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ON CONTEXTUAL CONTRADICTION: A FIELD STUDY OF DIGITAL PAYMENT INCLUSION IN MEXICO

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Research Paper

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Abstract

Digital payment technology allows financially excluded communities to access financial services by crossing infrastructural, regulatory, and economic boundaries. However, there are also cases where its presence might lead to exclusion. In addition to these diverse findings, it remains unclear why exclusion prevails in Mexico, where digital payment technology is highly developed for Latin America. Consequently, this study addresses how and why the Mexican context conditions digital payment inclusion. Based on a dynamic understanding of context and a field study, we operationalise Mexico's contextual conditioning through inequalities. Using observations, interviews and documents, the study's results reveal what we term contextual contradiction. Socio-economic infrastructure separation, evolutionary regression, and informal legislation are contextual contradictions which convey a dynamic conditioning leading to digital payment inclusion and exclusion. These findings contribute to debates on contextual explanation by addressing how context and phenomenon emerge together without bounding, stabilising, or situating context.

Keywords: Contextual Explanation, Contradiction, Digital Payment Inclusion, Field Study, Mexico

1 Introduction

Digital payment technology is often associated with increasing financial inclusion and subsequently with achieving the Sustainable Development Goals of the United Nations, such as ending poverty and reducing inequalities (Suri & Jack, 2016). This claim is based on how access to an account becomes possible because digital payment technology crosses infrastructural, regulatory, and economic boundaries (Dupas et al., 2018; Oborn et al., 2019), reaching communities in societies that otherwise would remain financially excluded (Demirguc-Kunt et al., 2017). M-Pesa in Kenya and African countries are a common illustration of such inclusion with digital payment technology. In these regions, amid digital payment technology, the payment infrastructure has extended to new areas, regulations for payment services are becoming less demanding than banking services, and costs in its many materialisations are reducing for people (Allen et al., 2014; Suri & Jack, 2016).

However, access to financial products and services per se does not necessarily lead to the previously described benefits (Ozili, 2020), and along with inclusion digital payment technology can cement exclusion (Diniz et al., 2012). Stated differently, the context environing digital payment technologies matters and influences inclusion and exclusion (Allen et al., 2014; Ozili, 2020). Scholars find that factors such as income and infrastructure often link to access to digital payment services and financial inclusion, per definitions based on account ownership (Allen et al., 2016; Ayygari & Beck, 2015). However, they also identify mechanisms conveying a contextual influence that goes beyond factors. This latter perspective accounts for context by foregrounding the activities and entities that form processes (Claessens & Rojas-Suarez, 2020). For example, governments incentivising a digital payment approach allow FinTechs to offer their products in more favourable regulatory environments to promote inclusion.

Furthermore, as digital solutions have gained in complexity, the understanding of financial inclusion has moved beyond access towards usage (Carballo, 2017), as well as the depth of inclusion that can lead to imbalances in the creation of benefits among users (Heeks, 2022). Therefore, the link between digital payment technology and financial inclusion is complex and remains unclear and diverse.

While useful, we find a diverse understanding of inclusion with digital payment technology and factors or mechanisms limiting for explaining how and why the Mexican context conditions digital payment inclusion. Mexico presents a setting whereby factors such as technological infrastructure, mobile phone usage and banking regulation, commonly associated with financial inclusion (G20, 2016), are present. Similarly, there is constant activity as government and organisations are developing digital payment services. However, digital payment exclusion prevails in Mexico, with two-thirds of the country remaining unbanked (Navis et al., 2020), meaning access to digital payment technology may occur differently. Further, for the Latin American (LATAM) region, Mexico is an outlier as people are more likely to be financially included in other countries of the region where digital payment technology is present (Demirguc-Kunt et al., 2018).

To explain the influence of the Mexican context on digital payment inclusion, we conduct a field study. Rather than having an artificial delineation between context and digital payment inclusion, we acknowledge these belong together even though context is beyond the phenomenon of digital payment inclusion itself. Accordingly, we consider context as dynamic (Avgerou, 2019; Hayes & Westrup, 2010), or better in movement, rather than having a static view of context where it is awaiting to be met by a digital payment technology or payment service. In addition to this perspective, we operationalise context through inequalities and find what we term contextual contradictions, which dynamically explain the Mexican context's conditioning for digital payment inclusion. The study adds to existing debates on contextual explanation and gives a novel perspective for understanding financial inclusion with digital payment technology, suggesting a sense of context in movement (Marx, 1902 (1841)). Before detailing this research, findings, and contribution, the paper proceeds with background understandings.

2 Digital Payment Technology and Financial Inclusion

Technology can be defined as a "branch of learning" concerned with "an art or craft" (Marx, 2010, p. 562). In other words, technology describes a process of development that was first associated with mechanics but has since developed into digital spheres. Accordingly, digital payment technology can be all-encompassing, broadly including crafts and actions forming the infrastructure for payment transactions (Ng et al., 2020). These technologies include but are not limited to credit cards, mobile wallets and near-field communication payment systems. In the following, we further unfold the relationship between digital payment technology and financial inclusion by defining key concepts and reviewing the present evidence in literature.

