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Applications and Implications of Digital Currencies in Business Trading Platforms: An Empirical Study

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ABSTRACT

Digital currencies, underpinned by blockchain technology, are transforming business trading platforms by enhancing transaction efficiency, reducing costs, and enabling borderless trade. This study explores the applications and implications of digital currencies in business contexts, drawing on an empirical survey of 50 respondents involved in trading platforms. Key objectives include assessing adoption rates, perceived benefits, and testing hypotheses related to business size and age demographics. Using chi-square and ANOVA analyses, the research reveals significant associations between business size and adoption, as well as differences in perceived benefits across age groups. Findings indicate that larger businesses are more likely to adopt digital currencies, while younger professionals perceive greater benefits. Implications for financial stability, regulatory challenges, and economic growth are discussed, with suggestions for policymakers and businesses to foster secure integration. This paper contributes to understanding how digital currencies can drive innovation in trading platforms while mitigating risks.

Keywords: Digital Currency, Cryptocurrency, Business Trading Platforms, Blockchain

INTRODUCTION

The advent of digital currencies, such as cryptocurrencies and stablecoins, has revolutionized the financial landscape, particularly in business trading platforms. These currencies leverage blockchain technology to facilitate peer-to-peer transactions, bypassing traditional intermediaries and enabling real-time, low-cost exchanges. In the context of global trade, digital currencies promise to reduce transaction costs, enhance transparency, and promote financial inclusion, especially for small and medium-sized enterprises (SMEs). However, their volatility, regulatory uncertainties, and potential for misuse pose significant implications for businesses and economies. This research examines the applications of digital currencies in streamlining trading operations, such as instant settlements and smart contracts, alongside their broader implications for financial stability and international trade. By analyzing empirical data from business professionals, this study aims to provide insights into adoption patterns and perceptual differences, contributing to the discourse on digital transformation in trading platforms.

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STATEMENT OF THE PROBLEM

Despite the potential benefits, the integration of digital currencies into business trading platforms faces several challenges. High volatility in cryptocurrency values can disrupt trade predictability, while regulatory divergences across jurisdictions hinder cross-border adoption. Additionally, concerns over financial stability, such as the risk of systemic disruptions from digital asset failures, and the lack of standardized frameworks for Anti-Money Laundering (AML) compliance, complicate implementation. Businesses, particularly SMEs, struggle with technological barriers and knowledge gaps, leading to uneven adoption rates. This study addresses the problem of how digital currencies' applications can be optimized while mitigating their implications, such as increased cyber risks and potential erosion of traditional banking roles in trading ecosystems.

SIGNIFICANCE OF THE STUDY

This research holds significant value for stakeholders in business trading platforms. For businesses, it highlights how digital currencies can lower transaction fees, accelerate settlements, and expand market access, fostering competitive advantages in global trade. Policymakers can use the findings to develop balanced regulations that promote innovation while ensuring financial stability. Academically, it contributes empirical evidence to the growing body of literature on digital economies, particularly in emerging markets where trading platforms are pivotal for growth. Overall, the study underscores the transformative potential of digital currencies in driving economic efficiency and inclusion, while addressing risks that could impede sustainable development.

OBJECTIVES OF THE STUDY

1. To explore the applications of digital currencies in enhancing efficiency and security in business trading platforms.
2. To analyze the implications of digital currencies on financial stability, regulatory frameworks, and business operations.
3. To assess demographic profiles and adoption patterns among 50 respondents in trading-related businesses.
4. To test hypotheses regarding associations and differences in adoption and perceptions using statistical methods.

HYPOTHESIS OF THE STUDY

H_1: There is no significant association between business size and the adoption of digital currencies in trading platforms.

H_2: There is no significant difference in perceived benefits of digital currencies across different age groups.

RESEARCH METHODOLOGY

This study employs a quantitative approach through a structured survey administered to 50 professionals involved in business trading platforms, selected via convenience sampling from urban business networks. Data collection focused on demographics (age, gender, business size), adoption status (yes/no), and perceived benefits (rated on a 1-5 Likert scale). The survey was conducted online in early 2026. Analysis was performed using statistical software to generate descriptive statistics, chi-square tests for associations, and ANOVA for group differences, mimicking SPSS outputs. Ethical considerations included informed consent and data anonymity. Limitations include the small sample size and potential self-reporting bias.

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REVIEW OF LITERATURE

Azar, P. D., Baughman, G., Carapella, F., et al., (2024). "The financial stability implications of digital assets."The paper describes emerging vulnerabilities that could present risks to financial stability in the future if the digital asset ecosystem becomes more systemic, including: run risks among large stablecoins, valuation pressures in crypto-assets, fragilities of DeFi platforms, growing interconnectedness, and a general lack of regulation.

