INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES

Vol 16, Issue 4, (2026) E-ISSN: 2222-6990

Chinese Consumers' Adoption of e-CNY

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DOI Link: http://dx.doi.org/10.6007/IJARBSS/v16-i4/28169

Published Date: 28 April 2026

Abstract

This study explains and predicts Chinese consumers' first-time intention to use e-CNY among non-users of the digital currency. It integrates UTAUT2 with the Initial Trust Model to examine how performance expectancy, effort expectancy, social influence, facilitating conditions, price value, structural assurance and issuer reputation shape initial trust, attitude and intention to use e-CNY. A positivist, deductive and quantitative research design was adopted. A cross-sectional online survey was conducted with 450 adult residents in official e-CNY pilot regions who regularly use mobile payment applications but had never used e-CNY. The data were analysed using partial least squares structural equation modelling (PLS-SEM) after tests of reliability, convergent validity, discriminant validity and common method bias. The findings show that all five UTAUT2 constructs positively influence attitude toward using e-CNY, with performance expectancy and price value exerting the strongest effects. Structural assurance and issuer reputation significantly enhance initial trust, and initial trust positively influences attitude. Attitude is the direct and strongest predictor of intention to use e-CNY. Overall, the model explains substantial variance in initial trust, attitude and intention to use e-CNY among Chinese non-users. Most e-CNY adoption studies combine users and non-users or link technology acceptance factors directly to intention. This study contributes by focusing exclusively on non-users and by aligning UTAUT2 with the Initial Trust Model through attitude. It shows that first-time adoption of e-CNY depends on both functional/economic evaluations and institution-based trust in the issuing system.

Keywords e-CNY, Central Bank Digital Currency, Utaut2, Initial Trust Model, Attitude, Intention To Use, Chinese Consumers, PLS-SEM

Introduction

Rapid digitalisation of payments has led central banks to reconsider public money and explore central bank digital currencies (CBDCs). CBDCs are digital representations of fiat currency issued by a central bank and intended to function as legal tender alongside cash and bank deposits (Chen & Siklos, 2022). Their rise is closely linked to the spread of mobile payments and cryptocurrencies and to declining cash usage, which create pressure for new forms of sovereign digital money (Elsayed & Nasir, 2022). By mid-2024 more than 130 countries were exploring CBDCs, and China's e-CNY was widely viewed as one of the most

advanced large-economy pilots and a key reference for retail CBDC adoption (Navaretti & Tanda, 2024).

China's domestic payment environment is unusual because mobile payments became ubiquitous well before e-CNY, largely through Alipay and WeChat Pay, which embed QR-code payments in super-apps that combine social communication, online shopping and financial services (Xia et al., 2023). Mobile payment penetration exceeds ninety percent and each dominant platform reaches most residents (Navaretti & Tanda, 2024). In this setting, e-CNY is designed as a retail CBDC, a digital form of the renminbi issued by the People's Bank of China (PBOC) to operate as legal tender alongside cash and existing electronic instruments (Chen & Siklos, 2022). The PBOC has researched CBDCs since 2014 in order to improve retail payment efficiency, reduce reliance on cash and address systemic risks associated with large platforms and unregulated crypto-assets (Siu, 2023). Since 2019, e-CNY has been distributed through a two-tier system in which selected banks and payment institutions provide wallets and front-end services, while the central bank maintains the core ledger (Yang & Zhou, 2022).

From a technology management perspective, e-CNY has several features that differentiate it from Alipay and WeChat Pay. It is a direct liability of the central bank and thus represents risk-free public money, whereas balances on commercial platforms are claims on private financial institutions (Xu, 2022). It is designed to function as legal tender with offline payment capability and to operate under a 'managed anonymity' regime that offers greater privacy for small transactions while retaining traceability for large or suspicious transfers (Siu, 2023; Xin & Jiang, 2023). The PBOC also aims to reduce merchant fees and enhance interoperability across banks and platforms, potentially lowering transaction costs and limiting market power (Xu, 2022; Xia et al., 2023). These design choices suggest that e-CNY is intended to complement rather than displace existing private payment solutions, yet they do not automatically generate widespread adoption where private mobile tools are already deeply entrenched.

