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Consumer Inertia to Continued use of Mobile Payment Services for Retail Transactions: A Grounded Theory Study

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Abstract
In retail transactions, mobile payment services (MPS) can potentially replace cash, particularly in developing nations that lack card-swipe machines. Due to the concern that currency notes could spread diseases during the COVID-19 outbreak, digital payments saw a rise in popularity as a practical payment alternative. The extended period of the pandemic resulted in an extended period of continued usage, even for new users. Despite having a lengthy trial period, user-friendly interfaces, and greater fungibility than cash, MPS did not find widespread acceptance, and cash still predominates in retail transactions. There is a lot of research on technology adoption, however there is considerably less on usage retention. While there is some literature on continued use of technology, the main factor for discontinuation or reduction of usage is the lack of satisfaction. With MPS, satisfaction is rarely an issue, yet users limit the extent of their usage. In the context of retail transactions, this research explicitly examines continued usage following extensive initial use. The Gioia method of grounded theory was used to investigate the factors preventing continued use of MPS for retail transactions. The qualitative interviews were carried out among users in an emerging economy that is a leader in MPS adoption and use. To explain the barriers to the continued use of beneficial technology, this study proposes a conceptualization of consumer decision inertia with three dimensions categorized as deep-rooted habits, vicarious indifference, and kairotic uncertainty. This insight would be beneficial to MPS organizations not just in developing countries but even for developed economies. The conceptualization of consumer decision inertia also offers insights that can be applied in the context of sustained usage of other consumer-facing technologies.

Keywords- Continued usage, Mobile payment, Consumer decision inertia, Retail transactions.

1. Introduction

"All in all, the public health issue concerns do not seem to be a first-order argument against cash at present" (Rogoff, 2016), *The Curse of Cash* (*Pg* 79).

When Ken Rogoff's 2016 book, the *Curse of Cash*, carried this line, it would have been skimmed over by most readers because nobody could imagine a global pandemic like COVID-19. When the lack of preparation or response to the pandemic dawned on people, they resorted to different means of reducing physical interactions (Gautam et al., 2020; Trivedi et al., 2022). Among the many things that got vilified in an atmosphere of uncertainty was the humble currency note, which was primarily made of paper in many countries. Since currency notes traverse multiple hands and pockets, the fear that infections could be transmitted through these paper currency notes seemed plausible to many people. Thus, contactless payment options gained popularity along with masking, social distancing, and online meetings. In developing countries like India, which lacked the widespread availability of cashless payment services like credit cards, mobile payment services (MPS) became a natural alternative to the use of cash, especially for small-ticket retail transactions. MPS mimics the benefits of cash, with hardly any liquidity constraints and negligible transaction costs, which were problems that alternative forms of payments could not surmount (Xu et al.,

2020). In spite of being a beneficial new technology, MPS has not been able to replace cash completely even in a country like India where the government has actively promoted the transition to digital transactions (Ramanathan and Shukla, 2024).

MPS could be taken as an umbrella term including mobile wallets, Near Field Communication (NFC) based payments using a mobile handset, and Quick Response (QR) code-based payment through mobile devices (Liu et al., 2021). MPS is thus a form of payment that uses the internet connectivity of mobile phones to initiate, complete, and confirm a financial transaction between the sender and the receiver of the money (Kaur et al., 2020b; Kumar et al., 2019; Moghavvemi et al., 2021). MPS has many advantages, such as ubiquity (Slade et al., 2015), simplicity (Jun et al., 2018), convenience of usage (Kim et al., 2010), low "pain of payment" (Meyll and Walter, 2019), etc. Despite the compelling motivations to adopt MPS and an extended period that fostered trial, its continued usage by those who adopted it remained low. Consumers restrict MPS use to certain occasions or types of transactions, thus limiting its extent of usage. Cash continues to remain the preferred mode of payment across many countries (Moghavvemi et al., 2021).

Cash is expensive for central banks to print and manage. It is often misused in funding terrorist and other illegal activities. Dealing in cash requires retailers to manage deposits of cash collected on a regular basis and adds the additional burden of managing the availability of loose change to settle transactions. Customers face risks while carrying cash and access to adequate cash for unplanned purchases could also be a problem. Prior literature shows that cash was the preferred mode of payment for low-value payments (Abdul-Muhmin, 2010). MPS, on the other hand, is a beneficial *purchase transaction technology* (Roggeveen and Sethuraman, 2020) that has the potential to replace cash since it addresses many of the problems associated with cash.

Considering its utility, MPS adoption has been previously explored from technology adoption and diffusion of innovations perspectives, but continued usage has received far less attention (Kaur et al., 2020b). Some studies have used the IS Continuance model to study continued usage, but the link between the vital construct of dissatisfaction and continuance intention was found to be insignificant (Talwar et al., 2020). Customer centricity is not just a buzzword for developed economies but is equally important for emerging market economies, and technologies like MPS play an important role (Gupta and Ramachandran, 2021). Acknowledging the benefits of MPS, there have been multiple studies that have explored its adoption in developed, high-income countries such as the US (Park et al., 2019), Spain (Kalinic et al., 2019), Canada (Shaw, 2014), Taiwan (Liao and Yang, 2020). While there have been other researchers who have explored MPS adoption in developing countries like India (Kaur et al., 2020a; Singh and Sinha, 2020; Talwar et al., 2020), further research from such large, developing countries with regard to continued usage is necessary and called for. Restricted use has been studied in the context of social media, where dissatisfaction was found to be an important intervening construct (Zhou et al., 2024). In the context of MPS, the absence of dissatisfaction is confounding and warrants investigation. Considering the paradoxical situation of low continued use despite openly acknowledged benefits, it is important to explore the restricted use and barriers to widespread MPS usage. These barriers, however, are not easily acknowledged and require sensitive probing, making in-depth qualitative research methods necessary. To generate a practical theory of the obstacles to continued use, utilizing the grounded theory approach is the most effective.

The concept of "restricted use" is also applicable to the context of this study since users restrict their usage of MPS and use it only in certain situations. Thus, even though usage is continued, it does not leave scope for increased usage. Restricted acceptance has been identified as one of the responses to problematic encounters with smart home technologies (Shank et al., 2023). Similarly, restricted usage is dependent on dissatisfaction in the case of social media usage (Zhou et al., 2024). Therefore, in both the previously cited

studies, problems or dissatisfaction are key antecedents, which is not a dominant theme in the case of MPS. The objective of this research is to identify the determinants of the limited usage of MPS following an extended trial period in which the benefits are widely accepted, and problems rarely acknowledged.

