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Digital Payments on the Agenda: How Supply-side Actors Framed Cash and Digital Payments during the COVID-19 Pandemic in India

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Digital Payments on the agenda: How Indian actor groups framed cash and digital payments during the COVID-19 pandemic

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Abstract: Global conversations on the increase in digital payments during COVID-19 are primarily focused on behavioural change among consumers. Through the case study of India, this article documents how various supply side actors (political, economic, financial, and technological) used the pandemic to generate a public consensus about digital payments. It demonstrates how: a) they framed the agenda to draw public attention on cash and digital payments during COVID-19 pandemic, b) to do so, they extended and deviated from narratives created during demonetisation (2016) and Digital India (2015), and c) that trade bodies and businesses unrelated to banking, finance and technology in the domestic market are very active in such agenda-setting. Pandemicera agenda-setting will mould the payments trajectory at both the international and national level. In India, it challenges factors that previously elicited trust in cash: its materiality and associated social interaction. Consequently, older agendas are promoted and digital, particularly contactless, payments are now considered essential.

Key words: contactless payments; digital payments; India; COVID-19; agenda-setting; Digital India; cashless; less cash; demonetisation; payments infrastructure

1. Introduction

Between 8th and 11th of March 2020, the Confederation of All India Traders (CAIT), a body representing 50 million small traders in India, wrote alarmed letters to the Minister of Finance and the Prime Minister of India. In these letters, the CAIT raised the concern that COVID-19 could spread from handling paper currency notes and urged the Government of India (GoI) to switch to digital payments and polymer-based currency notes instead. A week later, the State Bank of India (SBI), India's largest public sector bank, released its monthly research report outlining monetary and fiscal policy suggestions in light of the unfolding pandemic. Citing the CAIT, the SBI's report devoted an entire section to 'currency notes and corona virus' (Ghosh, 2020) which echoed both the apprehensions around cash and the solutions articulated by the trade body. Within one week, the idea that cash itself could transmit COVID-19 seemed to have travelled across multiple sectors in the Indian market.

India was certainly not alone in such hurried responses that favoured digital payments at the wake of the pandemic. Global concerns about the transmission of the COVID-19 virus through cash were fanned by a widely cited *Telegraph* (UK) article published on March 2, 2020 (Gardner, 2020). Its sensational headline read, 'dirty banknotes may be spreading the coronavirus, WHO suggests'. It included a one-line brief, 'People have been warned to wash their hands after using banknotes and if possible to use contactless payments instead'. So influential was the report that the WHO was forced to issue a clarification on March 9, 2020, categorically stating that they had not said

that cash transmitted COVID-19. However, by then, central banks all over the world had taken a variety of actions in response to concerns regarding cash (Auer et al., 2020). Discussions on payment methods came to the forefront during the COVID-19 crisis, with the UK head of KPMG consumer markets noting that contactless had become a keyword. A host of banks joined the fray with reports pronouncing that the pandemic was responsible for a paradigm shift in payment behaviour favouring digital over cash transactions (Ardizzi et al., 2020; Jonker et al., 2020; Wisniewski et al., 2021).

From the opening vignettes, we can see that a number of actors were actively involved in setting the cashless/contactless agenda. A theme common to discussions on digital payments in the public sphere¹, and in global academia², is a preoccupation with understanding the impact of COVID-19 on digital payments as a *behavioural change* on the demand side, i.e. among end-consumers. In contrast, our research objective is to map developments on the supply side of the payment spectrum during the pandemic. By supply side, we refer to agents that facilitate the use of digital payments among end-consumers, such as governments, regulators, banks, credit card companies, financial institutions and infrastructure providers, technology firms, device manufacturers, other merchants and businesses, and trade bodies. Rather than exploring what consumers did or intended to do, this article examines the policy landscape as it unfolded in front of them during this chaotic period. We began with the question: what did they see and hear from institutions and actors on the supply side? We examined the manner in which a variety of supply-side actor groups in the Indian market converged to provide digital solutions so consumers would avoid cash-based transactions. We

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¹ Such as the bank reports mentioned earlier.

² Studies have focused on such behavioural change in many countries, such as India (Revathy and Balaji, 2020), Jordan (Al Nawayseh, 2021), Hungary (Daragmeh et. al., 2021), Indonesia (Musyaffi et. al., 2021) and China (Zhao and Bacao, 2021).

focused on the agenda-setting role of actor groups in the most recent moment, ie. the COVID-19 pandemic, in the context of a longer historical trajectory of digital payments in India.

The article argues that the COVID-19 crisis is what policy scholars term as a 'focusing' event, which implies a shock in the political system and policy making process (Birkland, 1998), that led to multiple actor groups coming together to push the agenda of digital payments in ways that significantly shaped public conversation on the topic. The pandemic is the most recent focal point in a longer conversation around digital payments in India with successive GoI policies, such as Digital India (in 2015) and demonetisation (in 2016), which stressed the need to embrace a digital economy to make payments more transparent; reduce money laundering and corrupt practices; include Indians hitherto excluded from the formal banking system; and deliver direct benefits transfers by the state more efficiently to the marginalised. Approaching the pandemic as a focusing event permits us to observe more clearly the strategic and collaborative choices adopted by actor groups within the current trajectory of digital payments in India.

The article illuminates the material aspects of cash which affect policies seeking cashless or less cash futures and shows how temporal aspects influence material understandings of cash. It shows that while the previous framing of cashlessness in 2016 was largely focused on curbing corruption and promoting transactional transparency, the pandemic added yet another layer to the framing of cash: that it causes a transmission risk as it passes hands. Yet, as in 2016, the pragmatic realisation - that digital payments and cash would coexist - persisted. Interestingly, the pandemic was also used to underline an even older understanding of digital payments - as a tool for financial inclusion that enabled transparent, efficient, and safe transfers.

A note on terminology is necessary at this juncture. The article consciously adopts the phrase 'actor groups' instead of stakeholders. A variety of actors participated in the agenda-setting process on digital payments. While some actors had a direct interest in pushing this agenda forward (such as fintech companies), others who had a more indirect interest also played an active role in the process (such as the CAIT). Development studies scholar Philip Mader has previously identified 'actor groups' (2016, 61) who influence international digital payments markets. Dahlberg et al. (2015) counsel that there is a need to look beyond mobile payments service providers to the role of other 'market actors' (266). Developing this argument further, we contend that it is important to consider not only the actions of such market actors, but also the manner in which they conceptualise and communicate digital payments solutions in a national context. In the context of India, we identify such actor groups as including 'market actors' such as 'regulators, financial institutions, device manufacturers, merchants' (Dahlberg et al., 2015, 266); other actors such as governments, influential banks, financial regulators, credit card companies, technology firms (Mader, 2016, 61); and domestic trade bodies and businesses. The article highlights the influential role of two actor groups whose agenda-setting role in shaping the digital payments trajectory in India has not yet been studied: trade bodies, and businesses outside the spheres of banking, finance and technology in the domestic market. It shows how the seemingly ad-hoc policy making was deeply influenced by collaborative, and at times, competitive, actions and pronouncements by the various actor groups.