Digital payment technology relates to financial inclusion, especially in countries facing large unbanked populations (Demirguc-Kunt et al., 2018). Direct causal links exist between the emergence of digital payment technology and increases in financial inclusion (Allen et al., 2014; Chu, 2018) based on studies that define financial inclusion as access to an account. However, growing research suggests further complexities with definitions beyond access (Martin & Taylor, 2021; Navis et al., 2020). As we do, these studies define financial inclusion as the effective use of a "range of appropriate financial services" (Demirguc-Kunt et al., 2017, p.2), thus conveying financial inclusion to be systemic. Carballo (2017, p.1), for example, conceptualises financial inclusion in the Latin-American context as "the establishment, the promotion, and the regulation of an accessible, affordable, and safe financial environment for the society as a whole," emphasising "the promotions of economic well-being and social inclusion through the supply of financial services and products." Therefore, digital payment technology relates to financial inclusion in different ways (Demirguc-Kunt et al., 2017). Moving the definition of financial inclusion beyond the binary question of access implies that the outcome of digital payment inclusion becomes more nuanced. For example, different groups can be financially included, but to different extents, influencing the benefits they gain from usage (Heeks, 2022; Ozili, 2021). This

can even reinforce existing social exclusion and power asymmetries (Diniz et al., 2012). Thus, the context in which digital payment technology is present gains importance.

2.1 Digital Payment Inclusion

Following this background, digital payments convey, in their most basic form, a payment where "both the payment sender (payer) and payment recipient (payee) use a digital channel to send and receive value" (Ng et al., 2020, p.1). This definition characterises the most relevant properties of digital payments. First, the degree of digitalisation of the payment process can vary from partially digital to fully digital. For example, two individuals can use third-party agents to exchange cash, with only the service provider making a digital transfer in the back end (partially digital). Alternatively, they can send each other money via a mobile app (fully digital). Second, the type of digital device used can vary from mobile phones and point-of-sale devices to computers, but there is a requirement for a functioning IT infrastructure. Third, the type of transfers include bank transfers, mobile money payments, and card payments (Patil et al., 2017). These types can also intersect, for example, when a bank transfer is made via a mobile application. Finally, digital devices being critical to this form of payment, the global spread and use of mobile devices have enabled digital payments to be widely adopted as a payment method (Patil et al., 2017).

Digital payment inclusion is then created by common properties digital payment products share. Research has identified that digital payment technology can overcome factors creating exclusion. In Asia, the comparatively lower cost of digital payment products incentivise their adoption among unbanked groups with limited disposable income (Ayyagari & Beck, 2015). In Africa and South America, they overcome hurdles of infrastructure provision in sparsely populated areas that lack a traditional banking network (Allen et al., 2014; Diniz et al., 2012). Since many digital payment services only offer limited financial functions, such as facilitating payments, they do not require opening a traditional bank account. For unbanked communities, this removes the threshold for documentation and minimum income levels (Demirguc-Kunt et al., 2017). Thus, digital payment inclusion implies crossing infrastructural, regulatory, and economic boundaries with digital payment technologies.

A hallmark case of this potential is the introduction of M-Pesa in Kenya. The digital payment system that stores information on the sim card of a mobile phone can be used without relying on the physical infrastructure of traditional banks and increased account ownership rates by over 60% (Ndung'u, 2019). As a result, governments, financial institutions, and NGOs have identified digital payment technology as an effective strategy to increase financial inclusion and thereby increase societies' financial and social well-being at scale (see, for example, G20, 2016). Nevertheless, some researchers argue that this success is due to a significant product localisation and hence cannot be replicated in other countries by employing a homogenous strategy (Heyes & Westrup, 2012). For example, exclusion often prevails in areas with high illiteracy and diverse languages spoken (Chikalipah, 2017). In addition, account creation remains a challenge in countries with a high proportion of individuals who still need official identification (Martin & Taylor, 2021). Last, even in regions that have been able to increase financial inclusion through digital payments, the increased possibilities for surveillance do negatively alter usage (Martin, 2019).

Surprisingly, in addition to these diverse findings summarised in Table 1, the relationship between digital payment technology and financial inclusion in Mexico is puzzling. Despite having the digital payment technology required for payment infrastructure and product offering being in place (Navis et al., 2020), exclusion prevails in the country. Therefore, we argue for a change in perspective by considering context in movement. This shift will allow us to advance the current evidence on the relevance of context for digital payment inclusion without artificially bounding it, which constraints explanatory insights that go beyond simple access to financial services.

