Journal of Economic Additions | Volume: 10 / N°: 02 (2026), pp 1594-1611

Electronic Payment and the Financial-Inclusion Challenge in Algeria: A Descriptive–Analytical Study, 2016–2025

FRIHA ASMA, *Research Laboratory, Faculty of Economic, Commercial and Management Sciences, Badji Mokhtar University – Annaba (Algeria), asma.friha@univ-annaba.dz*

Received: 03/06/2026 *Accepted: 07/09/2026* *Published: 30/09/2026*

Abstract:

Between 2016 and 2025, Algeria built a national electronic-payment system more or less from scratch: millions of interbank cards, thousands of ATMs and point-of-sale terminals, and, after 2023, a set of laws that opened payment services to non-bank providers. These figures suggest a country prepared for a cashless transition. Yet according to the latest Global Findex, about two adults in three still have no account at a financial institution, one of the lowest rates in the region. This study asks why the infrastructure has not produced inclusion. Its argument is that the gap is largely behavioural and institutional, and that technology is not the binding constraint. Using operator data from the GIE Monétique, World Bank indicators and the regulatory texts of 2023 to 2025, it shows that cards are used mainly to withdraw cash rather than to pay, a pattern it describes as formal inclusion: access without use.

Keywords: electronic payment; financial inclusion; cash dominance; formal inclusion; Algeria.

JEL Classification Codes: E42; G21; O16; O55.

1. INTRODUCTION

Building a national payment system in a single decade is no small task, and on that measure Algeria's progress has been considerable. By the end of 2024 there were close to twenty million payment cards in circulation. Point-of-sale terminals, which had numbered barely five thousand in 2016, had reached nearly seventy thousand. Automated teller machines stood in some four thousand locations, and the annual value of electronic payments had passed six hundred billion dinars, having risen by almost half in a single year (GIE Monétique, 2024).

The inclusion figures, however, have not kept pace. In the most recent Global Findex round, only about thirty-five per cent of Algerian adults held an account at a financial institution, meaning that roughly two in three did not (World Bank, 2024). This is well below the developing-economy average of around three-quarters, and it places Algeria among the lowest performers in its own region (World Bank, 2025). The result is a contradiction: a country that has built much of the apparatus of a modern payment system while most of its citizens remain outside the formal financial system.

Much policy writing on financial inclusion assumes that infrastructure comes first and inclusion follows: once the network is built, the cards issued and the terminals installed, usage is expected to develop of its own accord. Algeria complicates that assumption. It has carried out the first stage quickly, but the second has not materialised. The infrastructure exists; the inclusion, so far, does not. The central question of this study is therefore why a payment infrastructure of considerable scale has coincided with financial inclusion that remains weak by regional standards.

The paper pursues three questions. First, how has Algeria's electronic-payment infrastructure evolved between 2016 and 2025, and how far has the recent wave of regulation changed it? Second, what is the actual state of financial inclusion once one looks beyond account-ownership figures to how the instruments are used? Third, why has the growth of infrastructure not translated into effective inclusion, and what lies between access and use?

The working hypothesis is that Algeria's problem lies on the demand side and in institutional design rather than in supply. More specifically, the paper argues that the country displays a pattern of formal inclusion, in which the instruments of payment exist and are even widely held but serve mainly to obtain cash rather than to make payments. This pattern is sustained by a cash-intensive and largely informal economy and by a banking model that was not built for retail inclusion. It is reinforced by the fact that the conditions which made mobile money transformative elsewhere are mostly absent in Algeria.

The study is descriptive and analytical rather than econometric. It covers the period from 2016, when electronic payment was first introduced, to the end of 2025, and it draws on three sources of evidence: operational data from the GIE Monétique, the interbank operator of the card system; financial-inclusion indicators from the World Bank's Global Findex programme; and the laws and regulations issued between 2023 and 2025. The rest of the paper is organised as follows. Section 2 places the study within the existing Algerian literature. Section 3 sets out the conceptual framework and the limits of treating inclusion as a matter of technology. Section 4 traces the development of the payment system and its regulation. Section 5 presents the inclusion paradox in figures. Section 6 offers an explanation, and Section 7 concludes.