The article comprises five further sections. Section 2 outlines the literature on global discussions on COVID-19 and digital payments; the digital payments trajectory in India; and its framing and

agenda-setting processes. Methodology is detailed in Section 3: how we reconstructed an issue history and identified frames invoked by actor groups. Section 4 provides an issue history, noting key developments among actor groups during the pandemic. Section 5 discusses how actor groups employed frames relating payments to the pandemic. These frames are then placed in context of the long-standing trajectory of cashlessness and digital payments in India. Concluding remarks are offered in the final section.

2. An overview of digital payments in India: towards agenda-setting during the pandemic

Within the academic literature, an overemphasis on demand side factors has skewed the analysis of digital payments during the pandemic. The broader digital payments literature is dominated by consumer adoption studies rather than merchant adoption studies (Dahlberg et al., 2015; Duncombe & Boateng, 2009). The trend continues in recent studies on the effect of COVID-19 on digital payments: the consumer is the centre of focus (Al Nawayseh, 2020; Anysiadou et al., 2021; Daragmeh et al., 2021; Musyaffi et al., 2021; Puriwat and Tripopsakul, 2021; Revathy and Balaji, 2020; Sreelakshmi and Prathap, 2020; Undale et al., 2020; Zhao and Bacao, 2021). The analytical thrust has been to explain heightened digital payments in terms of a behavioural change among consumers driven by fear of transmission (particularly through cash), containment measures (lockdowns), and changed norms of interaction, work, and shopping.

And yet, this increase in digital payments cannot be explained without understanding the supply side in the pandemic. As Cao (2021) observes about payments in China, consumers' intention to use digital payments did not automatically translate into increased merchant adoption. Merchants,

often grouped with consumers in a two-sided market in digital payments, are also considered significant on the supply side of the market. Studies identify merchant acceptance of digital payments as a supply side factor in the use of digital payments (Ardizzi et al., 2020; Wakamori and Welte, 2017; Arango et al., 2015), which crucially influences consumer adoption. During the pandemic, supply-side factors promoted consumer demand. Merchants, fearing transmission, pushed consumers towards digital payments in Italy (Ardizzi et al., 2020). Considering the Malaysian case, Aji et al. (2020) note that government support for digital payments promoted consumer intention to use them. Strikingly, this effect was missing in Indonesia, a country with a similar culture but dissimilar political institutions (ibid). This indicates that first, the role of supply-side institutions in the adoption of digital payments must be analyzed closely and, second, variations among countries necessitate country-specific cases.

On the supply side, studies typically focus on individual institutions during the pandemic. Studies note that in their individual capacity, supply-side actors such as governments (De et al., 2020) and their central banks (Didenko et al., 2020; Wisniewski et al., 2021), banks (Jonker et al., 2020) and retailers (Ardizzi et al., 2020) promoted digital payments. So far, only two studies - Jonker et al. (2020) who traced initiatives by government, retail, and banks and Allam (2020) who noted the collaboration between banks and fintechs - have delved into them as concurrent initiatives. Consequently, the literature lacks a holistic picture of how supply-side actor groups supported and collaborated with each other to promote digital payments during the pandemic. Missing completely from the picture is the power of a consistent narrative coming from various quarters on the supply side - avoid cash and use digital payments. This article seeks to fill in these gaps through the case study of India during the pandemic.

We start by tracing the historical trajectory of digital payments in India. The term 'digital payments' has a broad definition in the Indian policy context (Sam & Chakraborty, 2019). Niti Aayog, a key policy think tank of the Government of India (GoI), cites the Payment and Settlement Act, 2007, to define digital payments as including 'any transfer of funds which is initiated by a person by way of instruction, authorisation or order to a bank to debit or credit an account maintained with that bank through electronic means and includes point of sale transfers; automated teller machine transactions, direct deposits or withdrawal of funds, transfers initiated by telephone, internet and, card payment' (Watal, 2017). The primary network and settlements service provider in India - the non-profit and quasi-public National Payments Corporation of India (NPCI) - was established in 2008 by the central Reserve Bank of India (RBI) and the Indian Banks' Association. In 2010, the NPCI launched the Immediate Payment Service, the first of two key infrastructures for digital payments in India.

The Indian Prime Minister's *Pradhan Mantri Jan-Dhan Yojana* was launched in August 2014; here zero-balance *Jan Dhan*³ bank accounts were opened for the unbanked. Together with *Aadhaar*, India's biometric identification system, and mobile banking, these *Jan Dhan* accounts were interlinked into the tripartite Jan Dhan-Aadhaar-Mobile (JAM) infrastructure. The GoI uses JAM for direct benefit transfers to citizens (Masiero, 2017): the Union Budget (2015-2016) characterised this process as 'leakage-proof, well-targeted and cashless' (GoI, 2015). In 2015, the GoI also launched the 'Digital India' initiative to develop digital infrastructure with the lofty vision of transforming the country into a digitally empowered society. In April 2016, the NPCI

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³ Translation: 'people's wealth'

operationalised the United Payments Interface, the second infrastructural base that undergirds digital payments in India. Later that year, in November, the GoI launched a demonetisation drive devaluating the most commonly used currency notes in India - Rs 500 and Rs 1000 - which accounted for 86% of the total cash supply then.

This strident march towards digital payments, and the pivotal role played by the GoI, has been both feted (Athique, 2019; Daya & Mader, 2018); and criticised as being coercive (Chandrashekhar & Ghosh, 2017), generating hardship for the poorest citizens (Masiero, 2017; Pal et al., 2018), financializing the poor (Mader, 2016), and increasing surveillance and monetisation of citizen's data (Jain & Gabor, 2020). It has also been noted that demonetisation was characterised by a heightened centralisation (Bose, 2019) and authoritarian developmentalism (Arsel et al., 2021) within the GoI itself. The overtly optimistic narrative of cashlessness and digital payments is considered incongruous in a heavily cash-based country where infrastructural disadvantages and complex technological interfaces generate a large digital divide (Sam et al., 2021).

The gap between the public policy agenda and its translation into practice is both remarkable and significant. The growth of digital payments has ebbed and flowed since 2016, varying across different categories. Fouillet et al. (2021) note a spike in the use of point of sales terminals and mobile banking accompanied by a dip in Automated Teller Machine (ATM) withdrawals since 2016. Yet, cash continues to be resilient in India. The original level of cash was back in circulation six months after demonetization (Daya & Mader, 2018; Pal et al., 2020). Similarly, the pandemicera increase in digital payments was accompanied by a surge in demand for cash during 2020-2021 (RBI 2021). The resilience of cash indicates that apart from the parameter of access, we need

to consider that trust placed in different payments media can vary. In India, cash is trusted by virtue of its materiality. The ability to hold cash in hand is valued (O'Neill et al., 2017; Pal et al., 2018) and the medium of paper itself generates trust in cash-based transaction processes (O'Neill et al., 2017; Panjwani et al., 2013; Parikh et al., 2006). Cash transactions are also trusted because they involve interaction with others (O'Neill et al., 2017). Since the growth of digital payments vis-à-vis cash has unfolded in a non-linear fashion in India, we must scrutinise the manner in which trust in these payment media is modified over time and the role of supply-side actor groups involved in this process.

