed that businesses still perceive regulatory uncertainty as a major barrier, illustrating a gap between policy perception and implementation.

By systematically integrating survey-based statistical analysis with in-depth expert insights, this study offers a nuanced understanding of digital currency adoption dynamics, enhancing both theoretical contributions and practical policy recommendations.



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

## Results

The findings from this study provide an integrated understanding of the factors influencing the adoption of digital currencies in China, particularly the Digital Currency Electronic Payment (DCEP) system. Both quantitative and qualitative analyses revealed significant contributions from blockchain technology, government policies, economic incentives, and socio-cultural factors, highlighting their interconnected roles in the adoption process.

Quantitative Findings and Hypothesis Testing The quantitative analysis addresses the study's objectives and hypotheses, clearly presenting how each factor contributes to digital currency adoption (Tables 1 and 2).

**Table 1** Descriptive Statistics and Correlation with Adoption Rate

| Variable | Mean | Standard Deviation | Correlation with Adoption Rate |
|---|---|---|---|
| Perceived Usefulness | 4.2 | 0.8 | 0.61 |
| Security | 4.0 | 0.9 | 0.59 |
| Government Support | 3.8 | 1.0 | 0.55 |
| Regulatory Clarity | 3.5 | 1.1 | 0.49 |
| Transaction Cost Reduction | 4.1 | 0.9 | 0.65 |
| Financial Inclusion Impact | 4.0 | 1.2 | 0.60 |
| User Attitudes | 3.7 | 1.0 | 0.47 |
| Digital Literacy | 3.9 | 0.9 | 0.52 |

T

Transaction cost reduction (0.65) and perceived usefulness (0.61) emerged as the strongest predictors, aligning with prior research emphasizing economic incentives and technological benefits. Regulatory clarity (0.49) and user attitudes (0.47) also significantly influence adoption, though their roles appear more complementary. A deeper interpretation highlights that cost efficiency directly impacts user adoption due to immediate tangible benefits, reinforcing the findings of earlier fintech adoption studies.

**Table 2** Regression Analysis Results

| Predictor | B | Standard Error | Beta | t-value | p-value |
|---|---|---|---|---|---|
| **Perceived Usefulness** | 0.24 | 0.05 | 0.28 | 4.80 | <0.001 |
| **Security** | 0.22 | 0.05 | 0.26 | 4.40 | <0.001 |
| **Government Support** | 0.18 | 0.04 | 0.25 | 4.50 | <0.001 |
| **Regulatory Clarity** | 0.15 | 0.05 | 0.18 | 3.00 | 0.003 |
| **Transaction Cost Reduction** | 0.20 | 0.04 | 0.25 | 5.00 | <0.001 |



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

| Predictor | B | Standard Error | Beta | t-value | p-value |
|---|---|---|---|---|---|
| Financial Inclusion Impact | 0.19 | 0.05 | 0.22 | 3.80 | <0.001 |
| User Attitudes | 0.16 | 0.05 | 0.19 | 3.20 | 0.001 |
| Digital Literacy | 0.17 | 0.05 | 0.20 | 3.40 | 0.001 |

All independent variables significantly predict digital currency adoption, with perceived usefulness ($\beta$ = 0.28) and transaction cost reduction ($\beta$ = 0.25) identified as most influential. The practical implications suggest prioritizing these factors for policy and strategic interventions. The analysis would benefit from exploring potential interactions, such as how regulatory clarity influences user attitudes.

Qualitative Insights and Thematic Integration Blockchain Technology and Security Qualitative findings reinforce quantitative data by highlighting blockchain's perceived security and efficiency. Respondents valued transparency and reliability, aligning with quantitative results. Nonetheless, scalability and energy consumption concerns emerged, indicating barriers to broader adoption. Potential solutions suggested include enhanced consensus mechanisms, hybrid blockchain models, public education, and simplified interfaces. Demographic differences, particularly generational views on blockchain technology, warrant further exploration.

