

Digital Payment Adoption in Lebanon: A Business Computing Analysis Using 2024 Global Findex Survey Data

Author: Charbel Abi Chahla¹

Affiliation:

1. *Business School, Holy Spirit University of Kaslik, P.O. Box 446, Jounieh, Lebanon*
2. *CIRAME Research Center, Holy Spirit University of Kaslik, P.O. Box 446, Jounieh, Lebanon*

Abstract:

This study examines why cash remains common among respondents in the Lebanon Global Findex data even though internet use is widespread. The data come from the 2025 release of the World Bank Global Findex Database, based on interviews conducted in Lebanon during 2024. The Lebanon dataset includes 1,010 observations and 199 variables. The analysis was primarily descriptive and used percentages calculated from valid responses in the publicly available frequency tables. The study compares internet use, account ownership, and digital-payment activity, while also examining online-purchase payment methods and reasons for cash-only in-store payments. The results show a large gap between digital connectivity and digital-payment use: 94.9% of the displayed cases reported recent internet use, while 21.8% had made or received a digital payment. Among respondents who purchased online, 62.9% usually paid cash on delivery, compared with only 11.3% who paid fully online. Habit was also the most common reason for using only cash in stores, representing 61.5% of valid responses. These findings suggest that internet access alone is not enough to increase digital-payment adoption. Merchant acceptance, user habits, trust, and the wider payment environment also play important roles. For digital businesses, this means payment systems should be easy to use, trusted, and suited to everyday customer routines.

Keywords:

Digital Payments, Lebanon, Cash Dependence, Financial Inclusion, Technology Adoption, Business Computing, Global Findex

Introduction:

Payments are one of those areas where Business Computing brings together software, data, customers, and everyday operations. A person might see something on social media, order it online, and still hand over cash at the door. Most of the process is already digital, yet the transaction is not fully digital until the payment itself moves electronically and both sides feel comfortable using it.

Lebanon makes this especially clear because of the banking crisis. People lost trust in banks, and that appears in earlier research. Elhajjar (2020) found strongly negative consumer attitudes toward Lebanese banks during the crisis, while Hijazi et al. (2025) later reported a major decline in financial inclusion and identified loss of trust as an important reason for disengagement. At the same time, internet access is high. The latest Global Findex data show that 958 out of 1,010 cases in the Lebanon file reported using the internet within the previous three months (World Bank, 2025). This creates an unusual split: people are online, but many still rely on cash for payments.

That split is what this study looks at. Earlier work covered banking attitudes, financial inclusion, and mobile-payment problems, but it is less clear how those patterns compare with the newest 2024 behavioral data. The main issue is whether digital access actually turns into digital-payment use or whether other factors keep cash dominant.

The main research question is: Does Lebanon's high level of digital connectivity translate into actual digital-payment adoption, and what factors help explain continued dependence on cash?

To answer this question, my study aims to:

- 1) Compare internet use, account ownership, and actual digital-payment activity in Lebanon.
- 2) Examine how people who buy online usually complete their payments, especially the use of cash on delivery compared with fully online payment.
- 3) Identify the main reasons people report for relying only on cash for in-store merchant payments.
- 4) Discuss what these patterns mean for Lebanese businesses, fintech platforms, e-commerce systems, and digital-payment design from a Business Computing perspective.

Literature Review:

The basic idea from technology-acceptance research is that people are more likely to try new systems when they see a clear benefit and do not find them difficult to use. Davis et al. (1989) showed that perceived usefulness and perceived ease of use strongly influence technology acceptance. This applies directly to digital payments: having a payment app available does not mean people will use it unless they see value in it and feel comfortable with how it works.

Financial-inclusion research makes a similar point. Having an account or internet access does not automatically mean a person will actively use digital financial services. Allen et al. (2016) show that costs, distance, institutions, and personal characteristics can all affect the use of formal accounts. The Global Findex framework also separates connectivity from actual financial activity such as saving, borrowing, and making payments (Klapper et al., 2025). This distinction is important because internet access creates the possibility of digital payment, but it does not prove adoption, even in the age of Bitcoin and Cryptocurrencies (Beainy & Kamel, 2026).

Lebanon also shows why the wider payment environment matters, especially in vulnerable environments (Athari et al., 2023). Alsaghir (2022) studied the failed diffusion of mobile payments in Lebanon and found that adoption depended on more than the technology itself. Compatibility

problems, the banking environment, and limited willingness from merchants and consumers all played a role. Payments are especially sensitive to this issue because both sides of a transaction need to support the same option, and while sustainability became an important variable in developed countries (Kaspard et al., 2026), trust remained the most significant variable in developing countries.