2. Algerian Scholarship on the Question, and Where This Study Departs From It

A small but growing body of Algerian research has examined electronic payment and financial inclusion in recent years. Much of it is descriptive or legal in focus, and a common approach is to list the obstacles to adoption. Kerdoussi and Brahmia, for instance, examined the relationship between electronic-payment instruments and financial inclusion in Algeria and found that the technical means were largely in place while take-up lagged, attributing this to weak financial culture and limited merchant acceptance (Kerdoussi & Brahmia, 2022). Other studies on the Algerian Scientific Journals Platform have surveyed the available payment instruments and the regulatory environment, noting the persistence of cash

and the limited reach of the banking network as constraints on inclusion (Lâalaoui & Hammani, 2020; Ben Zid et al., 2022).

This literature is useful in establishing the basic facts, but it shares two limitations. It often treats inclusion as roughly equivalent to access, that is, to the presence of cards, terminals and accounts; and most of it was written before the regulatory changes of 2023 to 2025 and before the most recent operator data became available. The present study differs on both counts. Rather than compiling a list of adoption obstacles, it focuses on a single claim: that Algeria's difficulty is one of use rather than access, the paradox of an instrument that is widely held but rarely used for payment. It then brings the new legal framework and the 2024–2025 transaction data to bear on that claim. Its main contribution is to reorganise familiar facts around a clearer diagnosis rather than to present new ones.

3. Financial Inclusion and the Limits of Technological Determinism

3.1 What inclusion means: access, usage, quality

Financial inclusion is now usually understood along three dimensions rather than one. The first is access: whether individuals and firms can reach financial services at all, that is, whether accounts can be opened and cards obtained and whether terminals and agents are within reasonable distance. The second is usage: whether the services, once available, are in fact used, and how often and for what purposes. The third is quality: whether the services are affordable, suited to people's needs and offered on fair terms. The distinction matters because the three do not necessarily move together. A country can perform well on access and poorly on usage, and it is this gap, the dormant accounts and the cards used only to withdraw cash, that the headline figure of account ownership tends to hide. Account ownership is necessary for inclusion, but it is not sufficient.

3.2 The channels of impact, and the qualification from Kenya

The case for digitising payments rests on a familiar set of mechanisms. Electronic payment is expected to lower transaction costs, to draw activity out of the informal economy into a recorded and taxable one, to give households tools to save and to smooth consumption, and to extend

credit by creating a digital record where none existed before. The clearest evidence that these mechanisms can work comes from Kenya. M-PESA, launched in March 2007, reached roughly two-thirds of Kenyan households within about two years (Suri, Jack, & Stoker, 2012). The most cited study of its effects estimates that access to the service lifted around 194,000 households, some two per cent of the national total, out of poverty, with especially large gains for female-headed households (Suri & Jack, 2016).

The Kenyan result, however, should be read with care, and its qualifications are what make it useful for the Algerian case. M-PESA succeeded under a particular set of conditions. It was led by a mobile-network operator with an existing mass customer base rather than by banks. It relied on an unusually dense network of human cash-in and cash-out agents. It met a concrete and pressing need, the domestic remittance (money sent home by urban workers to rural families), which gave people an immediate reason to adopt it. And it grew in a setting where the established banking sector was weak and reached only a small minority, so that mobile money filled a gap rather than competing with an entrenched system. Its value lay chiefly in moving money cheaply over distance rather than in any inherent appeal of the technology (Jack & Suri, 2011). As Section 6 argues, almost none of these conditions holds in Algeria, and this goes a long way towards explaining why the same instruments have produced such different results.

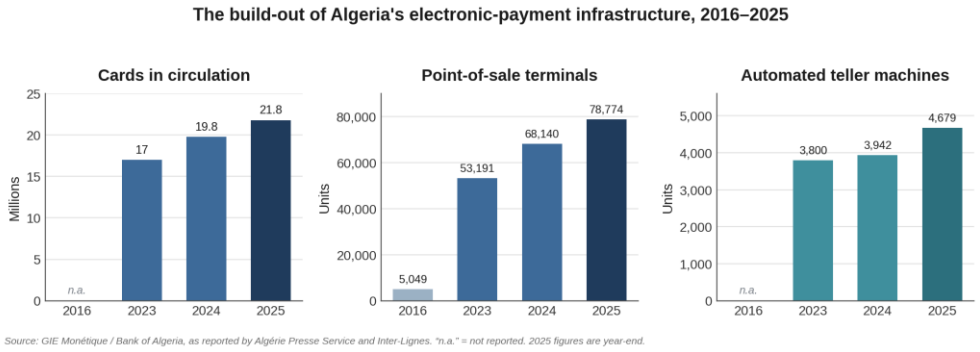
4. The Evolution of Algeria's Payment System, 2016–2025