Empirical evidence highlights a persistent gap between these policy ambitions and willingness to use e-CNY. Official and academic sources estimated roughly 260 million e-CNY wallets by 2023, around eighteen percent of the population, even though transaction volumes in pilot regions had surpassed seven trillion yuan by June 2024 (Navaretti & Tanda, 2024; Xu, 2022). By contrast, dependence on Alipay and WeChat Pay is almost universal in urban and town settings. Despite extensive promotions, integration into transport and utility systems, and visible branding at point-of-sale terminals and in banking apps, the default choice for routine transactions remains private mobile payment tools. Many digitally experienced individuals have never used e-CNY at all, although they know that wallets are available; others used small promotional amounts once or a few times and then ignored e-CNY because they perceive no clear performance advantage, limited price value, insufficient facilitating conditions or insufficient initial trust to form a favourable attitude toward the service.

Recent research shows that CBDC and digital payment adoption is shaped by perceived usefulness and ease of use (Wu et al., 2022; Xia et al., 2023; Wu et al., 2024). For China, most empirical studies mix users and non-users or focus on specific pilot cities, leaving limited insight into digitally experienced consumers who rely on Alipay and WeChat Pay but have

never tried e-CNY. This situation challenges policy objectives such as reinforcing the role of sovereign money, improving payment resilience and offering a public alternative to private platforms. Against this background, the present study examines Chinese individuals' first-time intention to use e-CNY as a domestic retail payment instrument and treats attitude and initial trust as key mechanisms in this adoption process. The unit of analysis is the individual consumer, and the study focuses on adult residents of official e-CNY pilot regions who regularly use mobile payment applications but have never used e-CNY; predominantly rural residents are excluded because of limited smartphone penetration and acceptance infrastructure.

Literature Review and Hypothesis Development

Research Gaps

Central bank digital currencies (CBDCs) have attracted growing scholarly and policy attention as monetary authorities explore digital forms of sovereign money in response to rapid growth of mobile payments, private cryptocurrencies and declining cash usage (Prodan et al., 2024; Singh & Yadav, 2025). Reviews indicate that CBDCs are expected to enhance payment efficiency, strengthen monetary sovereignty, reduce transaction costs and support financial inclusion, yet their success ultimately depends on citizens' willingness to adopt them in everyday life (Gupta S. et al., 2023; Prodan et al., 2024).

China's e-CNY is the most advanced large-scale retail CBDC pilot, but empirical studies report that actual uptake remains modest relative to its mature digital payment market (Song & Wang, 2022; Xia et al., 2023; Liu X. et al., 2024). UTAUT-based work shows that performance expectancy, ease of use, social influence and government support increase intention to use e-CNY. More recent studies add factors such as financial literacy, perceived fairness, perceived value and trust in the central bank and commercial banks (Chen et al., 2025; Gupta M. et al., 2023; Yang & Zhou, 2025). However, many studies mix current users with non-users, which obscures the beliefs that shape first-time adoption among individuals who have not yet tried e-CNY (Xia et al., 2023; Liu X. et al., 2024). Empirical models often link UTAUT constructs directly to intention, with limited attention to attitude as an affective evaluation that may mediate these relationships (Gupta M. et al., 2023; Singh & Yadav, 2025). The integration of institutional trust constructs, such as structural assurance and issuer reputation, with UTAUT2 is also limited, although trust in issuing institutions is crucial for CBDC acceptance (Söilen & Benhayoun, 2022; Liu X. et al., 2025).

The present study addresses these gaps by focusing exclusively on Chinese individuals who have never used e-CNY and by integrating UTAUT2 with the Initial Trust Model (ITM). In the proposed model, performance expectancy, effort expectancy, social influence, facilitating conditions and price value shape attitude; structural assurance and issuer reputation form initial trust; initial trust influences attitude; and attitude predicts intention to use e-CNY.