Author	Findings on Digital Payments and Financial Inclusion and Exclusion
Allen et al., 2014	In Africa, financial inclusion is significantly more related to population density than elsewhere. Digital payment technology can create inclusion by overcoming infrastructural problems, but at the time of research, it only concerns sending and receiving money.
Ayyagari & Beck, 2015	In Asia, financial exclusion is created by a lack of income, fixed account costs, geographic access and lack of identification. Inclusion can be fostered by focusing on digital payment technology, as their properties can overcome the identified barriers.
Chikalipah, 2017	In Sub-Saharan Africa, illiteracy and language diversity are significant obstacles to financial inclusion. Increasing literacy and adapting banking to local languages will improve financial inclusion.
Demirguc-Kunt et al., 2017	Highlights evidence that financial inclusion substantially impacts the socio-economic well-being of unbanked individuals. This impact is more substantial when financial products are adapted to a local context, for example, by promoting digital payment technology in areas with underdeveloped financial infrastructure.
Diniz et al., 2012	Extending financial inclusion to local communities can lead to economic development and social exclusion through overindebtedness and the reproduction of power asymmetries.
Hayes & Westrup, 2012	Context is a dynamic outcome constructed through processes instead of being static and isolated. Concerning ICT4D research, it shows how digital payment technology was successful in Kenya. Finds that as context changes, this success is challenging to replicate.
Ozili, 2020	Identifies the level of financial innovation, poverty levels, stability of financial sectors, state of an economy, financial literacy and regulation as primary factors influencing financial inclusion. Additionally, the paper highlights issues with current research, such as shortcomings in definitions based on access.
Suri & Jack, 2016	In Kenya, the introduction of M-Pesa has lifted households out of poverty due to changes in financial behaviour. Digital payment technology was spread by deploying banking agent networks that allowed users to overcome infrastructure barriers.

Table 1. Summary of findings on financial inclusion and exclusion.

2.2 A Contextual Explanation for Digital Payment Inclusion

To explain technology's unpredictable consequences, the information systems (IS) field for long attends to environing conditions forming and reforming such consequences–context. Accounting for context helps to explain the bringing about of specific phenomena and technologies rather than others (Orlikowski, 1993), the social and power settings technology is always part of (Avgerou & McGrath, 2007), and the local social actions that indigenous theory best conveys (Xiao et al., 2021).

As research in the IS field has moved beyond stable entities, such as the organisation, the complexity of defining context and its relevance to the phenomenon of interest has increased. To analyse context we follow the works of Scharfstein to define context as "that which environs the object of our interest and helps by its relevance to explain it" with synonyms such as "environment, milieu, setting, and

background" (Scharfstein, 1989, p. 1). However, as the exact object of interest becomes less clearly defined, with a move away from stability, what exactly "environs" and "helps by its relevance to explain it" also varies.

Some studies, as in the case of digital payment inclusion, attempt to explain IS phenomena based on factors that can represent conditions such as culture. Arguing against the assumption of systemic hierarchies that allow the determination of factors, other research has advocated for tracing relevant context by exploring how a phenomenon unfolds concerning socio-economic processes (Hayes & Westrup, 2012). As also present in digital payment inclusion, the access to infrastructure certain technologies rely on has gained importance. This shift in contextual explanation implies that context is not given nor static but exists in relation to the studied phenomenon. Conceptualisations based on geography are abandoned for a dynamic understanding in which technology and context consistently shape the space around them (Koskinen, 2017). Considering this relational contextualisation, Avgerou (2019, p.985) highlights the absence of investigations that consider "material conditions of life surrounding IS phenomena." Moreover, people's interactions with physical environments and material possessions impact their capacity to use digital technology (Graham, 2011). Following this argument, the Mexican context and digital payment technology are tied together.

3 Research Design of the Case of Digital Payment Inclusion in Mexico

To understand Mexico's status as an outlier in Latin America, we collect data on this relationship and the contradictions that lead to outcomes of inclusion and exclusion. We do so based on a field study in Mexico as it allows researchers to "relate the words spoken and the practices observed or experienced to the overall cultural framework within which they occurred" (Watson, 2011, pp. 205-206).

Our attention to Mexico began following the country's counterintuitive reports and indications for digital payment inclusion. Even though Mexico appears to give a context for digital payment and financial inclusion, this is not the case. According to the Human Development Index, Mexico is part of the high human development category (UNDP, 2021). It has one of the highest per capita income in Latin America, and its unemployment rate is comparatively lower.[1] A long tradition of informal and self-employment continues, which blurs employment assumptions in the country (OECD, 2019).[2] Most of the country's enterprises are small- and medium-sized, which economically contribute to the country's development (Perez, 2018).[3] However, the country has great inequality among basic socio-economic indicators such as income, wealth, education, health, and access to digital infrastructure (OECD, 2019). Furthermore, its government also appears to spend the lowest amount on education per student among OECD countries, which associates with low financial literacy (Ruiz-Durán, 2016). FinTech companies also appear to remain low when benchmarked against the size and potential of the Mexican context. For example, only half of all cell phone users have a bank account, and even fewer use banking services on their mobile devices (Perez, 2018).[4] As a result, this is not the case despite the country's comparative context to Kenya, where digital payment inclusion is taking place. As a corollary to these counterintuitive indications, our attention was drawn to understanding and theorising Mexico's context to explain the country's digital payment inclusion.

