

Fintech and Cash Persistence: A Behavioral Finance Perspective on POS Terminals Adoption Resistance in Moroccan Neighborhood Retail.

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Abstract

In recent years, Morocco has implemented a major strategic reform initiative aimed at accelerating the transition from a cash-based economy to a digital economy. However, Point of Sale (POS) terminals adoption remains limited among Moroccan neighborhood micro-retailers. This study aims to explore the psychological mechanisms behind Moroccan neighborhood micro-retailers' behavior based on a behavioral finance perspective. The objective is therefore to understand the role of cognitive biases (losses aversion, status quo, herd behavior, ambiguity aversion) in the resistance to adopting POS terminals. The study employs an exploratory qualitative approach using semi-structured interviews. The results of the cross-sectional thematic analysis revealed that Moroccan neighborhood micro-retailers are particularly sensitive to financial and operational losses, prefer cash payments, place significant importance on the experiences and recommendations of peers, and express uncertainty regarding the consequences of adopting this fintech digital payment service. This study helps fill a significant theoretical gap in the existing literature by drawing on the perspective of behavioral finance to explain resistance to POS terminal adoption in the Moroccan context. From a managerial perspective, this study provides important guidelines for monetary authorities regarding strategies aimed at reducing the perception of losses, ensuring a gradual transition, further promoting communication campaigns, reducing uncertainty, and highlighting the success experiences of other micro-retailers.

Keywords: Fintech; POS Terminal; Cash Persistence; Neighborhood Retail, Cognitive Biases; Morocco.

Introduction

Financial technology (fintech) refers to the technological innovations that have enhanced and facilitated access to financial services. On a global scale, fintech is revolutionizing the global financial landscape by offering financial services that are more accessible, efficient, secure, and convenient for all economic actors. Fintech takes many forms, including payments and transfers such as mobile wallets and QR codes, peer-to-peer lending, and crowdfunding platforms. Digital payments, particularly via credit cards, are a traditional form of fintech. This is a well-established and mature fintech solution that has been adopted for years by many economies around the world. In Morocco, the transition from a cash-based economy to a digital economy has been identified as a national strategic priority. The country's central bank, "BANK AL-MAGHRIB," has implemented a strategic reform initiative aimed at expanding the network of POS terminals to reduce dependence on cash, make digital payments more widely accessible, and accelerate the growth of fintech companies. However, despite the efforts of the country's monetary authorities, acceptance of this digital solution by neighborhood micro-retailers remains structurally limited. Indeed, a large portion of this economic sector does not appear ready to change traditional payment methods. This insight thus constitutes the empirical paradox that motivates this study. Several research studies have sought to explain factors that influence the adoption of digital payments using the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the Diffusion of Innovations (DOI) model. All these theories share a common feature: they rely on a rational approach to explain the decision to adopt fintech digital payment services. These models attribute non-adoption to a lack of information or resources, and overlook the role of cognitive and behavioral mechanisms.

In this regard, behavioral finance addresses this limitation and offers a significant alternative for explaining this phenomenon. According to Dubey (2025), behavioral finance explains the irrational behavior of investors in financial markets and reveals that cognitive biases and emotional reactions significantly influence the decisions of both individual and institutional investors. While these factors have been extensively documented in studies on investment, savings, and insurance decisions, their application to the adoption of digital payments by neighborhood micro-retailers, particularly in emerging markets, remains underdeveloped. Thus,

the existing literature has not yet sufficiently examined the behavioral barriers that fuel Moroccan retailers' resistance to adopting digital payment technologies, specifically POS terminals.

Against this backdrop, the present study addresses the following overarching research question:

To what extent do cognitive biases, notably loss aversion, status quo, herd behavior, and ambiguity aversion, explain the persistent resistance of Moroccan neighborhood micro-retailers to adopting POS terminals? The objective is therefore not to describe the barriers to adoption but to explore how these cognitive biases, drawn from behavioral finance, manifest in the decision-making process that leads Moroccan neighborhood micro-retailers to resist the adoption of POS terminals. To address this research question, this study adopts an exploratory qualitative methodological approach using semi-structured interviews.

