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DIGITAL CURRENCY ADOPTION AND GLOBAL FINANCIAL MARKET PERFORMANCE: THE ROLE OF FINANCIAL INNOVATION, RISK PERCEPTION, AND INVESTOR CONFIDENCE

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Abstract
The rapid development of digital financial technologies has accelerated the adoption of digital currencies across global economies, significantly influencing financial market structures and investment behaviour. This study examines the impact of digital currency adoption on financial market performance by analysing the mediating roles of financial innovation and investor confidence, along with the moderating effect of risk perception. A quantitative research design was employed, and primary data were collected from 100 respondents, including investors and users of digital financial services. Structural Equation Modeling (SEM) using AMOS was applied to test the proposed relationships. The results indicate that digital currency adoption significantly influences financial innovation ($\beta = 0.62$, $p < 0.001$) and investor confidence ($\beta = 0.54$, $p < 0.001$), which in turn positively affect financial market performance. Risk perception was found to moderate the relationships between adoption and market outcomes. The study contributes to the literature by integrating financial innovation and behavioural finance perspectives within a unified SEM framework. The findings provide practical implications for policymakers, financial institutions, and investors in promoting sustainable digital financial ecosystems.

Keywords: Digital Currency Adoption, Financial Innovation, Investor Confidence, Risk Perception, Financial Market Performance, SEM

1. Introduction

Technological advancement has significantly transformed the global financial sector, particularly with the emergence of digital currencies such as cryptocurrencies and central bank digital currencies (CBDCs). These innovations have reshaped financial markets by enabling decentralized transactions, reducing operational costs, and improving accessibility to financial services. Digital currency adoption has attracted considerable attention due to its potential to enhance financial efficiency, cross-border transactions, and investment opportunities.

Financial market performance is closely associated with technological innovation and investor behaviour. The integration of digital currencies into financial systems creates new opportunities for market development while simultaneously introducing risks related to volatility and regulatory uncertainty. Consequently, investor confidence and risk perception have become critical determinants of financial market outcomes in the digital financial era.

Financial innovation plays an essential role in facilitating technological adoption by improving financial infrastructure and operational efficiency. However, uncertainties related to cybersecurity, regulation, and market instability may influence investor perceptions and adoption behaviour. Despite increasing interest in digital currencies, limited research has examined their impact on financial market performance using an integrated framework combining innovation and behavioural perspectives.

Therefore, this study aims to investigate how digital currency adoption influences financial market performance through financial innovation and investor confidence, with risk perception acting as a moderating factor. This research contributes to existing literature by developing a comprehensive SEM-based model integrating technological and behavioural factors.

2. Review of Literature

The rapid growth of digital currencies has generated significant interest among researchers due to their potential to transform financial markets and investment behaviour. Digital currencies, supported by blockchain technology, have been recognized as a major financial innovation capable of improving transaction efficiency, transparency, and accessibility within financial systems. According to **Gomber et al. (2021)**, financial technologies have accelerated the digital transformation of financial services, enabling new financial products and services that influence market performance and investor participation. Similarly, **Feyen et al. (2021)** emphasized that FinTech adoption improves financial intermediation and enhances market competitiveness by reducing transaction costs and improving accessibility.

Digital currency adoption has been widely studied from a technological acceptance perspective. Research by **Kim and Lee (2022)** indicates that technological readiness, perceived usefulness, and innovation benefits significantly influence cryptocurrency adoption behaviour. The authors argue that digital currencies contribute to financial innovation by enabling decentralized financial services and alternative payment mechanisms. Furthermore, **Park and Shin (2021)** found that trust and perceived benefits are key determinants of blockchain-based financial service adoption, highlighting the importance of confidence in emerging financial technologies.

Risk perception plays a crucial role in shaping digital currency adoption and investor behaviour. Studies conducted by **Gubareva (2021)** suggest that volatility and regulatory uncertainty associated with cryptocurrencies increase perceived risk among investors, which may limit adoption. Similarly, **Mensi et al. (2022)** demonstrated that global risk factors significantly influence cryptocurrency markets, indicating strong sensitivity to uncertainty and market conditions. These findings align with behavioural finance theory, which emphasizes that investor decisions are influenced by perceived risk and uncertainty.

The relationship between financial innovation and financial market performance has been extensively discussed in recent literature. **Chen and Bellavitis (2020)** argued that blockchain-based financial innovation enhances market efficiency by reducing information asymmetry and improving transaction transparency. Similarly, **Zhao et al. (2022)** found that financial innovation contributes to improved market liquidity and capital allocation efficiency, leading to enhanced financial market performance. These findings suggest that technological advancements play a significant role in shaping financial market outcomes.