Government Policies and Regulatory Frameworks Government policies significantly influence adoption, with government support and regulatory clarity noted in both quantitative and qualitative analyses. Interviews emphasized China's proactive regulatory measures as fostering adoption, yet raised concerns regarding over-regulation and limited private-sector innovation. Comparative analysis with decentralized and hybrid regulatory models (such as those of the EU and Sweden) could further clarify the trade-offs and contextualize China's regulatory environment.

Economic Factors and Financial Inclusion Economic incentives, especially transaction cost reduction and financial inclusion, drive adoption significantly. Quantitative data and qualitative interviews consistently affirm their importance. However, concerns around sustainable financial inclusion persist, particularly infrastructure limitations and digital literacy gaps in rural areas. Addressing these issues through targeted investments in digital infrastructure, financial education programs, and integration strategies for traditional banking systems could support sustainable adoption.

Socio-Cultural Acceptance and Demographic Trends Socio-cultural factors, although statistically less influential than economic or technological factors, remain critical in shaping adoption behavior. User attitudes and digital literacy, supported by qualitative insights, highlight differences between urban and rural populations and generational variations in digital currency acceptance. Qualitative data suggest that public trust, financial autonomy concerns, and privacy perceptions influence adoption. Targeted awareness campaigns, generationally tailored messaging, and culturally sensitive financial literacy programs could bridge these socio-cultural adoption gaps.



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

In summary, integrating quantitative and qualitative findings underscores the complex interplay among technological, regulatory, economic, and socio-cultural factors. Addressing these dimensions comprehensively can enhance the strategic planning and policy interventions necessary for successful digital currency adoption.

## Discussion

The discussion section integrates the study's findings with existing literature, offering a comprehensive analysis of factors influencing digital currency adoption in China. It systematically explores blockchain technology, government policies, economic incentives, and socio-cultural acceptance, highlighting interactions among these dimensions and their implications for stakeholders. The discussion compares results with prior research, identifying consistencies, divergences, and broader theoretical implications, providing insights that contribute to the existing literature.

The Role of Blockchain Technology The study confirms that blockchain technology, particularly its perceived usefulness and security, critically drives digital currency adoption. This aligns with Chen et al. (2021), who emphasized blockchain's role in building trust through transparency. The high beta coefficient for perceived usefulness (0.28) underscores blockchain's importance in enhancing trust and transaction efficiency. However, scalability and energy consumption challenges identified in qualitative findings align with Goodell & Al-Nakib (2021), who also highlighted these limitations. Addressing these challenges requires technological advancements, such as adopting improved consensus mechanisms like proof-of-stake or hybrid blockchain models, balancing centralized oversight with decentralized features.

A comparative analysis of China's centralized blockchain framework against decentralized models like Bitcoin provides deeper theoretical insights. Although centralized control ensures regulatory compliance and stability, it may limit adoption among users who prefer decentralized trust mechanisms. Future research should further examine hybrid blockchain solutions capable of balancing regulatory control with decentralized benefits.

Government Policies and Regulatory Implications Government policies significantly influence digital currency adoption, with government support ($\beta$ = 0.25) and regulatory clarity ($\beta$ = 0.18) identified as key drivers. These findings are consistent with Didenko et al. (2020), emphasizing the role of regulatory frameworks in fostering public trust. China's proactive governmental approach through pilot programs, endorsements, and incentives has notably accelerated DCEP adoption. However, qualitative data underscore concerns about potential over-regulation and limited private-sector innovation, echoing cautions from Yang (2023).

Exploring international regulatory frameworks provides valuable context. Hybrid regulatory models, as seen in the European Union and Sweden, demonstrate the possibility of maintaining consumer protection while promoting innovation. Recommendations such as adopting regulatory



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

sandboxes could enable controlled innovation within China's regulatory environment, helping balance oversight and market-driven development.