4.1 The infrastructure build-out

Electronic payment in Algeria has a short history. The first online payment transactions date from 2016, mobile payment was introduced in 2022, and full interbank interoperability, the technical condition that allows a card issued by one institution to be used across the whole network, came into effect only in June 2024. The hardware grew quickly over this period. Point-of-sale terminals rose from about five thousand in 2016 to fifty-three thousand at the end of 2023, sixty-eight thousand in December 2024 and nearly seventy-nine thousand a year later. Automated teller machines

reached around four thousand by 2024 and nearly forty-seven hundred by the end of 2025. The number of cards in circulation passed nineteen million in 2024 and approached twenty-two million in 2025 (GIE Monétique, 2024). The overall trajectory is shown in Figure 1.

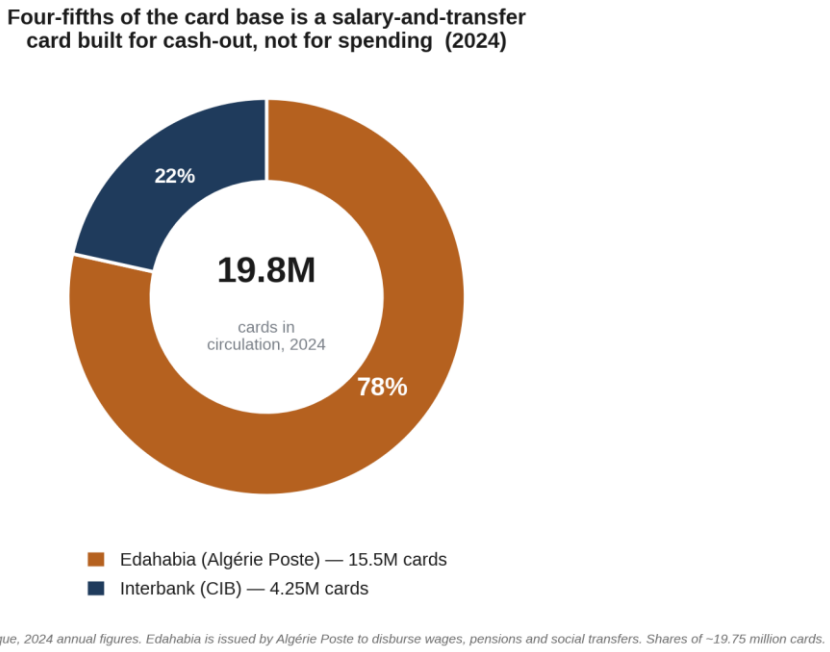
Figure 1. The build-out of Algeria's electronic-payment infrastructure, 2016–2025.



Source: GIE Monétique / Bank of Algeria, as reported by Algérie Presse Service and Inter-Lignes. "n.a." denotes years for which the indicator was not separately reported; 2025 figures are year-end.

One feature of the card base is worth noting here, because it becomes important later. Of the roughly nineteen and a half million cards in circulation in 2024, only about four and a quarter million were interbank (CIB) cards. The remaining fifteen and a half million, close to four-fifths of the total, were Edahabia cards issued by Algérie Poste (GIE Monétique, 2024). The Edahabia card was designed largely to disburse salaries, pensions and social transfers through the postal network. This means that many Algerians hold a card whose original purpose was to allow them to receive and withdraw funds rather than to spend them electronically. The composition of the card base, shown in Figure 2, thus gives an early indication of how the cards would be used. Table 1 summarises the figures.

Figure 2. Composition of the card base, 2024: four-fifths of cards are a salary-and-transfer instrument.



Source: GIE Monétique, 2024 annual figures. Edahabia cards are issued by Algérie Poste to disburse wages, pensions and social transfers; shares are of approximately 19.75 million cards in circulation.