[1] 7%, in comparison to 8% in the LATAM region (OECD, 2019)

[2] Close to 57% of the workforce is employed in informal arrangements.

[3] Small and medium enterprises in Mexico account for 52% of its GDP and employ 72% of the country's workforce.

[4] While 50% of bank account owners have a cellphone, only 22% use banking services on their mobile devices.

3.1 Data Collection

The field study took place with the first author travelling to and around Mexico between January and April 2022 to immerse himself in the country's context and understand its active nature for digital payment and financial inclusion. A multi-method qualitative design is chosen to account for the diversity of realities in the country defined by inequality and informality (see Appendix 1).

O*bservations* are recorded with the purpose to gather data on the dynamic nature of context and its influence on outcomes of inclusion and exclusion in real life. This data is primarily used to understand processes involving multiple individuals and their non-verbal decision-making in a specific context (Baker, 2006). An illustration of this data collection method is the observation of a lack of digital payment infrastructure in rural areas, thereby limiting access to and use value of digital payments and resulting in exclusion (Observation 1). An observation is recorded when it contains at least one contextual feature described as conditioning to the outcome of inclusion or exclusion via digital payments. Observations are recorded on the day of occurrence according to a framework based on Delbridge and Kirkpatrick (1994) to ensure richness of data, transparency, and accuracy. A focus is laid on primary observation of events and secondary observation composed of statements by observers, personal perceptions, and data related to the research setting. The primary observations describe how events unfolded, providing a mechanistic perspective focusing on processes and activities that create an outcome. The secondary observations by observers, personal perceptions, and descriptions of the research setting link this data to its environing context. Thirty-five observations with a total of 13 descriptive pages are collected. The locations of observations are indicated in the diary and spread across Monterrey, Mexico City, Guadalajara, Puerto Vallarta, and Sayulita.

S*emi-structured interviews* serve to collect data on context and its environing conditioning beyond the observer's sight (Galetta, 2013). This data is used to identify the dynamic nature of context across different groups in society and within individuals as their realities change. This is especially relevant in Mexico, where inequality and informality are pervasive. Twelve interviews are performed with Mexican citizens and experts from the financial industry and social sciences. By focusing on the use of financial products and services in the interviews, the formed relationships with digital payments are explored as well as the outcome of inclusion and exclusion. An illustration of the collected data is participants describing how their family financially educates them and how subsequent teachings shape their perspective on and usage of digital payments (I.2; I.5).

The interview sample is selected with a purposive sampling technique, including participants chosen based on relevant criteria. First, a heterogeneous sample that features participants with diverse characteristics is chosen to provide the maximum variation possible in the data collected to enable a thorough context analysis. Subsequently, the chosen target population constitutes individuals living in regions of Mexico that are highly developed in terms of infrastructure but exhibit varying degrees of financial inclusion (Mexico City and Monterrey). This criterion is based on the argument made in the literature review that the infrastructure for the adoption and use of digital payments in Mexico exists but that there seems to be unexplored context that hinders this. In a second sampling step based on the degree of financial inclusion as conceptualised by Hannig and Jansen (2010), a sample with varying inclusion levels is chosen from the target population. The interviews are conducted based on an interview guide that allows for flexibility in the interaction between interviewer and interviewee. All interviews are recorded for subsequent transcription.

Last, a set of 10 *documents* is reviewed to collect data on context and digital payment technology from a systemic point of view. Observations reveal processes that lead to outcomes, and interviews enrich the data with contextual descriptions. Based on the argument that both ultimately rely on subjective experiences and are therefore prone to bias, documents are used to add data on environing context from a more objective point of view. Thus, they are used to corroborate evidence on systemic contextual conditioning. They include reports by government agencies and regulatory institutions on financial inclusion and its overlay with the socio-economic context in the case setting of Mexico.

3.2 Data Analysis

Based on the definition of context as environing the object of interest, the data is reviewed for links between descriptions of context and digital payment inclusion or exclusion. This results in the description of the Mexican context being unequal with conditioning digital payment technology.