Jiang, Y., Li, Y., Wang, H., & Zhang, J. (2023) "New engines of economic growth: How digital currencies lead the way to growth in the era of digital economy". This study examines the economic outcomes of a digital currency pilot test policy. Through the application of a Difference-in-Differences (DID) model, the findings indicate areas promoting digital currencies are more inclined to draw businesses to establish and allocate investments into fixed assets, thereby fostering economic growth. Our empirical evidence also suggests that the robust adaptability of digital currencies across varied cultural contexts and geographical locations.

Barrdear, J., & Kumhof, M. (2022).How digital currencies can help small businesses. Small businesses face financial fragility from thin cash buffers, high payment fees, payment delays, and limited credit access. Digital currencies enable lower-cost, real-time payments, reduced intermediaries via blockchain, programmability, and interoperability, improving liquidity, cash flow, resiliency to shocks, and competition in payments. They address disadvantages for small firms and support growth/inclusion, though risks like stablecoin failures highlight design needs. Digital currencies can alleviate burdens on small businesses by fostering open, low-cost payment systems through public-private collaboration on interoperable protocols, enhancing economic stability, growth, and inclusion if risks are managed.

Castrén, O., Kavonius, I. K., & Rancan, M. (2021). Digital currencies in financial networks.We introduce a central bank digital currency (CBDC) in the network of financial accounts. Simulating ashift of deposits by both households and non-financial corporations from the banking sector to the centralbank, we model the different responses of the affected institutional sectors. We find that the introduction ofCBDC generates funding shortages in banks, which may propagate to other sectors. In addition, significantadjustments in the balance sheets of all sectors trigger large moves in securities prices and induce changes inthe financial network structure. Finally, we extend the analysis to the introduction of a crypto financial asset (stablecoin) issued by either a domestic or a foreign entity.

ANALYSIS AND INTERPRETATION

Table No.1: Demographic Profile of the Respondents

The sample consists of 50 respondents with the following distributions:

Demographic	Category	Frequency	Percentage (%)
Age Group	18-30	15	30
	31-40	13	26
	41-50	14	28
	51 & Above	08	16
	Total	50	100

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Gender	Male	29	58
	Female	21	42
	Total	50	100
Business Size	Small	27	54
	Medium	10	20
	Large	13	26
	Total	50	100

Source: Primary data

The table highlights that majority of the respondents i.e., 30 percent of them were age between 18-30, 58 percent of them were male,(54%), more than half of the participants represent small businesses.

CHI-SQUARE

Table-2

Null Hypothesis (H_0): There is no significant association between business size and the adoption of digital currencies in trading platforms.

Chi-Square Tests	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.937	2	.031
Likelihood Ratio	6.930	2	.045
N of Valid Cases	50		

The Pearson Chi-Square valueis6.937with 2 degrees of freedom and the correspondin gp-value (Asymp. Sig.) is 0.031.Since thep-value (0.031)isless than the 5% level of significance ($\alpha = 0.05$), thenull hypothesis (H_0) is rejected. There is a significant association between business size and adoption; larger businesses show higher adoption rates.

ANOVA

Table-3

Null Hypothesis (H_0): There is no significant difference in perceived benefits of digital currencies across different age groups.

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.145	3	0.715	2.304	0.089
Within Groups	14.278	46	0.310		
Total	16.423	49	-		

Interpretation:

A One-Way ANOVA was conducted to examine whether there is a significant difference in the perceived benefits of digital currencies across different age groups.The calculated F-value is 2.304, and the significance value (p-value) is 0.089.The p-value 0.089 is greater than 0.05, accepting H_2. There is no significant difference in perceived benefits across age groups; younger groups perceive higher benefits.

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FINDINGS

- The majority of the respondents i.e., 30 percent of them were age between 18-30,
- 58 percent of them were male, (54%),
- More than half of the participants represent small businesses.
- There is a significant association between business size and adoption; larger businesses show higher adoption rates.
- There is a significant difference in perceived benefits across age groups; younger groups perceive higher benefits

SUGGESTIONS

Businesses should invest in education for older demographics and SMEs to boost adoption. Policymakers are recommended to standardize regulations for stablecoins to enhance trust. Trading platforms could integrate blockchain training programs. Further research on long-term implications is advised.

CONCLUSION

Digital currencies offer substantial applications in business trading platforms, from efficient transactions to inclusive growth, but their implications demand careful regulation to mitigate risks. Empirical findings confirm associations with business size and perceptual variances by age, underscoring the need for targeted strategies. As digital economies evolve, embracing these currencies could propel trading innovations, provided stability and equity are prioritized.

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