Table 1. Indicators of the electronic-payment system, 2016–2025

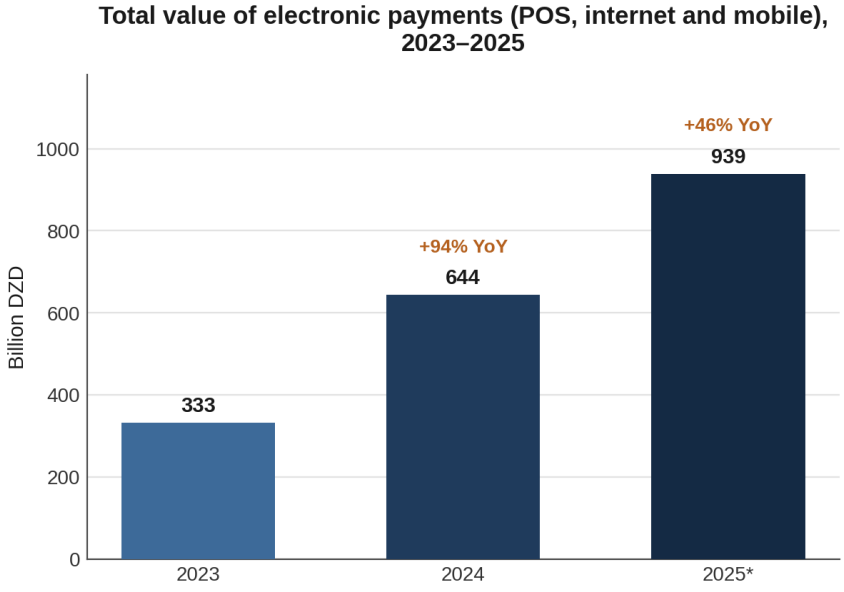
Indicator	2016	2023	2024	2025
Cards in circulation (millions)	—	≈ 17	19.8	≈ 21.8
Point-of-sale terminals	5,049	53,191	68,140	78,774
Automated teller machines	—	≈ 3,800	3,942	4,679
Registered online merchants	—	—	582	—
Value of electronic payments (bn DZD)	—	332.6	643.8	≈ 939

Source: GIE Monétique / Bank of Algeria, as reported by Algérie Presse Service and Inter-Lignes. Figures marked "≈" are approximate; selected 2023 values are derived from reported year-on-year growth.

Figure 3 isolates the value of electronic payments, which has grown rapidly — by roughly half in 2024 alone — though, as Section 6 will show, from a very low base, so that this impressive rate leaves the underlying

pattern of use largely unchanged.

Figure 3. Total value of electronic payments (point-of-sale, internet and mobile), 2023–2025.



Source: GIE Monétique annual figures (via Algérie Presse Service; El Watan). The 2025 value is an approximate year-end estimate derived from reported growth.

4.2 The regulatory turn of 2023–2025

While the hardware was built up steadily over the decade, the legal framework changed quickly towards its end. The central measure was the Monetary and Banking Law of June 2023, which for the first time opened payment services to providers other than banks and laid the basis for a future central-bank digital currency (Law No. 23-09, 2023). A framework for digital banks followed in 2024, together with the creation of a National Payments Committee to coordinate the system (Bank of Algeria, 2024). The main operational step came in 2025, when the Bank of Algeria issued a dedicated regime for payment-service providers, Regulation 25-02 of April 2025 and its implementing instruction. This established a three-tier system of digital wallets, required client funds to be segregated, set a minimum capital of 160 million dinars and required operations to be conducted in dinars with data held domestically (Bank of Algeria, 2025). Around the

same time, Algeria joined the Pan-African Payment and Settlement System in August 2025, and a regulatory sandbox for financial innovators was announced for 2026 (PAPSS, 2025).

This is a serious and rapid set of reforms, and it removes a constraint that earlier studies had rightly identified, namely the legal monopoly of banks over payment provision. It is worth being clear, however, about what the reform can and cannot achieve. Each of these measures operates on the supply side. They license new types of provider, set the terms on which they operate and connect the national system to a continental one. What they cannot do on their own is create demand. A licence to offer a digital wallet does not give a shopkeeper a reason to accept one, nor a customer a reason to prefer it to cash. The regime's insistence on dinar-only operation and domestic data storage, while defensible on grounds of sovereignty, also narrows the range within which providers can innovate. Regulation has prepared the ground, but it cannot by itself complete the task. Table 2 sets out the chronology.

Table 2. The regulatory chronology, 2023–2026

Year	Measure
2023	Monetary and Banking Law (Law 23-09): payment services opened to non-bank providers; groundwork laid for a central-bank digital currency.
2024	Framework for digital banks; creation of a National Payments Committee; interbank interoperability activated (June).
2025	Payment-service-provider regime (Regulation 25-02 and implementing instruction): three-tier digital wallets, fund segregation, 160-million-dinar minimum capital, dinar-only operation, data localisation. Accession to PAPSS (August).
2026	Regulatory sandbox for financial innovators announced (admitting at least twenty per year).

