European Economic Letters
ISSN 2323-5233
Vol 15, Issue 3 (2025)
http://eelet.org.uk

From Coin-Jars to QR Codes: How UPI is rewriting the household budgets of Chennai's Middle-Class Women

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Abstract:
Background: In Indian homes, women have long perfected the art of micro-saving—coins tucked inside dabbas of turmeric, notes slipped behind spice jars, rotating kitty circles. These tiny, invisible reservoirs have often rescued families from sudden expenses and seeded larger dreams. Yet, a quiet technological tide—Unified Payments Interface (UPI)—is washing over these rituals. This study peers into the kitchens, handbags and smartphones of middle-class women in Chengalpattu, Kanchipuram and Chennai to ask: Has the tap-and-pay era diluted their legendary thrift, or is it simply giving that thrift a new, faster engine?
Objective: This paper is an attempt to measure the impact of UPI on the probable changes in the spending and saving pattern among the middle-class women residing in Chengalpattu, Kanchipuram and Chennai district.
Methodology: A Structured Questionnaire is used to measure the level of awareness, adoption and their level of spending and saving using UPI. Exploratory Factor Analysis is applied to explore study variables. A structural Equation Model depicting the interrelationship among the study variables are presented.
Findings: Higher UPI awareness and adoption among women users materially alter their saving or investment behaviour.
Conclusion: The study concludes that the transfer of surplus from a woman's UPI balance into an interest-bearing instrument to a very great extent. The enduring appeal of the masala dabba lies in its silent discretion: though digital balance can be exposed with a single shared password, unlike the spice box that keeps its contents—and its owner's financial intentions—known only to her still, economic empowerment has seen an immense growth.

Keywords: UPI, Savings, Economic Empowerment, Finance, Investments.

1. Introduction:

Across decades, Indian women became custodians of household liquidity by shaving a rupee off vegetables, re-stitching old saris, or pooling funds in chit funds. Their savings were tactile—crumpled notes, glittering coins—each reminder of restraint. Government drives such as Jan Dhan, plus cheap smartphones and 4G, have now turned these same women into digital wallet warriors. In 2023-24 alone, India clocked 147 billion UPI transactions; nearly half of the world's real-time digital payments now originate here.

2. Objectives of the study

1. Gauge how familiar, comfortable and consistent are Chennai, Chengalpattu and Kanchipuram mid-income women are with UPI
2. Uncover the levers—age, occupation, earnings, marital status—that nudge their spend-versus-save calculus

3. Draw a Structural Equation Model (SEM) that maps the invisible wiring between UPI exposure, shopping impulses, saving discipline and eventual wealth creation

3. **Research Questions:**

- Digital security anxieties: Does fear of fraud override convenience?
- Impulse tipping point: At what balance level does "just one more click" erode the traditional buffer?
- Kitty-to-UPI migration: Are rotating savings circles reinventing themselves on Whatsapp and PhonePe?
- Wealth creation upside: Are UPI-linked micro-investments (recurring deposits, mutual fund SIPs) replacing the good old stainless-steel tiffin-box stash?

4. Review of Literature

Firstly, the review by Harshal Dev and colleagues focuses on the macro and micro impacts of digital payments, particularly UPI, highlighting how it lowers psychological barriers to spending and boosts individual consumption, while also warning about the need for financial literacy and safeguards to prevent reckless behaviour.

Secondly, Dr. Shaktikanta Das reported an extraordinary growth in digital transactions over 12 years, emphasizing India's position as a global leader, responsible for 46% of worldwide digital payments, driven by robust infrastructure, regulation, and increasing trust among users.

Thirdly, The Boston Consulting Group and PhonePe highlighted India's rapid ascent in digital payments, driven mainly by UPI, projecting the market to hit $10 trillion by 2026, supported by government efforts and fintech advancements. On the other hand, the insights labelled T1 underscore the expanding smartphone and internet penetration fueling the rise of digital payments and point out untapped sectors like retail, MSMEs, rural areas, and G2C services where strategic investments can further enhance financial inclusion.

