



Impact of digital payment systems on consumer buying behavior in urban and rural markets

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Abstract

The rapid implementation of digital payment methods has greatly affected consumer behavior, especially in metropolitan areas with high levels of technology penetration. Statistical methods such as regression analysis and correlation were used to examine the connection between the perceived availability of digital payment options and the likelihood of making a purchase. More digital payment alternatives influence customers' overall buying decisions and increase the likelihood that they would complete a transaction, according to the data, which demonstrate a significant positive association. There is an urgent need to improve the trends of digital payment models in rural India due to the substantial influence that rural areas have on the country's economic growth, the effects of demonetization, and the proliferation of information and communication technology (ICT) in rural areas. It is crucial to enable the transition to digital payments, especially in rural areas, because of the many advantages, such as increased transaction transparency, less room for the shadow economy, and easier corporate operations. The research broadens the data pool by include the influence of e-payment systems on consumers' purchasing choices. To better serve their customers in the digital marketplace, businesses, governments, and financial institutions may use this study to better understand the elements that influence the acceptance and use patterns of electronic payments.

Keywords: Digital Payment, Consumer, financial, Urban and Rural

Introduction

There has been a dramatic shift in the way money moves throughout the world as a result of the proliferation of digital payment methods. Digital payment systems have become more prominent because to the proliferation of mobile devices, the improvement of internet access, and the rising desire for safe, easy, and quick payment options. Traditional cash-based transactions have been progressively supplanted by these technologies, which enable the electronic transmission of monies via mobile phones, online banking, and point-of-sale devices. Millions of formerly unbanked people in many developing nations now have access to banking services because to the fast expansion of digital payment systems. The proliferation of mobile phones and the innovative services offered by telecom providers have contributed to the meteoric rise of digital payment systems in Uganda and many other sub-Saharan African nations.

From sending and receiving money to paying bills and returning loans, there is a whole spectrum of financial

services made possible by digital payment systems such as e-wallets, online banking, payment apps, and mobile money services. Airtel Money is one of the leading platforms that has revolutionized mobile money by allowing customers to do a variety of financial transactions from the convenience of their mobile phones. Over 26 million people in Uganda have subscribed to mobile phones, resulting in a penetration rate of 70%. Mobile money services are crucial to Uganda's financial environment, since 54% of this population uses them to make transactions. Traditional business models have been impacted by the spread of digital payment technologies, which has changed customer behavior and the way Ugandans engage with financial services.

With its vast agent network and user-friendly digital platforms, Airtel Uganda has been leading the way in this change, offering mobile money services to millions of Ugandans. More than 5.5 million people were using Airtel Money as of 2022, with monthly transactions of UGX 3.5 trillion, according to data provided by Airtel Uganda. This expansion is a direct result of people's growing dependence

on online payment systems for routine financial activities including sending and receiving money, paying bills, and purchasing airtime.

Consumers' buying habits, attitudes about cashless transactions, and overall impressions of ease and safety have all been impacted by the widespread use of digital payment systems in Uganda. Traditional banking services are losing popularity as customers become used to utilizing digital platforms to handle their financial operations. As a more convenient and inexpensive alternative to traditional banking services, more people are turning to mobile money systems like Airtel Money. There has been a noticeable transition to digital payment methods in both urban and rural regions, thanks to the widespread use of mobile money.

Digital payments are quickly becoming the norm in Uganda, with research from the World Bank showing that more than 60% of the population uses mobile money for most of their financial transactions. Several reasons, such as the proliferation of mobile network coverage, the availability of affordable mobile phones, and the rising ownership of mobile phones, have contributed to the increasing acceptance of digital payment systems in Uganda. More than 98% of Uganda is covered by Airtel Uganda's mobile network, allowing even the most rural and unbanked areas to have access to banking services. Digital payment methods have been widely used in the nation due to the digitalization of government payments, including tax payments and social assistance payouts. A prime example of a policy that has promoted cashless transactions, reduced expenses associated with cash handling, and improved payment efficiency is the Ugandan government's decision to pay wages of public officials using mobile money platforms.