Source: Journal Officiel n° 43 (2023); Bank of Algeria regulatory texts (2025); PAPSS.

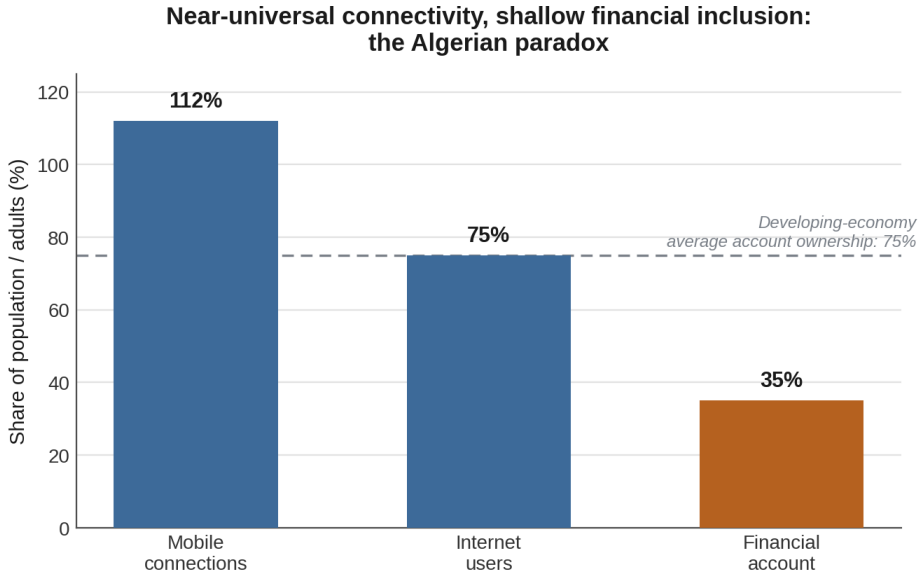
5. The State of Financial Inclusion: The Paradox in Numbers

Placing the connectivity figures next to the inclusion figures makes the paradox clear. By the standards of the digital economy, Algeria is a well-connected country. Cellular mobile connections number around fifty

million, more than the total population, at roughly 110 per cent and rising past 115 per cent in 2025 (Kemp, 2024). Internet users number some thirty-three and a half million, close to three-quarters of the population in early 2024 and approaching 77 per cent a year later (Kemp, 2024). The basic infrastructure for a digital financial life is therefore widely in place.

Financial inclusion, by contrast, is shallow. Only about thirty-five per cent of adults hold an account at a financial institution. This is well below the developing-economy average of roughly three-quarters and places Algeria near the bottom of its own region (World Bank, 2024, 2025). The contrast between near-universal connectivity and limited account ownership, shown in Figure 4, is the central empirical observation of the paper: the means of access are widely available, while inclusion is not. The regional picture reinforces the point. Among Algeria's North African neighbours, account ownership stands at about 38 per cent in Tunisia and 33 per cent in Libya, and all three sit far below the average for the Middle East and North Africa of roughly 53 per cent and the developing-economy average of about 75 per cent (World Bank, 2025; Figure 6). Table 3 sets the two sets of indicators side by side.