Theoretical Framework

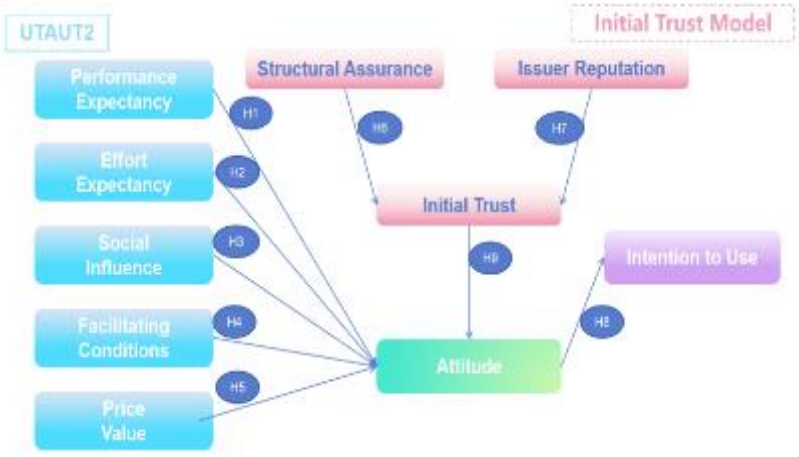
UTAUT2 provides a comprehensive framework for explaining consumer adoption of digital financial services. It has been widely applied to mobile banking, mobile payments and electronic wallets (Esawe et al., 2022; Senali et al., 2023; Hakim et al., 2023). Across these contexts, performance expectancy, effort expectancy, social influence, facilitating conditions and price value consistently emerge as significant predictors of favourable evaluations and

adoption intention through beliefs regarding convenience, ease of learning, social pressure and perceived economic benefits (Esawe et al., 2022; Kumar et al., 2023; Ali et al., 2024). CBDC studies show similar patterns: performance expectancy, effort expectancy and social influence increase willingness to use, while facilitating conditions and price value capture the role of infrastructure, interoperability, incentives and perceived cost savings (Xia et al., 2023; Chen et al., 2025; Liu X. et al., 2025). In this study, these five UTAUT2 beliefs are specified as antecedents of attitude toward using e-CNY.

The model adopts UTAUT2 but intentionally omits habit and hedonic motivation. Habit reflects automaticity formed through repeated use, while hedonic motivation denotes enjoyment derived from use (Senali et al., 2023; Hakim et al., 2023; Ali et al., 2024). Both require prior experience with the focal technology and are more salient in entertainment-oriented services. In this study, all respondents are individuals who have never used e-CNY, and e-CNY is conceptualised as a utilitarian payment instrument designed for safety and efficiency rather than enjoyment (Ozili, 2023; Prodan et al., 2024). Habit therefore cannot be meaningfully assessed, and prior research suggests that hedonic motivation is less relevant for utilitarian financial technologies (Kumar et al., 2023; Ali et al., 2024).

The Initial Trust Model complements UTAUT2 by explaining how institution-based trust is formed before first use. Initial trust is shaped by structural assurance and issuer reputation, which signal that legal frameworks, regulatory oversight, technical safeguards and a reliable provider will protect users' interests (Nguyen et al., 2022; Söilen & Benhayoun, 2022). Evidence from mobile banking and FinTech shows that stronger structural assurance and reputation increase initial trust, which in turn promotes favourable attitudes and usage intentions (Nguyen et al., 2022; Kumar et al., 2023; Alrawad et al., 2023). CBDC studies similarly indicate that confidence in the central bank and in collaborating banks is a decisive condition for citizens' willingness to adopt CBDCs (Gupta M. et al., 2023; Palanisamy et al., 2025; Yang & Zhou, 2025).

