

Demonetisation for changing payment behaviour and building platforms

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Received (in revised form): 24th February, 2017

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ABSTRACT

Although mobile money is seen as the solution for financial inclusion, some countries have been facing challenges in the adoption of mobile wallet accounts. Slow adoption is linked to the perceived benefit of the mobile wallet, which, among other things, is informed by the cost of adoption. This paper discusses various issues relating to the pricing of mobile payments and how pricing decisions affect consumer adoption of mobile wallets in developing countries. It discusses how the demonetisation of digital payment instruments can positively affect the perceived utility and hence adoption of mobile

payment, in addition to the associated network effects and implications for Big Data. It also suggests that FinTechs are the best candidates to demonetise payments. It further explains how mobile wallets can be used as the foundations for applications and services that mobile financial service providers have been unable to provide by themselves.

Keywords: digital payments, payment behaviour, payment pricing, behaviour change, mobile money, financial inclusion

INTRODUCTION

Financial inclusion is a key issue for emerging economies. For cash-dominated economies, the use of cash presents high costs for managing currency, high informality in the financial sector, money-laundering issues and impediments to the growth of e-commerce. In India, for example, where cash represents more than 95 per cent of the currency in circulation, the cost of cash was estimated to be 1.7 per cent of GDP in 2014–15.¹ The demand for cash in India is met through the provision of some 18,000 automated teller machines (ATMs) at an annual cost of US\$2.36bn in capital/operating expenditure.² Shifting towards a 'cash-lite' economy will help reduce this cost. The current low adoption of digital payments is hampering the country's progress towards financial inclusion

goals, not simply due to undocumented transactions but also because individual market players are unable to realise their return on investment.

The high penetration of mobile technology in emerging economies presents new avenues for providing access to financial services at lower costs. The use of mobile money for financial inclusion has been under study for many years now and successful cases have been celebrated. Nevertheless, the adoption of mobile money remains a challenge in countries such as Pakistan where it has not enjoyed the same levels of penetration as it has in the comparable economy of Bangladesh.

However, the advent of financial technology startups (FinTechs) has brought about a new wave of digital financial services with the potential to resolve the challenges of adoption faced by mobile money services by creating a layer of services on top of mobile wallet platforms to make existing services more efficient.

OVER-THE-COUNTER TRANSACTIONS: A DISINCENTIVE FOR DIGITAL PAYMENTS

After the success of M-PESA, mobile money was expected to enhance financial inclusion in emerging markets. Easypaisa was the first mobile money operator in Pakistan, followed by MobiCash, TimePey, Upaisa, all of which started with a focus on agent-led transactions, or over-the-counter (OTC) transactions, and targeted the bottom of the opportunity pyramid. OTC transactions took off immediately among the low-income and low-literacy target group where agents assisted people in transactions. The focus on OTC, which was also replicated by other market players, resulted in quick wins in terms of revenue but failed to achieve the goal of long-term mobile wallet adoption. A key problem was the fact that agents were disincentivised from promoting wallets as it cannibalised their commissions from OTC transactions; operators were likewise disincentivised as

driving mobile wallet adoption cannibalised established revenue lines, while customers were disincentivised due to high transaction costs.

The most popular use case is peer-to-peer (P2P) money transfers or money remittance, which is thought to be satisfactorily served by agents, although the costs are quite high. The revenues from money transfers started dwindling, however, when a lack of differentiation among market players resulted in price competition. With a lack of acceptance of mobile payments on retail, and the lack of incentive for agents to educate, promote and open mobile wallets for their customers, mobile wallets remained in the distant background. Attempts to increase the penetration of mobile wallet accounts led to one of the most widely adopted use cases of government-to-person disbursements (ie social payments) through mobile wallets, which did indeed lead to an increase in wallet accounts. Periodic payments have helped keep these accounts active; however, recipients are still disinclined to keep money in their wallets or to make digital payments. This is owing to a lack of acceptance of mobile payments in the retail context, a lack of other use cases in the everyday life of consumers, and the cost associated with making the payments for both the customer and the merchant.