Literature Review

A lot has changed in the world of money transfers because of how fast digital technology is progressing. Particularly in light of the recent COVID-19 outbreak, this research examines the uptake and use of electronic payment methods in India. It takes a look at what people want, what variables affect adoption, and the problems that companies and consumers encounter. This research examines the shift from cash to digital transactions, shedding insight on patterns, knowledge, and economic effects. Both primary and secondary sources of information corroborate the results, providing a full picture of the ecosystem supporting digital payments.

Muhammed, *et al.* (2024) ^[1]. Ugandan banking has been utterly transformed by the explosion of online payment systems. The mobile money service Airtel Money, offered by industry leader Airtel Uganda, has played a major role in this shift. The effects of digital payment systems on customer behavior, however, remain poorly understood and need more study. Consumers' trust, spending habits, and transactions with Airtel Money were the focus of this research. We used a descriptive study approach to gather primary data from 250 Airtel Money customers and 150 merchants, and secondary data from sources including regulatory papers and reports from Airtel Uganda. A greater adoption rate and more frequent transactions were predicted by enhanced platform security, dependability, and features, according to regression studies. Updating the payment

system's characteristics (coefficient=0.52) and enhancing security perceptions (coefficient=0.27) were shown to be significant predictors of higher transaction frequency in Regression 1. Nevertheless, the utilization was discouraged due to greater transaction costs (coefficient=-0.31). The second regression showed that the trustworthiness of the system (coefficient=0.42) and the security against fraud (coefficient=0.37) were the main determinants of the adoption rate (coefficient for trust=0.61).

Ali, *et al.* (2024) ^[2]. There has been a meteoric rise in the use of digital transactions in India, especially via the Unified Payment Interface (UPI). Because of this, there is an increasing amount of scholarly work on UPI and other digital payment-related topics in India. In this abstract, we draw together the results of the survey and the scholarly analysis of the previous research. Most people use digital transactions often and think it's crucial to have access to this service, according to the study findings. The key factors influencing the adoption of digital transactions are their simplicity of use, the scope for UPI use at shops, and the option to purchase without using cash. Contrarily, references from scholarly journals imply that trust and knowledge are important variables influencing the uptake of UPI and digital transactions in both urban and rural regions. Digital transactions will be more widely used by consumers whose knowledge and confidence in the UPI system are high.

Yadav, Ganesh. (2020) ^[3]. The increasing popularity of online banking and shopping has contributed to the exponential growth of the digital payment system during the last decade. Electronic payment systems and gadgets for processing payments are expanding as the globe moves forward in tandem with technological advancement. The percentage of transactions using checks and cash will decrease in the near future as these grow, evolve, and provide ever more secure online payment options. The digital payment system was born out of India's demonetization. Although it had been present on the market before demonetization, it only gained attention thereafter. How much of an effect does the digital payment system have on the monetary dealings of city dwellers is the subject of the present investigation. Only clients in the state of Maharashtra were included in this research.

Ghumre, *et al.* (2024) ^[4]. Quicker adoption of technology and, by extension, digital transaction execution, has been a consequence of demonetization in 2016. Consequently, there has been a gradual shift towards digital or cashless transactions. When people pay for things online rather than with physical currency, we say that society has adopted a digital transactional economy. The goal of the Digital India initiative is to transform India into a fully digital society. Digital payment would bring about accountability and openness. Additionally, online services have grown rapidly in response to the rise of internet use. Not only is the government actively working to make the economy cashless, but online services and payment apps are also growing in popularity. In this research, we set out to examine how rural Indian consumers' attitudes and practices regarding digital payment have evolved over time. Taking stock of current developments, market analysis, infrastructure preparedness, etc., this paper reviews the factors that effect and promote digital transactions in rural

economies. In order to learn what has to be done to ensure success.

Research Methodology

In order to better understand how urban customers' use of digital payment choices affects their purchasing decisions, this study takes a quantitative research technique. To learn about shoppers' habits and preferences when it comes to digital purchases in physical stores and online, researchers used a mixed-methods descriptive and analytical approach. 60 urban customers were selected for the research using a non-probability convenience sampling approach.

This method was deemed appropriate due to the time restrictions and the need to reach out to individuals who are familiar with digital payment technology quickly. Using correlation and regression analysis, we were able to better understand the impact of digital payment choices on consumers' inclination to buy and if more availability leads to increased purchase rates. The study's focus was on customers residing in metropolitan regions due to the greater penetration rates of digital infrastructure in these areas compared to rural ones.