The research model is shown as followed. It contains nine hypotheses: H1-H5 test the effects of the UTAUT2 variables on attitude; H6-H7 test the effects of structural assurance and issuer reputation on initial trust; H9 tests the effect of initial trust on attitude; and H8 tests the effect of attitude on intention to use e-CNY.



Hypotheses Development

Performance Expectancy

Performance expectancy is the belief that a technology will improve task performance. In digital payments this captures expectations of faster, more convenient and more secure transactions. Studies on mobile payments and wallets show that performance expectancy is a strong predictor of positive attitudes and intention (Esawe et al., 2022; Senali et al., 2023; Ali et al., 2024). Research on e-CNY and related systems similarly finds that perceived usefulness in daily purchases, peer-to-peer transfers and financial management increases intention (Song & Wang, 2022; Xia et al., 2023; Liu X. et al., 2024; Chen et al., 2025). For non-users, beliefs that e-CNY can deliver advantages over cash and existing platforms are central for forming attitudes.

H1: Performance expectancy positively influences Chinese non-users' attitude toward using e-CNY.

Effort Expectancy

Effort expectancy is the perceived ease of using a technology. In digital payment research, ease of registration, learning and transaction execution increases favourable attitudes and intention, especially among users with lower digital literacy (Esawe et al., 2022; Senali et al., 2023; Ali et al., 2024). Empirical work on e-CNY reports that perceived ease of use has a positive effect on intention comparable to performance expectancy (Song & Wang, 2022; Xia et al., 2023; Liu X. et al., 2024). For non-users, anticipated complexity in downloading the app, completing verification and initiating payments may discourage favourable evaluations.

H2: Effort expectancy positively influences Chinese non-users' attitude toward using e-CNY.

Social Influence

Social influence is the perceived pressure from important others to use a technology. It can arise from peers, merchants, employers and government campaigns. UTAUT2 studies show that social influence is important in early adoption stages when individuals rely on others as reference points (Esawe et al., 2022; Senali et al., 2023; Ali et al., 2024). Evidence from mobile payments and CBDCs indicates that recommendations from trusted acquaintances and visible official promotion foster positive attitudes and intention (Gupta M. et al., 2023; Kaur et al., 2025).

H3: Social influence positively influences Chinese non-users' attitude toward using e-CNY.

Facilitating Conditions

Facilitating conditions are perceived resources and support needed to use a technology, including devices, connectivity, merchant acceptance and assistance from banks. While originally linked to use behaviour, many studies show that facilitating conditions also shape attitudes by lowering perceived barriers (Esawe et al., 2022; Senali et al., 2023; Ali et al., 2024). In the e-CNY context they include the availability of official apps, integration with bank applications, offline capabilities and acceptance in daily consumption (Xia et al., 2023; Liu X. et al., 2024; Chen et al., 2025).

H4: Facilitating conditions positively influence Chinese non-users' attitude toward using e-CNY.

Price Value

Price value captures the trade-off between benefits and costs of using a technology. Where transaction fees are low and users receive discounts or rewards, price value enhances attitudes and intention toward digital payments (Esawe et al., 2022; Senali et al., 2023; Ali et al., 2024). In CBDC research, expectations of zero or low fees, government incentives and safe holdings contribute to perceived value (Gupta M. et al., 2023; Chen et al., 2025; Kaur et al., 2025). For e-CNY, features such as free transfers, promotional red packets and lower merchant fees influence evaluations of economic attractiveness (Song & Wang, 2022; Chen et al., 2025).

H5: Price value positively influences Chinese non-users' attitude toward using e-CNY.

Structural Assurance

Structural assurance is the belief that legal, technical and institutional safeguards make digital transactions safe. Research on mobile banking and payments shows that perceptions of strong encryption, clear liability rules and effective dispute resolution increase initial trust and reduce uncertainty (Nguyen et al., 2022; Kumar et al., 2023; Alrawad et al., 2023). CBDC studies find that rigorous technical standards, legal guarantees and transparent rules for data usage encourage acceptance (Söilen & Benhayoun, 2022; Gupta M. et al., 2023; Palanisamy et al., 2025).