The collected data is analysed via a grounded inductive approach (Gioia et al., 2013; Gioia & Pitre, 1990). Thereby we address the discrepancy between qualitative rigour in applying systematic conceptual and analytical discipline and the creative potential of inductive studies to generate new concepts and ideas. Since the objective of this paper is to develop contextual explanation that accounts for the dynamism of an environing context without bounding it, Gioia's approach allows gaining conclusions without limiting advances in knowledge to what is already known in the research area and without artificially stabilising context. To achieve said objective, our unit of interest is the inequalities and the resulting contradictions that thereby lead to outcomes of inclusion and exclusion. Context is operationalised as "that which environs the object of our interest" (Scharfstein, 1989, p.1) and is understood through rich descriptions linked to outcomes of inclusion and exclusion.

The data analysis process follows a step-by-step approach, divided into two phases. In the first phase, recorded observations, transcribed interviews, and documents are coded broadly, adhering to the terms used by the interviewees, without attempting to condense or distil categories. In a second step, this large number of codes is then analysed for similarities and differences to reduce the number of codes. This is done to establish a first set of descriptions of context and outcomes. Then, these categories receive labels or phrasal descriptors to enable the next step of identifying emerging themes that help describe observed phenomena (see Figure 1).

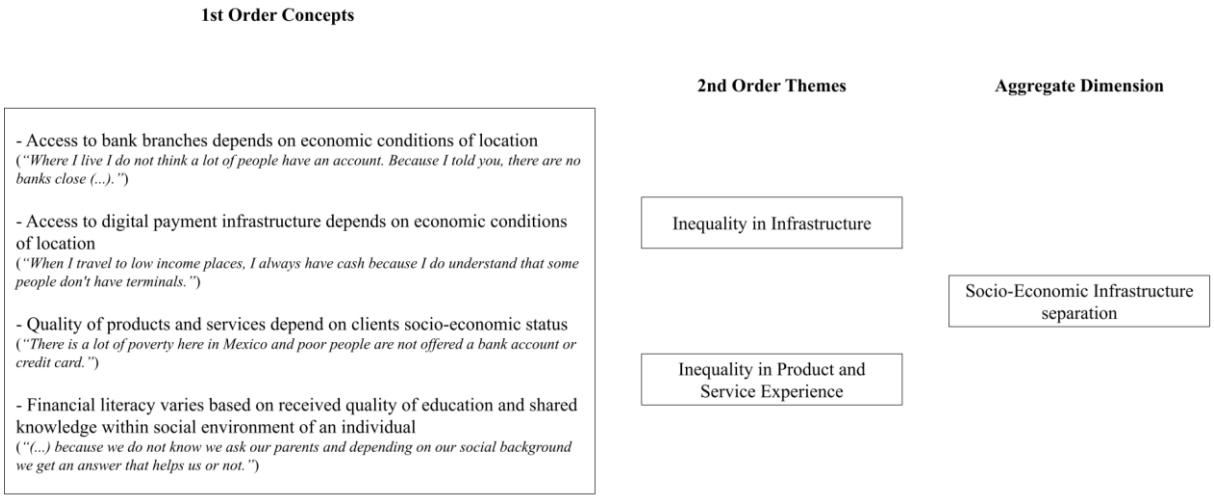

Figure 1. Illustration of Thematic Analysis.

4 Findings

The Mexican context is unequal, meaning it is disproportionate, unfair, uneven and characterised by differences, which its citizens convey by referring to their country as a "multi-factor beast" (E.1). The inequality materialises in terms of existing wealth and income, but spreads far beyond into many areas of life such as education, access to healthcare or protection by the law. Thus Mexico is not characterised by discrete contextual states but rather contradictions that give it a dynamic sense of constant development. These contradictions can be grouped by the areas of tension in which they occur. Therefore we will first review evidence of inequalities that shape the Mexican context, then explore the influence on digital payment inclusion and finally outline the present contradictions.

4.1 Mexico's Dynamic Context

As income is unevenly distributed, the amount of disposable income among groups in society varies substantially "our situation is that our money is not balanced. We have really, really poor people and really, really rich people" (I.4). Thus, individuals do not only experience poverty and the need for immediate cash in hand for necessary purchases but also find ways to maintain as much from their income as possible, for example by evading taxes, which is described as "strategy of the have nots" (E.1). This is enabled by informal work arrangements and cash transactions, "if you have [payments or salary] in cash (…) there is nothing to declare, there is no record of it" (I.1).

Inequality is also present in access to infrastructure for traditional banking services and digital technology such as the internet or mobile phone networks. Affluent urban areas have a well-developed network of bank branches and payment infrastructure, access to the internet is widely available and the use of digital payments is promoted, as observed in the neighbourhoods of Roma Norte and La Condesa in Mexico City (Observation 17; 18). In contrast, disenfranchised areas are void of bank branches even when part of large urban areas (Document 7). In cases where mobile internet and phone networks are available, there is often a lack of digital payment infrastructure: "If you make a little trip around Mexico and you go to a little town, it is more likely that they do not have a credit card machine there" (I.6). Crossing into rural areas only widens this gap. This divide is observed in remote areas outside of Puerto Vallarta (Observation 1).