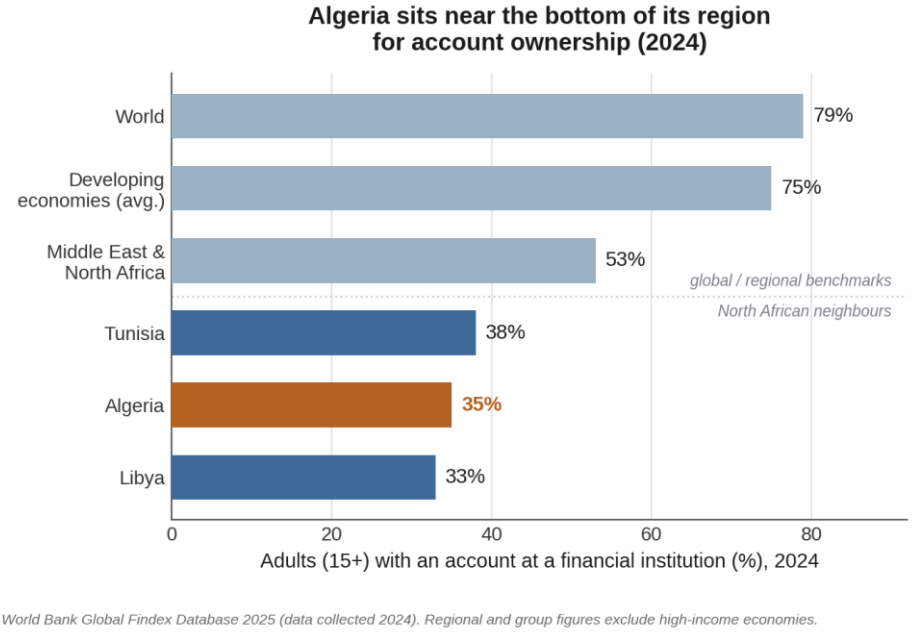
Figure 4. Near-universal connectivity alongside shallow financial inclusion: the Algerian paradox.



Sources: DataReportal "Digital 2024: Algeria" (mobile, internet, early 2024); World Bank Global Findex 2025 (account ownership, 2024).

Source: DataReportal, "Digital 2024: Algeria" (mobile connections and internet users, early 2024); World Bank Global Findex Database 2025 (account ownership, 2024). The dashed line marks the developing-economy average for account ownership.

Figure 6. Algeria in regional perspective: account ownership remains near the bottom of its region, 2024.



Source: World Bank Global Findex Database 2025 (data collected 2024). Regional and group figures exclude high-income economies.

Table 3. Connectivity versus inclusion: the paradox in one view

Indicator (most recent)	Approximate level
Cellular mobile connections (share of population)	≈ 110–115%
Internet users (share of population)	≈ 73–77%
Payment cards (number in circulation)	≈ 19.8 million
Adults with an account at a financial institution	≈ 35%
Developing-economy average (account ownership)	≈ 75%

Source: DataReportal "Digital 2024: Algeria" (connectivity); World Bank Global Findex Database 2025 (inclusion).

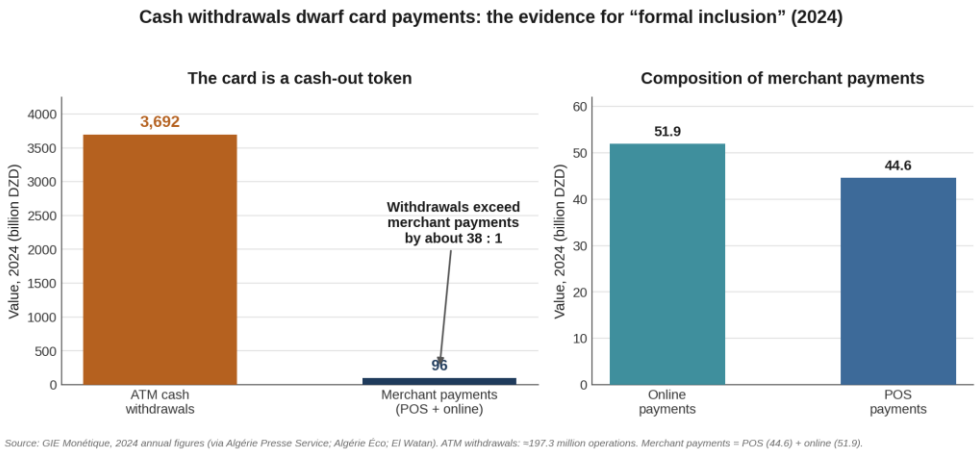
6. Why Infrastructure Has Not Translated Into Effective Inclusion

6.1 The evidence for "formal inclusion": the card as a cash-out token

The most useful question is what the cards are actually used for, and here the operator data are clear. In 2024, cash withdrawals at automated teller machines amounted to about 3,692 billion dinars across some 197

million operations, while the combined value of card payments at the point of sale and online was around 96 billion dinars — roughly 45 billion at the point of sale and 52 billion online (GIE Monétique, 2024; Figure 5). Even on a generous comparison, measuring total electronic-payment value, which includes high-value flows, against ATM withdrawals, withdrawals exceeded payments by close to six to one. Measured against merchant payments alone, the ratio is roughly thirty-eight to one. For the great majority of holders, then, the card serves mainly as a means of obtaining cash rather than of making payments.

