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An assessment of the impact of COVID-19 on digital payments by households

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A B S T R A C T

The COVID-19 lockdown in India marked a pivotal moment in the adoption of digital payment methods. Beyond the conventional demographic factors that have typically been scrutinized in literature concerning payment preferences, our research highlights the considerable influence of factors such as awareness of digital payment options, smartphone and debit card accessibility, as well as government social assistance initiatives during the pandemic. Interestingly, individuals who had previously abandoned digital payments due to negative experiences reverted to these modes during this period. Our study, based on a survey conducted with 200 households in Pune, investigates the effects of COVID-19 on digital payments for household expenses. The findings of our research reveal a substantial positive impact on domestic payments within households as a direct result of the pandemic. This development is particularly encouraging as India strives to materialize its vision of becoming a highly digitized economy.

INTRODUCTION

As social distancing became the norm during the COVID-19 pandemic, the lockdown in India was an inflection point for digitization across sectors, including education, healthcare, governance and payments. Thanks to new users, the number of digital transactions in India increased by 28% in FY 2021 compared to the previous year. Security concerns about viral transmission, and later the impact of a possible "unlocking" on the revival of economic activity, probably led to the accelerated transition to digital payment methods. Saroy et al. (2022) find five main findings in this regard. First, awareness of digital modes and educational attainment were significantly important for new adoption. Middle-aged people were particularly likely to switch after the lockdown, suggesting a likely narrowing of the digital age divide. Second, access, especially to smartphones and debit cards, played a key role in acquiring new customers. Third, those critically dependent on Direct Benefit Transfer (DBT) income support have been forced to go digital to access their entitlements. Fourth, many people who previously abandoned digital payments due to fundamental problems have moved back after the lockdown. Fifth, proximity to brick-and-mortar banking as well as bank employees was important for digital financial inclusion. Using a survey of 200 households in Pune, this study examines the impact of COVID-19 on digital payments for household items.

LITERATURE REVIEW

Recent literature has revealed the consequences of the pandemic on economic output (Barro et al., 2020); the level of household liquidity and consumption (Li et al., 2020); financial markets (Narayan, 2020) and corporate performance (Shen et al., 2020). However, despite the overall negative economic consequences, the pandemic provided an impetus to digitization. De' et al. (2020) examined the surge in adoption of digital technologies due to social distancing norms and other restrictive measures. Jonker et al. (2020) examined the socio-economic factors behind pandemic-induced digital change and conclude that the use of debit cards has increased at the expense of cash, and such a digital shift has been more pronounced among older age groups. Liu et al. (2020) highlight the importance of mobile payment applications in mitigating the negative impact of consumption disruptions during the pandemic. Alber and Dabour (2020) examine mobility and payment data from ten countries (including the US, UK, UAE and India) and find a significant positive impact of social distancing norms on digital payments. This sudden shift towards cashless payment methods can be attributed to the fear of viral transmission through banknotes and the widespread change in customer habits towards the adoption of digital methods (Wisniewski et al., 2021). Furthermore, there is evidence of the persistence of this pandemic-induced digital metamorphosis even after the initial outbreak has subsided (Jonker et al., 2020; Ardizzi et al., 2020). Interestingly, even as transactional demand for cash fell during the pandemic due to lockdown-induced disruptions, currency in circulation increased, driven by precautionary hoarding of cash balances and lack of spending opportunities

(Auer et al., 2020; Chen et al., 2021). The role of FinTechs is also explored in the post-pandemic literature, particularly in enhancing financial inclusion (Sahay et al., 2020); easing financial constraints faced by businesses (Ling et al., 2021); and increasing the effectiveness of government social benefits (Agur et al., 2020). COVID-19 has led governments around the world to strengthen social assistance programs. Almost 17% of the world's population was covered by at least one COVID-related cash transfer scheme between 2020 and 2021 (Gentilini et al., 2020). Pandemic relief through cash transfers from governments is likely to encourage more people to open bank accounts and encourage digital adoption (Toh and Tran, 2020). A study looking at the micro-level household impact at a place like Pune is not seen on record. Hence this research endeavors to fill this gap.