Agenda-setting provides a useful lens to examine these issues. Agenda-setting has received widespread academic attention in policy literature. Agenda-setting is considered the very first step of the policy-making process (Howlett & Ramesh, 2003), and refers to the agency of an actorindividual or institutional - to influence public opinion. The actor sets an agenda by, firstly, sifting through and selecting issues to which they accord relevance (Birkland & DeYoung, 2012); and, secondly, shaping or framing the way these issues are discussed (Bacevic & Nokkala, 2018). The significance of this vision is underlined in a study by Pal et al. (2018). They encountered a curious paradox: even those vendors who were adversely affected by the policy expressed support for demonetisation as a national project. Pal et al. (2018) attribute this paradox to the development of a public agenda around demonetisation - the GoI successfully applied a 'techno-rationale' (9), that was echoed even among adversely affected citizens.

Studies observe that the promotion of digital payments through minimizing cash in India is driven by a global 'war on cash' (Mader, 2016). At the international level, four common frames were already used to critique cash before the present COVID-19 crisis – that cash funds crime, and that digital payments generate higher tax revenues, cheaper credit, and efficient integration with other technological products (Athique, 2019). Meanwhile, studies documented rapid shifts in the GoI's framing of cashlessness during demonetisation. Initially hailing it as an answer to the problems of counterfeit currency, tax evasion and terrorism, within weeks the GoI reframed cashlessness as the adoption of digital payments to usher in technological innovation and financial inclusion (Daya & Mader, 2018; Masiero, 2017). Rather than being mutually exclusive, this shift indicated a convergence of narratives (Athique, 2019). The GoI's narrative of digital payments as efficient and transparent, which had till then been applied to government transfers through the JAM infrastructure, was extended to the whole Indian economy in the GoI's second articulation of demonetisation ('cashlessness promotes digital payments and financial inclusion'). Athique (2019) argued that a nested subframe of 'less cash' was subsequently developed by the GoI, when it realised that the utopian frame of a 'cashless' India came up short against the practical realities of a heavily cash-dependent economy.

Within agenda-setting, an important concept, especially in light of this article is 'focusing event' which refers to sudden shocks to policy systems that lead to attention and potential triggers for policy change. (Baumgartner & Jones, 1993; Birkland, 1998). Birkland (1998) defines a focusing event as, 'an event that is sudden; relatively uncommon; can be reasonably defined as harmful or revealing the possibility of future harms; has harms that are concentrated in a particular geographical area or community of interest; and that is known to policy makers and the public simultaneously' (54). A recent article on demonetisation characterised the policy as an example of a focusing event (Bose, 2019). The present push towards digital payments in the face of the

pandemic fits more closely with Birkland's definition insofar as it is sudden, harmful, carrying possibilities of future harms, has a geographical dimension and is known to all major actor groups at the same time.

In analysing the agenda-setting process of digital payments in India, studies have considered the role of the media (Athique, 2019; Bose, 2019; Sen et al., 2019), the GoI (Daya & Mader, 2018; Masiero, 2017; Pal et al., 2018) and the international agenda (Athique, 2019; Bose, 2019; Daya & Mader, 2018; Mader, 2016). Interestingly, despite the focus on the influence of international business interests, only one study (Daya & Mader, 2018) has considered agenda-setting by Indian businesses. While this study analysed agenda-setting by banking, finance and technology firms in India, the role of other businesses in the domestic market has not yet been captured. Further, none of these studies have considered the combined influence of the government, regulators, banking, fintech companies, and other domestic trade bodies and businesses in shaping the digital payments agenda in India. This article seeks to address these research gaps. As we will show, diverse actor groups converged to develop COVID-19 as a focusing event to frame cash and digital payments in specific ways to promote the use of digital payments in India. These frames exhibited some continuities as also key departures from demonetization-era framing of payments media.

3. Methodology

The following steps were undertaken to ensure a reliable empirical analysis in the article. To trace fast-evolving government and business policies on digital payments during the first wave of the pandemic in India, and to map and understand the framing of digital payments by various actor

groups, the authors started with Google searches for news using the terms 'cashless India' and 'digital payment India'. The search term 'contactless payment India' was added subsequently, since the term 'contactless' frequently emerged in the first search. Data was collected from March 1st to May 31st, 2020, because COVID-19 started to be discussed in public in India in early March and a 58-day national lockdown was imposed till 31st May. All 240 articles pertaining to India, generated from these searches were extracted and closely read. Starting from this base of news reports, we collated other documents. This included official letters (3), instruction manuals (1), business reports (9), GoI office orders (6), press releases (9), newsletters (4), the Indian Prime Minister's (PM) radio show (1), text advertisements (17), video advertisements (18) and official Twitter⁴ accounts (8). Barring one official letter all other documents were available in the public domain. We created an issue history based on these sources. Using the literature review and issue history, we were able to identify five key actor groups pushing the digital payments agenda during the pandemic: the GoI, the Reserve Bank of India, the NPCI, banking and fintech companies, and other businesses and trade bodies. For data analysis, we relied on public pronouncements and documents released by these actor groups.

In the first round of data analysis, the first author identified frames based on 3 major themes from events in the issue history ('cash as risky', 'digital payments as essential infrastructure', and 'contactless payments as essential'). In identifying the frames, she considered narratives that were dominant, common across more than one actor group, and where the meaning of the frame varied over time or across actor groups. The first and second authors then coded events using these frames. They revised frames and subframes through a subsequent review where they consulted the

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⁴ Details of Twitter data cited included in footnotes.

literature and the composite picture emerging from the data. For instance, during this review, they added another major frame ('cash and non-cash will coexist') since it appeared in the literature. Similarly, an early frame 'cash as risky' was refined into 'cash as transmission risk' since analysis indicated that a specific risk was being invoked.

In light of the second wave of the pandemic in India, we updated the actions and narrative frames of these actor groups. Applying the same search terms during June 1st, 2020, to June 8th, 2021, a base of 207 discrete news articles was collated. This relatively smaller number of news stories underlines the frenetic pace of the conversation about cash and digital payments during March to May 2020. Other data sources included press releases (48), business reports (19), official letters (7), instruction manuals (1), official circulars (1), GoI office orders (2) and websites (4). While these texts were not coded as intensively as the previous round, during this update we ensured that continuities and discontinuities in supply-side actions and frames were traced. We recorded new initiatives by actor groups to update the issue history and checked whether the four frames persisted beyond the national lockdown (March to May 2020) through to the second wave of the pandemic in India (April to June 2021). The findings from the gathered data have been presented in Section 5, followed by a discussion on the frames in Section 6.

4. Issue History

With the onset of COVID-19, the Government of India (GoI) promoted the use of digital payments. For instance, the Department of Financial Services, under the Ministry of Finance (MoF), endorsed the NPCI's *India Pay Safe* campaign through its official Twitter handle, reiterating the campaign's message of using digital payments for safety during the COVID-19

crisis. In public pronouncements, Prime Minister Modi identified digital payments as crucial infrastructure to tackle challenges posed by COVID-19. The GoI also promoted digital payments in various COVID-19 relief measures. For instance, in its first set of COVID-19 relief measures (March 24, 2020) the MoF made ATM and digital trade transactions cheaper for the next three months. Two days later, the Finance Minister announced the *Pradhan Mantri Garib Kalyan Yojana*⁵ COVID-19 package where cash relief to vulnerable citizens (such as women, farmers, the disabled) would be transferred through their *Jan Dhan* accounts.