The remainder of this study is organized as follows. Section 1 presents a literature review on digital payment landscape in Morocco and on the four cognitive biases relevant to behavioral finance. Section 2 describes the study's methodological approach. Section 3 presents the results and discussion of the study. Section 4 presents the conclusion of the study and future avenues for research.

1. Literature review:

1.1. Digital payment landscape in Morocco: between the development of POS terminals and the predominance of cash.

In recent years, Morocco has made significant efforts to modernize its payment infrastructure, thereby accelerating the transition to an economy less dependent on cash and strengthening financial inclusion. The growth of fintech digital payment services continues to progress in Morocco. In 2025, the number of bank card payments increased by 21%, compared to 13% the previous year (Bank Al-Maghrib, 2025a). This figure is largely dominated by payments made via POS terminals, which account for 80% of all bank card payments, compared to 20% for e-commerce payments. According to the latest annual report published by Bank Al-Maghrib on financial market infrastructure, payment methods, and their oversight (Bank Al-Maghrib, 2025b), the number of payments made via POS terminals has increased by 17% between 2023 and 2024, rising from 131.3 million to 153.3 million transactions. The central bank states that contactless POS payments continue to grow in value (30% in 2025 compared to 27% in 2024), while PIN-based POS payments continue to decline (53% in 2025 compared to 55% in 2024).

Although this progress is encouraging, it remains insufficient given the goals for modernizing national payment systems. Digital transactions, particularly those made via POS terminals, account for only a small share of the total value of transactions conducted in the Moroccan market. In the context of neighborhood commerce, cash remains the predominant form of payment. This reliance on cash entails significant economic costs and risks. Indeed, the production of banknotes and coins entails costs related to their manufacture, transportation, distribution, and security.

Indeed, the production of banknotes and coins entails costs related to their manufacture, transportation, distribution, and security. Furthermore, cash can be a factor that hinders efforts against the informal economy. It fosters undeclared transactions and limits the traceability of transactions and the control of illicit activities.

Against this backdrop, monetary authorities have stepped up their efforts to accelerate the transition from a cash-based economy to a more modern, secure, and inclusive one based on digital payment methods. On the one hand, the country's central bank has drawn up a national strategy for promoting digital payments. This strategy led to the establishment of the Electronic Payment Acceptance Development Fund, whose primary objective is to encourage merchants to adopt digital payments, thereby reducing reliance on cash. On the other hand, Bank Al-Maghrib has decided to lower the general cap on domestic card payment interchange fees from 0.65% (excluding tax) to 0.50% (excluding tax), with a specific cap of 0.15% (excluding tax) for transactions made at neighbourhood retailers and electronic government services. This decision will take effect on October 1, 2026. These interchange fees are a component of the commission charged to merchants and cannot under any circumstances be passed on to the customer.

Furthermore, Morocco has launched another major reform, one that involves opening of the merchant acquiring market to new competitors, thereby fostering greater competition in a market historically dominated by CMI (Centre Monétique Interbancaire). In addition, Bank Al-Maghrib and the Competition Council have decided to open the market to new competitors, particularly payment institutions and specialized subsidiaries of banks that can offer their own acquiring services (Competition Council & Bank Al-Maghrib, 2026). This reform will thus encourage competition, improve quality, and diversify the range of services available on the market.

Despite all these institutional and technological advances, cash continues to occupy a significant position in neighborhood retail market. This paradox, between the availability of payment infrastructure and its low adoption rate by neighborhood retailers, raises questions about the origin of POS terminal adoption resistance.