Fourthly, review by Ranadurjay Talukdar emphasized the transformative role of UPI in India's financial ecosystem, highlighting its evolution from primarily linking savings accounts for peer-to-peer and merchant transactions to incorporating credit products such as credit cards, small-ticket credit lines, and business credit. This development has significantly expanded financial inclusion by bridging traditional banking services with informal credit ecosystems, enabling individuals and small businesses to access formal credit seamlessly through platforms they already trust and use. Talukdar notes that this integration fosters a unified digital environment that enhances transparency, credit accessibility, and digital trust. Ultimately, Talukdar highlights how UPI's metamorphosis from a simple payment interface into a comprehensive digital credit and remittance platform exemplifies India's leadership in financial innovation, offering valuable insights for policymakers and fintech developers alike

Lastly, Samar Srivastava et al. (2023) observed that India is quietly exporting its most successful financial innovation: the Unified Payments Interface (UPI). By forging real-time interoperability with Singapore's PayNow system—and with similar link-ups on the horizon—India has enabled travellers, students and migrant workers to remit money abroad using nothing more than a Virtual Payment Address (VPA). The authors estimate that once the network extends across the Middle East and Southeast Asia, roughly 30 million Indians living overseas will be able to transact as seamlessly abroad as they do at home.

All the above studies reveal that If earlier thrift was measured by how many ten-rupee notes never left the purse, today it may be judged by how swiftly a woman diverts surplus from her UPI balance into an interest-bearing instrument. By tracing this metamorphosis, the research offers cues for policymakers, fintech designers and, most importantly, for the women

European Economic Letters
ISSN 2323-5233
Vol 15, Issue 3 (2025)
http://eelet.org.uk

themselves, so they can ensure that every digital 'little drop' still ends up building their own mighty ocean.

- **Conceptual framework**

The conceptual framework is developed to identify the level of awareness and adoption of UPI is able to earn, invest and grow a investment /business which in turn makes them economically empowered.

Diagram 1: Conceptual Framework

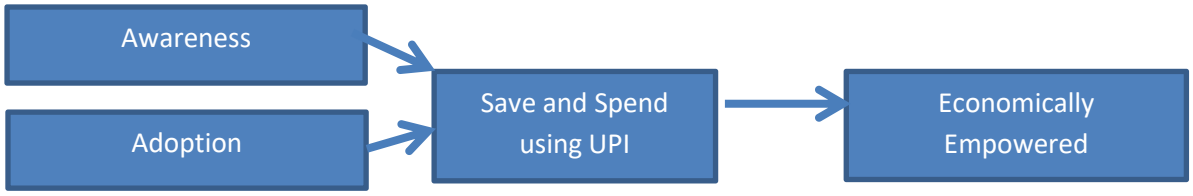

Table 1: Research Methodology & Sampling Details

Research	Exploratory Research
Sample Unit	Women in the Middle-income group residing in Chengalpattu, Kanchipuram and Chennai district.
Sampling Method	Purposive Sampling
Sample Size	300
Instrument	A Structured Questionnaire
Objectives	The study aims to highlight the impact of using UPI on small saving habits of women. It also analysis the change in consumption, saving and investment attitude of women.
Methodology	A structured questionnaire—field-tested in Tamil and English—was floated among women from salaried, self-employed and household-run micro-enterprises across Chengalpattu, Kanchipuram and Chennai's middle-income neighbourhoods. Exploratory Factor Analysis helped sieve out latent attitudes, followed by SEM to trace the pathways of influence
Data collection Instrument	A structured Questionnaire is prepared to collect primary data. Respondents Personal Information Such as Age, Gender, Educational Background, Occupational details are collected. In order to understand the level of adoption of UPI Services, 17 statements were used in the study and by awareness levels are measured by using Likert's five-point scale, ranging from strongly agree to strongly disagree. 9 statements measuring adoption of UPI and 8 statements measuring the Factors influencing consumption, savings and investment are used in the study.10 statement to measure and identify that women are economically empowered was used.
Pilot study	The reliability of the data collection instrument is checked by using Cronbach alpha. The tool validates the variance for all the variables regarding UPI adoption, awareness, savings and economic empowerment. At the point of inception, the Cronbach alpha revealed are presented in the table 2. The

	scores are above the bench mark values of .80 therefore it can be concluded that the statements are very clear for the respondents to express their insight.