Data Analysis

Using Spearman's rho correlation analysis, we looked at how people's perceptions of the availability of digital payment choices correlated with how much those options really encouraged them to finish the transaction. At the 0.01 level ($p < 0.001$), the results show a positively correlated coefficient of 0.468, which is statistically significant. Therefore, a prosperous partnership. Put simply, when digital payment choices are more readily available in shops or online, consumers are more inclined to complete their purchases. The significance value ($p < 0.001$) further proves that the observed association was most likely not an accident, suggesting a genuine link between the availability of digital payments and customer purchase incentive.

Regression Analysis

Table 1: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.381 ^a	.145	.131	1.064

a. Predictors: (Constant), How often is it to find digital payment options (like UPI, wallets, cards) in the stores or websites, you usually shop from?

Table 2: ANOVA

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	11.177	1	11.177	9.871	.003 ^b
Residual	65.673	58	1.132		
Total	76.850	59			

a. Dependent Variable: To what extent does the availability of digital payments encourage you to complete a purchase?

b. Predictors: (Constant), How often is it to find digital payment options (like UPI, wallets, cards) in the stores or websites, you usually shop from?

ANOVA Table Interpretation

Indicates a fairly favorable association ($R = 0.381$) between the dependent variable (the degree to which the availability of digital payment choices encourages purchase completion) and the predictor variable (the ease of locating digital payment options like UPI, wallets, or cards). With an R-squared value of 0.145, we can see that the availability of various digital payment methods explains about 14.5 percent of the variance in consumer behavior. Despite being somewhat lower at 0.131, the adjusted R Square demonstrates similar explanatory power when the number of predictors in the model is taken into account. The standard error of the estimate (1.064) shows the average departure of the observed responses from the predicted values. There is statistical significance in the regression model, as shown by the 9.871 F-statistic and the corresponding p-value of 0.003.

Histogram Analysis

Table 3: Statistics

Statistics		
How frequently do you use digital payments for shopping (online/offline)?		
N	Valid	60
	Missing	1

Table 4: Frequency

How frequently do you use digital payments for shopping (online/offline)?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	23.0	23.3	23.3
	2	13	21.3	21.7	45.0
	3	12	19.7	20.0	65.0
	4	18	29.5	30.0	95.0
	5	3	4.9	5.0	100.0
	Total	60	98.4	100.0	
Missing	System	1	1.6		
	Total	61	100.0		

Interpretation of the Frequency Table

In the frequency chart, we can see how often people utilize digital payments for in-store and online transactions. Out of 61 individuals, data from 60 valid replies (one instance was missing) were evaluated. The results show that although 23.3% of respondents use digital payments very occasionally, 21.7% of respondents use them slightly more regularly (scale point 2), and 14.3% of respondents use them extremely infrequently (scale point 1). Twenty percent (12 respondents) indicated moderate use (scale point 3), whereas just three percent (5% of the total) reported very regular usage (point 5). Also, 18 people, or 30%, said they used it a lot (scale point 4). This distribution shows that a significant fraction of urban customers still uses digital payments less often, despite the fact that a large part of urban consumers uses them moderately to regularly. This variety in adoption levels is seen among urban consumers.