Figure 5. Cash withdrawals dwarf card payments: the evidence for "formal inclusion", 2024.



Source: GIE Monétique, 2024 annual figures (via Algérie Presse Service; Algérie Éco; El Watan). ATM cash withdrawals comprised approximately 197.3 million operations; merchant payments are the sum of point-of-sale (44.6 bn DZD) and online (51.9 bn DZD) flows.

This is the pattern that the access–usage distinction would predict, and it is what the paper calls formal inclusion: the instrument is held, and even used, but mainly to convert digital balances back into cash rather than to transact digitally. On the access dimension such inclusion is real; on the usage dimension it is largely empty. This also helps to explain why account-ownership figures and actual financial behaviour can diverge so sharply, and why the rapid growth in the value of electronic payments, impressive though it is as a rate, starts from such a low base that it leaves the

underlying pattern largely unchanged. Table 4 sets the two flows against each other.

Table 4. Merchant payments versus ATM cash withdrawals, 2024

Flow (2024)	Value (bn DZD)	Operations
ATM cash withdrawals	≈ 3,691.6	197,323,075
Merchant payments (point-of-sale + online)	≈ 96.5	—
Ratio, withdrawals : merchant payments	**≈ 38 : 1**	
Ratio, withdrawals : all electronic payments	**≈ 5.7 : 1**	

Source: GIE Monétique 2024 (Algérie Presse Service; Inter-Lignes). "All electronic payments" includes high-value flows beyond retail merchant payments.

6.2 Four reasons the pattern persists

Why are cards used in this way? Four related factors explain most of it. The first is the weight of cash in a largely informal economy. A large share of Algerian economic activity takes place off the books, where cash is not only convenient but functional: it leaves no record and settles immediately. In this context the preference for cash is not simply a cultural habit that education can change; it is a rational response to the way much of the economy works. Digital payment is therefore at a structural disadvantage.

The second is the two-sided nature of payment acceptance, which creates a familiar chicken-and-egg problem. Consumers will not use a card where merchants do not accept one, and merchants will not pay for and maintain a terminal where customers do not ask to use one. The growth in terminals is encouraging, but seventy-nine thousand terminals in a country of more than forty-five million people is still a low figure, and a terminal that goes unused reinforces the impression that cash remains the norm. The habit is self-reinforcing on both sides.

The third is the structure of the banking system. Algerian banking is dominated by large, mostly state-owned institutions whose traditional focus has been on financing enterprises and managing public flows rather than on

mass retail inclusion. This is clearest on the credit side. Across the Middle East and North Africa, the share of bank lending that reaches small and medium-sized enterprises is the lowest in the world, around seven per cent, and Algeria is at the bottom of that distribution (Fouejieu, Ndoye, & Sydorenko, 2020; World Economic Forum, 2019). A banking sector that extends so little credit to small firms is unlikely to be the main driver of household financial activity.

The fourth is the lack of a strong reason to switch, which brings us back to the composition of the card base. The dominant card, Edahabia, was created to disburse wages, pensions and benefits through the post office, and it performs that function well. Its design, however, points towards withdrawal, since the natural sequence is to receive a transfer and then take out the cash, rather than towards spending. In the absence of a use case that makes digital payment not just possible but clearly preferable to cash, the rational course for most holders on receiving funds is the one the data show: withdrawal.

6.3 Why the conditions that made mobile money work elsewhere do not hold here

It is natural to look at a success like M-PESA and ask why Algeria cannot reproduce it. The difficulty is that the Algerian setting lacks, more or less point by point, the conditions that made the Kenyan case work. In Kenya the system was led by a mobile-network operator with a ready mass of users. In Algeria it is led by banks and the post office, and is tied to established institutions rather than to a telecom operator with tens of millions of subscribers to convert. Kenyan adoption was driven by a pressing everyday need, the domestic remittance, which gave ordinary people an immediate reason to use the service; Algeria has no comparable use case exerting that kind of pull. And whereas Kenyan mobile money grew into a gap left by a weak banking sector, Algeria's banks, whatever their limitations in retail credit, are well established and state-backed, so a new entrant fills no equivalent void (Jack & Suri, 2011; Suri, Jack, & Stoker, 2012).