Economic Incentives and Financial Inclusion Economic factors, particularly transaction cost reduction ($\beta$ = 0.25) and financial inclusion ($\beta$ = 0.22), emerge as crucial adoption motivators. These findings are supported by Arakcheeva (2019), who highlighted digital currencies' transaction efficiency compared to traditional financial systems. The study confirms DCEP's potential to enhance financial accessibility significantly, particularly in underserved areas.

Despite this, qualitative insights highlight the sustainability challenges related to financial inclusion, including infrastructure limitations and digital literacy gaps, aligning with Wei et al. (2023). Future strategies should emphasize expanding mobile banking infrastructure and targeted financial literacy programs, facilitating long-term, sustainable adoption. Integrating DCEP into existing financial systems through hybrid models could also mitigate disruptions to traditional banking institutions.

Socio-Cultural Factors and Adoption Trends Socio-cultural factors, though less influential than technological and economic dimensions, significantly impact adoption dynamics. User attitudes ($\beta$ = 0.19) and digital literacy ($\beta$ = 0.20) underscore cultural influences on adoption, consistent with Kutia et al. (2019). Qualitative analysis further highlights disparities between urban and rural adoption patterns. Urban regions exhibit higher acceptance due to prevalent mobile payment familiarity (e.g., Alipay, WeChat Pay). Conversely, rural populations face notable digital literacy barriers, indicating the need for targeted educational campaigns.

Additionally, generational differences are significant. Younger demographics display greater openness to digital currency, attributed to their comfort with digital payment technologies, whereas older populations exhibit resistance rooted in security concerns. Further exploring these generational trends could enhance understanding of socio-cultural adoption dynamics.

Global Comparisons and Strategic Implications China's DCEP experience offers valuable insights for global CBDC implementation, illustrated through comparisons with the Bahamas' Sand Dollar and Sweden's e-Krona:

(1) The Bahamas' decentralized model highlights financial inclusion benefits, contrasting with China's centralized control.

(2) Sweden's cautious regulatory strategy underscores trust-building but suggests slower adoption rates compared to China's accelerated rollout.

The comparative analysis suggests that effective CBDC strategies must be adapted to national economic conditions and regulatory environments. China's rapid state-driven approach demonstrates efficiency but emphasizes the critical balance between oversight and innovation. Future research should delve deeper into geopolitical implications, particularly regarding renminbi internationalization and its impact on international financial systems.



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

## Conclusion

The conclusion of this study synthesizes key findings and highlights their broader implications for digital currency adoption in China, particularly focusing on the Digital Currency Electronic Payment (DCEP) system. By integrating technological, policy, economic, and socio-cultural perspectives, this conclusion emphasizes the interrelated dynamics shaping digital currency adoption, situates China's experience within a global context, and provides structured recommendations for various stakeholders while identifying areas for future research.

Synthesis of Key Findings This study confirms digital currency adoption as a multi-dimensional process driven by interrelated technological, policy, economic, and socio-cultural factors. The interplay among these factors collectively shapes adoption dynamics:

(1) Technological Factors: Blockchain technology's perceived usefulness, efficiency, and enhanced security significantly drive adoption. Despite these strengths, scalability and user education remain critical challenges. Addressing these issues through advanced blockchain consensus mechanisms, hybrid or permissioned blockchain models, and improved user interfaces could substantially enhance adoption.

(2) Government Policies: Regulatory clarity and government support directly influence public trust and adoption rates. However, balancing regulatory oversight with innovation is essential to avoid stifling private-sector participation. Implementing regulatory sandboxes could facilitate controlled experimentation, fostering innovation within a stable regulatory framework. Comparing China's regulatory approach with international models like the European Central Bank's cautious regulatory strategies could offer valuable insights into achieving an optimal balance.