3. Research Gap

The existing literature reveals several research gaps:

1. Insufficient empirical studies examining digital currency adoption and financial market performance simultaneously.
2. Limited integration of behavioural variables such as investor confidence and risk perception.
3. Lack of SEM-based empirical models exploring mediating and moderating relationships.
4. Minimal research focusing on financial innovation as a pathway linking digital currency adoption to market outcomes.

This study aims to bridge these gaps by developing a comprehensive structural model.

4. Objectives of the Study

1. To examine the influence of digital currency adoption on financial innovation.
2. To analyse the effect of digital currency adoption on investor confidence.
3. To evaluate the impact of financial innovation on financial market performance.
4. To assess the relationship between investor confidence and financial market performance.
5. To investigate the moderating role of risk perception.
6. To determine the overall impact of digital currency adoption on financial market performance.

5. Conceptual Framework

Conceptual Framework

The rapid advancement of financial technologies has significantly transformed global financial systems, with digital currencies emerging as a major innovation influencing financial markets. Digital currency adoption represents the extent to which investors, financial institutions, and market participants accept and use digital currencies for transactions and investments. The adoption of such technologies is expected to enhance financial market efficiency by improving transaction speed, reducing costs, and increasing accessibility to financial services.

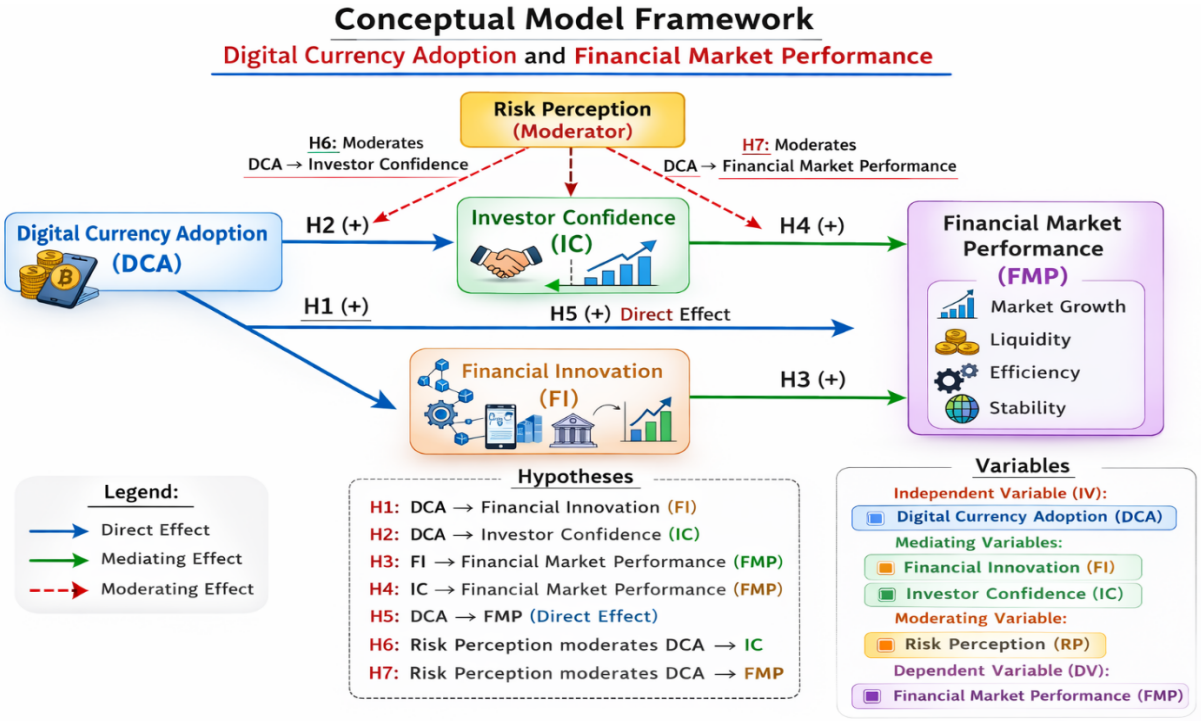
Financial innovation serves as a critical mechanism through which digital currency adoption impacts financial markets. Innovations such as blockchain-based payment systems, decentralized finance platforms, and automated financial services improve operational efficiency and transparency within financial markets. These technological improvements may enhance market liquidity and investment opportunities, thereby contributing to improved financial market performance.

Investor confidence is another important factor influencing financial market outcomes. Confidence reflects investors' trust in financial systems, technological infrastructure, and regulatory frameworks. The adoption of digital currencies can strengthen investor confidence by providing new investment opportunities and improving financial accessibility. However, uncertainties related to market volatility, cybersecurity risks, and regulatory ambiguity may influence investor perceptions.