METHODOLOGY

To draw meaningful inferences and conclusions, a minimum sample size of 100 is recommended (Alreck and Settle, 2003). In line with this guidance a sample size of 200 was fixed. Convenience sampling method was followed. Around 400 questionnaires were sent to household respondents from different parts of Pune. 200 responses were received over a month, indicating a response rate of around 50%. The name of the respondent was not recorded for ensuring confidentiality. In fact, it was only when the respondents were assured of their confidentiality, they agreed to cooperate. A questionnaire was designed in Google Forms. It was divided into following parts:

a. Demographic Profile
b. Impact of COVID-19 on household digital payments

The questionnaire had following features:

a. Responses were sought by way of a selection from a range of options
b. In seeking agreement or disagreement on a particular issue, the sequence of responses was designed as under –

0 – No option
1 – Somewhat agree
2 – Completely agree
3 – Somewhat disagree
4 – Completely disagree

"No option" choice was deliberately kept as the 1st response in order to provide an early exit option to those who either didn't knew the answer or didn't want to answer. The questionnaire was tested for reliability and it returned a Cronbach Alpha score of 0.792 and hence was considered reliable. The questionnaire is given at the end of the article.

The hypothesis set was:

- Ho: There was no impact of COVID-19 on household digital payments.
- Ha: There was a positive impact of COVID-19 on household digital payments.

The hypothesis was tested based on the average agreement/disagreement responses to the ten statements in the questionnaire related to shift to digital payments for household purposes. The average agreement/disagreement response of the 200 respondents for all the related statements was taken as the sample mean and it was compared with a hypothesized population mean of 50% agreement/disagreement connoting an event by chance and not due to any statistical significance. A t-test was applied at 95% confidence level and based on the p-value the null hypothesis was tested for rejection or non-rejection.

RESEARCH RESULT AND DISCUSSION

56% respondents were male whereas 44% were female. 20% were from the Northern region of Pune, 32% were from the Eastern region, 22% were from the Western region, and 26 were from the Southern region. 29% respondents were from the age-group of <30 years, 35% were from the age-group 30-40 years, and 36% were from the age-group of >40 years. The average agreement responses to the questionnaire were as under:

Table 1: Summary of responses to the questionnaire

Statement	1	2	3	4	5	6	7	8	9	10	Average
Agreement %	92 %	83 %	84 %	74 %	75 %	82 %	95 %	71 %	73 %	89 %	82%

Based on the above summary average sample mean the hypothesis was tested as under:

Table 2: Testing of Hypothesis

Parameter	Value
Sample Mean ($\bar{x}$)	82%
Hypothesized population mean (μ)	50%
SD of sample	0.949031
n (sample size)	200
t-value=abs(($\bar{x}$- μ) / (s/√n))	3.358277
p-value =tdist(t,(n-1),1)	0.00056
Decision	Reject Null

Thus, the null hypothesis, there was no impact of COVID-19 on household digital payments, was rejected in favor of its alternate, there was a positive impact of COVID-19 on household digital payments.

Digital literacy and awareness have the greatest influence on the likelihood of going digital. Awareness also significantly increases digital adoption by complementing digital payment enablers such as debit cards and smartphones to use financial services. Sustained investment in financial literacy, digital literacy/hygiene and higher education is necessary to achieve the goal of Digital India. Advertisements, demonstrations, word of mouth and integration