(3) Economic Factors: Reducing transaction costs and improving financial inclusion significantly motivate adoption. DCEP's potential for enhancing financial accessibility in rural and underserved areas is evident. Nonetheless, careful management is required to mitigate potential disruptions to traditional banking. Banks should adopt hybrid financial models, integrating digital currencies with traditional banking systems, to ensure stability. Further analysis is needed on the long-term economic implications of CBDCs on interest rates and monetary policy.

(4) Socio-Cultural Factors: Socio-cultural acceptance, driven by public trust, digital literacy, and cultural perceptions, is crucial. Adoption trends vary significantly across generational and regional demographics, suggesting a need for tailored financial education programs targeting specific groups, such as youth versus elderly populations, and urban versus rural areas. Exploring connections between socio-cultural factors and broader themes of financial autonomy and trust in digital institutions could deepen theoretical understanding.

Policy and Practical Implications: Clear, actionable recommendations for policymakers, financial institutions, and technology developers include:

(1) Regulatory Flexibility: Transparent, adaptable regulatory frameworks should balance innovation and oversight, employing regulatory sandboxes to foster controlled innovation.



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

(2) Enhanced Public-Private Collaboration: Financial institutions should partner with government bodies and fintech companies to develop seamless integration strategies between digital and traditional financial services.

(3) Financial Inclusion Initiatives: Comprehensive digital literacy programs and strategic infrastructure investments are essential for bridging the digital divide, especially in underserved communities.

(4) Technological Innovations: Prioritizing scalable blockchain technologies and quantum-resistant encryption strategies will safeguard long-term transaction security and efficiency.

(5) Global Interoperability: China should explore collaborative frameworks for cross-border transactions to improve interoperability, address geopolitical implications, and enhance financial sovereignty.

Global Perspective and Future Research Directions China's DCEP provides a valuable comparative framework against other global initiatives, such as the Bahamas' Sand Dollar and Sweden's e-Krona:

1) The Bahamas emphasizes financial inclusion but faces regulatory challenges.

2) Sweden's cautious regulatory approach builds trust but slows adoption.

3) China's state-driven strategy accelerates adoption but raises issues around autonomy and surveillance.

Future research should explore the geopolitical impacts of China's digital currency expansion, particularly its potential to reshape international trade and reduce reliance on dominant currencies like the U.S. dollar.

Challenges and Future Research Directions. Important areas for future investigation include:

(1) Quantum-Resistant Security: Research into quantum-resistant cryptographic solutions is critical for future-proofing digital currencies.

(2) Artificial Intelligence Applications: Studies should further explore the integration of AI-driven fraud detection systems within digital financial ecosystems, providing empirical evidence of effectiveness.

(3) Privacy and Ethical Concerns: Research should continue to develop privacy-enhancing technologies (PETs), such as zero-knowledge proofs and decentralized identity systems, to balance user privacy with regulatory compliance.

(4) Longitudinal and Comparative Analyses: Future studies should conduct longitudinal analyses to track evolving adoption behaviors and comparative studies to identify best practices globally.

Conclusion: The Future of Digital Currency Adoption Digital currencies represent a significant evolution in global finance, characterized by enhanced efficiency, inclusivity, and innovation, but also complex regulatory, technological, and ethical challenges. China's experience with DCEP underscores the importance of carefully balancing state control and financial autonomy to promote widespread adoption and trust.



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

Effective global digital currency adoption requires international collaboration focused on:

(1) Ensuring robust security against quantum threats and cyber risks.

(2) Prioritizing privacy and consumer protection alongside compliance.

(3) Promoting financial inclusivity, particularly among underserved populations.

(4) Developing comprehensive global governance frameworks.

China's DCEP experience provides crucial insights, shaping future CBDC developments worldwide. Through informed cross-sector collaboration, digital finance can advance securely, inclusively, and beneficially for global communities.

## Recommendation

Based on the findings of this study, several recommendations are proposed to enhance the adoption and effectiveness of digital currency in China, particularly the DCEP system. These recommendations emphasize policy and regulatory enhancements, economic incentives, technological improvements, and socio-cultural adaptation strategies. Addressing these dimensions comprehensively will promote balanced adoption while mitigating concerns related to financial security, privacy, scalability, and inclusivity.