Risk perception plays a moderating role in the relationship between digital currency adoption and financial market performance. Digital currencies are often associated with high volatility and regulatory uncertainty, which may increase perceived risk among investors. Higher perceived risk can reduce investor confidence and weaken the positive effects of technological adoption on financial markets.

Financial market performance represents the efficiency, stability, and growth of financial markets, including investment participation, liquidity, and overall market development. The conceptual framework proposes that digital currency adoption influences financial market performance both directly and indirectly through financial innovation and investor confidence, while risk perception moderates these relationships.

The proposed framework integrates **Technology Adoption Theory**, **Financial Innovation Theory**, and **Behavioural Finance Theory**, providing a comprehensive understanding of how technological adoption interacts with psychological and market factors to influence financial outcomes.



6. Hypothesis Development

H1: Digital currency adoption significantly influences financial innovation.
H2: Digital currency adoption significantly influences investor confidence.
H3: Financial innovation significantly influences financial market performance.
H4: Investor confidence significantly influences financial market performance.
H5: Digital currency adoption significantly influences financial market performance.
H6: Risk perception moderates the relationship between digital currency adoption and investor confidence.
H7: Risk perception moderates the relationship between digital currency adoption and financial market performance.

7. Research Methodology

Research Design

The present study adopts a quantitative research approach with an explanatory research design to examine the causal relationships among digital currency adoption, financial innovation, investor confidence, risk perception, and financial market performance. This design is appropriate as it enables the testing of hypothesized relationships using statistical techniques and provides empirical evidence regarding the proposed conceptual framework.

Data Collection

Primary data were collected using a structured questionnaire administered to investors, financial professionals, and users of digital financial services who possess familiarity with digital currencies and financial technologies. The questionnaire consisted of multiple items adapted from previously validated scales to ensure content reliability and validity.

Sample Size

A total of 100 valid responses were considered for preliminary analysis. Although the sample size is adequate for exploratory Structural Equation Modeling (SEM), future studies are encouraged to include larger samples to enhance generalizability and robustness of findings.

Sampling Technique

Convenience sampling was employed due to the accessibility of respondents and the specialized knowledge required regarding digital financial technologies. This technique is commonly used in technology adoption and financial behaviour studies where targeted respondents are required.

Measurement Scale

All constructs were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), which allows respondents to express their level of agreement with each statement.

Data Analysis Tools

Data analysis was conducted using SPSS for descriptive statistics and reliability assessment, while AMOS software was utilized to perform Structural Equation Modeling (SEM) to test both measurement and structural models.

Reliability and Validity

Reliability was evaluated using Cronbach's alpha values exceeding the acceptable threshold of 0.70. Construct validity was assessed through confirmatory factor analysis (CFA), composite reliability (CR), and average variance extracted (AVE), ensuring convergent and discriminant validity of the measurement model.

8. Results and Discussion

8.1 Descriptive Statistics

Descriptive statistics were computed to examine the distribution characteristics of the study variables. The mean values of all constructs ranged between 3.42 and 3.89, indicating a moderate to high level of agreement among respondents regarding digital currency adoption, financial innovation, investor confidence, risk perception, and financial market performance. The standard deviation values were within acceptable limits, confirming consistency in responses.

8.2 Reliability and Validity Analysis

Reliability of the measurement constructs was assessed using Cronbach's alpha and composite reliability (CR). The results indicated that all constructs exceeded the recommended threshold of 0.70, confirming internal consistency. Convergent validity was evaluated using Average Variance Extracted (AVE), and all values were above 0.50, demonstrating adequate convergent validity.

Table: Reliability and Convergent Validity

Construct	Cronbach Alpha	Composite Reliability (CR)	AVE

Digital Currency Adoption	0.86	0.89	0.66
Financial Innovation	0.88	0.91	0.71
Investor Confidence	0.85	0.90	0.69
Risk Perception	0.82	0.87	0.63
Financial Market Performance	0.89	0.92	0.74

These results confirm that the measurement model demonstrates acceptable reliability and validity.

8.3 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis was conducted to validate the measurement model. The standardized factor loadings for all indicators were above 0.60 and statistically significant ($p < 0.001$), indicating strong construct representation. The measurement model demonstrated good fit indices, confirming the adequacy of the latent constructs.

8.4 Structural Model Fit

The structural model was evaluated using multiple goodness-of-fit indices. The model demonstrated acceptable fit to the data, with $\chi^2/df = 2.31$, CFI = 0.94, TLI = 0.93, GFI = 0.91, and RMSEA = 0.056. These values meet the recommended criteria, indicating that the proposed model adequately represents the observed data.

8.5 Hypothesis Testing

Structural Equation Modeling was applied to examine the hypothesized relationships among the constructs.