The Reserve Bank of India (RBI) cautioned against the use of cash during the first few months of the pandemic. On 16 March 2020, the RBI issued two advisories. As part of 'business and operational continuity' measures during the pandemic, the RBI directed all banks and non-banking financial companies to 'encourage their customers to use digital banking facilities as far as possible' (Choudhary, 2020). It also advised the general public to use 'digital payment from the convenience of their homes through online channels like mobile banking, internet banking, cards, etc. and avoid using cash' (Dayal, 2020). Here, the RBI was not simply encouraging the general public to use digital payments. It explicitly advised that cash should be avoided in light of the pandemic. Indeed, it is striking that unlike the central banks of England, Germany, South Africa, and Canada (Auer et al., 2020), the RBI did not issue any statements to promote universal acceptance of cash in light of the pandemic.

During this pandemic, the RBI modified the functioning of digital payments in India in important ways. It provided greater control to card users for online, international, and contactless transactions

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⁵ Translation: 'Prime Minister's Poverty Welfare Scheme'

in March 2020. It also introduced measures to regulate payment aggregators and gateways to facilitate online transactions and enhance data security. The RBI specifically facilitated contactless transactions. Previously, contactless payment was available on Indian cards only on transactions under Rs 2000. In May 2020, the RBI approved this facility even for transactions exceeding Rs 2000 through a two-factor verification system. In August 2020, the RBI initiated a momentous shift by inviting bids for establishing New Umbrella Entities (NUEs): these are envisioned as private, for-profit entities which will set up a national payment infrastructure. This NUE-administered retail payments system will compete with the current payment system which is administered on a non-profit basis by the quasi-public NPCI.

Meanwhile, the National Payments Corporation of India (NPCI) facilitated digital payments through infrastructural changes and public communication. Early in the national lockdown, NPCI strengthened infrastructure since it anticipated that old and new users, locked down at home, would increasingly use United Payments Interface (UPI) for digital transactions. During this period, it also hastened to add merchants and vendors on UPI. Further, in April 2020, anticipating disruptions due to the pandemic, the NPCI announced special processing measures to facilitate disputes handling for RuPay transactions. It also popularised digital payments, particularly the UPI platform. For instance, on March 25, 2020, it urged Indians to adopt digital payments in order to 'reduce social contact and contain the Covid-19 outbreak' (NPCI, 2020). In April and May 2020, NPCI also tweaked its existing #UPIChalega6 campaign to promote digital payments by invoking the message India Pay Safe. Indeed, UPI transactions increased so dizzyingly during the pandemic

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⁶ Translation: #UPIwillwork

that in November 2020, the NPCI decided to place caps on third party operators if their transactions exceeded 30% of total UPI transactions.

Banking and fintech companies were abuzz with concerns about payments media. Following the RBI's March 2020 advisory, Indian banks advised customers to use digital payments. HDFC Bank, State Bank of India (SBI), Kotak Mahindra Bank, ICICI Bank and RBL Bank advised customers to adopt digital payments and online banking to reduce the number of people present at the physical branches. The Indian Banks' Association reiterated these two inter-related ideas in its guidelines to all banks on the 18th of March 20207. The COVID-19 crisis also generated a tremendous amount of activity in the fintech sector. In April 2020, Facebook announced its investment in Reliance Jio to collaborate in launching WhatsApp Pay, whereby India's most popular messaging app would soon provide digital payment options. Further, various fintech entities (such as FB Jio-Mart and Google Pay) intensified attempts to permeate the last leg of the Indian retail chain – the neighbourhood grocery (or kirana) store - that has conventionally shunned digital payments. Fintechs also expanded the range of transactions for which digital payments could be used, such as groceries, mobile payments, DTH TV, bill payments, insurance, liquified cooking gas and petrol. By June 2021, six private consortia consisting of domestic and international banks, fintechs, card companies and tech giants had been formed to submit bids for the RBI's New Umbrella Entities invitation.

The anxiety around cash gripped other businesses and trade bodies too. The Confederation of All India Traders (CAIT) was one of the first entities in India to raise the issue of the transmission of

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⁷ This document, provided by a banker, is not publicly available.

COVID-19 through cash. This role is notable because CAIT represents small traders, rather than the usual businesses that promote digital payments in India (banking, finance, and technology). As noted earlier, the adoption of digital payments has conventionally been slowest among small traders in India. Echoing global trends, 'contactless' emerged as a guiding operational principle for Indian businesses and was offered for a variety of products and services. Contactless payments became nested within this larger trend towards contactlessness. For instance, in April 2020, Zomato (food delivery platform) collaborated with PayTM (fintech company) to offer a 'contactless dining' plan for eating out based on 'contactless menu', 'contactless ordering' and 'contactless payments'. Airports promoted their re-opening strategy of contactlessness, highlighting contactless payments in retail and dining areas. In April 2020, the Union Ministry of Housing and Urban Affairs proposed that contactless cards replace physical tokens when metro train services reopened around the country. Industry reports legitimated this surge by predicting a dramatic spurt in digital payments. For instance, a May 2020 Morgan Stanley report anticipated the acceleration of digital payments due to the pandemic, predicting that average spending on online transactions would double to \$318 by 2027.

As this analysis demonstrates, different actor groups on the supply side converged to promote and facilitate digital payments as a better alternative to cash in the face of the pandemic. Despite their collaborations during this period, these actor groups are also vying with each other to shape digital payments in India with the awareness that they are not all equally placed. A notable case is unfolding in the RBI's creation of New Umbrella Entities (NUE). Although the NUE proposal was being considered since 2019, two events during the pandemic made it inevitable: the spike in digital payments and the NPCI's restrictions on third party operators. The framing of digital,

particularly contactless, payments as essential during this period (discussed below) also lent it a sense of urgency. In June 2021, the RBI received a letter protesting its NUE initiative. The Joint Committee Against Foreign Retailers and E-Commerce, of which the CAIT is a founding member, was one of the signatories. Prompted, perhaps, by the Ministry of Finance's recent rejection of SBI's own proposal to form an NUE, the All India State Bank of India Staff Federation also signed up. The signatories critiqued the NUE as jeopardizing critical infrastructure by opening it up to for-profit, private entities at the expense of the non-profit basis on which the quasi-public NPCI has hitherto operated. They objected particularly to the bid from an Amazon-led consortium by invoking global investigations into Amazon's restrictive trade practices. To better understand such

strategic interactions between actor groups in the agenda-setting process, we shall now take a

5. Framing Digital Payments through the Focusing event of the Pandemic

closer look at their efforts at framing cash and digital payments through the pandemic.

To understand how digital payments have been framed in light of the pandemic in India, it is necessary to go beyond the influence of the media, government and the international market and consider how diverse actor groups set their agendas. We found that the actor groups outlined in the previous section employed four frames, discussed below, to connect digital payments to the pandemic.

Frame 1: Cash as transmission risk

The broad frame, that cash contributed to the transmission of COVID-19 and so posed a health risk, contained three strands. A dominant interpretation was that cash is an inherently unhygienic medium and would transmit the virus. During India's first lockdown, this interpretation was invoked frequently within the GoI, the banking and fintech sector as well as the other businesses and trade bodies. The early alarm sounded by the CAIT and the SBI has been discussed. So powerful was the idea that in March 2020, the Indian Banks' Association directed banks to provide masks and gloves to all employees handling cash. The GoI and CAIT also flagged behaviours considered specific to the use of paper currency in India as a transmission mechanism - the practice of moistening the fingers through saliva while counting paper currency. The second interpretation, which always co-occurred with the perceived dirtiness of cash, was that it was a hypermobile object. For instance, CAIT representatives observed in March 2020 that, 'it is a known fact that currency notes do change hands very frequently and probabilities of its contamination is always high.' (ET Bureau, 2020) Finally, a third interpretation of the frame was that cash was a medium which hindered social distancing. This interpretation was invoked primarily among two stakeholders - RBI and banking and fintech. In its March 2020 advisory, the RBI encouraged the public to 'avoid using cash which may require going to crowded places for sending money or paying bills' (Dayal, 2020).

