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*Research article*

## **How do privacy concerns impact actual adoption of central bank digital currency? An investigation using the e-CNY in China**

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**Supplementary**

**Table A.1.** Supplementary information for constructs and items.

Construct	Definition	Item	Mean	Std.	VIF
Awareness of the e-CNY	Awareness of the term e-CNY, including its implications for individuals.	I am familiar with the term “e-CNY”.	4.225	0.621	1.190
		I am aware that the e-CNY is created by the Chinese central bank.	4.455	0.647	1.069
		I am aware that central banks are researching digital equivalents of their national currencies, e.g., the e-CNY.	4.014	0.833	1.070
		I understand the meaning of the term “e-CNY.”	4.338	0.598	1.189
Perceived control	The perceived ability to control the processing of personal data in e-CNY transactions.	I would only use the e-CNY if the system allowed me to control the information that financial institutions can use from me.	3.949	0.777	1.409
		Being able to control the personal information that I provide by paying with the e-CNY is important to me.	4.392	0.78	1.240
		I would only provide accurate personal and financial information for payments with the e-CNY if the system is controlled by a reputable party.	4.324	0.787	1.387
Perceived vulnerability	The perceived potential risks associated with revealing personal information using the e-CNY as a payment method.	I could be subjected to malicious IT security problems (e.g., virus, privacy, identity theft, hacking) when using the e-CNY.	2.504	1.198	2.985
		I feel my payment information could be misused when using the e-CNY.	2.519	1.284	3.466
		I feel my personal information could be made available to unknown individuals or companies without my acknowledgement if I use the e-CNY.	2.601	1.317	3.181
		I feel my personal information could be inappropriately used if I use the e-CNY.	2.548	1.332	4.346
Self-efficacy	Competence and confidence to cope with privacy threats by paying with a e-CNY.	I believe I have the ability to protect my personal information when using the e-CNY.	3.841	1.000	1.773
		It is easy for me to take action to protect my personal data when using the e-CNY.	3.756	1.130	1.773
Privacy concerns in the e-CNY	Concerns about opportunistic behavior related to personal information submitted when using the e-CNY.	I am concerned that information on my purchasing behavior (bought products, purchasing frequency, credit score) could be used in a way I did not foresee when using the e-CNY.	2.743	1.272	3.419
		I am concerned that unknown organizations or individuals get access to my information when paying with the e-CNY.	2.629	1.436	3.235
		I am concerned about paying with the e-CNY because of what others might do with my information.	2.62	1.328	3.514

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		With the e-CNY you can be sure that it will be accepted everywhere in China. (Liquidity – Hard Factor)	3.993	0.883	1.297	
		e-CNY payments are accepted on e-commerce websites and physical stores. (Liquidity – Hard Factor)	4.202	0.877	1.297	
		The e-CNY is suitable for shopping and making purchases. (Fungibility - Hard Factor)	4.308	0.697	1.209	
		The e-CNY is a good digital payment solution. (Fungibility – Hard Factor)	4.358	0.733	1.209	
		The e-CNY is a stable currency. (Stability – Hard Factor)	4.072	0.851	1.148	
		The price of one e-CNY equals the price of one physical yuan. (Stability – Hard Factor)	4.354	0.73	1.429	
		The e-CNY is secure, cannot be forged. (Security – Soft Factor)	4.085	0.864	1.239	
Trust	The extent to which users are confident that central banks will handle their personal information competently, reliably, and safely when using the e-CNY.	Paying with e-CNY is more secure than paying with other digital payment solutions. (Security – Soft Factor)	4.007	0.933	1.239	
		The creation of new e-CNYs is trustworthy. (Credibility – Soft Factor)	4.233	0.76	1.188	
		Central banks handle personal information submitted by individuals in a competent fashion. (Credibility – Soft Factor)	4.276	0.734	1.188	
		I have positive emotions with regard to the e-CNY. (Image – Soft Factor)	4.249	0.739	1.662	
		Central banks are trustworthy. (Image – Soft Factor)				
			4.428	0.690	1.662	
		Usage of e-CNY for online and offline payments as well as through different payment channels. Measured from “never used” to “multiple times per day” on a 7-point scale.	I use the DCEP system as a safe storage for my money. (5-point Likert)	3.967	0.809	1.352
			How frequently do you use the DCEP system for e-CNY payments?	4.527	1.816	4.695
			How frequently do you use the DCEP system for online payments?	4.5	1.796	4.234
			How frequently do you use the DCEP system for offline payments?	3.636	1.855	2.457
Privacy victim experience	Past privacy victim experiences with digital financial services	How frequently have you personally been the victim of what you felt was an improper privacy invasion from using digital financial services?				
			1.597	0.702	1.000	