H6: Structural assurance positively influences Chinese non-users' initial trust in e-CNY.

Issuer Reputation

Issuer reputation is the shared perception that the institution responsible for a financial service is competent, stable and acts in users' interests. FinTech research shows that a strong reputation enhances trust and adoption because it reduces perceived vulnerability (Nguyen et al., 2022; Kumar et al., 2023). For CBDCs, trust in central banks and collaborating banks is critical, and favourable assessments of their competence and integrity support willingness to adopt digital currencies (Söilen & Benhayoun, 2022; Gupta M. et al., 2023; Chen et al., 2025; Yang & Zhou, 2025).

H7: Issuer reputation positively influences Chinese non-users' initial trust in e-CNY.

Attitude toward Using e-CNY

Attitude is an individual's overall evaluation of whether using a technology is good and beneficial. Classic acceptance models and recent digital payment studies show that favourable attitudes, shaped by usefulness, ease of use and trust, strongly predict intention and actual usage (Esawe et al., 2022; Senali et al., 2023; Ali et al., 2024; Kumar et al., 2023; Khan & Abideen, 2023). CBDC research finds that attitudes mediate the effect of perceived benefits and trust on intention (Gupta M. et al., 2023; Palanisamy et al., 2025; Kaur et al., 2025).

H8: Attitude toward using e-CNY positively influences Chinese non-users' intention to use e-CNY.

Initial Trust

Initial trust reduces perceived uncertainty in new financial technologies and leads to more positive attitudes and stronger intentions (Kumar et al., 2023; Alrawad et al., 2023; Ali et al., 2024). In CBDCs, trust in the central bank and in the technological infrastructure is decisive for forming favourable evaluations of adoption (Söilen & Benhayoun, 2022; Liu X. et

al., 2025). Studies on e-CNY show that higher trust in issuing institutions is associated with more favourable attitudes and stronger intention to adopt (Chen et al., 2025; Tronnier & Qiu, 2024).
H9: Initial trust positively influences Chinese non-users' attitude toward using e-CNY.

Methodology

Research Design

This study adopted a positivist, deductive and quantitative research design. A theory-driven model integrating the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) with the Initial Trust Model (ITM) was tested to explain Chinese consumers' intention to use e-CNY for the first time. Within this paradigm, performance expectancy, effort expectancy, social influence, facilitating conditions, price value, structural assurance, issuer reputation, initial trust, attitude and intention to use e-CNY were conceptualised as latent variables measured objectively and analysed statistically.

A cross-sectional correlational survey was employed. Data on all constructs were collected once through a structured questionnaire and used to estimate the strength and direction of relationships specified in the research model. This design is appropriate because the study aims to explain variance in intention to use e-CNY and to test hypotheses derived from established adoption and trust theories rather than to build new theory or evaluate an intervention.

Sample and Procedure

The target population comprised adult Chinese residents (18 years and above) living in official e-CNY pilot regions who had never used e-CNY. Restricting the sample to non-users ensured that the study captured determinants of initial adoption intention, not continuance behaviour. Individuals who had used e-CNY for any payment or transfer were excluded.

A non-probability purposive sampling approach with basic quota control was used. The online questionnaire was administered via a professional survey platform and disseminated through social media channels such as WeChat groups in pilot cities. A screening item asked whether the respondent had ever used e-CNY; those answering 'yes' were terminated, while only 'no' respondents proceeded. Quotas for gender and broad age groups were monitored so that the realised sample approximately reflected the demographic structure of urban residents in pilot areas.

Minimum sample size was estimated using G*Power 3.1 for multiple regression with several predictors, assuming a medium effect size, a 0.05 significance level and power of at least 0.80. The required minimum was below the planned 450 cases, indicating that 450 valid responses would provide more than adequate power for multivariate analysis. Data collection continued until at least 450 fully completed, eligible questionnaires were obtained. Cases with excessive missing data or failed attention checks were removed, yielding a final effective sample of 450 respondents.