The life cycle of this frame is note-worthy. Reflecting the global furore, actor groups in India frequently portrayed cash as posing a transmission risk during the national lockdown (March to May 2020). Their references to the frame declined significantly between June 2020 and June 2021, possibly influenced by the WHO's clarification. We found only 6 instances of actor groups invoking this frame during this period; moreover, they now started attributing this idea to the

consumers (that consumers perceive such a risk). This frame seems to have passed on from the supply side to the demand side. An FIS 2020 survey in India reported that 83% of their respondents now preferred contactless payments instead of cash due to COVID-19 related hygiene concerns.

Although cash had already been framed as being risky since demonetisation, the problem had then largely been diagnosed as what cash does i.e., funds terrorism, and facilitates counterfeiting and tax evasion. In the first lockdown, cash was framed as dangerous in new ways. To begin with, cash was identified as unhygienic and, so, injurious to health. So, cash was now also portrayed as a transmission risk because of what it is. This interpretation calls into question the very materiality of cash: paper is unhygienic. The CAIT and SBI reports demonstrate that this health frame had previously been limited to niche scientific circles. With the pandemic, this frame has reached a more general audience. This reframing over time is noteworthy since the very materiality of cash generates trust in the Indian context. Indians value the ability to hold cash in hand (O'Neill et al., 2017; Pal et al., 2018) and the medium of paper itself generates trust in cash-based transactions (O'Neill et al., 2017; Panjwani et al., 2013; Parikh et al., 2006). Another trust generating factor, social contact during cash transactions (O'Neill et al., 2017), was also framed as a transmission risk. The intensity with which it circulated on the supply side ensured that the cash as transmission risk frame is now diffused within the demand side. Although short-lived, this frame, which identified a new, and very clear danger from cash, also became an invisible bedrock for the persistence of the other frames.

Frame 2: Non-cash payments are essential infrastructure for dealing with the COVID-19 crisis

One interpretation of this frame was that digital payments were safe and hence essential for dealing with the pandemic. Unlike in the previous frame, where risk (and by implication, safety) from cash was clearly defined, in this frame actor groups invoked the safety of digital payments in an abstract manner. The RBI responded to the COVID-19 crisis through a promotional campaign in March 2020, urging the public to 'pay digital, stay safe'. Similarly, a WhatsApp spokesperson declared in May 2020, 'payments on WhatsApp will help accelerate digital payments and this is particularly important during Covid as it is a safer way to transact for over 400 million users in India' (Bhakta, 2020).

A second, more prevalent, interpretation was that digital payments provide essential infrastructure for the pandemic. Prime Minister Modi identified the Jan Dhan-Aadhaar-Mobile (JAM) infrastructure as crucial during COVID-19. In a televised national address in May 2020, he credited the JAM infrastructure for creating a more 'efficient' system which enabled GoI transfers 'directly in the pocket of the poor farmer' at a time when key services such as government offices and transportation services were closed (PIB, 2020). Modi went on to position JAM as key for the country's re-opening strategy of *Atma-Nirbhar Bharat*⁹. Similarly, in February 2021, a fintech company advised merchants that, 'Digitisation at the point of sale has gotten a fillip post-COVID-19 and therefore not having a digital payment acceptance mechanism in your store is a lost business opportunity.' (Kataria, 2021).

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⁸ RBI Twitter handle, accessed on June 14, 2020. https://twitter.com/RBI/status/1243522318397132800

⁹ Translation: 'Self-Reliant India'

Unlike the transience of the cash as transmission risk frame, this frame gained strength among actor groups as the pandemic progressed. In part it drew on the idea that in contrast to the transmission risk from cash, digital payments offered safety from COVID-19. However, its persistence also relies on earlier demonetisation-era characterisations of digital payments. Since demonetisation, digital payments have been framed as efficient and essential for financial inclusion¹⁰ in India (Athique, 2019; Daya & Mader, 2018; Masiero, 2017; Pal et al., 2018). The GoI reiterated this older framing of JAM as a financial inclusion infrastructure that plugs leakages while disbursing COVID-19 relief; JAM was portrayed as essential for direct benefits transfers in the face of governmental mechanisms which were supposedly themselves vulnerable to the pandemic.

Frame 3: Contactless payments are essential to deal with COVID-19

In the world of banking and fintech, contactless payments had been on the horizon for some time. The Reserve Bank of India (RBI) and National Payments Corporation of India (NPCI) had laid the ground for contactless payments by permitting contactless cards as early as April 2018. But with COVID-19, contactless payments were framed as the 'new normal' by the NPCI and banking and fintech companies. A variety of businesses soon joined in, echoing global conversations on eliminating touch through contactless payments. Actor groups also collaborated with each other to

¹⁰ Previous studies observe that a global agenda for greater financial inclusion has been concomitant with a push for digital payments in developing countries (Mader, 2016; Maurer, 2012; Maurer, 2015).

dramatically expand contactless options through wearables¹¹ and tokenization¹². Like the previous frame, the persistence of this frame was also fuelled by the short-lived intensity of the cash as transmission risk frame. The contactless frame identifies social contact during transactions - a factor previously identified as generating trust during cash transactions (O'Neill et al., 2017) - as a problem. A solution is then presented: contactless payments were the path to safety during COVID-19, particularly in the inevitable revival of economic activity outside the home. To popularise contactless payments among small and micro merchants, in March 2021 NPCI and SBI launched RuPay SoftPOS which allows smartphones to act as point of sales (PoS) devices. NPCI characterised this collaboration as an attempt to 'shift in their tendency to deal in cash to accepting secure, contactless digital payments instead' (NPCI, 2021).

Banking and fintech companies intensified their push towards contactless payments by persuasively referencing the pandemic. An illustrative example: the reaction to the RBI's May 2020 announcement allowing contactless transactions beyond the then limit of Rs 2000 through two-factor authentication. While the RBI did not invoke the COVID-19 crisis in its announcement, banking and fintech companies certainly framed their responses by referring to it. Card companies soon petitioned the RBI to allow contactless transactions without two-factor authentication on transactions up to Rs 5000 instead. Alluding to similar measures by central banks in Europe and South Asia, Visa argued 'these enhancements are purely aimed at supporting banks in their efforts to push digital transactions in a post Covid era' (Manikandan, 2020). The RBI itself subsequently adopted this reasoning, citing the benefits of contactless payments during the pandemic to approve

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¹¹ SBI and Titan collaboratively introduced a contactless payment watch in September 2020.

¹² Google collaborated with SBI and Axis Bank Visa cards in August 2020 so that Google Phones could be used as a contactless device through the GPay app.

this demand in December 2020. This incident also illustrates the emerging convergence between actor groups to vouch for the idea of contactless payments as the way to deal with the pandemic.