Table 2 - Cronbach Alpha' Reliability Table

Study Variables	No. of Statements	Scale	Cronbach Alpha	Variance %
Awareness	15	1-5	.878	87.8
Adoption	8	1-5	.845	84.5
Spending & Savings	8	1-5	.885	88.5
Economic empowerment	10	1-5	.864	86.4

5. Data Analysis & Research Findings:

Table 3- Summary of Major Findings

S. No.	Items	Particulars	Percentage	Analysis
1	Age	41-50	45.2	45% of the respondents are in the age group of 41-50 followed by 37% who are in the bracket of 31-40 years old. .
		31-40	36.9	
		21-30	17.8	
2	Family Monthly Income	25,001-50,000	27.4	Majority of the respondent's monthly income is more than 75,000
		50,001-75,000	19.1	
		Less than 25,000	23.6	
		More than 75,000	29.9	
3	Occupation	Govt.Service	12.7	49% of the respondents are working in private company
		Home Makers	24.8	
		Private Company	49.7	
		Self -Employed	12.7	

Factor analysis: Factor analysis a data reduction technique that helps in analyzing numerous variables under a single factor. An Exploratory factor analysis using a Varimax rotation was applied in the study and all the factor loadings above 0.6 were identified by using principal component analysis method.

Table 4: Kaiser – Meyer - Olkin and Bartlett's Test

		Awareness	Adoption	Spending & Savings	Economic Empowerment
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.879	.856	.799	.894
Bartlett's Test of Sphericity	Approx.Chi Square	319.268	277.08	172.33	343.353
	Df	20	10	9	15
	Significance	0.000	0.000	0.000	0.000

The Kaiser – Meyer – Olkin Measure of sampling adequacy value is presented in table 3 along with Bartlett's Test of Sphericity with approximate Chi – Square value. These values

are statistically significant at 5% level. Variable loadings for the factors are measured using Rotated Component Matrix and are explained in table 4 with their corresponding variables. Study variables with loading more than .60 was considered for further analysis in the study.

Table 5 - Factor Analysis - Users Awareness Level of UPI

S. No.	Variable	Factor Loading	Factor Labelled
F1	1. **Cashless checkout** often comes with "instant gratification economics	.823	UPI: Six Pillars of the Tap-and-Pay Economy
	1. The hidden **price tag** of convenience: that can quietly nibble at your balance.	.793	
	1. **Rewards** morph into a new currency—digital coins, vouchers etc	.790	
	1. Merchant **readiness** matters.	.732	
	1. Every rupee's journey is laid bare: **costs transparent** and future budgets easier to craft.	.640	
	tracking becomes effortless.	.632	
F2	Time Saving	.793	UPI: The Pocket-Sized Time Machine
	Anytime anywhere payments	.782	
	Instant transfer	.770	
	It is easy to transfer money	.765	
	Useful for small transaction	.745	
	Convenient way of Payment	.742	
F3	More secure	.865	UPI: Secure & Private—Bank-Grade Protection
	Privacy of bank account	.749	

- **Level of Adoption of UPI factors**

It is found that 8 variables pertaining to adoption of UPI are reduced into 2 predominant factors. These factors are explained below with the respective variables in table 5

Table 6 - Factor analysis – Adoption level of User on UPI

S.No	Variable	Factor Loading	Factor Labelled
F1	Have you ever felt, that UPI results in impulsive buying and spending unnecessarily	.814	"UPI and the Invisible Wallet: Does Easier Digital Payment Fuel Overspending?
	In this digital world, payments are made easy and savings are made difficult, do you agree	.798	
	Do You agree that UPIs has resulted in poor monthly savings	.789	
	Do you agree when we pay through cash, we know the value of each rupee we spend, but when we do UPIs, it's just another transaction	.765	

	Do you think that UPIs has increased your daily consumption pattern	.754	
	Do you agree – by paying cash, you will check twice before you purchase	.616	
F2	Do you agree there is no difference between paying through cash or UPIs	.847	"Cash vs. UPI: Equal Risk or Hidden Fraud Conservative mindset?
	Are you being a victim of any fraudulent activity	.756	

Source: Computed Data

Factors influencing consumption, spending, savings habit and wealth creation

The analysis enabled 8 variables pertaining to adoption of UPI to be reduced into 2 predominant factors namely "Life's Big Ticket Goals" and "Dreams Beyond Necessity" These factors are explained below with the respective variables.