1.1. Cognitive and behavioral mechanisms of POS adoption decision.

1.1.1. Prospect theory and loss aversion in Fintech adoption.

Kahneman and Tversky's (1979) prospect theory provides a descriptive model of decision-making under risk (Barberies, 2013). This theory challenges the traditional expected utility model based on absolute rationality and proposes a more innovative approach by replacing the classical utility function with a value function defined around a reference point. Prospect theory incorporates the psychological dimension into the study of how individuals make decisions (Laamime & Mialed, 2025). Indeed, this theory introduces the concept of risk aversion, according to which losses have a greater psychological impact than equivalent gains, leading to a stronger emotional reaction to losses. Empirical research in behavioral economics suggests that perceived losses exert 1.5 to 2.5 times more influence on decision-making than equivalent gains (Seena & Dinesh Kumar, 2025). The concept of the reference point is also a fundamental component of prospect theory. According to Kahneman and Tversky (1979), individuals evaluate outcomes relative to a reference point rather than in absolute terms.

Several studies have drawn on prospect theory to understand how perceptions of risk and benefits influence decisions to adopt financial technologies (fintech). Hung *et al.*, (2024) examined the role of loss aversion on inertia and behavioral intentions in the adoption of mobile payment systems. The results showed that loss aversion acts as a barrier to the adoption of mobile payments. Han et al. (2026) conducted a study on factors promoting the adoption of central bank digital currencies (CBDCs) in travel transactions. The study examined the impact of perceived risk from the perspective of prospect theory and demonstrated its significant impact on the adoption of CBDCs for transactions made while traveling.

In the context of digital payments, the asymmetry in the valuation of gains and losses, along with the use of cash as a reference point, may provide an important starting point for understanding micro-retailers' resistance to POS terminals adoption. Against this backdrop, this study aims to

examine how loss aversion manifests in neighborhood micro-retailers' decisions regarding the resistance to POS terminals adoption in Morocco.

1.1.2. Status Quo and behavioral inertia in digital payment adoption

The concept of the "status quo," introduced by Samuelson and Zackhauser (1988), refers to individuals' tendency to prefer maintaining their current situation or choice rather than making a change. This phenomenon is explained by two main mechanisms (Kahneman *et al.*, 1991): the first concerns the endowment effect, whereby individuals place greater value on the goods they own than on superior alternatives available to them. The second is related to loss aversion bias, whereby individuals feel more pain from losing an existing option than they do from enjoying the potential benefits of a new choice.

Empirical studies on digital payment adoption highlight the importance of status quo bias in the persistence of traditional payment behaviors. Gong *et al.*, (2020) draw on the theory of status quo bias to examine how inertia in the use of incumbent web payments impacts the intention to use new mobile payment services. The study confirms the significant effect of behavioral inertia stemming from the status quo on the intention to adopt mobile payments. A more recent study conducted by Huang (2026) draws on status quo theory and confirms that psychological commitment, cognitive misunderstandings, and rational evaluation influence consumers' resistance to FinTech voice chatbots and, consequently, their willingness to switch from in-person services to these voice chatbots.

In the Moroccan micro-retail sector, cash payments constitute the prevailing payment method. The status quo is therefore an analytically essential framework for understanding neighborhood micro-retailers' resistance to adopting payment terminals. In light of these considerations, this study aims to examine how status quo manifests in neighborhood micro-retailers' decisions regarding the resistance to POS terminals adoption in Morocco.

1.1.3. Herd behavior and social influence in digital payment adoption

Herd behavior refers to the phenomenon in which individuals tend to imitate the decisions or behaviors of others rather than follow their own judgment (Banerjee, 1992). This behavior results from an information cascade (Bikhchandani *et al.*, 1992). In other words, individuals forgo their own choices and make decisions based on the behavior they observe among those who have adopted the innovation before them. In this case, individuals assume that the first decision-

makers have better information. However, this imitation can lead to poor and wrong decisions (Banerjee, 1992).

The literature on behavioral and decision-making finance has largely confirmed the relevance of herd behavior bias in the adoption of financial technologies. Wang *et al.*, (2026) conducted a study on crowdfunding platforms to examine the effect of ambiguity and herd behavior on the performance of crowdfunding campaigns. The results showed that herd behavior has a positive impact on the performance of crowdfunding campaigns. Indeed, investors are influenced by the decisions of other contributors, which enhances the performance of crowdfunding campaigns. In another study on the adoption of mobile payments as a financial technology, Ho *et al.*, (2025) confirmed that customers are more likely to use mobile payments when they observe previous customers paying for their transactions this way. The authors conclude that herd behavior explains a significant share of this behavior.