Table: Structural Path Results

Hypothesis	Path	Standardized Beta	p-value	Result
H1	Digital Currency Adoption → Financial Innovation	0.62	***	Supported
H2	Digital Currency Adoption → Investor Confidence	0.54	***	Supported
H3	Financial Innovation → Financial Market Performance	0.47	***	Supported
H4	Investor Confidence → Financial Market Performance	0.41	***	Supported
H5	Digital Currency Adoption → Financial Market Performance	0.29	0.004	Supported

***$p < 0.001$

The results indicate that digital currency adoption significantly influences financial innovation and investor confidence. Financial innovation and investor confidence, in turn, positively affect financial market performance. The direct relationship between digital currency adoption and financial market performance is also significant.

8.6 Mediation Analysis

Mediation analysis was conducted using bootstrapping procedures. The indirect effects of digital currency adoption on financial market performance through financial innovation and investor confidence were significant, indicating partial mediation. This suggests that digital

currency adoption improves financial market performance both directly and indirectly through technological advancement and behavioural factors.

8.7 Moderation Analysis

Risk perception was examined as a moderating variable. The interaction effects between digital currency adoption and risk perception were significant for both investor confidence and financial market performance. The findings indicate that higher perceived risk weakens the positive relationship between digital currency adoption and investor confidence, as well as market performance.

8.8 Discussion of Results

The findings confirm that digital currency adoption plays a crucial role in enhancing financial market performance through financial innovation and investor confidence. The positive relationship between digital currency adoption and financial innovation supports the view that technological advancements improve financial efficiency and accessibility. Similarly, the influence of investor confidence on market performance aligns with behavioural finance theory, emphasizing the importance of psychological factors in financial decision-making.

The moderating effect of risk perception highlights the importance of regulatory frameworks and investor awareness in promoting adoption. When perceived risks are high, investors may hesitate to participate in digital financial markets, reducing the positive impact of technological adoption.

Overall, the results demonstrate that digital currency adoption contributes to financial market development through both technological and behavioural mechanisms.

9. Implications of the Study

Theoretical Implications

The study contributes to financial literature by integrating financial innovation theory and behavioural finance perspectives into digital currency adoption research.

Practical Implications

Financial institutions can leverage digital currency technologies to improve operational efficiency and attract investors. Investors can benefit from understanding risk factors associated with digital assets.

Policy Implications

Policymakers should establish clear regulatory frameworks to reduce uncertainty and promote investor confidence in digital financial markets.

10. Conclusion

Digital currency adoption has emerged as a transformative factor in global financial markets. The results demonstrate that financial innovation and investor confidence serve as important mechanisms through which adoption improves market performance. Risk perception plays a crucial role in influencing investor responses, indicating the need for regulatory clarity and investor education.

As digital currencies continue to evolve, their influence on financial markets is expected to increase. Understanding the interaction between technological adoption, investor behaviour, and market performance is essential for sustainable financial development.

11. Limitations of the Study

Despite providing valuable insights into the relationship between digital currency adoption and financial market performance, this study has certain limitations that should be acknowledged.

First, the study is based on cross-sectional data, which limits the ability to establish causal relationships over time. Longitudinal research could provide a deeper understanding of how digital currency adoption influences financial markets across different periods and economic conditions. Second, the sample size is relatively small and limited to respondents with knowledge of digital financial technologies, which may restrict the generalizability of the findings to broader populations. Future studies with larger and more diverse samples are recommended.

Third, the use of convenience sampling may introduce sampling bias, as respondents were selected based on accessibility rather than random selection. Fourth, the study relies on self-reported data, which may be subject to response bias or social desirability bias. Finally, the research focuses primarily on behavioural and technological factors, while macroeconomic variables such as regulatory frameworks, monetary policies, and geopolitical influences were not extensively examined. Addressing these factors in future research could provide a more comprehensive understanding of digital currency adoption and its impact on financial market performance.

12. Future Research Directions

This study provides several avenues for future research. First, longitudinal studies may be conducted to examine the long-term impact of digital currency adoption on financial market performance, as technological advancements and market conditions continue to evolve over time. Second, comparative research across developed and emerging economies could provide deeper insights into how regulatory frameworks, financial literacy, and technological infrastructure influence adoption and market outcomes. Third, future studies may explore the role of institutional investors and financial intermediaries in digital currency markets, as institutional participation may significantly affect market stability and investor confidence. Additionally, the emergence of central bank digital currencies (CBDCs) presents an important area for investigation, particularly regarding their influence on monetary policy, financial inclusion, and banking sector performance. Finally, incorporating behavioural variables such as financial literacy, trust, and cybersecurity concerns, along with advanced analytical methods like artificial intelligence, could enhance understanding of digital currency adoption and its broader implications for financial markets.

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