In fact, trust became even more important after Lebanon's financial crisis. Elhajjar (2020) documented negative attitudes toward banks during the crisis. More recently, Hijazi et al. (2025) surveyed 1,050 Lebanese individuals and used logistic regression to compare financial inclusion before and after the crisis. They reported roughly a one-third decline in financial inclusion and argued that declining trust in formal financial institutions had become a broad national problem. This matters for digital payments because a system can be convenient in technical terms and still be avoided if users do not trust the institution, platform, or settlement process behind it (El-Chaarani et al., 2025), and this is applicable even in the era of digitalization (Kamel et al., 2026), specifically in Lebanon where Saber and Sassine (2022) argue that financial transparency is of significant importance for individuals, companies and NGO's alike. The dilemma is that technology and digitalization can increase the output especially in vulnerable and uncertain environments (Subrahmanyam & Beainy, 2027) as well as enhancing financial transparency and audit quality (Sawaya et al., 2026), but the adoption of the former in such environments is significantly smaller, thus so are the benefits gained from technological developments.

Taken together, the literature points to three connected issues. Technology-acceptance theory helps explain the user's decision, financial-inclusion research shows the difference between access and actual use, and the ecosystem perspective explains why merchant coverage and institutional conditions can support or block adoption. Earlier Lebanese studies often looked at these issues separately, and most did not use the newest Global Findex wave. This study brings them together using recent public data. Based on the literature, I expect digital connectivity to be much higher than digital-payment activity, online shopping to remain partly cash-based, and habit, merchant acceptance, and trust to appear among the reasons for continued cash use. The World Bank (2025) Lebanon data allow these expectations to be checked using survey evidence collected during 2024. Noting that the results the study will discuss cannot be adopted throughout the middle eastern market (Jabbour Al Maalouf & Sarkis, 2025), due to the distinct consumer behavior and economic and cultural differences even within a geographical area of relatively close proximity.

Methodology:

I used a quantitative, cross-sectional approach based on existing data. Instead of designing a new survey, I used the World Bank Global Findex Database 2025 for Lebanon. The interviews took place in 2024, and the Lebanon microdata file includes 1,010 cases and 199 variables (World Bank, 2025). I selected this dataset because it is recent, publicly available, widely recognized, and contains questions about both digital connectivity and financial behavior in the same source.

For this project, I used the publicly available variable-frequency tables. I did not treat them as a complete respondent-level statistical file because doing so would overstate what the published tables can show. The World Bank states that the displayed frequencies refer to cases in the data file and should not automatically be treated as population estimates. I therefore report unweighted descriptive proportions based on valid displayed cases. The denominator varies from one question to another because some questions were asked only after earlier screening questions. For example,

the questions about online purchases and payment methods apply only to respondents who were eligible to receive them.

The key variables were internet use within the previous three months (internet_use), ownership of an account at a financial institution (account_fin), whether the respondent made or received a digital payment (anydigpayment), whether the respondent bought something online (fin26b), the usual payment method for an online purchase (fin27), and the main reason the respondent used only cash for in-store merchant payments (fin25e4). I also included digital bill payment (fin26a) and mobile utility payment (fin31b) for additional context. I provide the variable codes so that another researcher can refer to the World Bank data dictionary and reproduce the same selections. The analysis used basic descriptive comparisons. The selected frequency data were organized in Microsoft Excel, and each percentage was calculated using the same method: the number of cases in a category divided by the number of valid responses, multiplied by 100. I then compared the proportion of respondents using the internet with the proportion using digital payments to show the size of the descriptive gap between connectivity and payment activity. For the online-purchase group, I calculated the share that paid fully online and the ratio of cash-on-delivery cases to fully online cases. For the cash-only in-store group, I combined the shares for habit and merchant cash-only acceptance to see how much of the response pattern these two reasons represented together. I did not conduct a regression using the published marginal frequencies because those tables do not show how the variables relate to one another at the individual respondent level. A regression based on them would therefore create relationships that are not actually supported by the data. A future study could use the respondent-level file, apply survey weights, and estimate a weighted logistic regression with digital-payment use as the dependent variable and factors such as age, gender, education, income, employment, internet use, and account ownership as predictors. For this project, I chose the more limited but defensible approach of describing the newest public evidence accurately and linking it to the Business Computing issue of digital-payment adoption.