As part of this research, herd behavior will be employed to examine the importance of peer influence in the decision-making process regarding the adoption of payment terminals by micro-retailers. This exploratory study will thus provide insight into how herd behavior manifests in neighborhood micro-retailers' decisions regarding the resistance to POS terminals adoption in Morocco.

1.1.4. Ambiguity aversion and uncertainty avoidance in digital payment adoption.

Ellsberg (1961) highlights individuals' tendency to prefer situations in which the consequences and probabilities are known, rather than making choices based on a lack of information or uncertainty about their outcomes. This phenomenon is known as the Ellsberg paradox. Ellsberg distinguishes between situations with unknown or uncertain probabilities—which are described as ambiguous—and situations with objectively known probabilities, which are generally described as risky (Trautmann & Van de Kuilen, 2015).

The concept of ambiguity aversion has been extensively studied in the literature on behavioral and decision finance. Umamaheswari and Subbalakshmi (2025) conducted a study on resistance to innovation in financial advisory services that sought to examine the intention to adopt robo-advisors. The study showed that situations characterized by uncertainty and ambiguity can reinforce resistance to the adoption of financial innovations. More recently, Wang *et al.* (2026)

demonstrate that informational ambiguity plays an important role in investors' decisions on crowdfunding platforms, which represent a major category of financial technologies.

Although ambiguity aversion has been extensively documented in studies on investment decisions and technology adoption (Anantanasuwong *et al.*, 2024, Crentsil *et al.*, 2020, Dimmock *et al.*, 2016), its application to the context of financial technology, particularly the adoption of POS terminals remains unexplored. This study therefore aims to understand how ambiguity aversion manifest in neighborhood micro-retailers' decisions regarding the resistance to POS terminals adoption in Morocco.

2. Methodology

2.1. Approach and Rationale

This study employs an exploratory qualitative approach to understand how cognitive biases cognitive biases, drawn from behavioral finance, manifest in the decision-making process that leads Moroccan neighborhood micro-retailers to resist the adoption of POS terminals.

An exploratory qualitative study enables a deeper understanding of a phenomenon that remains underexplored in its specific context (Creswell & Poth, 2024). Thus, this approach is consistent with the scope of this study, as it will allow to examine the adoption of POS terminals by Moroccan neighborhood micro-retailers; a particularly new and under-documented phenomenon. Addressing this topic through a qualitative approach will deepen the understanding of this phenomenon and reveal new explanations based on the participants' statements.

2.2. Participants

This study was conducted among fifteen Moroccan micro-merchants mainly engaged in various neighborhood retail activities. The target population for this study consists of non-users of POS terminal payments. The following table presents the main sociodemographic and professional characteristics of the participants.

Table 1: Socio-demographic and professional characteristics of the participants

Participant	Gender	Age	Education level	Business	Years of Expérience	Number of employees
R1	Male	40	Bachelor's degree	Parapharmacy store	6	1
R2	Male	30	Bachelor's degree	Coffee shop	5	3
R3	Male	38	Secondary education	Butcher shop	21	1
R4	Male	37	Secondary education	Greengrocer	14	1
R5	Female	43	Baccalaureate	Coffee shop	11	5
R6	Male	40	Secondary education	Bakery and Pastry shop	10	5
R7	Male	48	Secondary education	Coffee shop	12	4
R8	Male	42	Secondary education	Grocery store	12	1
R9	Male	53	Primary education	Grocery store	11	1
R10	Female	35	Bachelor's degree	Beauty center	10	4
R11	Female	42	Secondary education	Tailoring shop	8	3
R12	Female	47	Baccalaureate	Clothing store	9	1
R13	Male	46	Baccalaureate	Fishmonger	12	2
R14	Female	39	Bachelor's degree	Bookstore	5	1
R15	Male	36	Secondary education	Snack-bar	8	3

Source: Author's own elaboration based on survey data.