DRIVING BEHAVIOUR CHANGE THROUGH DEMONETISATION

Adoption of new innovations requires a change of behaviour. As such, people must be given a reason to change their behaviour. In the case of mobile wallets in Pakistan, one explanation for the minimal shift in behaviour is the lack of perceived utility. To understand the underlying cause of this, the perceived utility of the payment method must be assessed from a customer perspective. In this regard, price is an important component, especially for consumers with the lowest income levels. The technology adoption model,³ which describes the willingness

of a customer to use innovation, describes technology adoption as a composition of two factors: first, the perceived usefulness or the extent to which a user believes a particular innovative system will improve their performance, and secondly, the perceived ease of use, that is, the extent to which users think a system will cause them no additional effort. In the case of mobile wallets, performance improvement may be measured with respect to time, money, convenience or security. In Pakistan, mobile money payments are priced from 1.74 per cent⁴ to 6 per cent⁵ of the transaction amount. The majority of everyday payments are micro in nature and the cost of payment compared with the total transaction size can directly affect the perceived utility for a mobile money consumer, mostly of whom belong to a low-income group.

Grönroos presents the following equation to describe customer-perceived value (CPV):⁶

$$\frac{\text{core solution} + \text{additional services}}{\text{price} + \text{relationship costs}}$$

This indicates an inverse relationship between perceived value and price and relationship costs. Relationship costs can include the cost incurred to travel to the agent shop and the number of times the agent was insolvent. Additional services or payment use cases offered are limited and explained in later sections.

Demonetisation and digitisation of payments achieved through mobile wallets can address both the price and relationship costs and hence the perceived value.

WHAT IS DEMONETISATION?

Although demonetisation generally refers to the act of stripping a currency of its value, the present paper uses the term to refer to stripping a transaction of its cost for customers — ie making payments free or zero priced. It is frequently used in conjunction with digitisation because the digitisation of

payment is typically seen as the conversion of the process of exchange of value between the payer and payee from analogue to electronic. For developing countries, however, the effects of digitisation are far-reaching for both customers and mobile financial service providers. For customers, digitisation entails the eradication of indirect costs associated with travelling to an agent and the lack of privacy with respect to the details of their transactions, PINs and the benefactors or beneficiaries of payments. Likewise, for payment service providers, the costs associated with installing a network of ATMs or recruiting, training and maintaining an agent network to educate, onboard and serve customers are all eradicated. However, none of these benefits can be enjoyed unless the customer's behaviour can be shifted to prefer a digital interaction over a cash transaction or even an OTC one. For customers, such a shift in behaviour can be driven by a change in perceived utility, which will be more pronounced if payments are made free. The other indirect benefits described previously can only be appreciated once the demonetisation of payments has brought about the shift towards digital transactions.

The demonetisation of payments will improve the financial performance of transactions for both customer and mobile financial service providers, as everyone will benefit not just from the related economies of scale but also the reduced effort associated with digital proximity and online payment. Therefore, if payments are digitised and demonetised, the perceived utility of a mobile payment can increase drastically. At the same time, digital payments create new forms of value in the form of documenting the economy and creating a record of payments for customers which can be used to assess their liquidity and hence repayment capacity to qualify for loans. Later sections describe how the traction achieved through demonetisation allows wallets to become platforms for a multitude of additional services.

Thus, demonetisation and digitisation are mutually reinforcing, as will become clearer in the next sections.

DISRUPTIVE TRANSFORMATION THROUGH FINTECHS

Emerging markets have larger gaps in the financial services space. In the overview of the World Bank's goal of universal financial access by 2020, it is indicated that 75 per cent of the world's financially excluded population resides in 25 developing countries, of which China and India constitute 32 per cent of such individuals.⁷

Emerging markets have bigger disruption potential because the basic facilities such as water, health, education and finance remain largely absent. Large-scale behavioural changes are seen in markets when the gaps are largest and are met by technology-led innovative business models. For example, landline penetration was historically lower in developing countries than in developed countries. Since the advent of mobile technology, however, developing countries have enjoyed a larger customer base for mobile phones owing to both their large population and higher unserved market. In 2015, there were more than 7 billion mobile cellular subscriptions worldwide, up from less than 1 billion in 2000. It is worth noting that most of these subscriptions are in the developing world, with 2 billion people using the internet in such countries, out of the 3.2 billion people doing so globally.⁸ Emerging markets claim the lowest financial inclusion ratios, and therefore present the largest opportunity for FinTechs.