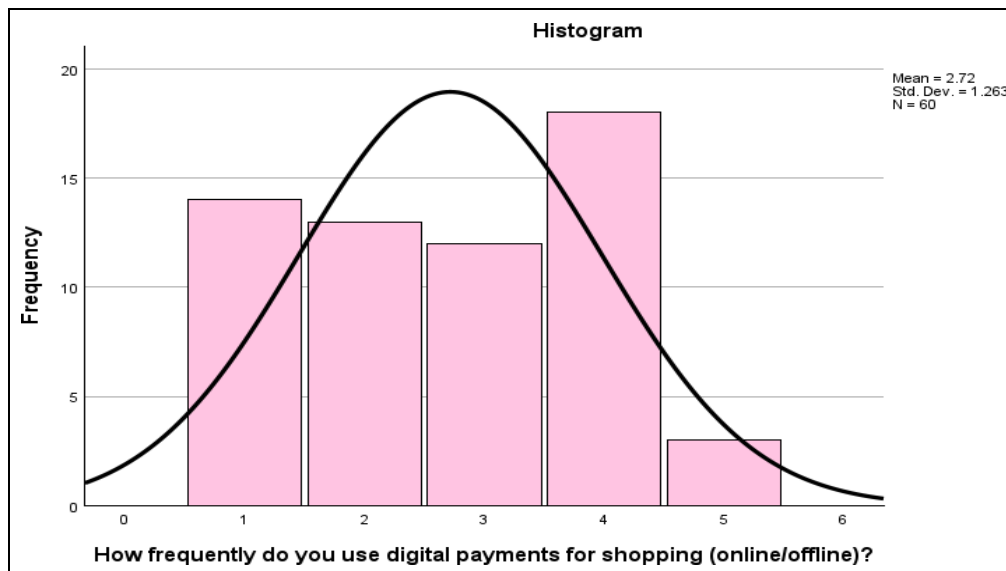


Fig 1: Histogram Analysis

Interpretation of the Histogram

The histogram shows the distribution of the frequency with which respondents utilize digital payments for shopping. The histogram displays a distribution that is generally typical, albeit it is somewhat biased towards lower use rates. Digital payment use is most often reported by customers in the "sometimes" to "often" category, with an average measurement of 2.72. With a standard deviation of 1.263, the dispersion among the males is considerable. Even if many responders fall within the typical frequency range, this still shows that there are large behavioral disparities. Despite rising use, the form of the curve indicates that a large share of customers still does not routinely utilize digital payment methods.

Digital Payments in Rural Sector

Many financial technology businesses have recently shifted their emphasis to rural markets in an effort to broaden their operating base, recognizing the vital role that the rural sector plays in the country's economic growth. As an example, a lot of e-commerce and mobile wallet firms are

shifting their strategy to target rural areas in order to capture a larger portion of the market. The market dynamics have also seen a dramatic shift as a result of recent events, such as demonetization and its associated effects. Prior to demonetization, only a small fraction of rural customers and merchants used digital payment solutions. Since then, however, the number of people utilizing point-of-sale systems and digital payment interfaces has increased exponentially.

The government is actively promoting the use of the UPI (United Payments Interface) and other digital payment systems by lowering the service tax on government e-services, streamlining mobile wallet transactions, expanding bandwidth to rural areas, and timing the issuance of payment banks. Take, for example, the figure 1 below, which shows the evolution of digital transactions in recent times. Increasing compliance requirements, the effects of demonetization, incentives, and government measures promoting digital transactions are the elements linked to this change.

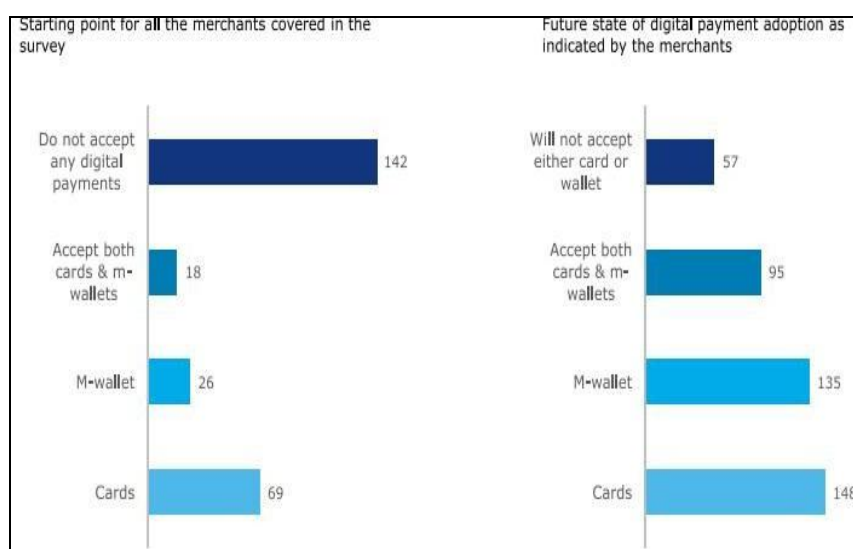


Fig 2: Pre & Post Demonetization Trend for Digital Payments

- The shift towards a digital economy has begun, even if India's economy is still mostly centered on cash.
- Digital payment choices have expanded for stakeholders including merchants and customers as a result of the RBI awarding payment bank licenses to several fin-tech startups, such as Paytm, and numerous competing mobile wallet solutions that have emerged from existing banking institutions.
- A more secure platform for customers is the result of the strategic deployment of UPI solutions, such as

BHIM, by the Government of India. These solutions offer hassle-free digital transactions on a government platform.