Finally, where the Kenyan model was free to develop commercially,

Algeria's new regime, with its requirements of dinar-only operation, local data storage and substantial entry capital, leaves providers a narrower space in which to operate. This does not mean that digital payment cannot eventually deepen inclusion in Algeria. It means that the Kenyan mechanism cannot be transferred wholesale, and that the binding constraints in Algeria are demand-side and institutional more than technological. The infrastructure is largely in place; what is still missing is a sufficient reason to use it.

7. CONCLUSION

Algeria's decade of payment modernisation has produced a notable mismatch. On the supply side the achievement is real: an interbank card system that serves most of the adult population, tens of thousands of terminals and machines, and, by the end of the period, a body of regulation that has finally opened payment provision beyond the banks and connected the country to a continental settlement system. On the demand side, however, inclusion remains among the weakest in the region, because the instruments that have been distributed so widely are used to obtain cash rather than to pay. The figures for cards, terminals and transaction values describe an infrastructure rather than a pattern of behaviour, and it is behaviour that inclusion ultimately depends on.

The argument of this paper has been that the gap between infrastructure and inclusion is not mainly technological. It results from a combination of factors: a cash-intensive informal economy in which cash remains functional, a two-sided acceptance problem held in place by habit, a banking model that was not built for mass retail inclusion, and the absence of a use case strong enough to make digital payment the obvious choice. The recent regulation, valuable as it is, addresses the supply side and cannot on its own generate the missing demand. The policy implication is straightforward. The priority now is to create reasons to use the infrastructure that already exists rather than to expand it further: to make digital payment cheaper, easier and more useful than cash at the point of sale, to bring merchants into the system on terms that make acceptance

worthwhile, and to design instruments whose natural use is spending rather than withdrawal. Unless the reasons to use these instruments catch up with the ability to access them, financial inclusion in Algeria is likely to remain formal in the sense described here.

8. Bibliography List

Bank of Algeria. (2024). Framework for digital banks and the National Payments Committee. Algiers: Bank of Algeria.

Bank of Algeria. (2025). Regulation No. 25-02 of 14 April 2025 on payment service providers; Instruction No. 06-2025. Algiers: Bank of Algeria.

Ben Zid, A., Ziane, […], & Talha, […]. (2022). [Electronic-payment instruments and financial inclusion in Algeria]. Algerian Scientific Journals Platform (ASJP).

Fouejieu, A. P., Ndoye, A., & Sydorenko, T. (2020). Unlocking access to finance for SMEs: A cross-country analysis (IMF Working Paper No. 2020/055). Washington, DC: International Monetary Fund.

GIE Monétique. (2024). Annual activity figures for 2024 [as reported by Algérie Presse Service and Inter-Lignes]. Algiers: Groupement d'Intérêt Économique de la Monétique.

Jack, W., & Suri, T. (2011). Mobile money: The economics of M-PESA (NBER Working Paper No. 16721). Cambridge, MA: National Bureau of Economic Research.

Kemp, S. (2024). Digital 2024: Algeria. DataReportal, We Are Social & Meltwater. https://datareportal.com/reports/digital-2024-algeria

Kerdoussi, M., & Brahmia, A. (2022). Modern electronic payment methods and their role in promoting financial inclusion in Algerian banks [in Arabic]. Al-Ijtihād Journal for Legal and Economic Studies, 11(2), 979–999.

Lâalaoui, […], & Hammani, […]. (2020). [Electronic-payment instruments and financial inclusion in Algeria]. Algerian Scientific Journals Platform (ASJP).

Law No. 23-09 of 21 June 2023 on Money and Credit. (2023). Official Journal of the People's Democratic Republic of Algeria, No. 43, 27 June 2023.

Pan-African Payment and Settlement System. (2025). Algeria's accession to PAPSS. https://papss.com

Suri, T., & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. Science, 354(6317), 1288–1292.

Suri, T., Jack, W., & Stoker, T. M. (2012). Documenting the birth of a financial economy. Proceedings of the National Academy of Sciences, 109(26), 10257–10262.

World Bank. (2024). Inclusive Digital Financial Services: Algeria country profile [Data set]. https://digitalfinance.worldbank.org

World Bank. (2025). The Global Findex Database 2025: Connectivity and financial inclusion in the digital economy. Washington, DC: World Bank.

World Economic Forum. (2019, March 13). Poor access to finance is holding back businesses in MENA. https://www.weforum.org/stories/2019/03/scaling-up-sme-access-finance-mena-region/