Policy and Regulatory Enhancements

(1) Balancing Financial Security and User Privacy: The Chinese government should prioritize integrating privacy-enhancing technologies (PETs), such as zero-knowledge proofs, which allow verification of transactions without revealing sensitive data, and decentralized identity verification systems that manage identities securely without centralized databases. Regulatory guidelines must explicitly address how PETs can coexist with AML compliance, balancing robust security measures with user confidentiality.

(2) Detailed Public-Private Partnerships: Regulatory bodies should specifically encourage fintech partnerships involving private banks, tech firms, and blockchain enterprises to innovate around complementary DCEP services, including decentralized lending platforms, smart contracts for supply chain finance, and digital asset management tools. Clear guidelines for regulatory oversight in these partnerships will ensure transparency and compliance.

(3) Alignment with International Standards: China should actively engage in dialogue with global financial institutions like the International Monetary Fund (IMF) and Financial Stability Board (FSB) to address regulatory discrepancies that impede cross-border integration. Learning from successful international collaborations, such as the European Central Bank's fintech engagements for the digital euro, can inform bilateral agreements with significant trade partners, facilitating smoother global interoperability of DCEP.

(4) Regulatory Sandboxes for Innovation: Implementing regulatory sandboxes that allow financial institutions and technology providers to test innovative digital finance solutions under supervised environments can encourage experimentation while minimizing systemic risks.

Economic and Financial Recommendations



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Interdisciplinary Academic and Research Journal, 5 (6), November-December 2025
Old ISSN 2774-0374: New ISSN 2985-2749
Website: https://so03.tci-thaijo.org/index.php/IARJ/index

(1) Enhanced Mobile Banking Infrastructure: Investment in rural banking infrastructure should be coupled with additional strategies to overcome connectivity limitations. Policymakers should support the development of offline-capable digital payment solutions, such as near-field communication (NFC), enabling transactions without continuous internet connectivity.

(2) Targeted Financial Incentives: Financial incentives for small businesses should explicitly detail tax breaks, subsidized transaction fees, and accessible government-backed loans. Clearly defined incentives will improve adoption rates sustainably.

(3) Hybrid Financial Products for Banks: Banks should proactively develop hybrid financial offerings, such as digital currency-linked savings accounts and digital asset-backed loan services, to mitigate potential disruptions in profitability and liquidity. This balanced approach ensures stability and gradual user adaptation.

(4) Structured Phased Transition Strategy: A clearly articulated phased transition strategy for integrating DCEP into traditional banking infrastructures should specify sequential steps, risk management practices, and periodic evaluations to maintain financial stability during the incremental adoption process.

Technological Advancements

(1) Blockchain Scalability and Energy Efficiency: The adoption of energy-efficient blockchain protocols, such as proof-of-stake (PoS), should be evaluated against China's current regulatory positions, ensuring alignment and practical applicability within existing legal frameworks.

(2) Quantum-Resistant Cryptography: Detailed research into post-quantum cryptographic standards is essential to proactively address emerging quantum computing threats. Financial institutions should be guided toward early integration strategies and ongoing preparedness planning.

(3) Enhanced AI-Based Fraud Detection: Clearly outline how artificial intelligence can enhance financial institutions' capabilities in transaction monitoring, anomaly detection, and cybersecurity. AI-driven solutions should include real-time predictive analytics and adaptive risk management frameworks.

(4) User Experience Optimization: Continuous improvements in DCEP's user interface and digital platform functionalities should prioritize ease of use and inclusivity, especially catering to non-technical demographics to foster widespread and sustainable adoption.

Socio-Cultural Adaptation Strategies

(1) Tailored National Financial Education Programs: Implement targeted financial literacy initiatives tailored to different demographics, including interactive mobile applications for urban users and community-based educational workshops for rural communities, ensuring broad and equitable knowledge dissemination.