2.3. Data Collection and Analysis

Fifteen individual interviews were conducted with neighborhood micro-retailers operating in various activities. To allow for detailed explanations, each interview lasted between twenty and forty-five minutes. The interviews continued until data saturation was reached. This principle implies that each new interview should yield new information and that interviews should continue until the responses become redundant (Guest *et al.*, 2006; Thietart *et al.*, 2014). Thus, in our study, data collection continued until no new themes emerged. This study also followed Creswell's (1998) recommendation to conduct between 5 and 25 interviews. The interviews were recorded, then transcribed in full, translated into English, and analyzed thematically.

The interview guide for this study was organized into three distinct sections. The first section served to introduce the topic, explain its objective, and outline what was expected of the

respondents. At the end of this section, informed consent was obtained from each participant. The second section helped define the respondent's profile and provide context for the verbatim responses. The final section was dedicated to structured questions based on the main theoretical constructs of our study (loss aversion, status quo, herd behavior, and ambiguity aversion), along with open-ended questions designed to allow other themes to emerge.

The data collected through semi-structured interviews was subjected to a cross-case thematic analysis. For each construct studied, participants' responses were examined to identify themes and codes derived from the empirical data. These statements were cross compared between the different interviews to highlight recurring themes, points of divergence, and emerging themes or those specific to certain participants. The results were then synthesized and illustrated using verbatim quotes selected from the participants' responses.

3. Results and Discussion

3.1. Loss Aversion

The results of the exploratory qualitative study highlight three main dimensions through which the cognitive bias of loss aversion manifests among Moroccan neighborhood micro-retailers.

The first dimension relates to **the trade-off between losses and benefits**. This is mainly expressed by a strong focus on the difficulties, drawbacks, and potential losses rather than on the advantages and benefits of adopting POS terminal payment. Most respondents confirmed their concern about the immediate negative consequences rather than the potential future benefits of adopting POS terminal. The micro-retailers's reference point is "payment without fees." Any deviation from this reference point is perceived as a loss.

The second dimension concerns **perceived financial losses**. A high sensitivity to financial losses was identified in the statements of Moroccan neighborhood micro-retailers. This sensitivity takes several forms, notably the erosion of micro-retailers' profit margins due to fees charged by POS terminal service providers. In fact, respondents stated that the fee for using POS terminals is high and should not be supported by the retailer, especially when it comes to a business with an already limited profit margin. Charging a fee on every transaction made via a POS terminal will only further reduce the retailer's earnings. One respondent commented:

"Having a POS terminal would reduce my profit margin because the products I sell are already low-priced. So, even a one-dirham fee means a loss for me in terms of my profit margin"

Furthermore, analysis of the interviews shows that financial losses are also linked to POS terminal installation costs. Moroccan micro-merchants expressed dissatisfaction with the high cost of purchasing a POS terminal, which they are also required to pay for. These financial losses constitute additional expenses that would not arise in the case of cash payments.

The third dimension relates to **operational losses and perceived risks**, which take several forms in the respondents' statements, primarily the fear of delayed settlement of transactions. Indeed, micro-retailers fear that the money paid via the POS terminal will not be immediately available, particularly given the need to pay suppliers in cash. This issue is seen as a constraint that could disrupt the day-to-day management of the business:

“Adopting a POS terminal payment system could reduce the amount of cash available in my business, which would be a problem for me, because I currently pay my suppliers in cash.”

On the other hand, operational losses and perceived risks also manifest through other behaviors, notably the fear of making a mistake when using a POS terminal and the fear of handling customer complaints. In fact, respondents noted that managing a POS terminal can be stressful because a typing or data entry error can lead to difficulties in processing transactions and potentially result in customer complaints. One respondent stated that using cash helps avoid all these risks:

“Managing a POS terminal is stressful because I always must be careful when using it to avoid making a typing error. Also, if I receive complaints from my customers about their payments, that could be a hassle. Cash keeps me from all those problems.”