This study identified deep-rooted habits, indifference of significant others towards MPS, and uncertainty as important barriers to continued and widespread usage of MPS. These three factors are collectively referred to as consumer decision inertia. It is this higher-order construct of inertia that hampers wider acceptance of MPS even though consumers may acknowledge the usefulness and value of MPS over cash transactions.

This paper further contributes to an understanding of consumer behavior in relation to money and technology. This research adds to the theoretical understanding of barriers to the use of technology, especially pervasive technologies like MPS. The components of decision inertia emerging from this research are obvious action points for companies in the MPS space. By addressing consumer concerns in this area, companies can improve usage intentions among those consumers who have tried MPS as a viable means of payment, replacing cash and its related complications.

The literature review section that follows next examines the literature on the barriers to the use of technology to understand the existing perspectives on the suppressors of continued usage. This is followed by a description of the qualitative research method used to explore the barriers to increased and continued usage by consumers who had previously adopted MPS. The data analysis, findings, and contributions are subsequently presented. The paper concludes with the limitations and the future research directions. A list of topics for future research, along with some suggested research questions, is presented at the end.

2. Literature Review

Papers on MPS, technology adoption, innovation resistance, and decision inertia were examined to gain an understanding of the current literature in the area.

2.1 Technology Adoption

The dominant theories in relation to technology acceptance are the derivatives of the Technology Acceptance Model (TAM) and the versions of the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2012). These are all based on an understanding of technology acceptance as a behavior determined by intentions and attitudes as propounded in the Theory of Planned Behavior (TPB) (Ajzen, 1991). The parsimony of TAM has been its major strength but also its primary criticism. The UTAUT models addressed the criticism of the parsimonious nature of TAM but ended up with unwieldy models with multiple predictors. The majority of the research related to mobile payments uses these theories (Gupta and Dhingra, 2022). The updated Information Systems (IS) Success Model suggests that technology acceptance is determined by system quality, information quality, and service quality (Delone and McLean, 2003). The Innovation Diffusion Theory (IDT) suggests that relative advantage, trialability, observability, compatibility, and complexity lead to the adoption of innovations.

The research using TAM has primarily been in the fields of office automation, software development, and business application. Researchers have warned against using TAM outside of the contexts that it has been validated in (Turner et al., 2010). Technology acceptance research has also been criticized for neglecting the “group, cultural, and social aspects of technology acceptance” (Bagozzi, 2007). The practical insight that usage by consumers in non-institutional contexts is strongly influenced by socio-cultural aspects has been largely ignored. Importantly, the focus of extant research examining technology change in retail has been on adoption (Shankar et al., 2021). Continued usage, however, remains a problem.

2.2 Continuance Intention

The majority of research on continuance is from Systems quality perspective. However, marketing and psychological perspectives are important in understanding continued use and relationship development even for transactional technology services. Continued usage got considerable attention based on work by Bhattacherjee and colleagues (Bhattacherjee, 2001; Bhattacherjee et al., 2008) which explored continuance intentions from the perspective of disconfirmation of expectations. Continuance intentions have been previously explored from the perspective of social media services (Lee and Kim, 2017), smart-watch features (Ogbanufe and Gerhart, 2018), mobile shopping applications (Chopdar and Sivakumar, 2019), among others.

The popular concept of flow, along with trust, performance expectancy, and satisfaction, have been shown to affect continuance intentions for MPS (Zhou, 2013). Assuming prior exposure to online transactions, continued usage intentions and satisfaction have been attributed to a transfer of trust from online experiences to MPS usage experience (Cao et al., 2018). Based on the adaptation of the expectation-confirmation theory, social influence, privacy protection, and pervasiveness/reliability were found to affect continuance usage intentions (Lu et al., 2017). Yet another quantitative study used the extended expectation-confirmation model to show that satisfaction was the most important influence on continued usage (Humbani and Wiese, 2019).

Other studies showed that the inhibitors and enablers act differently to determine usage, such that inhibitors were salient for the rejection of a system but that the absence of inhibitors was not predictive of adoption, though the presence or absence of enablers was directly related to system rejection (Cenfetelli, 2004). Another study applied a 2x2 matrix of high and low enablers vs inhibitors (Cenfetelli, 2004). It is evident that MPS, with its ease of use and utility dimensions, features in the quadrants for high enablers. However, the inhibitor factors need to be specifically managed to ensure continued use.

The majority of the research on behavioral intentions related to MPS has explored the adoption phase and very few have examined the usage conditions deeply (Gupta and Dhingra, 2022). Most of the studies exploring continued usage studied them quantitatively by testing existing theories from an Information Systems perspective. The little research that identifies restricted usage and acceptance includes negative experiences as an antecedent, which is not the case with MPS (Shank et al., 2023; Zhou et al., 2024).

2.3 Mobile Payment Services (MPS)

Mobile payment services encompass financial payment methods that use wireless networks and mobile operating systems using diverse technologies such as SMS, NFC or QR to initiate, authorize, and confirm cashless transactions (Kalinic et al., 2019; Moghavvemi et al., 2021; Talwar et al., 2020).

MPS has been noted to offer multiple advantages such as speed of transaction, ease of use, versatility, efficiency, transparency or traceability, and accessibility or ubiquity (Kalinic et al., 2019; Kaur et al., 2020a). In a study conducted on Spanish customers, subjective norms, trust, usefulness, risk, and enjoyment were found to be significant predictors of the intention to use MPS (Kalinic et al., 2019). In another study, satisfaction was identified to be the biggest predictor of intention to continue usage of MPS (Humbani and Wiese, 2019). Observability or result demonstrability has also been seen to be an important predictor of intention to use, while security risks were found to be important demotivators in some countries (Shaw et al., 2022).