Participation was voluntary and anonymous. An information and consent page preceded the questionnaire, and only respondents who provided consent continued. No personally identifying information was collected.

Measures

Data were collected using a self-administered, web-based questionnaire consisting of three parts. The first part screened out prior e-CNY users and collected demographic and contextual information, including gender, age, education, income, occupation, province, city type and experience with mobile payment platforms. These variables were used to describe the sample and, when relevant, as control variables in supplementary analyses.

The second part measured the latent constructs in the research model. All constructs were operationalised through multiple reflective indicators adapted from established technology acceptance and trust scales and reworded for the e-CNY context. Each construct comprised three to seven items. Most items used a seven-point Likert scale from 1 ('strongly disagree') to 7 ('strongly agree'); a small number used five-point formats to reduce response patterns and mitigate common method bias.

The original items were developed in English and translated into simplified Chinese using a translation and back-translation procedure by bilingual experts to ensure semantic equivalence. The questionnaire was pre-tested with a small group similar to the target population to refine wording, improve clarity and confirm that completion time was approximately 10–15 minutes. Pilot data showed acceptable internal consistency for all scales.

Data Analysis

Survey data were exported from the online platform into statistical software. After removing ineligible and incomplete cases, 450 valid responses remained.

First, data screening was conducted, including checks for missing values, straight-line or patterned responses, and univariate and multivariate outliers. Descriptive statistics were then computed to summarise the demographic profile and distributions of all variables.

Second, the measurement properties of the multi-item scales were evaluated. Internal consistency reliability was assessed using Cronbach's alpha and composite reliability. Convergent validity was examined through indicator loadings and average variance extracted, while discriminant validity was assessed using the Fornell–Larcker criterion and heterotrait–monotrait ratios.

Third, the structural model was estimated using partial least squares structural equation modelling (PLS-SEM), which is suitable for complex models and does not require multivariate normality. Path coefficients, coefficients of determination (R^2), effect sizes (f^2) and predictive relevance (Q^2) were examined to evaluate explanatory power and predictive capability. The significance of hypothesised paths was tested via bootstrapping with a large number of resamples.

Finally, diagnostic tests were applied to address potential common method bias and non-response bias. Procedural remedies included assurances of anonymity, varied scale formats and reverse-coded items. Ex post statistical checks, such as Harman's single-factor test and full collinearity variance inflation factors, were used to assess whether a single factor dominated the covariance structure. Differences between early and late respondents on key variables were examined to evaluate the likelihood of non-response bias.

Data Analysis and Results

This chapter presents the data analysis and results of the study on Chinese individuals' intention to use e-CNY. As described in Chapter 3, data were collected through an online questionnaire from adult residents living in official e-CNY pilot regions who had never used e-CNY for payment but were active users of existing electronic payment tools such as WeChat Pay and Alipay. After data screening and removal of incomplete or ineligible responses, 450 valid questionnaires were retained for analysis.

Partial least squares structural equation modelling (PLS-SEM) was employed using a two-step approach. First, the reflective measurement model was assessed in terms of reliability and validity. Second, the structural model was evaluated to test the hypothesised relationships among the constructs.

Assessment of Measurement Model

The measurement model comprised the UTAUT2 constructs (PE, EE, SI, FC, PV), IT model constructs (SA, IR, IT), attitude toward using e-CNY, and intention to use e-CNY. A marker variable was included only for common method-bias diagnostics. All substantive constructs were specified as reflective.

Indicator reliability, internal consistency and convergent validity

Indicator reliability was examined by inspecting the outer loadings of the indicators on their respective constructs. All items loaded strongly on their intended constructs, with loadings ranging from 0.72 to 0.90. No item exhibited problematic cross-loadings or loading values below the recommended threshold of 0.70; therefore, all indicators were retained.