The rate of adoption is also faster as the market gaps are significant. Technology-led business models have the potential to fulfil gaps in all areas including financial services, and the ubiquity of smartphones, increasing internet penetration and social media users can drive this change.

Digitisation and demonetisation increase the speed of disruption. Mobile cameras

and messaging apps provide a case in point. A decade ago, the cost of taking pictures involved buying a camera, purchasing film and getting it developed. To share a picture, the photograph had to be reproduced from the negatives and hence the distribution process was time-consuming and limited. Since the advent of digital and mobile cameras, the cost of taking and distributing pictures has become marginal, resulting in a change of behaviour. People have started producing and posting unlimited pictures through their mobile phones. Similarly, search engines have digitised the process for finding information which once required spending hours in the library. Google performs 63,000 searches in one second and 2 trillion searches every year.⁹ E-mails have replaced letters and the frequency and speed of communication have grown drastically — as has the expectation for instantaneous replies. Online music has replaced CDs, news is now consumed in bite-size pieces several times a day, and newspapers have long ceased to exist as the prime sources of information. The frequency of consumption for almost everything has increased exponentially as 'change' or 'graduation' is made from the physical value chain into digital. This occurs due to the dramatic reduction in costs and digitisation making the services much simpler to operate in near real time. The following equation explains the exponential growth impact of this digital transformation as it takes root in whatever it touches and redefines.

$$\text{simplicity} + \text{affordability} + \text{unconditional access} = \text{frequency and consumption}$$

It is only a matter of time before the demonetisation of payments facilitated by technology will commoditise payments too. Digitisation results in simplicity and unconditional access while demonetisation results in affordability and thus increased consumption. At one level, the goal is to change behaviour through

demonetisation, while at the other level, the goal is to generate Big Data which can be utilised to create proxies for payment behaviours and capacities in markets which remain largely undocumented.

Similar to the digital camera, FinTechs relying on digital and mobile channels for customer acquisition, distribution and provision of services can reduce the costs of financial services significantly, thereby demonetising payments and creating large-scale behavioural changes. However, the reduction in technology costs does not mean that incumbents can bring about the demonetisation. Incumbent institutions have established revenue lines through rent-seeking models where a price is charged every time a transaction takes place, hence they cannot demonetise payments without cannibalising their profits. FinTechs, on the other hand, are startups with no dependence on rent-seeking revenues. With their lean structures, they have the ability, flexibility and agility to accommodate changing customer needs and introduce innovative products with sharp focus. They utilise the social, mobile, analytic and cloud technology to create financial services for the new age. Their rightful place in emerging market remains on top of the mobile wallet providers and banks, which act as platforms for FinTechs. Banks and mobile financial service providers specialise in tasks of scale, such as compliance and money management, and can therefore work in partnership with FinTechs, thus providing another reason for FinTechs to remain lean. FinTechs develop need-based innovative financial services and have lower development costs due to the reduction in the cost of technology since the advent of cloud-based services, meaning that their risk is lower. Partnership between FinTechs and incumbents is a win-win as incumbents do not have to invest in FinTechs yet can benefit from the increase in customer base or profit rather than paying a licence fee to a vendor. For FinTechs, meanwhile, the lower cost

to introduce new products and services can result in a change in attitude to research and development. The momentum required for a FinTech startup to change direction during development is a lot lower than for an incumbent with its large and complex organisational structures and technology platforms. Therefore, the onus to innovate can be with the FinTechs, while incumbents act as platforms for hosting innovation.

As platforms focus on carrying out the core industry processes efficiently and achieving economies of scale, differentiation within the same framework is not possible. Incumbents across industries are realising that innovation rarely happens in rigid and large structures, and trying something new could prove disruptive. Innovation must therefore be sourced from elsewhere. The best bet for such platforms is to open up to third parties for innovation. Such innovators are almost always startups. Startups are free from legacy systems and red tape and can access innovative talent driven by unique ideas and solutions. Such third parties can experiment with the core platform and develop products and services on top of these platforms. Incumbent players across industries either have realised or are in the process of realising two things:

- the inability to conceive and try out new ideas efficiently within large structures; and
- they alone cannot drive consumption of their platforms to the extent required to achieve economies of scale as customers are becoming increasingly selective and want different things.