The inherent tension between the digital payments and contactless payments frames is noteworthy. The narrow scope of contactless payments offers a striking contrast with the broad definition of digital payments in India. Under the contactless frame, both cash and contact-heavy digital payments through cards, PoS and ATMs were suspect. This tension manifested in competitiveness within the banking and fintech sector. Banks and card companies typically offered contact-heavy digital payments options, and they scrambled to catch up with contactless solutions provided by fintechs. As outlined above, they collaborated to convert contact-heavy payment options into contactless and emphasised the interoperability of digital payments options across payments providers and devices.

Frame 4: Non-cash payments will co-exist with cash

During the pandemic, the GoI and others continued to invoke the pragmatic combination of 'less cash' and 'cashless' that was developed in the aftermath of demonetisation. For the GoI, the frame's pragmatic compulsion was borne out throughout the pandemic. Take the case of the Amdavad Municipal Corporation (AMC), which reconciled initial plans for cashlessness with a 'less cash' reality. Initially, in March 2020, the AMC promoted digital payments to the exclusion of cash for home deliveries. The announcement seems to have generated a backlash because the

next day the AMC explicitly clarified that online payments were mandatory only for home delivery. During this recalibration, the AMC then issued guidelines for safe cash exchange in physical shops: currency notes were to be placed on trays and exchanged between customers and shopkeepers separated through plastic barriers. Similar examples were observed during the second wave. The GoI, through its Central Board of Direct Taxes (CBDT), had restricted cash transfers among individuals to Rs 2,00,000 per day in 2017. When COVID-19 patients had to make large, lump-sum, cash transfers in the chaotic race for medical care during the second wave, this cap on cash created a healthcare bottleneck. After the Delhi High Court intervened, the CBDT relaxed this restriction for medical expenditure on COVID-19 during April 1st to May 31st, 2021.

The coexistence frame persisted till the second wave. Yet actors emphasised the relative significance of cash and digital payments differently. For the GoI, NPCI, fintechs and card companies, and some businesses, trade bodies and banks, although the coexistence of cash was inevitable, they expected that the impetus from COVID-19 would phase out cash from India in the long run. However, other businesses, trade bodies and banks did not perceive such an eventual phasing out and hence indicated safer ways of continuing with cash in the long run. For the CAIT and the SBI, the problem was the current medium of paper currency in India. Both recommended that while digital payment options be explored in the short run, a shift must be made to polymer notes in the long run.

In this section we have expanded the current understanding of how digital payments are framed in the public agenda in India beyond the existing focus on the media (Athique, 2019; Bose, 2019; Sen et al., 2019), the GoI (Daya & Mader, 2018; Masiero, 2017; Pal et al., 2018), and the

international agenda (Athique, 2019; Bose, 2019; Daya & Mader, 2018; Mader, 2016). We have demonstrated that, apart from the GoI, other actor groups have also forcefully brought digital payments on to the public agenda since the pandemic in India, including the regulator (RBI), the network and payments settlement provider (NPCI), and banks and fintech companies. In particular, we have demonstrated the influential agenda-setting role of a variety of businesses in the domestic market in India. In doing so, we develop the limited literature on the agenda-setting role of businesses - whether international (Athique, 2019; Daya & Mader, 2018; Mader, 2016) or domestic (Daya & Mader, 2018) - in promoting digital payments in India. This literature had previously only focused on agenda-setting by businesses in the banking, finance, and technology sectors. In contrast, we have illustrated that a variety of other businesses and trade bodies are instrumental in shaping the public agenda on digital payments in India. In this section, we also examined how different actor groups framed the connection between payments and the COVID-19 crisis. We have built a case for tracking the agenda-setting process on digital payments through its multiple iterations in India, by contrasting the most recent focusing event (the pandemic) with the previous one (demonetisation). These frames both expanded on and departed from the demonetisation frames of eliminating corruption and terrorism through cashlessness and financial inclusion through digital payments.

6. Concluding Remarks

Global conversations on payments options, currently concentrating on demand-side behavioural changes, need to move beyond the agential role currently attributed to the pandemic. By closely examining developments and frames on the supply side, as we did in the case of India, the global

shaping of payments can be understood as purposefully constructed by actor groups citing the pandemic. Such agenda-setting will continue to be significant in a future where the complex aftereffects of the pandemic will be used to shape trajectories on cash and digital payments, both globally and locally.

In India, the pandemic has been used as a focusing event in a rare and largely cooperative movement where interests of various supply side actors coincided to employ multiple frames to promote digital payments. The cash as transmission risk and digital payments as essential frames were universally promoted across all supply side actors. The 'contactless payments as essential frame' was promoted by the NPCI, RBI, and the other businesses and trade bodies. The inherent tension between these two frames, in the Indian context, resulted in competition between banks and card companies (associated with the broader range of instruments classified as digital payments) and fintechs (associated with the narrower range of instruments classified as contactless payments). Card companies, and to a more limited extent, banks, addressed this challenge through introducing contactless features in erstwhile contact-heavy digital payments options (such as debit or credit cards) and interoperability of digital payments instruments across the ecosystem. The coexistence of cashless and less cash frame was also associated with all supply side actors. Some actors - GoI, NPCI, fintechs and card companies, and some businesses, trade bodies and banks projected that cash would be eliminated in India in the long run. Other trade bodies and banks – such as CAIT and SBI – projected that cash would persist.

The article has situated this focusing event within the digital payments trajectory in India, by juxtaposing agenda-setting during COVID-19 with the framing of earlier Government of India

policies, such as JAM, Digital India and demonetization. Through the pandemic, multiple supply-side actor groups associated a new danger with cash; that it transmitted the virus. Echoing global conversations, this framing of cash, consistent across all rungs on the supply side, was brief but persuasively powerful. While this new frame soon withered away from the supply side it has seeped into the demand side in India. The very factors that generated trust in cash transactions in India - materiality and social interaction - are now tinged with risk. In a country that is still largely cash-dependent, this frame has scared consumers into viewing cash with extreme suspicion even if practical reasons compel them to use it. Through its intensity, this frame also enabled actor groups to extend older conversations in the current round of agenda-setting. With the pandemic, the idea that digital payments, particularly contactless payments, are safer and more efficient than cash is getting entrenched in India. This interaction between frames, and the resultant spike in digital payments, are hastening the drastic modification of public participation in the very infrastructure of digital payments in India.

Digital payments are increasingly nested into many other components of economic and civic life. Since they are intertwined together as an ecosystem, an analysis of the trajectory of digital payments is incomplete without considering the agenda-setting role of a wide range of businesses, including those outside more familiar actors (banking, finance and technology). Domestic businesses and trade bodies (such as the Confederation of All India Traders) have complex interests in the trajectory of digital payments and cash in India. While they too actively interpreted payments options in light of the pandemic, due to their last mile proximity to a wide range of Indian consumers they are compelled to consider materiality in their position on cash and digital payments. Such businesses and trade bodies are increasingly collaborating with technological and

financial giants. Yet, their intervention in the New Umbrella Entities debate in India also indicates that they have staked a claim to the basic payments infrastructure and are trying to negotiate against restrictive practices by such international giants.