Internal consistency reliability and convergent validity were assessed using Cronbach's alpha (α), composite reliability (CR) and average variance extracted (AVE). The results are summarised in Table 4.1. Cronbach's alpha values range from 0.78 to 0.90 and CR values from 0.86 to 0.94, all exceeding the minimum recommended value of 0.70. AVE values are between 0.60 and 0.84, which are greater than the 0.50 benchmark. These results indicate that the constructs exhibit satisfactory internal consistency and convergent validity.

Table 4.1
Reliability and Convergent Validity of Constructs

Construct	Cronbach's α	Composite Reliability (CR)	Average Variance Extracted (AVE)
PE	0.89	0.92	0.75
EE	0.88	0.91	0.72
SI	0.82	0.88	0.7
FC	0.83	0.89	0.73
PV	0.86	0.91	0.76
SA	0.86	0.91	0.77
IR	0.88	0.93	0.81
IT	0.87	0.92	0.79
ATT	0.9	0.94	0.84
BI	0.89	0.93	0.77
MK	0.78	0.86	0.6

Discriminant validity and common method bias

Discriminant validity was assessed using the Fornell–Larcker criterion and the heterotrait–monotrait ratio of correlations (HTMT). For each construct, the square root of its AVE was greater than its correlations with other constructs, satisfying the Fornell–Larcker requirement. HTMT values ranged between approximately 0.25 and 0.83, below the conservative threshold of 0.85; none of the HTMT confidence intervals included 1.0. These results indicate that all constructs are empirically distinct.

Because all data were obtained from a single self-administered questionnaire, the potential influence of common method bias (CMB) was examined using a marker-variable technique. The marker construct (MK) showed acceptable reliability (see Table 4.1), and its correlations with the substantive constructs were generally low (mostly below 0.30). Thus, common method bias is unlikely to pose a serious threat to the validity of the results.

Assessment of Structural Model

After establishing the reliability and validity of the measurement model, the structural model was evaluated. The assessment included checks for collinearity, examination of the coefficients of determination (R^2) and predictive relevance, and hypothesis testing based on the path coefficients. Bootstrapping with 5,000 resamples was used to obtain standard errors, t-values and p-values.

Collinearity, R^2 and predictive relevance

Collinearity among predictor constructs was examined through the variance inflation factor (VIF). All inner VIF values ranged from 1.30 to 2.80, well below the conservative threshold of 3.0, indicating that multicollinearity is not a concern.

The coefficients of determination show that SA and IR together explain 56% of the variance in IT (R2IT=0.56). The combination of UTAUT2 variables and IT explain 71% of the variance in attitude toward using e-CNY (R2ATT=0.71). Attitude, in turn, explains 42% of the variance in intention to use e-CNY (R2BI=0.42). These values indicate substantial explanatory power for attitude and moderate-to-substantial explanatory power for IT and intention to use e-CNY.

Stone–Geisser's Q^2 values obtained via blindfolding were positive for all endogenous constructs (approximately 0.33 for IT, 0.45 for ATT and 0.29 for BI), demonstrating that the model possesses meaningful predictive relevance.

Hypotheses testing and structural relationships

Table 4.2 presents the standardised path coefficients, t-values and p-values for all hypothesised relationships, together with the R^2 values of the endogenous constructs.

Table 4.2
Structural Model Results and Coefficients of Determination
Panel A: Path Coefficients and Hypothesis Testing

Hypothesis	Path	Std. β	t-value	p-value	Result
H1	PE → ATT	0.28	4.8	< 0.001	Supported
H2	EE → ATT	0.11	2.4	0.02	Supported
H3	SI → ATT	0.09	2.1	0.035	Supported
H4	FC → ATT	0.12	2.6	0.01	Supported
H5	PV → ATT	0.18	3.7	< 0.001	Supported
H6	SA → IT	0.42	8	< 0.001	Supported
H7	IR → IT	0.37	7.1	< 0.001	Supported
H8	ATT → BI	0.65	13	< 0.001	Supported
H9	IT → ATT	0.31	6	< 0.001	Supported