Results:

The selected indicators show a large difference between digital connectivity and digital-payment activity. Table 1 presents the main figures used in the analysis.

Table 1. Selected digital-connectivity and payment indicators

Indicator	Cases / Valid N	Share
Internet use within past 3 months	958 / 1,010	94.9%
Financial-institution account ownership	235 / 1,010	23.3%
Made or received a digital payment	220 / 1,010	21.8%
Bought something online (eligible group)	62 / 198	31.3%
Used phone/computer for bill payment (eligible group)	25 / 198	12.6%
Made utility payment using mobile phone	23 / 515	4.5%

The first objective compares internet use, account ownership, and actual digital-payment activity. Internet use appeared in 94.9% of the displayed cases, while 21.8% were classified as having made or received a digital payment. The difference between these two displayed shares is 73.1

percentage points. Account ownership appeared in 23.3% of the displayed cases. These percentages are descriptive shares of the available case frequencies and are not presented as weighted national estimates.

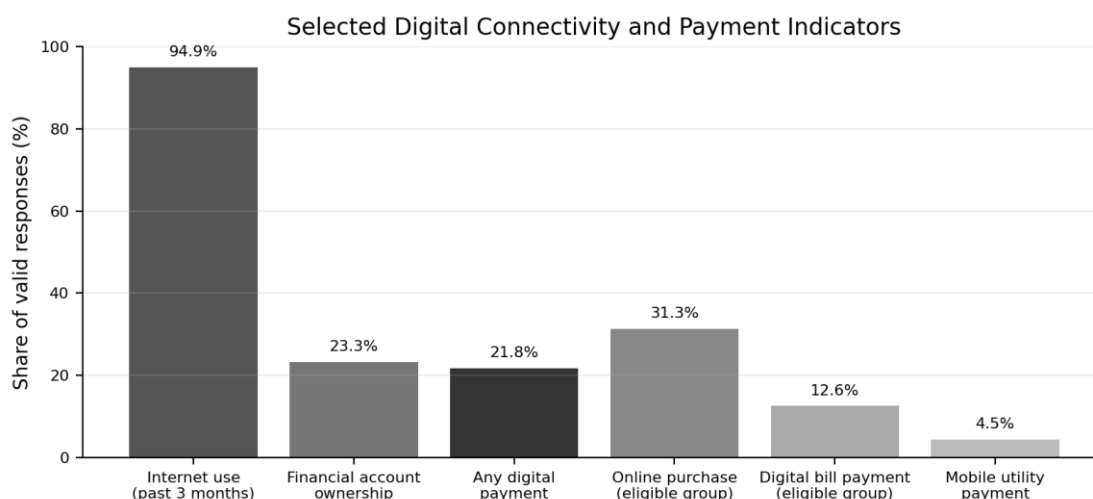


Figure 1. Selected digital-connectivity and payment indicators. Denominators differ because of questionnaire routing; values are descriptive shares of valid displayed cases.

The second objective examines how respondents who had purchased something online usually paid. Out of 62 valid respondents, 39 usually paid cash when the order was delivered, 16 used both online and cash payment, and 7 usually paid fully online. This corresponds to 62.9% for cash on delivery, 25.8% for a mix of online and cash payment, and 11.3% for fully online payment. In this routed group, cash on delivery was about 5.6 times as common as fully online payment.

Table 2. Usual payment method among respondents who purchased online ($n = 62$)

Payment method	Cases	Share
Cash on delivery	39	62.9%
Both online and cash	16	25.8%
Pay fully online	7	11.3%

The figures in Table 2 show that using an online channel to buy something did not necessarily mean paying for it online. Most respondents in this routed group still completed the purchase with cash on delivery, while fully online payment was the least common of the three reported methods.

The third objective examines why respondents used only cash for in-store merchant payments. Among 156 valid responses, 96 respondents said they were used to paying in cash, 35 said the merchant accepted only cash, 14 said they did not trust card or phone payments, 6 thought card or phone payment was more expensive, and 5 gave another reason. Habit represented 61.5% of valid responses. Habit and merchant cash-only acceptance together represented 83.9%.