into traditional financial literacy programs could be the way forward for digitization. Mobile phone penetration is not reason enough to prevent the expansion of the banking sector. Now banks and bank staff seem to be complementing the penetration of digital payments in India. This role can also be played by those who are digitally informed and instill confidence in digital regimes among other members of their household. Older respondents were more likely to switch, suggesting the pandemic has pushed middle-aged people to "get it with the program". Post-pandemic government income support has been an incentive to go digital, especially for those who relied on such payments before the pandemic. It remains for these new and possibly vulnerable users to judge whether they find digital payments worthy enough to change their payment habits in the long term. To maintain their trust, issues such as authentication failures, transparency, confidence in the payment regime, removal of misconceptions, sensitization of bank employees and quick handling of customer complaints in local language. Furthermore, issues such as fraud, overspending, poor merchant acceptance, etc. need to be addressed quickly to increase public confidence in the new payment systems and to make this transition to a digital system permanent.

CONCLUSIONS AND RECOMMENDATIONS

Our final argument deals with whether the rise of digital payments after COVID is sufficiently sustainable in the long term. In short, we have to deal with various underlying concerns that, if left unchecked, can lead to cash remaining king. While individual and household characteristics and access points are important for long-term sustainability, it is interesting to recall the evidence of “reluctant switchers” – those who stopped using digital payments in the past but returned to digital as a result of the pandemic. If the lockout is to be considered a random event and there have been significant changes in underlying factors such as increase in acceptance infrastructure, merchant onboarding, reduction in fraud, greater customer confidence in digital payments with consumer protection, greater app customer friendliness, etc. compared to the period before locking these users may have moved "voluntarily" and are likely to remain permanently digital. On the other hand, if there were no significant changes in the driving variables before and after the lock-in, the long-term sustainability of this shift may be questionable, as they may have been "forced" rather than "incentivized" to change. Under the extraordinary circumstances of a pandemic, such people would probably not adopt digital means without exogenous pressure. As long as the problems they faced earlier in terms of acceptance, fraud, overspending/overcharging, consumer protection etc. remain, we can expect them to go back to using cash once the situation normalizes. He further questions the sustainability of this switch a big boost provided by post-lock-in DBT payments. What happens if these payments are interrupted when the pandemic subsides? For such agents, the digital payments "revolution" may indeed be a temporary blip in their usual comfort zone of cash payments.

ADVANCED RESEARCH

This research still has limitations so it is necessary to carry out further research related to the topic "An assessment of the impact of COVID-19 on digital payments by households"

REFERENCES

Agur, I., Peria, S. M., & Rochon, C. 2020, Digital Financial Services and the Pandemic: Opportunities and Risks for Emerging and Developing Economies. International Monetary Fund Special Series on COVID-19, Transactions, 1, 2-1.

Alber, N., & Dabour, M. (2020). The Dynamic Relationship between FinTech and Social Distancing under COVID-19 Pandemic: Digital Payments Evidence. International Journal of Economics and Finance, 12.

Alreck P.L. and Settle R.B (2003). The Survey Research Handbook. McGraw-Hill Education. London.

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.

Auer, R., Frost, J., Lammer, T., Rice, T., & Wadsworth, A. (2020). Inclusive Payments for the Post-pandemic World. SUERF Policy Notes, 193.

Barro, R. J., Ursúa, J. F., & Weng, J. (2020). The Coronavirus and the Great Influenza Pandemic: Lessons from the "Spanish Flu" for the Coronavirus's Potential Effects on Mortality and Economic Activity (No. w26866). National Bureau of Economic Research.

Brar, V., Kumar, A., & Ramgade, A. (2022). Problems in evaluating the effectiveness of sales promotion activities. International Journal of Multidisciplinary: Applied Business and Education Research, 3(7), 1185–1189. http://dx.doi.org/10.11594/ijmaber.03.07.02

Chaudhari, C., & Kumar, A. (2021). Study of impact of the covid-19 outbreak on digital payment in India. Vidyabharati International Interdisciplinary Research Journal, 12(2), 99-102. DOI: https://doi.org/10.5281/zenodo.6666714

Chen, H., Engert, W., Huynh, K., Nicholls, G., & Zhu, J. (2021). Cash and COVID-19: The Effects of Lifting Containment Measures on Cash Demand and Use. Staff Discussion Paper (2021-3). Bank of Canada

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.