(2) Transparent Public Engagement Initiatives: Clear communication of data governance policies should be paired with robust public engagement mechanisms, including digital finance



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

advisory panels, stakeholder consultations, and accessible feedback channels, fostering trust and transparency.

(3) Initial Incentives for Early Adoption: Structured short-term incentives such as cashback rewards, limited-time tax benefits, and interest-bearing digital wallets should be carefully managed to stimulate initial adoption without creating prolonged dependency on financial incentives.

(4) Sustainable User Retention Strategies: Shift progressively from initial incentive-driven adoption to sustainable retention methods by integrating DCEP seamlessly into daily transactions, enhancing transaction speed, reliability, and user convenience, thereby promoting consistent long-term usage.

## References

Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., & Williams, M. D. (2018). Consumer adoption of mobile banking in Jordan: Examining the role of usefulness, ease of use, perceived risk, and self-efficacy. *Journal of Enterprise Information Management, 31*(1), 118–139.

Arakcheeva, M. (2019). General characteristics of the financial markets in the People's Republic of China. *Review of Business and Economics Studies, 7*(1), 44–56. https://doi.org/10.26794/2308-944X-2019-7-1-44-56

Arner, D. W., Zetzsche, D. A., Buckley, R. P., & Didenko, A. N. (2020). *After Libra, digital yuan and COVID-19: Central bank digital currencies and the new world of money and payment systems.* SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3622311

Auer, R., & Böhme, R. (2021). Central bank digital currencies: The quest for minimally invasive technology. *Journal of Economic Perspectives, 35*(3), 193–210.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Chen, Y., & Qian, X. (2021). A comparative analysis of the legal regulation of digital currencies in China and abroad. *Law and Finance Journal, 11*, 45–58.

Chen, Y., Chen, Z., & Hu, D. (2021, April). The reconstruction of the accounting information disclosure system based on blockchain technology. *Journal of Physics: Conference Series, 1883*(1), 012085. https://doi.org/10.1088/1742-6596/1883/1/012085

Coase, R. H. (1937). The nature of the firm. *Economica, 4*(16), 386–405.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research (3rd ed.).* SAGE Publications.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340.

Didenko, A. N., Zetzsche, D. A., Arner, D. W., & Buckley, R. P. (2020). *After Libra, digital yuan and COVID-19: Central bank digital currencies and the new world of money and payment systems.* SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3622311



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Echarte Fernández, M. Á., Náñez Alonso, S. L., Jorge-Vázquez, J., & Reier Forradellas, R. F. (2021). Central banks' monetary policy in the face of the COVID-19 economic crisis: Monetary stimulus and the emergence of CBDCs. *Sustainability, 13*(8), 4242. https://doi.org/10.3390/su13084242

Goodell, G., & Al-Nakib, H. D. (2021). *The development of central bank digital currency in China: An analysis (KDI School of Public Policy & Management Research Paper Series).* KDI School of Public Policy and Management. https://doi.org/10.2139/ssrn.3906204

Huang, Y., & Wong, J. (2020). Exploring digital literacy and its impact on rural communities in China. *Journal of Rural Studies, 79*, 110–119.

Ji, Z., Abuselidze, G., & Lymar, V. (2021). Currency internationalization and reforms in the architecture of the monetary system: The case of digital yuan. *Studies of Applied Economics, 40*(1).

Jung, H., & Jeong, D. (2021). Blockchain implementation method for interoperability between CBDCs. *Future Internet, 13*(5), 133. https://doi.org/10.3390/fi13050133

Ključnikov, A., Mura, L., & Sklenár, D. (2020). Information security management in SMEs: Factors of adoption. *Entrepreneurship and Sustainability Issues, 7*(3), 1780–1795.