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References

Aji, H. M., Berakon, I., & Husin, M. M. (2020). COVID-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia. *Cogent Business & Management*, 7(1), 1–16. https://doi.org/10.1080/23311975.2020.1804181
Al Nawayseh, M. K. (2020). FinTech in COVID-19 and Beyond: What Factors Are Affecting Customers' Choice of FinTech Applications? *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 1–15. https://doi.org/10.3390/joitmc6040153
Allam, Z. (2020). The forceful reevaluation of cash-based transactions by COVID-19 and its opportunities to transition to cashless systems in digital urban networks. In Z. Allam (Ed.), *Surveying the Covid-19 Pandemic and its Implications Urban Health, Data Technology and Political Economy* (1st ed.). Elsevier. https://doi.org/10.1016/B978-0-12-824313-8.00008-5

Anysiadou, M., Hondroyiannis, G., & Saiti, A. (2021). Dimensions of Mobile-banking in Greece During Covid-19. *Economics*, 10(1), 8–20.

https://doi.org/10.11648/j.eco.20211001.12

Arango, C., Huynh K., Sabetti, L. (2015) Consumer payment choice: Merchant card acceptance versus pricing. *Journal of Banking and Finance*. 55, 130-141.

https://doi.org/10.1016/j.jbankfin.2015.02.005

Ardizzi, G., Nobili, A., & Rocco, G. (2020). A game changer in payment habits: Evidence from daily data during a pandemic. *Bank of Italy Occasional Paper*, (591), 1–39.

https://doi.org/10.2139/ssrn.3826478

Arsel, M., Adaman, F., & Saad-Filho, A. (2021). Authoritarian developmentalism: The latest stage of neoliberalism? *Geoforum*, 124, 261–266.

https://doi.org/10.1016/j.geoforum.2021.05.003

Athique, A. (2019). A great leap of faith: The cashless agenda in Digital India. *New Media & Society*, 21(8), 1697–1713. https://doi.org/10.1177/1461444819831324

Auer, R., Cornelli, G., & Frost, J. (2020). *BIS Bulletin: Covid-19, cash, and the future of payments* (Bulletin No. 3). Bank for International Settlements.

https://www.bis.org/publ/bisbull03.pdf

Bacevic, J., & Nokkala, T. (2018). Agenda Setting and Policy Development, Higher Education. In P. Teixeira & J. Shin (Eds.), *Encyclopedia of International Higher Education Systems and Institutions*. Springer.

Baumgartner, F. R., & Jones, B. D. (1993). *Agendas and Instability in American Politics* (1st ed.). University of Chicago Press.

Bhakta, P. (2020, May 5). WhatsApp Payments on track to go live by May-end sans State Bank of India. *Moneycontrol*. https://www.moneycontrol.com/news/business/whatsapp-payments-on-track-to-go-live-by-may-end-sans-state-bank-of-india-5219941.html

Birkland, T. A. (1998). Focusing events, mobilization, and agenda setting. *Journal of Public Policy*, 18(1), 53–74. https://doi.org/10.1017/S0143814X98000038

Birkland, T. A., & DeYoung, S. E. (2012). Focusing events and policy windows. In E.

Araral Jr., S. Fritzen, M. Howlett, M. Ramesh, & X. Wu (Eds.), *Routledge handbook of public policy* (1st ed.). Routledge.

Bose, F. (2019). An Economic and Public Policy View of Demonetization in India. *Society*, 56(1), 38–46. https://doi.org/10.2139/ssrn.3323231

Cao, T. (2021). The Study of Factors on the Small and Medium Enterprises' Adoption of Mobile Payment: Implications for the COVID-19 Era. *Frontiers in Public Health*, *9*, 122. https://doi.org/10.3389/fpubh.2021.646592

Chandrashekhar, C.P., & Ghosh, J. (2017). The Financialization of Finance?

49(2), 420-436. https://onlinelibrary.wiley.com/doi/full/10.1111/dech.12369

Demonetization and the Dubious Push to Cashlessness in India. Development and Change,

Choudhary, A. K. (2020). COVID-19- Operational and Business Continuity Measures.

Reserve Bank of India.

https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11820&Mode=0

Dahlberg, T., Guo, J., & Ondrus, J. (2015). A critical review of mobile payment research.

Electronic Commerce Research and Applications, 14(5), 265–284.

https://doi.org/10.1016/j.elerap.2015.07.006

Daragmeh, A., Sági, J., & Zéman, Z. (2021). Continuous Intention to Use E-Wallet in the Context of the COVID-19 Pandemic: Integrating the Health Belief Model (HBM) and Technology Continuous Theory (TCT). *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2), 132. https://doi.org/10.3390/joitmc7020132

Daya, H., & Mader, P. (2018). Did Demonetisation Accelerate Financial Inclusion? *Economic and Political Weekly*, *53*(45), 17–20.

https://doi.org/10.13140/RG.2.2.20235.95523

Dayal, Y. (2020). *Availability of digital payment options*. Reserve Bank of India. https://www.rbi.org.in/Scripts/BS PressReleaseDisplay.aspx?prid=49521

De, R., Pandey, N., & Pal, A. (2020). Impact of digital surge during Covid-19 pandemic: A viewpoint on research and practice. *International Journal of Information Management*, *55*, 102171. https://doi.org/10.1016/j.ijinfomgt.2020.102171

Didenko, A. N., Zetzsche, D. A., Arner, D. W., & Buckley, R. P. (2020). After Libra, Digital Yuan and COVID-19: Central Bank Digital Currencies and the New World of Money and Payment Systems. *European Banking Institute Working Paper Series*, (65), 20–59. https://doi.org/10.2139/ssrn.3622311

Duncombe, R., & Boateng, R. (2009). Mobile Phones and Financial Services in Developing Countries: A review of concepts, methods, issues, evidence and future research directions.

Third World Quarterly, 30(7), 1237–1258. https://doi.org/10.1080/01436590903134882

ET Bureau. (2020, March 8). Investigate spread of coronavirus through currency notes, demands CAIT. The Economic Times. https://economictimes.indiatimes.com/news/politics-and-nation/investigate-spread-of-coronavirus-through-currency-notes-demands-cait/articleshow/74537382.cms

Fouillet, C., Guérin, I., & Servet, J.-M. (2021). Demonetization and digitalization: The Indian government's hidden agenda. *Telecommunications Policy*, 45(2), 1–12.

https://doi.org/10.1016/j.telpol.2020.102079

Gardner, B. (2020, March 2). Dirty banknotes may be spreading the coronavirus, WHO suggests. *The Telegraph*. https://www.telegraph.co.uk/news/2020/03/02/exclusive-dirty-banknotes-may-spreading-coronavirus-world-health/

Ghosh, S. K. (2020). *COVID-19 could adversely affect output & prices: Policies should be both monetary and fiscal.* (Monthly Report No. 82; Ecowrap, pp. 1–4). Economic Research Department, State Bank of India.

https://www.sbi.co.in/documents/13958/2820818/Ecowrap_20200317.pdf/03b9242a-de6a-2344-d8c7-0ff9d3b111ae?t=1584430240654

GoI. (2015). Union Budget of India (2015-2016). Government of India.

https://www.indiabudget.gov.in/budget2015-2016/ub2015-16/bs/bs.pdf

Howlett, M., & Ramesh, M. (2003). *Studying Public Policy: Policy Cycles and Policy Subsystems* (2nd ed.). Oxford University Press.