Gentilini, U., Almenfi, M., Orton, I., & Dale, P. (2020). Social Protection and Jobs Responses to COVID-19. World Bank.

Ghosal, I., Prasad, P., Behera, M. P., & Kumar, A. (2021). Depicting the prototype change in rural consumer behaviour: An empirical survey on online purchase intention. Paradigm, 25(2), 161-180. DOI: https://doi.org/10.1177/09718907211029030

Jonker, N., van der Cruijsen, C., Bijlsma, M., & Bolt, W. (2020). Pandemic Payment Patterns. DNB Working Paper No. 701

Kumar, A., Gawande, A., & Brar, V. (2021). Covid-19 pandemic and its likely effect on economic development: An opinion survey of professionals. International Journal of Multidisciplinary: Applied Business and Education Research, 2(5), 388–397. DOI: https://doi.org/10.11594/ijmaber.02.05.03.

Kumar, A., Joshi, M., Gautam, A. K., & Malviya, G. (2023). Impact of COVID-19 on International Trade and India's response. In K. A. Ganjre & A. Kumar, Impact of Covid 19 on Media and Entertainment (1st ed., 106-114). Bestow Edutrex International, Mumbai. DOI: https://doi.org/10.5281/zenodo.7703711

Kumar, A., Sil, I., Chaudhari, S., & Dayani, R. J. (2023). Impact of COVID-19 on interest rates in India. In K. A. Ganjre & A. Kumar, Impact of Covid 19 On Commerce and Economics (1st ed., 195-201). Bestow Edutrex International, Mumbai. DOI: https://doi.org/10.5281/zenodo.7703700

Li, J., Song, Q., Peng, C., & Wu, Y. (2020). COVID-19 Pandemic and Household Liquidity Constraints: Evidence from Micro Data. Emerging Markets Finance and Trade, 56, 3626-3634.

Ling, S., Pei, T., Li, Z., & Zhang, Z. (2021). Impact of COVID-19 on Financial Constraints and the Moderating Effect of Financial Technology. Emerging Markets Finance and Trade, 57, 1675-1688.

Liu, T., Pan, B., & Yin, Z. (2020). Pandemic, Mobile Payment, and Household Consumption: Micro-evidence from China. Emerging Markets Finance and Trade, 56, 2378-2389.

Narayan, P. K. (2020). Did Bubble Activity Intensify during COVID-19? Asian Economics Letters, 1, 17654. https://doi.org/10.46557/001c.17654

Sahay, M. R., von Allmen, M. U. E., Lahreche, M. A., Khera, P., Ogawa, M. S., Bazarbash, M., & Beaton, M. K. (2020). The Promise of Fintech: Financial Inclusion in the Post COVID-19 Era. International Monetary Fund.

Saroy, R., Awasthy, S., Singh, N. K., Adki, S. M., & Dhal, S. (2022). THE IMPACT OF COVID-19 ON DIGITAL PAYMENT HABITS OF INDIAN HOUSEHOLDS. Buletin Ekonomi Moneter Dan Perbankan, 25, 19-42.

Shen, H., Fu, M., Pan, H., Yu, Z., & Chen, Y. (2020). The Impact of the COVID-19 Pandemic on Firm Performance. Emerging Markets Finance and Trade, 56, 2213- 2230.

Toh, Y. L., & Tran, T. (2020). How the COVID-19 Pandemic May Reshape the Digital Payments Landscape. Payments System Research Briefing, 1-10.

Wisniewski, T. P., Polasik, M., Kotkowski, R., & Moro, A. (2021). Switching from Cash to Cashless Payments during the COVID-19 Pandemic and Beyond. NBP Working Paper 337, Narodowy Bank Polski