To address this innovation block, incumbents in various industries are now looking to introduce innovative new products within their domains through either the incubation or sponsorship of startups. Meanwhile, to increase consumption of their platforms, they have opened them up to third parties. Although not unique to the telecom

industry, for example, the process is very prominent there and it is now making its way into financial services, with banks opening up their application programming interfaces (APIs) to FinTechs. In the telecom market, this has been addressed by restructuring network infrastructure to adopt a cloud communication model where communication services like SMS, MMS, calls, shortcodes etc are available for developers and enterprises via APIs. These segments can use APIs to build the required services into their applications such as call centres, insurance or banking apps with video calling connecting customers to their agent or relationship manager, without the client having to incur any capital expenditures, all while increasing network utilisation for the telecom operators. Like telecom operators, banks provide core processes at scale, and can provide these core services to FinTechs through their open APIs. This will lead to the addition of value-added products and services for the banks' customers, hence ensuring retention.

DIGITISATION, BIG DATA AND DIGITAL LENDING

When payments are demonetised, the most popular cases for peer-to-peer and merchant payments will rise quickly, much like how the use of messaging apps risen sharply and grown beyond SMS. With the rise of a digital economy, consumers can use services at no monetary cost to themselves, provided that useful data are being generated, which is the same in the case of payments. With free payments, enormous amounts of data will be created. The value is then derived by generating useful data in the process rather than making a profit from payments. The data generated from a customer's payment history can yield important information about his or her creditworthiness and open the doors to digital lending. Such availability of instant credit will provide customers with a further incentive to use digital payment methods,

driving the adoption of mobile wallets and creating a spiral in digital growth.

NETWORK EFFECTS

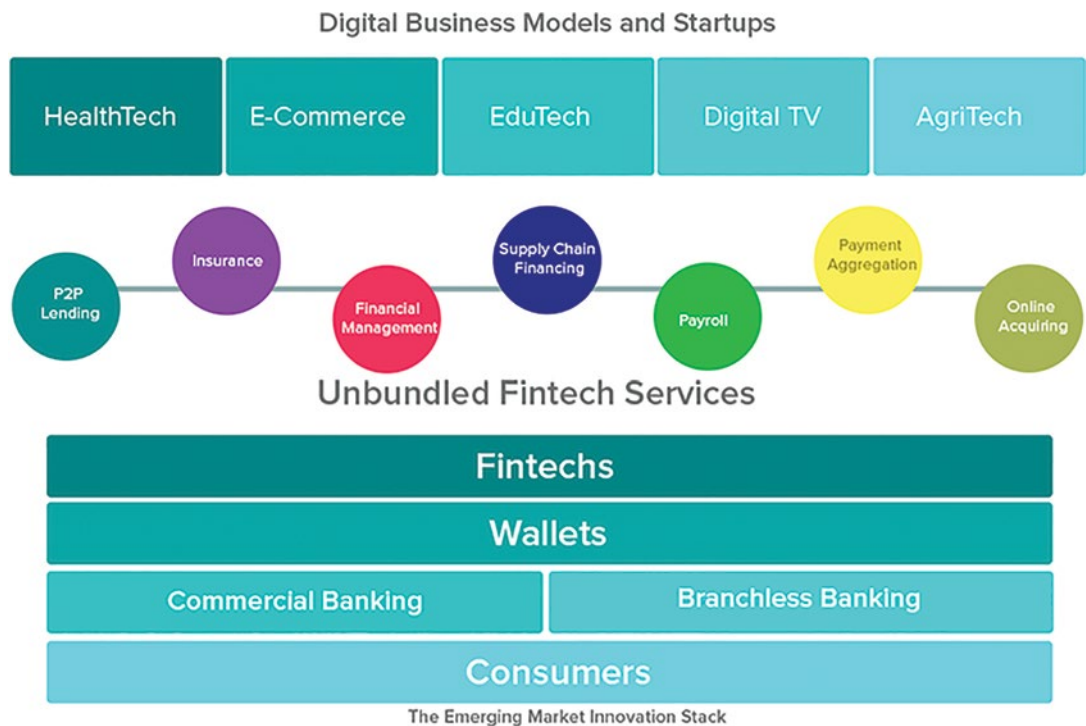
With evangelism built into future financial products, customers will take on the role of the sellers. They will be incentivised to promote the adoption of these products and thus a network effect will be created. Following the demonetisation of payments, any increase in network members directly increases the utility of the network. As with social media channels such as WhatsApp and Facebook, the more friends and family members use these networks, the greater the reason to adopt them. Similarly, if most of the contacts in a customer's circle are using the same payment instrument (at no cost), the perceived utility will increase and eventually it may appear as the only reasonable and natural way to make payments. Products lacking the network effect will have a high acquisition cost and will not be able to compete effectively in today's digital world.