On the other hand, the respondents unanimously confirmed that adopting POS terminals is definitely not a waste of time. On the contrary, POS payments are seen as a way to simplify work processes and, above all, save time. According to the micro-retailers surveyed, adopting a POS terminal will reduce the time customers spend waiting for change, eliminate the need for manual calculations, and prevent errors in giving change. Furthermore, the study shows that, despite the low educational level of some Moroccan micro-retailers, they are willing to make the effort to learn how to operate and manage transactions via a POS terminal, and do not consider this effort to be a significant enough difficulty or loss to resist its adoption.

However, loss aversion is not uniform across Moroccan neighborhood micro-retailers. Out of the fifteen respondents, one stands out as a contrasting case in this study. This respondent focuses

more on the benefits of adopting the POS terminal than on its potential losses. In fact, this respondent clearly stated that he is willing to accept minimal financial losses if adopting POS terminal will satisfy his customers. This heterogeneity suggests that loss aversion is a behavioral mechanism that can shape the decision-making process rather than a systematic attitude shared by all the micro-merchants surveyed.

3.2. Status Quo

Status quo as defined by Samuelson and Zackhauser (1988), refers to individuals' tendency to prefer maintaining their current situation or choice rather than making a change. The results of the empirical study highlighted the manifestations of this cognitive bias in the decision-making process regarding the adoption of POS terminals by Moroccan neighborhood micro-retailers. Thus, **maintaining customers' usual payment methods** and **a preference for cash payments** are the two main dimensions through which the status quo takes a form in the context of this study.

Moroccan neighborhood micro-retailers' commitment to cash payments is reflected, first and foremost, in their desire to maintain their customers' usual payment method. In fact, respondents prefer to maintain the existing payment method, as it aligns with their customers' habits. This reliance on payment practices already established among customers reinforces the status quo and limits the perceived need to adopt card terminals.

Second, empirical evidence shows that the status quo bias manifests as a form of behavioral inertia characterized by a strong preference for cash. This payment method continues to be the norm despite the existence of an innovative alternative such as the POS terminal. In this regard, several respondents emphasized their preference for continuing to use cash despite its drawbacks, particularly in the absence of a compelling alternative that would prompt them to change their practices. Thus, the introduction of a POS terminal can be perceived as a break with routines established over generations of merchants. One respondent commented:

"No, I don't plan to switch from cash for the time being because there isn't another attractive alternative."

Furthermore, the results of this study show that some respondents are willing to partially shift away from cash in response to customer demand. These respondents acknowledge the possibility of partially stepping away from their preferred payment method, in response to changing

customer preferences. Thus, they reject the complete replacement of cash with card payments and favor the coexistence of both payment methods:

“I cannot completely give up cash as my payment method. However, I could use POS terminal alongside cash”.

Ultimately, the status quo is reinforced not only by individual payment preferences but also by the liquidity constraints faced by Moroccan micro-retailers. According to participants, the day-to-day management of a business creates a need for immediate access to cash to pay suppliers. In other words, micro-retailers do not operate in isolation; their payment methods must remain compatible with the practices of the other parties with whom they conduct transactions. The consistency of the payment ecosystem therefore emerges as an operational requirement of commercial activity that limits the adoption of POS terminals among Moroccan neighborhood micro-retailers.

“I’m strongly committed to cash payment because I can’t operate without it; I always have to pay my suppliers in cash, so I need to have cash readily available at all times.”

3.3. Herd behavior

In this study, herd behavior is considered as a mechanism for examining the importance of peer behavior in the decision-making process regarding the adoption of POS terminal by micro-retailers. The exploratory qualitative study identified three main dimensions through which herd behavior manifests in the reasoning of Moroccan neighborhood micro-retailers: **observation of peers**, **trust in peers’ experience**, and the **conditional influence of peers**.

The first dimension relates to observing peers. In fact, observing the behavior of other retailers before deciding to adopt a POS terminal is the first step in the decision-making process for Moroccan micro-retailers. This observation allows them, first and foremost, to see the practices of other retailers in the neighborhood, especially those engaged in the same line of business. Respondents stated that this observation is very important because it allows them to use their behavior as a reference before deciding whether to adopt the POS terminal. One respondent stated:

“Yes, I observe the behavior of other retailers around me before making a decision, because they serve as a reference; if their experience is successful, that’s important to me.”