Table 7 - Factor analysis- Savings and Investment

S.No	Variable	Factor Loading	Factor Labelled
F1	Children's Education	.829	Life's Big-Ticket Goals
	Meet health and contingency circumstances	.873	
	Family Marriage related expenses	.750	
	Purchase a residential property	.735	
F2	Buy Luxury products - Car, Electronic items	.773	Dreams Beyond Necessity
	Planned entertainment - Holiday, Spiritual and other travelling needs.	.759	
	To be self-dependent	.712	
	Old age needs	.713	

Source: Computed Data

Factors Measuring Economic Empowerment

It is found that 9 variables pertaining to economic empowerment is reduced to two main factors. The table 7 reveals the factor loadings and the name of the factors

Table 8 - Factor analysis- Economic Empowerment

S.No	Variable	Factor Loading	Factor Labelled
F1	Decision Power	.862	Economic Agency
	Asset Ownership	.828	
	Access to Credit	.805	
	Income Independence	.706	
	Digital Autonomy	.701	
	Future Investments	.609	
F2	Mobility & Market Access	.851	Physical & Market Autonomy
	1. Time Use	.849	
	Negotiation Power	.606	

European Economic Letters
ISSN 2323-5233
Vol 15, Issue 3 (2025)
http://eelet.org.uk

Confirmatory Factor Analysis

AMOS was used to test the validity. The data selected for assumptions of CFA revealed that the 3-factor model for awareness, 2 factor model for adoption, saving and spending and economic empowerment. Widespread awareness will increase adoption and thus initiate more saving and spending conveniently thus increasing economic empowerment. Thus, UPI's tap-spend & save gives women autonomous control over every rupee: instant transfers turn spare change into micro-investments, transparent logs sharpen budgeting skills, and the freedom to transact anytime, anywhere, converts idle kitchen-savings into active wealth-building—no male intermediary, no branch queues, no lost time.

The CFA resulted in a satisfactory fit as in table 8 below. All estimated loadings were significant.

Table 9- Confirmatory Factor Analysis & Conceptual Model Fit

	Threshold				
Measure	**Awareness**	**Adoption**	**Save & Spend**	**Economic Empowerment**	**Model Fit**
Chi-square/df	1.788	1.722	1.568	1.624	2.569
GFI	.911	.955	.959	.935	.972
AGFI	.900	.914	.896	.889	.938
CFI	.975	.960	.975	.967	.958
NFI	.962	.918	.935	.928	.935
TLI	.893	.930	.958	.971	.925
IFI	.924	.961	.975	.974	.959
RMA	.041	.025	.058	0.56	.026
RMSEA	.077	.074	.062	.054	.063

Table 8, shows the model fit summary of the research model. The GFI and AGFI values are more than 0.90, which shows it is an acceptable model fit. The value of comparative fit index is 0.958, which represents a worthy fit to the model and the value of RMR and RMSEA is 0.026 and 0.063, which is an acceptable model. ***Thus, the hypotheses, saving and spending is positively related to economic empowerment. Thus, for every increase in awareness, adoption, spending and saving there is an increase in economic empowerment.*** Conceptual Model Fit The table 11 below shows the model fit summary of the research
model Hypotheses Testing
H1 UPI awareness is positively related to savings and spending
H2 UPI adoption is positively related to saving and spending
H3 Saving and spending is positively related to economic empowerment.

European Economic Letters
ISSN 2323-5233
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Diagram 2 Structural equation Model