Kutia, S., Chauhdary, S. H., Iwendi, C., Liu, L., Yong, W., & Bashir, A. K. (2019). *Socio-technological factors affecting users' adoption of eHealth functionalities: A case study of China and Ukraine eHealth systems.* IEEE Access, 7, 90777–90788. https://doi.org/10.1109/ACCESS.2019.2924584

Li, J., & Wang, M. (2022). The impact of digital currency on financial inclusion: Evidence from China's DCEP pilot. *Journal of Digital Economy, 3*(2), 34–46.

Louie, B. L., & Wang, M. (2021). China's forthcoming digital currency: Implications for foreign companies and financial institutions in China. *Journal of Investment Compliance, 22*(2), 195–200. https://doi.org/10.1108/JOIC-04-2021-0017

Luo, Y., Zhang, L., & Ma, X. (2021). Digital literacy and digital currency adoption: A survey in Chinese rural regions. *Journal of Financial Innovation, 9*(3), 58–72.

Müller, J., & Kerényi, Á. (2022). The rise of central bank digital currencies. *Financial and Economic Review, 21*(3), 122–148. https://doi.org/10.33893/FER.21.3.122

Nakamoto, S. (2008). *Bitcoin: A peer-to-peer electronic cash system.* https://bitcoin.org/bitcoin.pdf

Rogers, E. M. (2003). *Diffusion of innovations (5th ed.).* Free Press.

Swan, M. (2015). *Blockchain: Blueprint for a new economy.* O'Reilly Media.

Twarowska, K. (2019). Reforms of China's exchange rate regime and the renminbi internationalization. Ekonomia i Prawo. *Economics and Law, 18*(4), 531–556. https://www.ceeol.com/search/article-detail?id=877494

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science, 46*(2), 186–204.



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: https://doi.org/10.60027/iarj.2025.286767

Wang, H., & Gao, S. (2024). The future of the international financial system: The emerging CBDC network and its impact on regulation. *Regulation & Governance, 18*(1), 288–306.

Wei, Y., Abdul Jamal, A. A., & Mohidin, R. A. (2023). Understanding users' behavioral intention to use the digital currency electronic payment in China. *International Journal of Academic Research in Business and Social Sciences, 13*(10), 123–139. http://dx.doi.org/10.6007/IJARBSS/v13-i10/18851

Williamson, O. E. (1981). The economics of organization: The transaction cost approach. *American Journal of Sociology, 87*(3), 548–577.

Xu, J., & Prud'homme, D. (2020). *China's digital currency revolution and implications for international business strategy.* London School of Economics Business Review. http://dx.doi.org/10.13140/RG.2.2.18819.94240

Yang, L. (2023). Research on legal issues of digital currency. *Academic Journal of Humanities & Social Sciences, 6*(16), 161–169. https://doi.org/10.25236/AJHSS.2023.061625

Zhang, T. (2021). *Impacts of digital currency electronic payment (DCEP) on China's banking system.* In Proceedings of the 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021). https://doi.org/10.2991/assehr.k.211209.529

Zhang, Y., & Qin, J. (2021). *Research on the characteristics and international influence of digital RMB (DCEP).* 2021 16th International Conference on Computer Science & Education (ICCSE), 1091–1096. https://doi.org/10.1109/ICCSE51940.2021.9569382

Zhao, Y., Deebhijarn, S., Taghipour, A., Ahadi, N., & Norkaew, O. (2019). A comparative study of the national strategic plan between Thailand and China of the Ministry of Industry. *International Journal of Scientific Research and Engineering Development, 2*(5), 557–567.

Zou, L. (2021). Digital currencies and relevant policy analysis. *Research in Economics and Management, 6*(2), 88–96.



Citation: Luo, C., Nunthasen, K., Nunthasen, W., & Sinnarong, N. (2025). Dynamics of Digital Currency Adoption in China: Exploring Technological, Policy, Economic, and Socio-Cultural Dimensions. Interdisciplinary Academic and Research Journal, 5(6), 709-732; DOI: **https://doi.org/10.60027/iarj.2025.286767**