Furthermore, beyond simply observing their peers, the interviews also reveal a trust in peers' experiences, which represents the second manifestation of herd behavior. Thus, for Moroccan neighborhood micro-retailers, peers' experience serves as an important reference point when deciding whether to adopt payment via a POS terminal. Respondents explained that this feedback brings them closer to the reality faced by other micro-retailers engaged in the same business. Thus, positive feedback from a trusted peer will encourage adoption, while a negative experience will discourage it. Furthermore, respondents stated that peers' experiences also serve as a basis for assessing the reliability of POS service providers. Other respondents consider this feedback to be more credible than their own judgments or recommendations from institutional sources such as banks. The following statements illustrate these findings:

"The feedback from other retailers in my neighborhood will influence my decision to adopt POS terminal."

"If a merchant I trust recommends the payment terminal, I'll adopt it."

"I trust the experience of other retailers more than my own opinion or my bank's advice, because their feedback is the closest to reality."

On the other hand, herd behavior is not universal among all Moroccan micro-retailers. Based on the interviews conducted, some micro-retailers observe what the others are doing and listen to their feedback, but ultimately prioritize their own convictions, assessments, or experiences. This reasoning demonstrates resistance to peer influence and a conditional influence rather than automatic imitation among certain Moroccan neighborhood micro-retailers. In other words, peers' experiences are most influential when the merchant is still considering options or seeking information; once a decision has been made based on their own situation, the influence of others becomes limited.

"I'd rather not wait to see how the POS system works for other merchants, because I'm already convinced that it's necessary and that it offers significant benefits for my business..."

"The experiences of other merchants don't affect my decision at all, because I'm convinced that cash payments are the way to go."

"If other merchants' experiences are positive, that further encourages me to adopt the POS terminal; if they're negative, that won't discourage me, I have to try it out to test it and see how it will work in my business."

3.4. Ambiguity aversion

In this study, ambiguity aversion refers to the behavioral mechanism used to analyze how situations involving a lack of information or uncertainty regarding their consequences influence the decision to adopt POS terminal among Moroccan neighborhood micro-retailers. The results of the exploratory qualitative analysis highlight four main dimensions through which ambiguity aversion manifests in the context under study: the **financial transparency of POS terminal, familiarity with the terminal's operation, tax uncertainty, and a lack of trust in service providers.**

First, the empirical results show that Moroccan micro-merchants are deeply concerned about the financial transparency of POS terminals. In this regard, respondents emphasize the need for clear and detailed information on the financial costs associated with using a POS terminal. More specifically, uncertainty is expressed regarding the fees charged, the installation costs of a POS terminal, and the actual amount deducted from sales proceeds. This financial uncertainty fuels Moroccan neighborhood micro-retailers' reluctance to adopt a POS terminal. One respondent stated:

"Before deciding to use a POS terminal for payments, I first need to have accurate information about the fees and commissions that will be charged."

Second, uncertainty regarding mastery of POS terminal's operation constitutes a second manifestation of ambiguity aversion in the context under study. This refers to the micro-retailers' degree of certainty regarding how the device works and their ability to handle the various situations that may arise during its use. The respondents' comments reveal that this uncertainty mainly concerns the handling of incidents and complaints, as well as the time it takes to process transactions and for funds to become available. The interviews conducted show a low level of knowledge regarding how a POS terminal operates, and respondents clearly expressed the need for more information and clarifications on these aspects to eliminate any ambiguity, which could lead to a reduction in perceived risk and encourage the adoption of the POS terminal. Some respondents said:

"Everything related to how the POS terminal works seems ambiguous to me."

"I see several ambiguities, particularly in cases of device failures, declined payments, complaint handling, and customer refunds..."

Mastering how the POS terminal works is a source of ambiguity; however, for some respondents, it does not constitute a definitive barrier to adoption:

“Yes, all aspects of how the POS terminal works are ambiguous, but it’s manageable because I’ll learn over time how to master its operation. So, no problem on that front.”