Global efforts towards blockchain implementation are driven by the same premise of commoditisation of payments.

PAYMENTS AS PLATFORMS

Demonetising payments and building traction is a first step towards the birth of another platform: the mobile wallet platform which will act as the base for many other FinTechs to build payment use cases and other services. For example, rotating savings and credit associations (ROSCAs) are common all over the world, particularly in developing countries where there is a dearth of formal saving options. This suggests that a digital ROSCA built on top of a mobile wallet with demonetised payments would be an ideal product for a FinTech to develop. With free digital payments, users would not have to think twice before making their periodic contribution to the ROSCA. The traction of the mobile wallet will decrease the barriers

Figure 1 Mobile wallets as platforms for FinTechs



Source: Seeding Innovation: A framework for rooting FinTechs in Pakistan, <http://www.karandaaz.com.pk/wp-content/uploads/2017/01/Seeding-Innovation.pdf>.

to entry into an otherwise cash-dominant market.

Similarly, another FinTech could use digital wallet data to create a credit scoring engine, while another could use the credit scoring to create P2P lending platforms for individuals or businesses. Thus, mobile wallets will lead emerging markets to new age finance.

WHAT NEEDS TO BE DONE TO PROMOTE DIGITISATION AND DEMONETISATION?

To effectively digitise cash-dominated economies like China, India and Pakistan, consumer behaviour must be changed through demonetisation and otherwise increasing the utility for customers — in other words, by creating use cases for digital payments and reducing the disincentives to using them. The major driving force for creating all these factors must come from

favourable changes to regulatory policy. In what follows, this paper recommends some courses of action for policy makers to increase the penetration of digital payment.

Promoting FinTech favourable regulations and encouraging FinTech collaboration

The FinTech sector is growing rapidly all over the world, with emerging markets like China, India and Pakistan considered the next hotbeds for FinTech investment. Owing to the sheer size of the financially excluded population in these countries, there is enormous opportunity for FinTechs to bring them into the fold of formal financial services. FinTechs can solve the problem of low perceived utility by creating a multitude of digital financial services on top of mobile wallets and bank accounts. They work on focused value propositions and create

differentiated products by capitalising on their lean structures and agility, which is not possible for incumbents owing to their large organisational structures and bureaucratic processes. This paper has discussed how partnerships between FinTechs and incumbents can bring about demonetisation. However, to make these partnerships work, the regulatory frameworks need to be in place. Indeed, unlike other non-regulated sectors, the future of a FinTech startup ecosystem relies heavily on the favourability of the regulatory landscape. Therefore, it is imperative for the regulators to define frameworks that make clear the mechanics of how FinTechs can leverage the banks' regulatory cover to provide services, or how they may provide such services independently. Defining such frameworks will make reluctant incumbents in heavily regulated geographies comfortable in partnering with FinTechs and also reduce the perceived risk associated with FinTech investment in these sectors.

Increasing competition and enhancing innovation

Allowing non-bank entities to offer payment products while reducing the regulatory burden and thus barriers to entry are central to enhancing innovation in this space and thus increasing utility for customers through differentiation. Progressive economies such as the EU were the first to develop payment specific regulations such as the Payment Services Directive and progressive regulators such as the UK Financial Conduct Authority even created a separate payments regulator — the Payment Services Regulator. These regulations have allowed non-banks to offer payment services and thus have increased competition and innovation in payments and given rise to innovative payment startups like TransferWise, Ayden and Klarna in the EU.

In the developing world also, digital payment instruments are seen as a source for providing basic account services to the

unbanked population while keeping the business model profitable. Banks, because of their organisational structures defined by product lines, being heavily regulated and having been generally slow in adopting new technologies, were automatically disqualified for this task. Therefore, the task of creating digital payment services seemed more suitable for companies closer to technological products, having a lean structure and agile processes for rapid changes. Following the introduction of new regulations, there has been clear growth in the number of non-bank or third-party payment providers.