Some of the problems or barriers associated with MPS, as a means of retail payments, have been identified as anxiety towards new technology, perceived cost, complexity, device concerns, security concerns, lack

of trust, lack of awareness, perceived risk (Shankar et al., 2021). These were identified as barriers to adoption and acceptance. Usage, risk, and value barriers were identified as negative influences on intentions to use MPS (Kaur et al., 2020b). After an extended trial, consumer intentions to continue using MPS for retail transactions have not been explored, and the related barriers may differ. Multiple studies have used quantitative methods like Structural Equations Modelling (SEM) to study the adoption of MPS (Kalinic et al., 2019; Patil et al., 2020; Shaw et al., 2022). Despite multiple calls for such studies, few studies have used qualitative research methods to understand the consumer's perspective toward MPS (Dahlberg et al., 2015). Reviews of MPS literature point out that most of the existing studies related to MPS from a consumer perspective tend to use the technology adoption and innovation diffusion theories(Kapur et al., 2020; Patil et al., 2020; Shaw et al., 2022), referring to the traditional adoption factors without contributing much in terms of new insights (Sharma et al., 2018).

2.4 Innovation Resistance

The resistance to technology or innovation is not a new phenomenon and has been studied in prior literature (Heidenreich and Spieth, 2013; Polites and Karahanna, 2012; Ram and Sheth, 1989). The Innovation Resistance Theory (Ram and Sheth, 1989) proposed resistances to innovations in the form of usage barriers, value barriers, various forms of perceived risk, tradition barriers, and image barriers. Research on businesses adopting new technology identified switching costs as a reason for resistance. Innovation resistance was also conceptualized as active and passive innovation resistance, with active resistance reflecting a negative attitude formed after evaluation and passive resistance seen as an inclination to resist without assessment of the technology (Antioco and Kleijnen, 2010). Innovation resistance literature also identified both active (product feature-based) and passive (resistance to change and status quo satisfaction) innovation resistance factors (Heidenreich and Spieth, 2013). The passive resistance towards an innovation, that had been used and found to be beneficial, can be better understood from the perspective of "inertia." Inertia has been identified as the preference for the status quo manifested as habitual use, transition costs, and sunk costs (Polites and Karahanna, 2012). The barriers identified in the Innovations Resistance Theory were found applicable in mobile banking. However, usage, value, and risk barriers were found to be insignificant predictors of resistance in the context of mobile financial services (Kuisma et al., 2007). Furthermore, another study found usage, risk, and value barriers negatively affected intentions to use MPS (Kaur et al., 2020b). A study among consumers of hospitality services found usage and image barriers to be crucial determinants of adoption postponement of MPS (Khanra et al., 2021).

2.5 Research Gaps

From the preceding literature review, it is evident that there is limited research on continued usage and the effect of socio-cultural aspects, especially in the context of usage by consumers in non-institutional contexts. A recent systematic review of consumer resistance to innovations found that little work had been carried out related to passive resistance (Talwar et al., 2021). A widely cited critical review of mobile payment literature has found a lack of the impact of regulatory and social environments (Dahlberg et al., 2015). Most importantly, continued use of technology has not been studied following an extended trial period. Thus, this study explores the consumer usage of a simple yet beneficial technology to understand the barriers to continued usage.

3. Research Method

Grounded theory-based inductive research using the Gioia method was applied to examine the facets suppressing the continued use of MPS as an alternative to cash. Grounded Theory helps build new theories or elaborate on theories for new or established research areas that might lack clarity. The Gioia Method of Grounded Theory was preferred since it overcomes the limitations of traditional Grounded Theory, such as starting with a clean slate. It emphasizes the "*willing suspension of belief or witting (as opposed to unwitting)*

ignorance of the previous theorizing" (Gioia et al., 2012). The Gioia method advocates a bottom-up approach to theory building which incorporates the *data structure* as a visual guide for the reader to understand how the data was analyzed.

The authenticity of qualitative research is assessed based on "*credibility, transferability, dependability, and confirmability*" (Murphy et al., 2017). *Credibility* was achieved by checking and confirming interpretations with the informants, engaging in the field for an extended period, and acknowledging the researcher's biases. *Transferability,* which accounts for external validity and is difficult to achieve in qualitative research, was accomplished by a thick description of the context and informant data. *Dependability* or reliability was achieved with multiple informants and sources. The data structure, a key aspect of the Gioia method, establishes objectivity to aid *confirmability*.

Table 1. List of informants.

Code	Reported gender	Age	Usage frequency	Adoption
A	Female	22	Regular	Started using during pandemic lockdown
B	Male	28	Regular	Started using prior to the pandemic
C	Male	29	Regular	Started using prior to the pandemic
D	Female	26	Regular	Started using prior to the pandemic
E	Male	35	Regular	Started using during pandemic lockdown
F	Female	32	Regular	Started using during pandemic lockdown
G	Male	44	Regular	Started using prior to the pandemic
H	Male	38	Regular	Early adopters
I	Male	33	Regular	Early adopters
J	Female	24	Frequent	Started using prior to the pandemic
K	Female	29	Frequent	Started using during pandemic lockdown
L	Female	19	Frequent	Started using during pandemic lockdown
M	Female	31	Frequent	Early adopters
N	Male	28	Frequent	Started using prior to the pandemic
O	Female	23	Occasional	Started using prior to the pandemic
P	Female	41	Occasional	Started using prior to the pandemic
Q	Male	28	Occasional	Early adopters
R	Female	37	Occasional	Started using prior to the pandemic
S	Male	18	Occasional	Started using during pandemic lockdown
T	Male	21	Occasional	Started using during pandemic lockdown
U	Male	23	Occasional	Started using prior to the pandemic
V	Female	38	Rare	Tried using prior to the pandemic
W	Male	32	Rare	Tried using prior to the pandemic

The informants were consumers who had previously installed and used MPS. Twenty-three informants were interviewed (see **Table 1**), and each of the interviews lasted for more than an hour. Since the interview questions dealt with money, getting the respondents to be comfortable with the interviewer was imperative. The first author conducted the interviews to maintain uniformity and coherence across multiple cases. The first four interviews were conducted to arrive at a broad understanding of the usage and reservations of MPS users. Further cases were added to address differences across gender, age, consumer profile, and usage to provide *maximum variation* while striving for theoretical sampling (Suri, 2011). Thus, even though the research was limited to people who had been exposed to MPS, it tries to assimilate the experiences of different types of users. A variety of usage frequencies and adoption characteristics (See **Table 1.** List of informants) were sought to ensure that the codes being collected were not idiosyncratic to a narrow group. In extracting the first-order codes, both active and passive manifestations of approach and avoidance motives were filtered. The codes were extracted on the day of the interview so that the contextual meanings of the interview data were retained. The codes were verified with other authors before finalizing the first-

order codes. The codes were loosely classified at first, and subsequent codes were clubbed with existing categories or classified separately depending on their novelty. The process was continued for all interviews until newer themes and insights could not be found. When newer categories were created, prior data was revisited to check if any data related to the newly created categories had been missed. Thus, the data collection and analysis adhered to the recommended norms of constant comparison and theoretical saturation.