- Payment systems based on Aadhaar are making a big splash in the Indian market, which might open up possibilities for digital payments using feature phones.
- Consumer demand for digital payment methods has recently seen a substantial uptick, according to a survey released in conjunction with CII and Deloitte. An abundance of retailers.

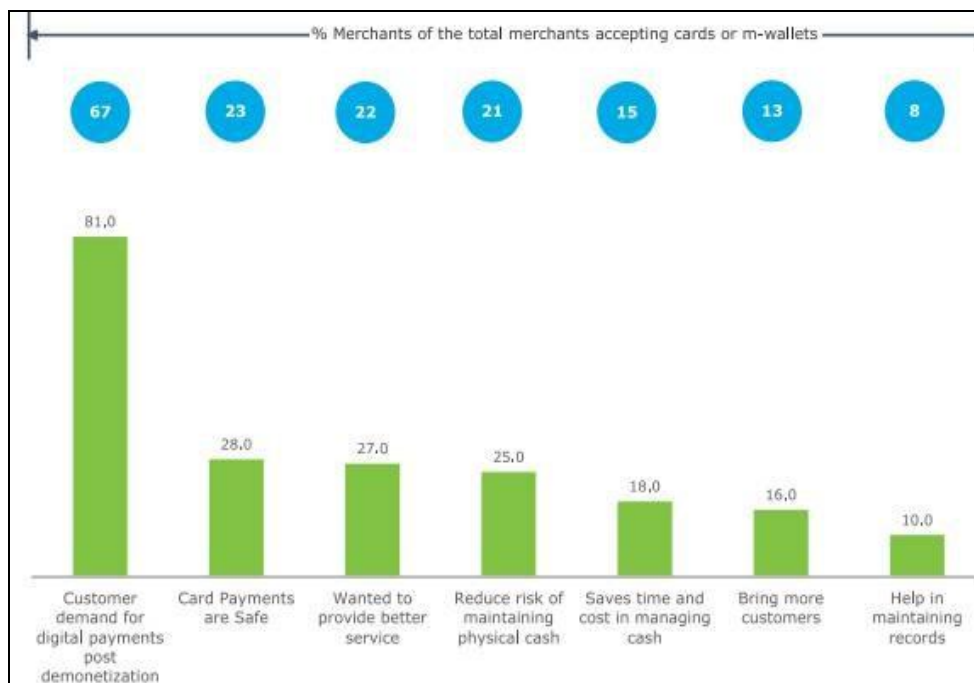


Fig 3: Impacting Factors for Digital Payments

Customer demand for digital payments is much higher than in previous eras, as seen in figure 3. Even before demonetization, there have been major changes in the system, which is another important thing to note. There has to be major progress in the case of digital payments happening right now, according to recent studies. Digital transaction processes are being bolstered by a number of important and influential variables, including:

- Mobile banking, IMPS solutions, and similar technologies have become more user-friendly in comparison to previous trends.
- The growth of online marketplaces catering to rural areas is another important factor propelling the use of digital payment systems.
- Government programs, both direct and indirect, that aim to improve banking convenience, compliance requirements, and related aspects are crucial.
- A number of important initiatives, such as the widespread distribution of "RuPay cards" linked to Jan Dhan accounts (zero balance accounts), the introduction of Kisan Credit cards to farmers, and the push to enable point-of-sale solutions for rural merchants, have laid the groundwork for digital payment adoption in rural areas.

Digital transaction instruments have been on the rise recently, and new trends are positioning themselves for future expansion (figure 3 below).

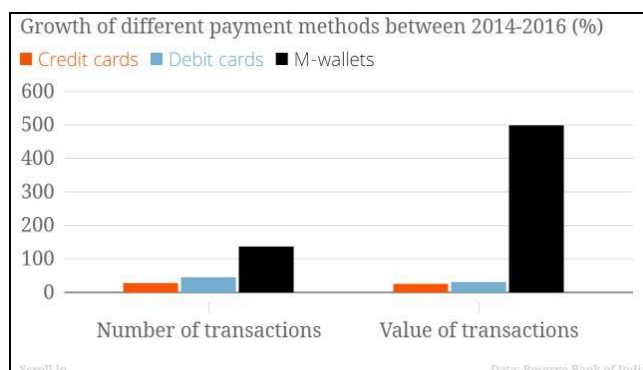


Fig 4: Growth of Different Payment Methods

The numbers shown above indicate an extraordinary increase in the value of transactions conducted using M-wallets. We can still say that the industry is developing at a considerable pace, and that digital payments have the potential to enter the market at even greater levels with the correct adjustments to its dynamics (even though the numbers show transaction sizes in both rural and urban areas).