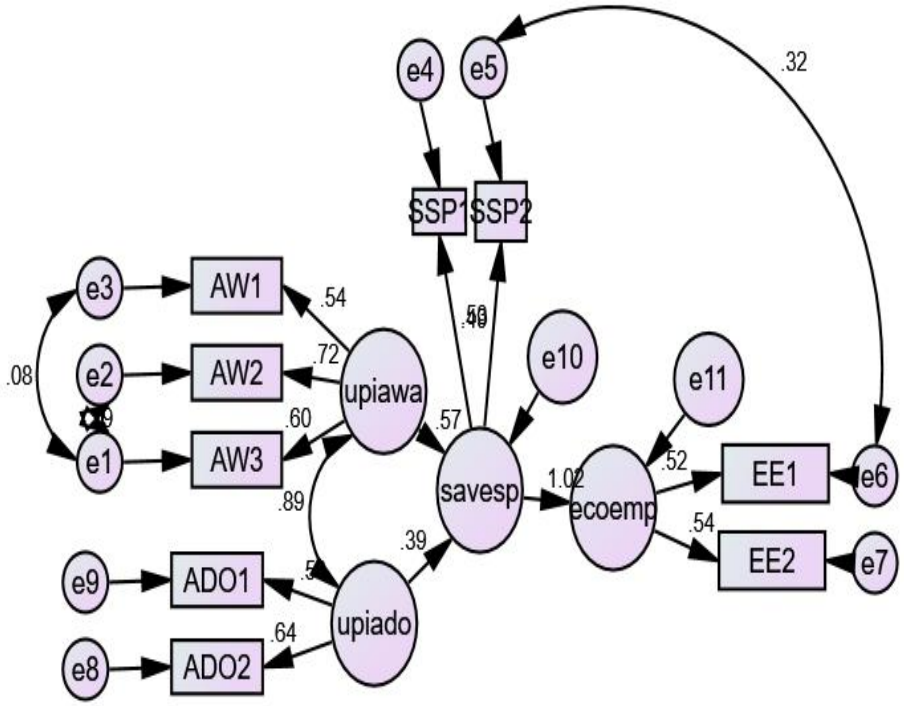

Table 10 – Structural Equation Modelling

			Estimate	S.E.	C.R.	P
savesp	<---	upiawa	.936	.129	7.256	***
savesp	<---	upiado	.925	.130	7.112	***
ecoemp	<---	savesp	.974	.132	7.398	***
AW3	<---	upiawa	1.000			
AW2	<---	upiawa	1.281	.147	8.692	***
AW1	<---	upiawa	.957	.122	7.858	***
SSP1	<---	savesp	1.000			
SSP2	<---	savesp	.951	.134	7.107	***
EE1	<---	ecoemp	1.000			
EE2	<---	ecoemp	.966	.127	7.626	***
ADO2	<---	upiado	1.000			
ADO1	<---	upiado	.875	.109	8.010	***

The structural equation model reveals that both UPI awareness ($\beta = 0.936$, $p < .001$) and UPI adoption ($\beta = 0.925$, $p < .001$) have a significant and strong positive impact on individuals' savings practices. In turn, savings practices strongly predict economic empowerment ($\beta = 0.974$, $p < .001$). All measurement items show strong and significant loadings on their respective latent constructs, confirming the reliability of the measurement model. These findings support the hypothesis that digital financial literacy and adoption are key enablers of savings behavior, which subsequently leads to economic empowerment.

6. Implications of the study

The study's findings translate into a six-point action brief: policymakers can mandate payment apps to embed auto-sweep nudges and cashback-linked recurring deposits that quietly channel women's UPI spends into micro-SIPs; fintech firms should cloak these pots as "quiet vaults" that mirror the secrecy of a masala dabba; financial-literacy curricula must pivot from basic UPI usage to compounding stories delivered in vernacular voice notes; banks and MFIs can time UPI-linked, pre-approved credit lines to salary inflows, cutting informal debt and boosting household bargaining power; city administrations can cite the SEM evidence to roll out subsidised smartphones and data packs for low-income women, preventing a new digital gender gap; finally, the validated model itself becomes a portable yard-stick for NGOs and regulators to track how emerging UPI features—credit-card linkage, global remittances, or new reward schemes—reshape women's economic agency across other metros.

7. Conclusion

This study set out to examine whether the lightning-fast convenience of UPI reshapes the age-old thrift reflex of Chennai's middle-class women. The evidence is clear: awareness and adoption of UPI, by themselves, automatically deepen savings & spending and accelerate wealth accumulation. Yet this is not a verdict of failure—it is a call to action. The same rails that move money in milliseconds can be engineered to move it into interest-bearing pockets, micro-SIPs or goal-linked vaults; the same smartphone that records every spend can trigger behavioural nudges toward savings. In short, UPI has handed women an unprecedented lever of economic agency. Whether that lever is used merely to spend faster or also to save smarter will depend on deliberate product design, targeted literacy and policy support. The masala-dabba mindset—quiet, disciplined, self-directed— now has its digital twin; if it does, every tap can become a tiny, compounding step toward greater autonomy and prosperity.

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