4. Results

The researchers, being technology-savvy members of society, were exposed to MPS and digital payments themselves. To analyze the data without bringing in their biases, they used various techniques like use of an interview guide, cross-verification by the authors, verification by an external member, and constant comparison to neutralize bias on the part of the researchers.

In analyzing the interview data, the first-order analysis used informant-centric terms and used verbatim quotations from the interviews. These were grouped based on similarities and thus were iteratively categorized into higher-order themes. The second-order themes were created based on the researcher-centric concepts (Lichy et al., 2022). The second-order themes were named based on the researcher identified similarities and categorized appropriately based on mutual consensus and agreement by the researchers. The second-order themes were aggregated based on an analysis of all the interviews to develop the aggregate dimensions. These aggregate dimensions together formed the concept of "decision inertia" used to describe the resistance towards increased use of MPS by existing users. However, what makes decision inertia a delicate paradox is that despite the potential utility and benefits of MPS, users can be adamantly resistant to change. The motivations to use MPS were found across all the responses and can be briefly classified as:

Safety: from getting robbed and avoiding infections.
Faster than credit cards: less cumbersome than credit cards.
No Problem of change: ability to make exact payments and not worry about giving or receiving small change.
Keeping track: the ability to access statements of expenses to track spends easily.
Reminders: App notifications about upcoming bill payments.
Freedom: to access money lying in the bank account instantly and without bothering to look for an Automatic Teller Machine.

Prior literature has also identified ease of use, compatibility, usefulness, trust, subjective norms, risk, and attitude among the critical determinants of intention to use MPS (see Kalinic et al., 2019). Although consumers cited many and varied advantages of MPS, contrarian apprehensions and barriers gained significance in this context. Despite expressing enthusiasm and optimism towards MPS, upon further inquiry, consumers revealed underlying thought processes that hindered them from increasing usage or entirely substituting it for cash. The consumer interviews used a laddered probing approach to explore the underlying factors affecting the choice to continue the use of MPS for retail transactions. The factors mentioned in the consumer responses were categorized into very interesting and insightful first-order themes using an iterative process as recommended by the Gioia method. Memo notes created by an additional phase of passive observations, supported by occasional questioning of consumer actions, added to the researcher's understanding.

Having analyzed the information collected as a glorified reporter, the researchers gained an understanding that allowed for the transition into the role of knowledgeable agents. This is like selective coding in

grounded theory. The researchers combined concepts from the first-order themes to create the second-order themes and assigned descriptive names. The names assigned for the second-order themes were as per the researcher's understanding of the underlying first-order concepts.

The following section presents the first-order concepts grouped based on the second-order themes, followed by the aggregate data structure.

4.1 Deep-rooted Habits

The first-order concepts, which were indicative of traditions and ingrained habits, were combined and labeled as deep-rooted habits. The respondents indicated a preference for using cash for certain transactions, especially for the instances that had sentimentality attached to it. The preference for cash was more dominant among those who had some income in the form of cash as they wanted to avoid the hassle of depositing the money in the bank to be used via MPS.

Inflow vs. Outflow

Many informants shared a common concern about the mismatch between income types and spending, causing a hindrance to the broader use of MPS, which is based on the formal economy. India still had a large informal and cash-led economy. When people receive payments in cash, they prefer to utilize that money instead of drawing on money in their bank accounts. Depositing cash into bank accounts is not friction-free due to tax implications and reasons such as access to bank branches or the time and effort involved. MPS payments happen between bank accounts or mobile wallets which are both trackable and part of the formal economy.

"*There are many people who get paid in cash and for them it is a problem to regularly deposit cash into their account. Unless there is a system in place that eases this transition many people will continue using cash…… People who have cash income prefer to use cash.*" Informant U.

"*My friends from business families prefer to use cash. It is not that they wouldn't have money in their accounts. They do, but still prefer to use cash for all impulsive or unessential purchases.*" Informant R.

Bucketing

A notable psychological device that consumers used was bucketing of expenses. Some categorize MPS as suitable for low-value transactions but prefer more traditional means like cheques and credit cards for more significant amounts. However, others use MPS for transactions above a certain threshold, preferring cash for smaller transactions. These thresholds are personal and the result of past experiences.

"*If I have to pay Rs. 5- Rs. 10, then I would pay by cash. I can usually find that change in my pocket. It is too much effort to pay for such things using the phone or a card machine. For big amounts, I prefer to pay via credit cards.*" Informant V.

"*For transactions below Rs. 100-200 I don't prefer to use mobile payment. That much cash would anyway be there with me. If I face a problem of not having exact change or not getting change back from the seller, I would then prefer to pay using my phone.*" Informant B.

Sentimentality

Tangible things have memories and sentiments associated with them. The giving and receiving of cash (sometimes gold also) are considered auspicious for all celebrations, especially festival days in India. It is an integral part of the culture and transcends religious and geographic differences. These traditions instill

an appreciation and respect for cash right from childhood. Popular culture, reinforced through media, has multiple sensory references to money, with the sight, smell, sound, and feel of money being romanticized. The functional nature of MPS means that these payment services are used only for very practical purposes that don't have sentimental implications.

"*If I had to give shagun (customary gift of money on special occasions) to my nephew, I would give it as cash. There is a sanctity in giving it as cash. I had always received it in that way, and that's how it feels right. I remember how I used to hold on to the money-filled envelopes that my elders used to give me on special occasions. Holding and spending that money had its own charm.*" Informant A.

"*Having crisp currency notes in your wallet makes you feel good. I always keep the brand-new notes flat in my wallet so that it doesn't have a fold. No matter how much you may have in your account, the feel of cash in your hand is …. different.*" Informant P.