Table 3. Main reason for using only cash for in-store merchant payments (n = 156)

Main reason	Cases	Share
Used to paying in cash	96	61.5%
Merchant accepts only cash	35	22.4%
Do not trust card/phone payments	14	9.0%
Card/phone payment is more expensive	6	3.8%
Other reason	5	3.2%

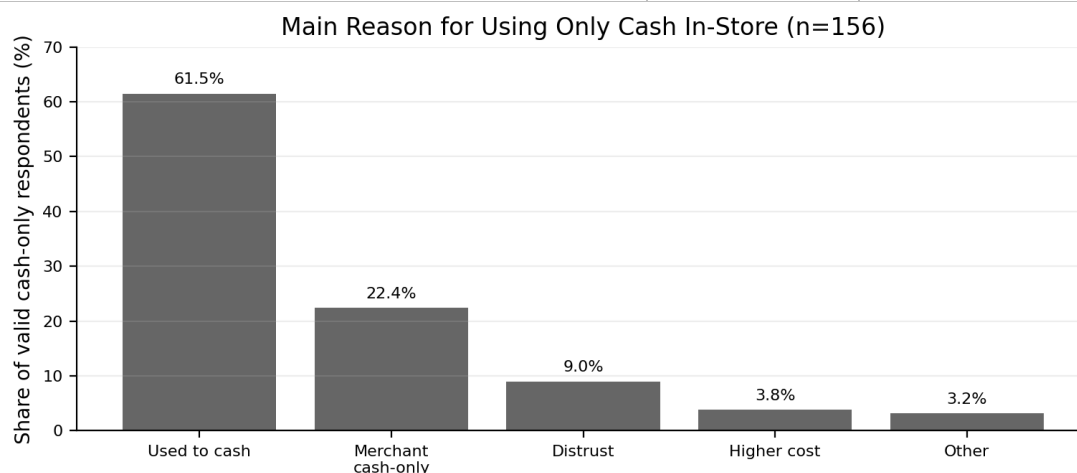


Figure 2. Reported reasons for cash-only in-store payment.

Discussion and Conclusion:

The main point from this study is that Lebanon's digital-payment challenge cannot be explained by internet access alone. The data show a high level of digital connectivity in the displayed cases, but payment behavior remains much more dependent on cash. This matters because businesses may assume that customers who are online will naturally move to digital payment. The results suggest that this transition does not happen automatically.

Online shopping makes this especially clear. More than six out of ten respondents in the routed online-purchase group usually paid cash on delivery, while only a little more than one out of ten paid fully online. For a business, this means that a customer may accept a digital product catalog, online ordering, and digital communication but still prefer cash at the final step. This can create extra handling, a higher risk of failed deliveries, manual reconciliation, and slower cash collection for online sellers. It also means that some transaction data cannot flow automatically through an integrated information system from beginning to end.

The reasons for cash-only payment help explain this pattern. Habit was by far the largest response. This fits technology-acceptance research because a new system has to provide enough usefulness and ease of use to replace a routine that people already know (Davis et al., 1989).

Merchant acceptance was the second-largest factor, which is consistent with the ecosystem problem discussed by Alsaghir (2022). A customer cannot pay digitally if the merchant does not

support the method. Trust also appeared in the responses and is consistent with earlier research on Lebanese banking attitudes and financial inclusion (Elhajjar, 2020; Hijazi et al., 2025). These links are useful for interpreting the results, but the descriptive data do not prove that any one factor causes digital-payment behavior.

For Lebanese businesses, the practical lesson is that adding a payment button is not enough on its own. A good digital-payment system also needs to reduce friction, make fees clear, confirm transactions quickly, show visible security, and be accepted by enough merchants to become useful in daily life. E-commerce firms may need a transition period as well. They can keep cash on delivery while encouraging trusted digital options, or allow returning customers to save a verified payment method after a successful order. From a Business Computing perspective, trust, merchant integration, and user experience should be treated as core system requirements, not as extras added at the end.

There are also important limitations. The public World Bank frequency pages do not provide the respondent-level relationships needed for causal analysis, and the World Bank warns against treating raw case frequencies as national population statistics. The survey also uses routing, so some questions have much smaller valid samples than the full 1,010 cases. Because of this, I do not present 94.9% or 21.8% as weighted national estimates, and I do not claim that habit directly causes cash dependence.