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Task-Technology Fit	How well the features of the DCEP system align with the users' financial transaction needs.	I prefer the DCEP system over other payment methods such as traditional online banking, Alipay, Wechatpay.	3.85	0.897	1.435
		The DCEP system offers a convenient payment method for online payments.	4.374	0.685	1.422
		The DCEP system offers a convenient payment method for offline payments.	4.237	0.733	1.198
		The DCEP system is a useful payment method.	4.324	0.654	1.466
Perceived risk	The perceived potential for loss or other negative outcomes when using the e-CNY, associated with uncertainties and adverse consequences of the transaction.	I am concerned about the potential financial loss when using the e-CNY.	2.269	1.089	2.754
		I think that there could be negative consequences when using the e-CNY.	2.143	1.090	2.403
		I worry about the uncertainty of using a new system like the DCEP system.	2.577	1.200	3.093
		I feel there are potential risks involved in the transaction process when using the DCEP system.	2.47	1.257	3.592
Government Involvement	The extent to which the government's participation in the issuing, regulation, and oversight of the e-CNY influences users' trust in the currency.	I trust the e-CNY more knowing that it's issued by the Chinese central bank.	4.316	0.691	1.508
		I am confident in the e-CNY because of government oversight and control. (redacted)	4.423	0.684	1.253
		The government's active role in maintaining the DCEP system assures me of its reliability.	4.25	0.713	1.590
		The government's involvement in the DCEP system influences my decision to use it. (redacted)	4.13	0.814	1.068

**Table A.2.** Heterotrait-monotrait ratio (HTMT) for main model paths.

Path	HTMT
Privacy concerns in the e-CNY <-> Awareness of the e-CNY	0.492
Privacy concerns in the e-CNY <-> Credibility	0.659
Privacy concerns in the e-CNY <-> Fungibility	0.384
Privacy concerns in the e-CNY <-> Government involvement	0.416
Privacy concerns in the e-CNY <-> Hard factor	0.499
Privacy concerns in the e-CNY <-> Image	0.526
Privacy concerns in the e-CNY <-> Liquidity	0.466
Privacy concerns in the e-CNY <-> Perceived control	0.098
Privacy concerns in the e-CNY <-> Perceived risk	0.904
Privacy concerns in the e-CNY <-> Perceived vulnerability	0.971
Privacy victim experience <-> Privacy concerns in the e-CNY	0.493
Self-efficacy <-> Privacy concerns in the e-CNY	0.781
Soft factor <-> Privacy concerns in the e-CNY	0.616
Task-Technology Fit <-> Privacy concerns in the e-CNY	0.498
Usage of DCEP <-> Hard factor	0.740
Usage of DCEP <-> Task-Technology Fit	0.815
Usage of DCEP <-> Self-efficacy	0.772
Usage of DCEP <-> Perceived control	0.119

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Path	HTMT
Usage of DCEP <-> Perceived risk	0.618
Usage of DCEP <-> Perceived vulnerability	0.602
Usage of DCEP <-> Privacy concerns in the e-CNY	0.634
Usage of DCEP <-> Privacy victim experience	0.421

**Table A.3.** Collinearity statistics (VIF) for the inner model.

Path	VIF
Awareness of the e-CNY -> Privacy concerns in the e-CNY	1.766
Credibility -> Soft factor	2.408
Demographic -> Privacy concerns in the e-CNY	1.039
Fungibility -> Hard factor	1.810
Government involvement -> Hard factor	1.664
Government involvement -> Soft factor	2.110
Government involvement -> Usage of DCEP	2.104
Hard factor -> Privacy concerns in the e-CNY	2.540
Hard factor -> Usage of DCEP	2.729
Image -> Soft factor	2.191
Liquidity -> Hard factor	1.565
Perceived control -> Privacy concerns in the e-CNY	1.042
Perceived risk -> Usage of DCEP	3.576
Perceived vulnerability -> Privacy concerns in the e-CNY	2.004
Privacy concerns in the e-CNY -> Usage of DCEP	3.289
Privacy victim experience -> Privacy concerns in the e-CNY	1.375
Security -> Soft factor	1.900
Self-efficacy -> Privacy concerns in the e-CNY	2.484
Soft factor -> Privacy concerns in the e-CNY	3.098
Soft factor -> Usage of DCEP	4.007
Stability -> Hard factor	1.655
Task-Technology Fit -> Usage of DCEP	2.850



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