4.2 Vicarious Indifference

Some of the other first-order concepts related to the behaviors of other people around the informants were termed vicarious indifference, which indicates resistance due to the lack of encouraging social cues. Significantly, it is not just the expectations that others have but the actual behaviors of others that influence user behaviors. When other's behaviors and expectations do not support enhanced use of MPS, user motivation to use MPS gets negatively impacted.

Behaviors of Significant Others

Behavioral referents, whether formal or informal, affect behaviors and mindsets. People observe the behaviors of others around them and draw inspiration. When people see their family, friends, or colleagues using technology, their intentions are also enhanced and diminished when they observe them avoiding its use. Users do not show eagerness towards comprehensive use of MPS unless the intrinsic motivation is substantial.

"*My father warned me about such instances…. he told me I would regret.*" Informant Q.

"*Even my husband does not use it. I feel that I can manage with cash or card for my needs …. why should I use such mobile payment services for most of my payments?*" Informant V.

"*My father says cash is more reliable…. people will always accept if you give cash.*" Informant L.

Aligning to In-group Behaviors

The actual behaviors of peers also affect the shift towards the use of MPS. The tendency to perform in-group behaviors and not attempt to stand out also impairs acceptance of MPS as the norm. In group settings, unless users have a high degree of individualism their intention to use would not be strong (Tam and Oliveira, 2019), particularly if others prefer traditional forms like cash or are apprehensive about MPS. The shift towards rational behaviors needs the support of peers. While intrinsic motivations may enhance private use of improved technologies, for social norms to change, large-scale adoption and use of MPS is required.

"*There are times when we go out together, and everyone is pooling in…. if everyone else is paying cash, I feel odd saying I will transfer money via PayTM…. Why should I show myself as different from others?*" Informant K.

Retailer Acceptance

Another factor supporting greater use was the effect of the retailer's perspective towards MPS. If the retailers that a user frequently interacts with were not favorably inclined towards MPS then the user's intentions of use would not materialize, thus pushing the consumer to use cash. Users, especially in the early adoption phase, did not increase their usage due to this lack of reciprocity.

"*Once, I was in the market and remembered that I wanted to purchase something. I went into the shop to buy it, but the shopkeeper was not accepting retail payments. I went to the next shop, but he also had some problem. Like this, I went to* 3-4 *shops.*" Informant C.

"*There are shopkeepers who still don't accept it. If you need to buy something from their shops, you have no option but to use cash.*" Informant I.

4.3 Kairotic Uncertainty

Further, other concepts related to situations related to the moment of the transaction were clubbed together as kairotic uncertainty. While most users had a positive view of the utility of MPS in general, some apprehensions remained, which affected their confidence. These apprehensions crept up at the final moment of the transaction and were due to a variety of factors that are sometimes uncontrollable.

System Reliability

This apprehension differed from doubts about MPS's efficacy in undertaking payments or their perceptions of using it. It stemmed from the uncertainty of the transaction going through. Failures like these are not frequent, but even one incident could make a consumer wary of depending on MPS entirely. Doubts about the reliability of the system in completing the entire transaction reduce the intentions for continued use of MPS. Many consumers carry a large-denomination currency note tucked inside their phone covers to avoid embarrassment from such failures (from Memo notes).

"*The system crashed on me. I had already done the billing, and as I was paying, the system crashed, and I felt so embarrassed I left everything there and left the shop.*" Informant D.

"*You might be connected to the internet, but the bank server may be down.*" Informant G.

"*Network issue is also a big thing. Sometimes you do not get connectivity inside the shop, or sometimes you keep trying, but you don't go to the next step.*" Informant B.

Device Dependence

The mobile phone serves many purposes, and each activity requires computing power and drains the electric charge. When financial transactions are carried out, the high dependence on the device requires the device to be fail-safe. Device reliability becomes paramount to avoid situations where an unreliable device leads to the failure of the transaction. When mobile devices are old or are not updated, they reduce the confidence and intention to use MPS.

"*I use an iPhone, and iPhone batteries are not that great. What if my phone runs out of charge when I need to make a payment?*" Informant W.

"*My friend had this old android phone. It became so slow that it would take time to open the app. He had to stop using mobile payments.*" Informant J.

Desired Instantaneity

Even though the payment process had been engineered for efficiency, it still involved the basic steps of unlocking the phone, starting the app, scanning the code, and entering the amount. Sometimes, the payment could take a few seconds to complete. This lack of instantaneity discouraged users when the amount was small or when under time constraints. Some places cater to a large volume of customers. The amount of time allocated to each customer, from order taking to the transaction, is short and often depends on the speed of human heuristics. Such places discourage MPS use if the payment process interferes with service delivery. Quick service restaurants and high footfall retail outlets are sites where human efficiency sometimes over-performs technology. Thus, in the trade-off between effort and value,

"*I don't want it to be a time-consuming thing for small payments. I would want to just pay and move on.*" Informant O.

"*In the interest of time, cash is preferred.*" Informant R.

"*Highly crowded places like canteens still prefer to take cash….they can't bother with waiting and checking whose payment came and whose did not.*" Informant L.

Irreversibility

Consumers reported a lack of control at the moment of the transaction due to the virtual nature of MPS transactions. Once the QR code had been scanned (or the phone number/id entered), the amount entered, and the pay button pressed, the consumer could no longer modify or reverse the transaction. In addition, the system works on a real-time settlement at the backend; therefore, occasional delays or technology glitches may happen in an otherwise efficient system. The helplessness of the consumer during such disruptions and the effort to reverse such issues made some people wary of comprehensively using MPS.

"*…Some kind of reversal or tracking mechanism for if you have made a payment, some wrong amount or something like that, you should be able to raise disputes, which is very difficult right now, in the case of any of these payment apps.*" Informant G.

"Because they are doing a third-party transaction, and it says 'do not click the refresh button'...when it gets stuck, it just gets stuck. It is then not just a problem for me but for all the parties involved." Informant T.

Figure 1 presents the *data structure* showing the 1st order concepts and 2nd order themes combining to form the aggregate concept of decision inertia. Consumer decision inertia is thus conceptualized as a disposition to limit usage of a beneficial new technology due to the user's habits, acquired indifference and uncertainty about some aspect of the technology.