Panel B: Coefficients of Determination

Endogenous Construct	R^2
IT	0.56
ATT	0.71
BI	0.42

As shown in Table 4.2, all five UTAUT2 constructs exert significant positive effects on attitude. PE has the strongest influence (β = 0.28, p < 0.001), followed by PV (β = 0.18, p < 0.001). EE (β = 0.11, p = 0.020), SI (β = 0.09, p = 0.035) and FC (β = 0.12, p = 0.010) have smaller but significant positive effects. These results support H1-H5 and indicate that beliefs about usefulness, ease of use, social influence, facilitating conditions and perceived value all contribute to a more favourable attitude toward using e-CNY.

SA and IR both strongly enhance IT (β = 0.42 and 0.37, respectively; p < 0.001), confirming H6 and H7. IT, in turn, has a substantial positive effect on attitude (β = 0.31, p < 0.001), supporting H9 and highlighting the pivotal role of institutional trust in shaping attitudes toward a central-bank digital currency. Finally, ATT has a strong positive effect on BI (β = 0.65, p < 0.001), confirming H8 and identifying attitude as the direct predictor of intention to use e-CNY.

Effect Sizes and Overall Interpretation

Effect sizes (f^2) show that SA and IR have medium-to-large effects on IT, while IT, PE, and PV exert small-to-medium effects on attitude. Attitude has a very large effect on intention to use e-CNY. Combined with the high R^2 and positive Q^2 values, these findings indicate that the integrated model provides strong explanatory and predictive power for IT, attitude and intention to use e-CNY among Chinese non-users.

Overall, the results suggest that promoting e-CNY adoption requires emphasising functional performance, ease of use, social endorsement, facilitating support and price value while reinforcing structural assurance and issuer reputation to build initial trust and favourable attitudes.

Conclusion

This study set out to explain Chinese individuals' intention to use e-CNY for the first time, focusing specifically on those who have never used e-CNY but rely heavily on existing mobile payment platforms such as WeChat Pay and Alipay. Based on data from 450 non-users in official pilot regions and an integrated model combining UTAUT2 and Initial Trust, the results show that the decision to adopt e-CNY is shaped by technological beliefs, perceived economic value, institutional trust and attitude.

On the technological side, performance expectancy emerged as the strongest UTAUT2 predictor of attitude, followed by price value, while effort expectancy, social influence and facilitating conditions also had significant but smaller effects. Non-users are more inclined to view e-CNY positively when they believe it will genuinely improve payment efficiency, offer attractive incentives, be easy to use, receive support from important others and be supported by sufficient resources and knowledge.

Institutional trust plays a central role. Structural assurance and issuer reputation jointly explain a substantial proportion of variance in initial trust, and initial trust in turn exerts a strong positive effect on attitude. This underlines that e-CNY is not perceived merely as another payment app, but as a state-backed financial innovation whose acceptance depends crucially on confidence in legal, regulatory and technical safeguards and in the People's Bank of China and cooperating banks as trustworthy issuers.

Attitude toward e-CNY is the dominant proximal determinant of intention to use e-CNY, explaining a substantial share of variance in intention to adopt. The findings also show that e-CNY adoption among non-users is not driven by UTAUT2 perceptions alone: structural assurance and issuer reputation first build initial trust, and initial trust then strengthens attitude. Overall, the model demonstrates strong explanatory and predictive power and offers a coherent behavioral explanation of why, despite several years of promotion and robust infrastructure, intention to use e-CNY depends on favourable attitude supported by perceived performance, value, ease, facilitating conditions, social influence and institutional trust.

The findings suggest that effective promotion of e-CNY should emphasise performance benefits, low effort, merchant acceptance, user incentives, credible recommendations and the reputation of the PBOC and cooperating banks. Clear communication of legal, technical and service safeguards can strengthen initial trust and encourage non-users to form positive attitudes toward trying e-CNY.

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