Inequality also exists in available financial products and services. This is in terms of account opening requirements but also service levels. Data shows that respondents that are fully financially included benefit from instantly available digital service channels that efficiently resolve problems: "Until now I have not had any problems with my bank. If I have one I can call or use the app" (I.5). Unbanked individuals face substantial obstacles in attempting to open accounts due to low and or informal income sources. I.3 describes, "I could not have an account at a normal bank because I have no credit history," and I.8 states, "there is a lot of poverty here in Mexico and poor people are not offered a bank account or credit card."

Last, the Mexican education system that struggles to provide the same quality of education across all groups in society creates inequality in financial literacy (Document 5). In general, there is an absence of teachings on financial literacy: "you do not learn that at school. You do not learn how banks work, how interests work" (I.2). As a result, students fill the knowledge gap through their household, in a manner that largely depends on the family's economic background. I.2 states, "all the [financial] knowledge I have is from family and friends." Similarly, I.7 states that her knowledge of investment opportunities was built via the teachings of a friend: "I actually was really interested in financial investment but I didn't know how to do it so I asked a friend who studied finance (…)." I.2 links the opportunity to receive such education to the family's social background "because we do not know we ask our parents and depending on our social background we get an answer that helps us or not." Thus, this can also shape the perception of banks and digital payment methods negatively.

In summary, evidence shows that the Mexican context is unequal. Discrete contextual states do not characterise it, but rather contradictions that give it a dynamic sense of constant development. Thus, it is not waiting to be met by digital payment technology.

4.2 Themes of Inequality in Digital Payment Inclusion

After describing context, we unfold evidence of Mexico's contextual conditioning for digital payment inclusion as themes of inequality become evident. The inequality in access to infrastructure leads to vastly different experiences with digital payment technology. The perception of their efficiency is supported by the availability of infrastructure in the majority of areas financially included individuals transact in (I.1). Digital payments are available in chain stores, developed areas of cities and their affluent neighbourhoods. Therefore their inhabitants perceive them as useful, adopt new products and services and even promote their usage. However, when faced with the necessity to use cash, respondents

share a sentiment of frustration as they have to acquire cash via ATMs that are often inaccessible or expensive to use (I.1; I.7). Thus, they actively advocate for an extension of the digital payment infrastructure. In contrast, neither physical bank branches nor digital payments are available in small rural communities and areas with a low average income: "when I travel to low income places, I always have cash because I do understand that some people don't have terminals" (I.7). Here, the only available payment method for daily transactions is cash. This is supported by observations of a lack of payment infrastructure in local communities, frequent outages of mobile networks necessary to facilitate digital transactions and the absence of bank branches in entire communities. Such inequities create a façade that digital payments are inefficient. Regardless of the level of development or income, digital payments are not available at most street vendors, small private corner shops, and the vast majority of public transportation.

Second, the inequality in product and service experience, in combination with varying degrees of financial literacy, conditions the perception of the usefulness of digital payments and the trust in financial institutions. Individuals with digital payment inclusion receive financial education through their family and friends, to replace the absence of such knowledge in the formal education system (I.2). Their family also often helps them to open bank accounts, by facilitating the process or providing the required initial capital (I.2; I.5; I.4). In absence of financial education and family support, other respondents have become included via digital payments by entering formal employment and opening an account for salary payments. Another pathway has been FinTechs which require less documentation than traditional banks (I.3). Once provided with access, respondents share how they use a diverse set of products ranging from digital bank accounts to investment applications (I.7). Due to the instant availability, they perceive them as more efficient than physical banking services, which are considered "inefficient" and "not helpful." The data shows that apart from the perceived efficiency, the use of digital payments is then driven as they help in tracking personal finances (I.6) and encourage financially responsible behaviour (I.5). The interaction via digital channels also builds relationships, as respondents share how their issues, such as credit card fraud, were quickly resolved. Individuals that remain financially included do not experience the described benefits and reinforce their scepticism of digital payment technology and financial institutions.

Last, most excluded respondents work in informal work arrangements and receive their wages in cash (I.8). Combined with limited disposable income due to low wages, this creates a perception of financial institutions as unnecessary middlemen (I.9). Due to financial constraints, cash payments of wages are also often preferred since it circumvents income tax and social security contributions (I.9). Based on low financial literacy and general scepticism towards financial institutions and their trustworthiness, cash is also preferred since it is perceived as tangible and secure (I.9).

Based on the identified inequality and inherent contradictions, digital payment technology in Mexico is subject to contextual conditioning.

4.3 Contextual Contradiction

In the last step, the analysis of the relationship between financial inclusion and digital payments as embedded into contextual contradictions allows for the identification of contradictions as outcomes of inclusion and exclusion are created. The data shows that placing digital payments in a dynamic context allows understanding the creation of unequal outcomes in Mexico (see Table 2 for summary).