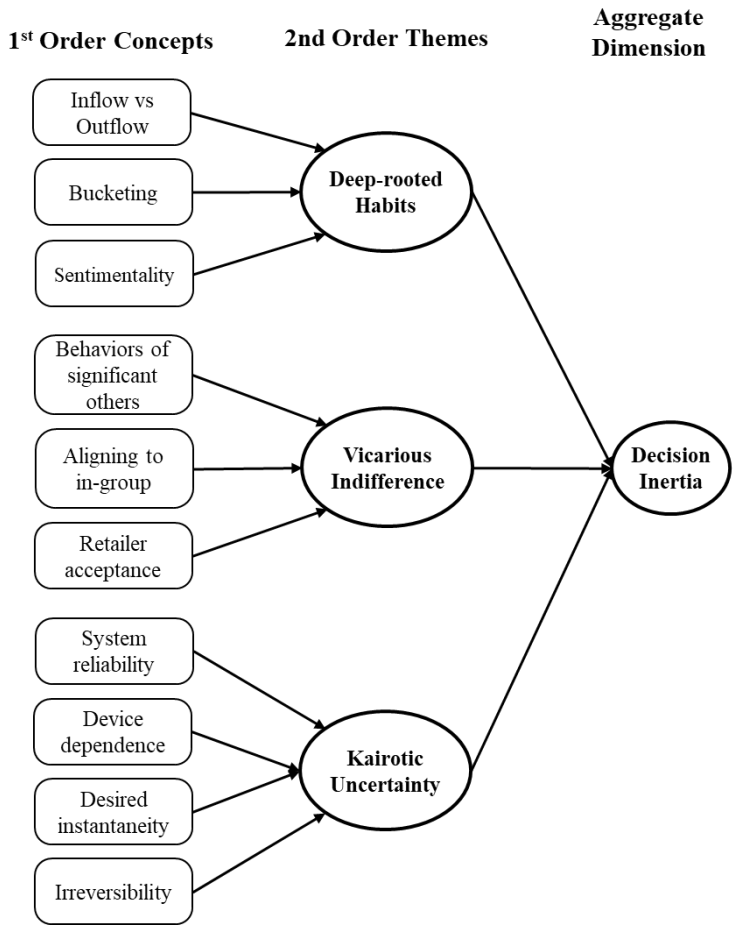

Figure 1. Data structure.

5. Discussion

Human motivations are complicated, and multiple researchers have spent a lot of effort studying them. From a rational perspective, a consumer would be expected to change behaviors to derive maximum benefit or minimize problems. This study explores a deviation from this logic and studies the confounding behavior of consumers who adopted a beneficial technology when circumstances forced them to but limited their usage or reverted back to traditional methods when the circumstances changed in spite of realizing the benefits of the new technology. One of the immediate effects of the COVID-19 pandemic was that consumers embraced various new technologies within a short span of time (Sheth, 2020). MPS was one such technology that overcame many of the issues associated with using cash in retail settings. Yet, consumer preference for cash continued once the scare of the pandemic faded. In the rest of this section, we compare the conceptualization of consumer decision inertia with other concepts from the existing literature to emphasize the difference. This is followed by a discussion of the three sub-components of consumer decision inertia. Finally, the theoretical and managerial implications are discussed.

5.1 Consumer Decision Inertia Compared with Existing Concepts in Literature

Users often come across new technologies through various channels like advertisements, media reports, recommendations, or corporate and government policies. In some cases, the decision to adopt and use a

technology is mandated, such as when it's required by government or corporate policies. Other times, the decision to adopt is more personal, but the aspect that has not been explored before is the extent of usage or what we refer to as "continued use" in this study.

This study introduces the concept of consumer "decision inertia," which refers to consumer's tendency to limit their usage of a technology that has proven beneficial in the past. This inertia tends to kick in when consumers are deciding between embracing the new technology or sticking with the familiar default option. Our findings emphasize how ingrained habits, social influences, and concerns about the effectiveness of the technology can contribute to this inertia when users have to make a choice between using the new technology or reverting back to traditional methods. These factors hinder the widespread and frequent acceptance of new technologies meant for continued usage.

Resistance to change has been summed up as inertia across multiple disciplines (Alós-Ferrer et al., 2016). Decision inertia has been defined in extant literature as the tendency to continue with previous decisions irrespective of the consequences of those past choices (Jung et al., 2019). In the context of critical incidents, it has also been described very differently as "redundant deliberation; the constant rumination over possible choices in the absence of further useful information" (Power and Alison, 2019). These two have been identified as the critical differences in the understanding of decision inertia under naturalistic decision-making (NDM) and judgment and decision-making (JDM) (Jung et al., 2019). The former is summarized as "stimulus-nonresponse" and the latter as "stimulus-repetition of suboptimal response" (Jung et al., 2019). Decision inertia in the JDM literature is subtle and gets suppressed by more substantial processes like reinforcement learning. This interpretation is contrary to our conceptualization in which the inertia is to selectively continue with past choices despite awareness of the rational benefits of the alternative.

Decision inertia is different from 'decision avoidance.' Decision avoidance was proposed as a form of non-decision making in which "…individuals seek to avoid the responsibility of making a decision by delaying or choosing options they perceive to be non-decisions" (Anderson, 2003).

Preference for consistency was another concept that examined the personality trait of responding to stimuli consistent with prior experiences. However, it has not been observed in significantly large numbers (Cialdini et al., 1995).

The effect of decision inertia, as studied previously, is stronger in autonomous decisions than in "required decisions" (Alós-Ferrer et al., 2016). However, it has not been examined in the context of prolonged trial. Inertia was previously identified as a suppressor of usage intention for MPS, even though that conceptualization of inertia was different (Gong et al., 2020; Świecka et al., 2021).