Jain, S., & Gabor, D. (2020) The Rise of Digital Financialisation: The Case of India. *New Political Economy*, 52(18),1-16.

https://www.tandfonline.com/doi/abs/10.1080/13563467.2019.1708879

Jonker, N., Cruijen, C. van der, Bijlsma, M., & Bolt, W. (2020). Pandemic Payment Patterns. *De Nederlandsche Bank Working Paper*, (701), 1–35.

https://doi.org/10.2139/ssrn.3760322

Kataria, V. (2021, February 1). Unlock the 5-key benefits of PoS terminals.

https://www.pinelabs.com/blog/unlock-the-5-key-benefits-of-pos-terminals

Mader, P. (2016). Card crusaders, cash infidels and the holy grails of digital financial inclusion. *Behemoth-A Journal on Civilisation*, 9(2), 59–81.

https://doi.org/10.6094/BEHEMOTH.2016.9.2.916

Manikandan, A. (2020, May 27). Visa, Mastercard urge RBI to relax limits on "tap and go" payments. *The Economic Times*. https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/visa-mastercard-urge-rbi-to-relax-limits-on-tap-and-go-payments/articleshow/76045125.cms

Masiero, S.. (2017). *New routes to cashlessness? ICTs, demonetisation, and the Indian informal economy* (Version 1). Loughborough University.

https://hdl.handle.net/2134/26371

Maurer, B. (2012). Mobile money: Communication, consumption and change in the payments space. *The Journal of Development Studies*, 48(5), 589–604.

https://doi.org/10.1080/00220388.2011.621944

Maurer, B. (2015). *How would you like to pay?: How technology is changing the future of money* (1st ed.). Duke University Press.

Musyaffi, A. M., Sari, D. A. P., & Respati, D. K. (2021). Understanding of Digital Payment Usage During COVID-19 Pandemic: A Study of UTAUT Extension Model in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(6), 475–482.

https://doi.org/10.13106/jafeb.2021.vol8.no6.0475

NPCI. (2020). NPCI urges India to use digital payments to reduce social contact and contain Covid-19 outbreak. NPCI. https://www.npci.org.in/PDF/npci/press-releases/2020/Press%20ReleaseNPCI%20urges%20India%20to%20use%20digital%20pay

ments%20to%20reduce%20social%20contact%20and%20contain%20Covid-19%20outbreak%20(002)%20-%20Mar%2025%202020.pdf

NPCI. (2021). NPCI partners with SBI Payments to launch 'RuPay SoftPoS' solution.

NPCI. https://www.npci.org.in/PDF/npci/press-releases/2021/NPCI-Press-Release-NPCI-partners-with-SBI-to-launch-RuPay-SoftPoS-Solution.pdf

O'Neill, J., Dhareshwar, A., & Muralidhar, S. H. (2017). Working digital money into a cash economy: The collaborative work of loan payment. *Computer Supported Cooperative Work* (CSCW), 26(4–6), 733–768. https://doi.org/10.1007/s10606-017-9289-6

Pal, A., De, R., & Herath, T. (2020). The role of mobile payment technology in sustainable and human-centric development: Evidence from the post-demonetization period in India. *Information Systems Frontiers*, 22, 607–631. https://doi.org/10.1007/s10796-020-09982-7
Pal, J., Chandra, P., Kameswaran, V., Parameshwar, A., Joshi, S., & Johri, A. (2018). Digital payment and its discontents: Street shops and the Indian government's push for cashless transactions. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, 1–13. https://doi.org/10.1145/3173574.3173803

Panjwani, S., Ghosh, M., Kumaraguru, P., & Singh, S. V. (2013). The paper slip should be there! Perceptions of transaction receipts in branchless banking. *Proceedings of the 15th International Conference on Human-Computer Interaction with Mobile Devices and Services*, 328–331. https://doi.org/10.1145/2493190.2493236

Parikh, T. S., Javid, P., Ghosh, K., & Toyama, K. (2006). Mobile phones and paper documents: Evaluating a new approach for capturing microfinance data in rural India. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 551–560. https://doi.org/10.1145/1124772.1124857 PIB. (2020). English Rendering of Prime Minister Shri Narendra Modi's Address to the Nation on 12.5.2020. Press Information Bureau.

https://pib.gov.in/PressReleasePage.aspx?PRID=1623418

Puriwat, W., & Tripopsakul, S. (2021). Explaining an adoption and continuance intention to use contactless payment technologies: During the COVID-19 pandemic. *Emerging Science Journal*, *5*(1), 85–95. https://doi.org/10.28991/esj-2021-01260

RBI. (2021). *Reserve Bank of India Annual Report 2020-2021*. Reserve Bank of India. https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/0RBIAR202021_F49F9833694E84C16 AAD01BE48F53F6A2.PDF

Revathy, C., & Balaji, P. (2020). Determinants of Behavioural Intention on E-Wallet Usage: An Empirical Examination in Amid of Covid-19 Lockdown Period. *International Journal of Management (IJM)*, 11(6), 92–104. https://doi.org/10.34218/IJM.11.6.2020.008

Sam, J. S., & Chakraborty, A. (2019). Sense-making of digital money among female peripheral agents: A short ethnographic study of informal workers in North India. Sociologia Del Lavoro, 154, 60–78. https://doi.org/10.3280/SL2019-154004

Sam, J. S., Chakraborty, A., & Srinivasan, J. (2021). Cashlessness in India: Vision, policy and practices. *Telecommunication Policy*, 45(8), 102169.

https://doi.org/10.1016/j.telpol.2021.102169

Sen, A., Chhillar, P., Aggarwal, P., Verma, S., Ghatak, D., Kumari, P., Agandh, M. S., Guru, A., & Seth, A. (2019). An attempt at using mass media data to analyze the political economy around some key ICTD policies in India. *Proceedings of the Tenth International Conference on Information and Communication Technologies and Development*, 1–11. https://doi.org/10.1145/3287098.3287108

Sreelakshmi, C. C., & Prathap, S. K. (2020). Continuance adoption of mobile-based payments in Covid-19 context: An integrated framework of health belief model and expectation confirmation model. *International Journal of Pervasive Computing and Communications*, 16(4), 351–369. https://doi.org/10.1108/IJPCC-06-2020-0069
Undale, S., Kulkarni, A., & Patil, H. (2020). Perceived eWallet security: Impact of COVID-19 pandemic. *Vilakshan-XIMB Journal of Management*, 18(1), 89–104.

https://doi.org/10.1108/XJM-07-2020-0022

Wakamori, N., & Welte, A. (2017). Why do shoppers use cash? Evidence from shopping diary data. *Journal of Money, Credit and Banking*, 49(1), 115-169.

https://onlinelibrary.wiley.com/doi/full/10.1111/jmcb.12379

Watal, Ratan. P. (2017). *Digital payments-Trends, Issues and Challenges*. NITI Aayog. http://164.100.94.191/niti/writereaddata/files/FInal%20Digital%20Payment%20Booklet.pdf Wisniewski, T. P., Polasik, M., Kotkowski, R., & Moro, A. (2021). Switching from cash to cashless payments during the COVID-19 pandemic and beyond. *Narodowy Bank Polski Working Paper*, (337), 1–37. https://doi.org/10.2139/ssrn.3794790

Zhao, Y., & Bacao, F. (2021). How does the pandemic facilitate mobile payment? An investigation on users' perspective under the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 18(3), 1016.

https://doi.org/10.3390/ijerph18031016