Conclusion

We will focus on urban customers who do their shopping both online and off, and we want to see how the availability

of digital payment choices affects their purchasing decisions. The primary purpose of the study was to compare the buying habits of people who frequently use digital payment options to those who prefer more traditional methods of payment, such as cash or debit/credit cards. The secondary purpose was to analyze how the availability of digital payment options affects consumer purchasing decisions. Results show that digital payment infrastructure is more than a nice-to-have; it's a strategic component that influences consumers' choices to buy. Even though the present model only provides a partial explanation of customer behavior, future study might expand its scope to incorporate other factors such as perceived security, transaction speed, demography, or brand loyalty. The Indian economy is booming, and the country is quickly becoming one of the world's most powerful. Some essential elements, such as more openness, better corporate governance, and limiting the parallel cash-based economy, are necessary for healthy economic development and long-term growth. Only if people in rural India start using digital payments and transactions will these kinds of advancements be possible. The findings show how complicated it is for consumers to decide to use e-payments. Electronic payment systems should emphasize security enhancements, provide attractive incentives, ensure user-friendliness of features, and boost merchant acceptance in order to address the needs of a wide range of consumers. When providers make an effort to understand and meet the needs of their customers, they may increase customer happiness and the use of electronic payment systems.

References

1. Muhammed M, Arinaitwe J, Musiimenta N, Kirwisa M. Digital payment systems and consumer behavior: A case study of Airtel Uganda. *International Journal of Research and Innovation in Social Science*. 2024;3:69–80.
2. Ali SMS, Akhtar M, Haque M. Impact of consumer awareness on UPI and digital transactions in rural and urban India and the influencing factors. *International Journal of Management and Social Sciences*. 2024. ISSN 2394-7926.
3. Yadav G. A study on impact of digital payment system on urban consumers with reference to Maharashtra. *International Journal of Management, Technology and Engineering*. 2020;10(4):659.
4. Ghumre N. Consumer behaviour: Move towards digital payment in rural environment. *ResearchGate*. 2024. doi:10.13140/RG.2.2.16833.98404.
5. Chaffey D. *Digital business and e-commerce management*. 8th ed. Harlow: Pearson Education; 2019.
6. Kotler P, Keller KL. *Marketing management*. 15th ed. Harlow: Pearson Education; c2015.
7. Laudon KC, Traver CG. *E-commerce 2023: Business, technology, and society*. 17th ed. Harlow: Pearson Education; c2023.
8. Roli G. The impact of financial understanding on implementing digital payments on combating economic disparities between urban and rural people. *International Journal of Trend in Scientific Research and Development*. 2025;9(3).
9. Raya A, Kartawinata BR. The influence of consumer behavior and product quality on consumer decision making in selecting Dana as financial technology mobile payment application. *Almana: Jurnal Manajemen dan Bisnis*. 2022;6(1):54–64.
10. Faraz N, Anjum A. Spendception: The psychological impact of digital payments on consumer purchase behavior and impulse buying. *Behavioral Sciences*. 2025;15(2).
11. Jain M. Three charts show how mobile wallets are exploding in India [Internet]. *Quartz India*; c2016. Available from: <https://qz.com/india/753058>
12. Padmaavathy R, Adalarasu B. The modern wallet: Mobile wallet a distant dream in India. *My Research Journals*. 2014;3(12).
13. Panchal S. UPI: When banks turn mobile wallets [Internet]. *Forbes India*; c2016. Available from: <http://www.forbesindia.com/article/checkin/upi-when-banksturn-mobile-wallets/43093/1>
14. Acharyya K. Demonetisation: Digital transactions meet roadblocks in rural India, effects felt everywhere. *Scroll.in* [Internet]. 2016. Available from: <https://scroll.in/article/822538>

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