First, socio-economic infrastructure isolation describes the contradictory process of infrastructure growth in only selected areas based on the socio-economic conditions of a community. Thereby said growth is conditioned. While groups already using digital payment technology gain even more access to it and hence deepen their level of inclusion, the gap between disenfranchised communities widens. For them, the current disparity in access to digital payment technology prevails while also reducing the perceived value of adopting novel payment products: "where I live I do not think a lot of people have an account. Because I told you, there are no banks close and also many places you cannot pay with card. So it makes no sense" (I.9).

Second, evolutionary regression describes the contradictory process of communities adopting novel payment products and services using digital payment technology, while largely unbanked communities experience a regression into cash-based transactions. As a result, payment service diversification is conditioned so that groups with digital payment inclusion are willing to adopt novel solutions that enter the market and perceive them as more efficient and safer than cash: "I try to use American Express for all payments. It is more safe for me. Whatever happens I can call them, and they resolve all my problems" (I.4). Private companies almost exclusively target this customer group (Observation 13). In contrast, the exclusion of unbanked communities is cemented. As they do not have access to the required payment infrastructure, launching new payment products is irrelevant to them. Thus, they are encouraged to mistrust digital payment technology: "I think it's because we do not trust anyone, specifically banks. It has happened many times that people are not happy with the service of the banks" (I.3).

Last, informal legislation describes the contradictory relationship of individuals with the law, which leads to the acceptance of illegal practices. In consequence, payment practice is conditioned since the frequent use of digital payments legitimises the payment form as standard in communities with access to digital payment technology: “I usually always pay with my credit card. The reason is I don't like to carry cash, I'm always afraid to have so much cash with me (…)” (I.7). In contrast, excluded communities that are faced with low wages and limited disposable income are incentivised to continue to transact in cash due to the previously mentioned factors of exclusion, but also the possibility to evade taxation in non-traceable physical payments: "if you have it in cash (…) there is nothing to declare, there is no record of it" (I.1).

In summary, digital payment technology in Mexico is subject to contextual conditioning, leading to multiple simultaneous outcomes, specifically financial inclusion and exclusion.

Mexico’s Contextual Contradiction	**Mexico’s Contextual Conditioning With Digital Payment Technology**	**Illustration of Outcome**
Socio-economic infrastructure separation *The contradictory context of growth of infrastructure only in selected areas based on the socio-economic conditions.*	Payment infrastructure grows where it is already present	Inclusion: Increased use of digital payment for communities with access. Exclusion: Continued exclusion for communities without.
Evolutionary Regression *The contradictory context of communities increasing their financial inclusion while cementing the exclusion of others.*	Payment service portfolio is launched for and adopted by existing users	Inclusion: Adoption of novel services by already financially included communities. Perception of digital payments as safe and efficient. Exclusion: Alienation for currently unbanked communities. Perception of digital payments as unsafe and inefficient.
Informal Legislation *The contradictory context of individuals creating rules outside the law, resulting in the acceptance of illegal practices.*	Payment rules are habitualised based on existing practices.	Inclusion: Incentivisation to use digital payments due to availability. Exclusion: Incentivisation to transact in cash.

Table 2. Mexico’s contradictory contextual conditioning.

5 Discussion

Evidence shows that digital payment technology drives financial inclusion, as digital payments cross infrastructural, regulatory, and economic boundaries. However, Mexico contradicts these findings as the majority of the population remains excluded. Based on a different approach to context as dynamic and unbounded, we conduct a field study that allows us to explore context and phenomenon in conjunction, without artificially delineating them. Thereby, we suggest contradictions to explain how and why the Mexican context conditions digital payment inclusion.

The findings highlight that the Mexican context is polarised and grounded in inequality. The stark inequality in the country sets a highly dynamic environment that influences the relationship between digital payment technology and financial inclusion, where contradiction gives a sense of context in movement (Marx, 1902 (1841)). More specifically, three contextual contradictions identified as socio-economic infrastructure separation, evolutionary regression, and informal legislation explain the contextual conditioning of Mexico with digital payment technology. Therefore, the Mexican context is not present in discrete form. Instead, it conditions outcomes of digital payment inclusion and exclusion simultaneously. As there is not one context, there is also not one outcome. These insights allow us to contextually explain without bounding, stabilising, or situating context while still acknowledging it is environing.

Current arguments for inclusion and exclusion through digital payment technology remain diverse, as our review of current literature highlights evidence for the creation of both. They mirror the unclarity and complexity around context in movement, but contextual contradictions give us a way of addressing this issue. For example, they enable to answer Avgerous' (2019) call for the consideration of physical and material environments. While the data shows that little disposable income is one reason for financial exclusion, the lack of accessibility to physical infrastructure is much more prevalent. Furthermore, contradictions allow for the consideration of Hayes and Westrup's (2012) proposal to review phenomenon and context in conjunction and not as separate entities. When reviewed separately, digital payment technology can create financial inclusion, and the Mexican context appears sufficiently structured such that all may benefit from this development. As the phenomenon becomes subject to contextual conditioning, these claims do not hold and become more complex as contradictions emerge. Yet, it is their exploration that aids in understanding exclusionary effects of information technology, even if inclusion is simultaneously created. A dynamic context can lead to multiple outcomes of the same phenomenon, such as inclusion and exclusion and explain cases like Mexico's context.