Extant literature concedes that MPS is one of the most convenient means to make payments (Boden et al., 2020). Nonetheless, its adoption and acceptance, specifically continued usage, is lower than expected. The three second-order themes of *deep-rooted habits*, *vicarious indifference*, and *kairotic uncertainty* were identified as factors that lead to *decision inertia* among users in the context studied. Decision inertia can be understood as a behavioral tendency that restrains consumers from fully embracing the advantages of a novel technology or solution, even after they have personally encountered its benefits. This phenomenon leads individuals to curtail their repeated engagement with the innovative technology, despite its potential to enhance their lives. In the context of this research, MPS was the technology-based alternative to cash for retail transactions. The consumer decision inertia studied in this research was the continued use of cash even when significant benefits are acknowledged for MPS. Prior research has shown that users associate multiple benefits of MPS, including convenience, security, time-saving, usability, usefulness (Verkijika

and Neneh, 2021). A deeper understanding of the dimensions of decision inertia could help companies overcome the barriers to continued usage of MPS. The dimensions of decision inertia give insights into consumers' attitudes, which have been identified as a significant predictor of intention even in the case of MPS (Zhu et al., 2021). The dimensions or components of consumer decision inertia identified in this study were aggregated into themes such as deep-rooted habits, vicarious indifference, and kairotic uncertainty.

5.2 Deep-rooted habits

Deep-rooted habits are the general preference for cash stemming from years of dependence on cash as the primary medium of exchange. The themes in the interview data were sentimentality, balancing flows, and spending categorization. Nonetheless, the underlying idea was the habituation towards cash use, which may occasionally overcome the perceived utility of MPS. Cash has been ingrained into culture, with savings commonly denoted as piggy banks. Cash evokes strong mental imagery (Xu et al., 2020). MPS companies would benefit from gamification to engage consumers and overcome sentimentality (Wong et al., 2021). Bucketing expenses and balancing inflows-outflows are based on the principle of mental accounting (Thaler, 1999), where expenditures are grouped mentally as cash or digital expenses. Some consumers prefer to pay cash for small expenses, while others prefer to pay through MPS to avoid loose change. Getting users to consider MPS as a bucket for managing expenses is the first step in acceptance. Subsequently, increasing the bucket width to span a greater spectrum of consumer payments could be through service process integration and seamless user experience (Johnson et al., 2018). Income inflows into a household may be cash or a digital transfer into an account. Due to the effort involved in depositing cash into an appropriate account for digital use, cash inflow tends to be expensed as cash. However, off-the-book transactions need not always be driven by a preference for cash (Williams, 2008). At the same time, the proliferation of Automatic Teller Machines (ATMs) allows for easy access to cash. Simplified options for depositing cash into accounts with MPS functionality and simplified regulatory norms on taxation of such deposits could overcome such barriers.

5.3 Vicarious Indifference

Vicarious indifference results from the actual and observed behaviors of others and is derived from the concept of descriptive social norms. While injunctive norms reflect the expectation of others, the actual actions of others (descriptive norms) may reveal the contrary. Thus, the vicariously observed behavior of social referents avoiding technology use may determine future users' intentions and behaviors. Matching the behaviors of the peer group promotes or discourages the use of MPS. Companies should promote socially visible usage of MPS to stem any budding indifference. The descriptive norm needs to be addressed at multiple levels, among close and significant social referents, by normalizing and promoting peer-to-peer payments through MPS (Kalinic et al., 2019) and the retailer (Bailey et al., 2020). Prominent display of QR codes used to initiate payments and voice broadcast cash registers, such as those introduced by PayTM in India, could play a subtle role ("Paytm Uses Voice to Reassure Small Businesses," 2021).

5.4 Kairotic Uncertainty

Kairotic uncertainty is based on the uncertainty at the “moment of truth” derived from the Greek word *Kairos*. MPS, in India, is primarily based on the highly efficient, safe, technologically advanced, and government-supported Unified Payments Interface (UPI) platform. Low adoption rates are attributed to a lack of confidence or trust; however, prolonged trials implied these issues had been addressed. The uncertainty captured in the underlying themes was due to issues that arose at the moment of the transaction and were not directly associated with MPS. This did not imply doubt about the platform's efficacy or the efficacy of the consumer to use the platform. Kairotic uncertainty refers to the uncertainty of fulfillment of a transaction once initiated. MPS are based on the premise of real-time settlements, and to be effective in retail settings requires many processes to operate seamlessly. Aspects like system reliability refer to the

occasional failure of a smooth-running system. The transaction fails at retail stores if backup payment options such as cash or credit cards are unavailable. Any MPS failure may be a lost transaction opportunity similar to a failed credit card swipe or a torn currency note. However, the accumulation of such experiences may discourage regular use of MPS. A closely linked aspect is the desired instantaneity of settlement of transactions. Cash has been the long-favored means of exchange for immediate and complete settlement. A transaction is settled when the payer pays, and the receiver receives a credit of funds. When this does not happen instantaneously, it brings friction into the transaction. Digital wallet-based MPS such as Alipay and WeChat or the Indian UPI-service attempt to offer real-time settlement using technology. Device dependence is another aspect since mobile phones are fallible and prone to breakage, system crashes, battery drain-out, and even theft. Additionally, once a user completes the payment process, there is no way to reverse the transaction from the user's end. Although this irreversibility is necessary to prevent fraud, it becomes a problem if the transaction gets stuck after user input.

5.5 Theoretical Implications

This study proposes a renewed meaning to the conceptualization of consumer decision inertia based on a qualitative, Grounded Theory derived analysis of in-depth interviews with consumers. Past conceptualizations have considered non-response, repetition of sub-optimal response, and ignoring of consequences of past decisions. The present conceptualization is different as it brings in a level of consciousness in the decision-making process. While continued usage has also been studied, this study examines the situation of an extended trial period. Thus, even after an extended trial period and acknowledgment of the benefits, consumers may still restrict the usage of beneficial technology. This usage restriction could manifest as occasional usage or siloed usage involving certain specific situations. The factors suppressing the widespread usage are proposed as the dimensions of decision inertia. This study has identified explanatory dimensions for existing concepts like habits by identifying aspects like sentimentality and bucketing. Vicarious indifference, a factor identified in this study, is very different from the concept of subjective norms used in technology adoption and acceptance-related literature. The crux is that consumers may be affected by the way others expect them to behave but they are strongly influenced by the way they observe others behaving.

The conceptualization of decision inertia and its components are the major contributions of this research. When viewed beyond the context of MPS, the theoretical and practical value of this study becomes evident. This conceptualization can easily be extended to multiple other areas where various factors may guide initial use, but subsequently, continued usage encounters resistance despite apparent benefits. At a conceptual level, insights related to decision inertia, kairotic uncertainty, vicarious indifference, and deep-rooted habits could be significant determinants for increasing the acceptance of beneficial technology-based solutions to human problems. Decision inertia is thus the behavioral manifestation of various factors, including apprehensions about technology, social influences, and personal biases.