In 2010, the People's Bank of China, the country's central bank, enacted new legislation that allowed non-bank companies to render online payment services, thus officially granting payment licences to 27 companies, including Alibaba and Tenpay TPP. By 2011, 270 online payment licences had been issued, of which 267 were active.¹⁰ Of these, the biggest third-party payment provider is Ali Pay followed by WeChat, accounting for 91.7 per cent of the market,¹¹ leaving little for the other 264 players, who are being actively acquired by companies looking to make online payments a strategic part of their business.

Similarly, the regulations in India allow multiple types of payment provider and payment instrument to operate, including telco-led wallets, bank-led wallets, prepaid cards and wallets and non-payment banks. Paytm is one such wallet provider, having grown to a market capitalisation of US\$4bn.

Removing financial disincentives on digital payments

While a radical approach to the digitisation of payments was seen in India when Prime Minister Narendra Modi banned currency notes of INR500 and INR1,000, some sequential approaches also exist which require policy changes to encourage digital payments behaviour starting with e-commerce and utility payments. These include removing taxes on digital payments, utility bills, e-commerce

payments, and instead taxing cash payments. Thus, the rent-seeking behaviour in payments does not conform to the modern age and is rejected by customers. The focus must be shifted towards digital economy imperatives of digitisation and data creation through demonetisation.

Under one such initiative, the People's Bank of China announced in March 2016 that it is contemplating a cap on merchant service charges on card transactions. According to the National Development and Reform Commission and the Central Bank of China, merchant service charges for debit cards were to be capped at 0.35 per cent, while those on credit cards should be no more than 0.45 per cent. Prior to this new policy, banks could charge a maximum 0.9 per cent on card payments. This would result in an annual saving of US\$1.2bn (CNY7.4bn). With such a reduction in revenue, card issuers are likely to cut card benefits for consumers, and instead look at new ways to generate revenue.

Reducing the barriers to onboard customers to digital payment instruments

The number of steps a customer must go through to start using a digital payment instrument can directly affect perceived utility. The process should be as simple as a click of a button. In Pakistan, it is possible for telcos to open mobile money accounts remotely on the basis of biometrically verified SIM information. Banks, however, must biometrically verify their customers using the NADRA database, which requires a thumb impression.

However, it is possible to make the process even simpler. For example, under the RBI regulations in India, a customer can make transactions of up to INR10,000 on a prepaid instrument, which can be closed, semi-open or open, without having to meet know your customer (KYC) requirements. This has facilitated the adoption of mobile wallets and digital payments. Upon verification, the limit goes up to INR100,000. Customers download the mobile wallet app of their choice and use the wallet for digital payments. This has allowed many e-commerce players to offer wallets and accept digital payments for tickets, utility bills and online shopping.

While in India and Pakistan, later stages of the customer verification process require an in-person visit by the customer, in China, a tiered KYC approach has been introduced, making it possible to open accounts based on online authentications (Table 1).

SUMMARY

In today's data economy, the creation and distribution of content are transactions of sorts and have been demonetised in favour of increasing transaction frequency and harvesting the associated data. Likewise, the mindset behind the pricing of financial transactions also needs to be challenged. For emerging economies with low financial inclusion, this serves a dual purpose — a move towards data economy and financial inclusion. With an increasing customer base, network effects will be created and the utility of such platforms will increase. While moving towards the creation of a critical mass of

Table 1: Tiered know-your-customer requirements for opening digital bank accounts in China

<i>Account type</i>	<i>Type I</i>	<i>Type II</i>	<i>Type III</i>
Account limit (RMB)	1,000	100,000	200,000
Authentication	One online authentication	Face-to-face authentication/ three online authentications	Face-to-face authentication/ five online authentications

customers, a free payment ecosystem will become the dominant platform for the creation of further FinTech products. The data generated will create FinTech products that make the payment platform encourage customer retention. This can only happen in a conducive ecosystem of which regulations is a crucial part. Regulations must encourage innovation by enabling FinTech entrants and encouraging incumbents to collaborate with them. Digital payments are the cornerstone of all digital financial services: such payments are not only fundamental to realising the goal of financial inclusion but also for encouraging innovative business models. Regulators need to remove the disincentives for digital payments in the form of taxes and reducing Merchant Discount Rate (MDR.s) and the requirements for opening digital accounts.

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