On a practical level, the understanding of context being dynamic allows us to derive explanations for the status quo in Mexico. Inclusion and exclusion occur simultaneously, as there is not one context present. The already financially included communities continue to use and adopt digital payment services due to increasing access to infrastructure, product diversification, the legitimisation of the payment form and the formation of positive perceptions of digital financial products in general. In stark contrast, unbanked communities continue to be excluded since they are isolated from the occurring payment infrastructuration, the launch of new payment products alienates them, informality based on cash-based payments is incentivised to circumvent taxation on already low salaries and scepticism towards digital financial products is fostered. Thus, despite the potential for increasing financial inclusion, exclusion prevails.

Digital payment services that do not consider the dynamic context inequality creates are thus unlikely to reach excluded communities. In contrast, the evidence shows that digital payment services that overcome said challenges could successfully increase financial inclusion. For example, the public transport payment card in Mexico City provides a first touch point with cashless digital payments for excluded communities. It can do so as it relies on extensive infrastructure that overcomes socio-economic community isolation. Lastly, while we do not offer a straight-line solution, the theoretical perspective and findings give a way for unfolding a systemic one.

6 Conclusion

This paper explains how and why the Mexican context conditions digital payment inclusion. We find socio-economic infrastructure separation, evolutionary regression, and informal legislation are three contextual contradictions conveying a dynamic conditioning, which underlies digital payment inclusion and exclusion in Mexico. What we term as contextual contradiction helps address the Mexican context, which is highly dynamic due to the stark inequality present in the country. Therefore, the relationship between financial inclusion and digital payment technology is embedded in, and is part of, a changing environment. Therefore, digital payment inclusion and exclusion occur because contextual contradictions condition multiple outcomes. While the financially included group deepens their use of financial services, the excluded group continues to transact in cash. On a theoretical level, these findings contribute to the analysis of IS phenomena in context, by addressing how both emerge together without bounding, stabilising, or situating context. On a practical level, the study serves to identify possible strategies to increase financial inclusion in Mexico, for example, by designing payment services that systemically address inequalities. Albeit these findings, we recognise unfolding context in movement to explain technology's societal implications is a journey beyond this stop.

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Appendix

Collection Approach	**Details**
Interview	12 Interviews conducted in the field in Mexico City and Monterrey to collect data on context and its environing conditioning beyond the observer's sight. I.1 Architect (Monterrey): High level of financial inclusion. Uses digital bank account, mobile payments and PayPal for daily transactions. I.2 Teacher (Monterrey): High level of financial inclusion. Uses digital bank account and mobile payments daily transactions. Invests via mobile application. I.3 Student (Mexico City): Intermediate level of financial inclusion. Uses traditional bank account to receive salary and recently got access to a credit card via FinTech to pay digitally. I.4 Marketer (Mexico City): High level of financial inclusion. Uses digital bank account, mobile payments and PayPal for daily transactions. I.5 HR Administrator (Monterrey): Intermediate level of financial inclusion. Recently opened a bank account and is now using mobile phone application to deposit salary and transfer money. Pays via digital means where possible, but still transacts in cash. I.6 Graphic Designer (Mexico City): Intermediate level of financial inclusion. Recently opened a bank account and is now using mobile phone application to deposit salary and transfer money. Pays via digital means where possible, but still transacts in cash. I.7 Software Engineer (Monterrey): High level of financial inclusion. Uses digital bank account, mobile payments and PayPal for daily transactions.

	Invests via mobile application. I.8 Secretary (Monterrey): Low level of financial inclusion. Does have a bank account and credit card, but prefers to not use them and transact in cash. I.9 Caretaker/Cleaner (Mexico City): Financially excluded. Does not own any type of account and transacts in cash. I.10 Street Vendor (Monterrey): Financial excluded. Does not own any type of account and transacts in cash. E.1 Professor for Communications and Journalism (Monterrey) E.2 Director of Corporate Development at Fintech (Mexico City)
Observation	Four months with detailed notes of 35 instances recorded in the field on 13 pages in the locations of Mexico City, Guadalajara, Monterrey, Playa del Carmen and Puerto Vallarta with the objective to collect data on the dynamic nature of context and mechanisms as their interaction creates outcomes in real life.
Documents	10 documents by government agencies and regulatory institutions collected with the objective to understand and document systemic patterns.

Table 3. Breakdown of Data Collection.

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