5.6 Managerial Implications

MPS are changing the way retail transactions happen in developing countries since they help to leapfrog the infrastructure limitations that hamper the spread of traditional digital transactions like credit cards. The simplicity and ubiquity of MPS have the potential to make cash redundant which could help the government save a lot of money and help the formal economy grow. The integration of the lowest levels of retail transactions into the formal economy has strong implications for a country's growth. The findings of this study can be interpreted and applied by policymakers to make MPS more preferred and popular. Policymakers can break old habits of preference for cash by incentivizing and simplifying the deposit of cash into bank accounts to balance the inflow and outflow of digital money in user accounts. Policymakers

could also work on strengthening and fail-safing the underlying systems to address any uncertainty related to MPS.

In the area of retail payments, this research provides action areas for companies to overcome the barriers to increased usage of MPS. Policymakers and service providers could work in tandem to address these components of decision inertia. Some measures could be simplifying and encouraging cash deposits into bank accounts to limit cash transactions. Promoting socially conspicuous forms of MPS usage is another easily addressable area. Simple process improvements that give discernable control of the transactions to the parties involved could also improve MPS usage.

MPS companies stand to benefit from the continued and widespread use of these payment services for retail transactions. Among many other findings, this study indicates that these payment systems do not evoke sentiments usually associated with cash. Companies can address such issues by combining and normalizing the use of MPS with local traditions. MPS companies stand to benefit in the long run if MPS becomes the default payment option preferred by most consumers, and for this, they need to address the barriers against continued and widespread usage. Thus, while the components of decision inertia are rooted in consumer experience, the barriers are not insurmountable. MPS companies and the socio-technological environment can foster higher consumer usage for retail transactions.

6. Conclusions, Limitations, and Future Research Directions

This paper explored the "de-motivators" that hindered the continued (or increase in) use of MPS. This study presents multiple demotivators aggregated into a conceptualization of decision inertia toward newer technology, explaining the continued preference for cash instead of MPS. The components of decision inertia that emerged from this research were *deep-rooted habits*, *kairotic uncertainty*, and *vicarious indifference*.

The findings of this research are based on qualitative research in the context of a developing country. The decision inertia towards MPS studied in the context of India should not be considered as contextually limited since the ease and utility of MPS may challenge existing retail payment systems in more developed economies. Another differentiator and possible limitation of the research is that it addresses usage after an extended trial period. Considering the already extensive research on usage after normal trials, the findings of this study allow for fresh insights beyond factors such as trust, satisfaction, and disconfirmation. As is the case with all qualitative research, the findings of this research cannot be indiscriminately generalized. However, the findings can be tested and confirmed quantitatively in different settings as part of future research.

The insights derived from this study provide fertile ground for further research in this area. Future research around MPS could quantitatively explore the value of decision inertia as a moderator of intentions. The construct of decision inertia needs to be operationalized for quantitative measurement; thus, future research could first start with identifying a scientific measure for decision inertia. While examining decision inertia, researchers could even explore if a hierarchy exists among the components of decision inertia. This would have practical relevance in helping MPS companies prioritize their efforts. A narrow focus on enrollment leads to a wasteful deployment of resources if the adoption does not lead to active usage. A list of potential areas for future research, along with suggested research questions, are included in **Table 2** to allow future researchers to carry forward the themes identified in this study.

The behavior underlying this research is not limited to MPS, and further research could explore the applicability of decision inertia in the continued usage of healthcare technology or any other technology

interfaces in service interactions. Decision inertia, as conceptualized in this research, could be enhanced with further explorations in different geographies and contexts. Habits are also often examined from an individual's perspective, but the multi-layered conceptualization of deep-rooted habits brings out the socio-cultural aspects.

Table 2. Future research directions.

Areas of future research	Potential research questions or topics
Decision Inertia	What are the components of decision inertia that transcend to other technology applications? What are the measurement items that represent decision inertia? How does decision inertia manifest itself (if at all) in late stages of technology proliferation?
Inflow vs Outflow	How do differences between the forms (physical versus digital) of income and expenditure affect consumer choice?
Bucketing	What are the implications of mental bucketing of expenses? What are the types of expenses that consumers prefer to make through MPS over cash and vice versa?
Sentimentality	How are the sentiments of givers and receivers different in the context of physical versus digital payments? What are the sentiments associated with digital payments? What are the avenues available to MPS companies to enhance sentiments and emotions associated with MPS?
Behaviors of significant others	How do perceptions of expectations of others act differently from perceptions of their actual behaviors? How do users resolve the observed dichotomy in the expectations of others versus their actual behaviors?
Aligning to in-group behaviors	How do group dynamics affect user acceptance of technology in private matters such as financial transactions? What types of motivations drive users to break out of the pressures of in-group behaviors in technology use?
Retailer acceptance	How do retailers influence the purchase and payment process? What effect does POS branding have in driving preference for various platforms? How do channel members influence continued technology use?
System reliability	What can payment platforms do to ensure the completion of the transaction in situations of uncertainty? How do facilitating conditions affect usage intentions as compared with initial adoption intentions?
Device dependence	What role does the medium or device play in the continued usage of technology? How can technology companies transcend limitations imposed by the medium of interaction?
Desired instantaneity	How can digital financial transactions be made foolproof? How can transaction completion be communicated efficiently?
Irreversibility	How do users reconcile the lack of physical evidence and the nature of completeness of financial transactions? How does the irreversibility of actions affect user intentions after a flawed transaction?

While this study sheds light on the specific drivers of consumer inertia in mobile payment adoption, the broader conceptualization of decision inertia has far-reaching implications. This phenomenon can be extended beyond just retail transactions and mobile services, to be applied in areas such as healthcare, finance, and even climate action, where hesitation and resistance to change continue to shape outcomes. Recognizing the psychological and behavioral roots of consumer decision inertia opens up new avenues for research and intervention, offering valuable insights that can be applied to enhance decision-making processes across diverse sectors.

Conflict of Interest

The authors confirm that there is no conflict of interest to declare for this publication.

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