Future research could build on this project in several ways. First, the respondent-level Global Findex file could be analyzed with survey weights and logistic regression to test which demographic and financial characteristics are significantly related to digital-payment use. Second, the 2024 results could be compared with earlier Findex waves to see how Lebanon's payment behavior has changed over time. Third, a local survey could measure usefulness, ease of use, security, trust, fees, habit, and merchant acceptance directly. This would make it possible to build a more detailed Business Computing model of why users accept or reject digital payments. Overall, Lebanon is clearly not starting from zero. Consumers are already connected to the internet, and some are already comfortable shopping online. The harder step is turning that digital activity into trusted digital transactions. The evidence in this project suggests that this depends on more than having the technology available. Merchant acceptance, institutional trust, user habits, and system design all play a role. That is why digital payments are not only a banking or finance issue; they are also a Business Computing problem involving technology, people, and business processes at the same time.

References

- Allen, F., Demirgüç-Kunt, A., Klapper, L., & Martinez Peria, M. S. (2016). The foundations of financial inclusion: Understanding ownership and use of formal accounts. *Journal of Financial Intermediation*, 27, 1–30. <https://doi.org/10.1016/j.jfi.2015.12.003>
- Alsaghir, L. (2022). Fallen into the chasm: Exploring mobile payment failed initiative in Lebanon. *Journal of Telecommunications and the Digital Economy*, 10(2), 214–235. <https://doi.org/10.18080/jtde.v10n2.586>
- Athari, S. A., Saliba, C., Khalife, D., & Salameh-Ayanian, M. (2023). The role of country governance in achieving the banking sector's sustainability in vulnerable environments: New insight from emerging economies. *Sustainability*, 15(13), 10538.
- Beainy, R., & Kamel, C. (2026). Gold and Bitcoin: A Quantitative Comparative Analysis. *The Banking and Finance Review*, 17(1).
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982–1003. <https://doi.org/10.1287/mnsc.35.8.982>
- El-Chaarani, H., Mawad, J. L., Mawad, N., & Khalife, D. (2025). Psychological and demographic predictors of investment in cryptocurrencies during a crisis in the MENA region: the case of Lebanon. *Journal of Economic and Administrative Sciences*, 41(3), 1239-1257.
- Elhajjar, S. (2020). Examining Lebanese consumers' negative attitudes toward banks. *International Journal of Bank Marketing*, 38(7), 1511–1528. <https://doi.org/10.1108/IJBM-05-2020-0265>
- Hijazi, M., Saad, M., & Sidani, S. (2025). Financial inclusion in Lebanon after the economic crisis. *Cogent Business & Management*, 12(1), Article 2483966. <https://doi.org/10.1080/23311975.2025.2483966>
- Jabbour Al Maalouf, N., & Sarkis, N. (2025). AI and Customer Experience: Personalization and Engagement in Middle Eastern Markets. In *AI in the Middle East for Growth and Business: A Transformative Force* (pp. 113-129). Cham: Springer Nature Switzerland.
- Kamel, C., Khalil, F., Mouawad, J., Kechli, W., & Kaspard, J. (2026). Enabling Green Innovation in the Circular Economy: A Systematic Thematic Review of Digitalization and Stakeholder Engagement. *Sustainability*, 18(3), 1360.
- Kaspard, J., Kamel, C., Khalil, F., & Beainy, R. (2026). Financial Performance, Risk, and Market Integration of Sustainability-Oriented Equity Indices: Implications for the Sustainability Transition (2010–2025). *Risks*, 14(5), 99.
- Klapper, L., Singer, D., Starita, L., & Norris, A. (2025). The Global Findex Database 2025: Connectivity and financial inclusion in the digital economy. World Bank. <https://doi.org/10.1596/978-1-4648-2204-9>
- Saber, A. M., & Sassine, M. E. (2022). Reflections on internal control and internal audit roles for ensuring financial transparency toward Lebanese NGOs financial donors. *EuroMed Journal of Management*, 4(3), 186-198.

- Sawaya, C., Khalil, F. C., Jabbour Al Maalouf, N., & Kaspard, J. (2026). Revolutionizing audit practice in emerging economies: the role of Artificial Intelligence in enhancing the audit of consolidated financial statements. *Cogent Business & Management*, 13(1), 2625974.
- Subrahmanyam, S., & Beainy, R. H. (2027). Smart Decision Support for Uncertainty and Disruptions in Industry 4.0 Operations. In *Smart Operational Research Solutions in the Era of Industry 4.0 and Sustainability* (pp. 167-198). IGI Global Scientific Publishing.
- World Bank. (2025). Lebanon - The Global Findex Database 2025: Connectivity and financial inclusion in the digital economy (2024 survey) [Data set]. World Bank Microdata Library. <https://doi.org/10.48529/58k2-2n43>