Third, empirical evidence shows that ambiguity aversion appears in the reasoning of Moroccan neighborhood micro-retailers through tax uncertainty. This uncertainty refers to questions and a lack of information regarding the tax implications of using a POS terminal. On the one hand, according to the participants, adopting a POS terminal raises significant concerns about the traceability of transactions and its impact on their tax obligations. On the other hand, a significant share of micro-retailers fears an additional tax burden and seek to confirm whether using a POS terminal will result in an additional tax or an increase in their usual tax burden. Some respondents replied:

“The traceability of transactions makes me wonder about the tax implications associated with tax payment”

“I have concerns about what will happen to my transaction data. Will it be shared with and considered by the tax authorities?”

Overall, the results of this exploratory qualitative study show that ambiguity aversion is not limited to the technical or financial characteristics of the POS terminal but also extends to the reliability of the actors involved in the payment system. Thus, the lack of trust in service providers appears to be a contextual manifestation of ambiguity aversion. The interviews reveal that Moroccan micro-merchants express doubt and uncertainty regarding the protection and security of their funds. They wonder whether money transferred directly to the bank is truly protected. At the same time, respondents are also concerned about the protection of their transaction data. They fear that this data might be reused, shared, or sold to other companies. In the absence of sufficient guarantees and information, this uncertainty fuels Moroccan neighborhood micro-retailers’ resistance to adopt payment via POS terminals. The following quotes illustrate these findings:

“The first ambiguity concerns trust in authorized POS payment service providers. The issue of trust is my primary concern before anything else.”

“The key concern for me is the assurance that I won’t fall victim to fraud, whether from the bank or the POS service provider. Is my money—which goes directly to the bank—protected or not? What guarantee do I have of this protection?”

“Yes, the traceability of my transactions raises questions and concerns for me regarding the reuse of my data or the sale of that data to other companies...”

Conclusion

This paper aims to examine the persistence of cash and the resistance of Moroccan micro-retailers to adopting POS terminals as a digital payment fintech service. The objective is to understand the manifestations of behavioral biases and mechanisms derived from behavioral finance in the reasoning of Moroccan neighborhood micro-retailers.

The exploratory qualitative analysis highlighted various themes in which the behavioral biases examined in this study take a form. Thus, the analysis of loss aversion showed that loss-gain trade-offs, perceived financial losses, and perceived operational losses and risks are the main manifestations of this cognitive bias. Regarding the status quo bias, the results highlighted the persistence of customers' usual payment methods and a preference for cash payments as the main manifestations of this bias. Similarly, empirical evidence underscored that herd behavior is expressed through peer observation, trust in peers' experience, and the conditional influence of peers. For ambiguity aversion, analysis of respondents' comments identified four manifestations of this behavioral bias: financial transparency of the POS terminal, familiarity with the POS terminal's operation, tax uncertainty, and lack of trust in service providers.

In sum, the success of the transition from a cash-based to a digital economy largely depends on the ability of monetary authorities and relevant partners to reduce merchants' resistance to adopting payment terminals, particularly in the local retail sector. Therefore, understanding the behavioral factors contributing to this resistance is essential for a successful transition to a harmonious, modern, secure, inclusive, and locally adapted payment ecosystem that meets the realities of Moroccan retailers.

The main limitation of this study is the relatively limited number of respondents. While the sample size is appropriate for an exploratory qualitative study and has allowed us to identify recurring behavioral patterns, it does not capture the full diversity of profiles and experiences among Moroccan micro-retailers. Thus, this study limits the statistical generalizability of the results to all Moroccan neighborhood micro-retailers.

Future research could build on the results of this study to develop a conceptual model and quantitatively test the relationships between the four cognitive biases and the intention to adopt the POS terminal in Morocco. Subsequent researchers could also examine changes in adoption

behavior following real-world experiences using the POS terminal. Researchers could thus rely on representative and diverse samples to allow for better generalization of the results.

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