



A REVIEW OF THE BANK OF GHANA 2025 DIRECTIVE ON DIGITAL CREDIT AND DIGITAL ASSET: BALANCING FINANCIAL INCLUSION, SME GROWTH, AND RISK IN THE DIGITAL LENDING ECOSYSTEM

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Executive Summary

Background and Objectives

The 2025 Bank of Ghana Directive on Digital Credit Service Providers brings order to digital lending, shifting activity from ad hoc innovation to a regulated, safe, and sustainable system. The directive constitutes a clear framework that unlocks working capital, supports local industry, strengthens trade with direct links to jobs and growth and deepens financial inclusion. This research aimed to:

1. Assess the readiness of the local market for the implementation of the directive.
2. Examine how the directive and guidelines will deepen financial inclusion and attract unbanked populations.
3. Evaluate how the directive will facilitate trade and support local industries.
4. Review the central role of MobileMoney Ltd (MML) in facilitating policy implementation to drive Ghana's economic growth.

The study employed the mixed-methods approach to assess digital financial inclusion under Ghana's new regulatory frameworks. We collected quantitative and qualitative data concurrently and integrated them in the analysis. We resorted to four quantitative sources – Global Findex, Ghana's FinScope survey, GSMA Mobile Money reports, and Bank of Ghana statistics, plus aggregated MTN MobileMoney data on digital credit use and defaults. For qualitative evidence, we reviewed academic and policy documents and conducted in-depth interviews with regulators and service providers. This approach linked national statistics, industry data, and expert

insights to judge readiness and guide policy and firm strategy.

Key Findings

Market Readiness

Regarding consumer readiness, Ghana scored high on awareness and use of digital financial services. However, trust scored low to medium. The Ghana Demand Side Survey reports that about 42% of mobile money users express trust, while 12% of non-users cite trust concerns as a reason for non-use (MoF, 2021). Similarly, financial knowledge was rated low to medium. The same survey finds that 54% of adults have low financial literacy, 33% have medium literacy, and 13% have high literacy (MoF, 2021). According to the Credit Reference Bureau Association, the use of digital credit is rated low to medium, with less than a quarter of adults having a credit history, and about 22% report obtaining credit through a mobile money wallet in the Global Findex data (Ghana Credit Reference Bureau Association, 2023; World Bank, 2021).

Data from MTN MobileMoney Limited for the period October 2024 to September 2025 show that issuance patterns track the distribution of the population. Men receive higher average loan values than women do. Mid-age borrowers take larger loans and record higher default rates than borrowers under 30 years and above 65 years do. Most customers, 55.3%, partially default while 4.5% fully default. The share of defaulters falls across higher credit-purchase quintiles. This pattern points to price sensitivity among willing but liquidity-constrained partial defaulters, so cost of credit is likely binding for

these users (MTN MobileMoney Limited, 2025). On technological and infrastructural readiness, Ghana scored high on access points and agent density, as well as on interoperability for wallet-to-wallet and wallet-to-bank transactions. Network coverage on 3G and 4G is widespread, supporting a high rating, while network reliability and data costs rated medium. However, credit scoring rates low to medium. Credit bureaus scored about 25% of adults in 2023, up from roughly 5% in 2015, which indicates progress but leaves gaps in thin-file populations (Ghana Credit Reference Bureau Association, 2023).

Ghana possesses a robust foundation for digital credit adoption. However, the market faces challenges in consumer trust, variable financial literacy levels, and infrastructural vulnerabilities, as highlighted by recent international internet disruptions.

Implication of the Directive for Financial Inclusion

The BoG 2025 Directive for Digital Credit Service Providers marks a major step in formalizing Ghana's fast-growing digital credit market. By establishing licensing, consumer protection, and data governance requirements, the directive aims to expand financial inclusion while curbing predatory practices and market instability. Its provisions address such long-standing barriers as distrust in formal institutions, limited physical access, and lack of credit history. Mandating transparency, fair treatment, and credit bureau reporting can transform informal borrowers into bankable individuals with verifiable financial identities.

The directive also aligns with global best practices by promoting responsible lending and safeguarding user data, helping to build confidence among first-time borrowers. Yet, the reforms come with trade-offs. Strict compliance and capital requirements may force smaller fintechs out of the market, potentially reducing innovation and diversity in products that serve low-income clients. Similarly, the legitimization of digital lending could fuel over-indebtedness if monitoring systems and data integration fail to keep pace with rapid growth. Overall, the directive lays the foundation for a transparent and inclusive credit ecosystem, however, it demands strong supervision and adaptive regulation. The long-term impact of the framework will depend on the BoG's ability to

balance innovation with consumer protection and financial stability.

Implication of the Directive for Trade and Local Industry Support

Ghana's economy remains heavily informal, with most workers and small businesses operating outside the reach of traditional banks. Small and medium-sized enterprises (SMEs) are central to Ghana's economy but remain constrained by limited access to credit from traditional banks that demand collateral and formal credit histories. The BoG's 2025 directive on digital credit directly address this challenge by creating a structured and transparent digital lending environment that uses alternative data such as mobile money, airtime purchases, and utility payments to assess creditworthiness. This allows SMEs to secure working capital quickly, manage cash flow more efficiently, and participate in the formal financial system.

The directive further improves operational efficiency. By digitising transactions and embedding credit within broader business ecosystems, SMEs can borrow, pay suppliers, and receive payments on the same digital platform. This lowers transaction costs, enhances record-keeping, and reduces the risks associated with cash handling. Each digital transaction also builds a verifiable financial footprint, helping informal businesses to transition towards formalisation. The resulting data gives policymakers a real-time understanding of sector performance and informs targeted economic interventions.

Regulatory certainty under the directive encourages innovation among fintechs, leading to customised financial products for different industries. For instance, farmers can access short-term loans for seeds and repay after harvest; processors can finance equipment or storage; and manufacturers can use pay-as-you-go models to acquire solar-powered machinery. These developments strengthen value chains and increase productivity across sectors.

Overall, the directive serves as both a financial reform and an industrial policy tool. By expanding credit access, improving efficiency, and promoting innovation, the directive enable SMEs to grow, formalise, and contribute to Ghana's industrial development and inclusive economic growth.

MTN's Strategic Position

The BoG's directive seeks to formalise digital lending and promote inclusion. However, policy success depends on implementation capacity. MTN MobileMoney Ltd (MML), with its vast customer network and trusted digital infrastructure, is positioned to operationalise such a transition. The company's role spans infrastructural provision, trust-building, data-driven lending, SME empowerment, and partnership in regulatory oversight:

Infrastructure as a Public Good: MML provides the backbone for Ghana's digital credit ecosystem. With nearly 400 thousand agents and 24 million active users, MML offers nationwide reach for credit delivery through digital channels. This network reduces customer acquisition costs and expands access to underserved areas, supporting the directive to ensure low-cost, inclusive credit. For instance, the experience of M-Pesa in Kenya indicates widespread agent networks are essential for scaling digital lending effectively.

Architect of Trust and Legitimacy: The reputation of MML offers credibility to the BoG's new regulatory framework. Many Ghanaians distrust financial apps due to previous predatory practices. By hosting or partnering with licensed Digital Credit Service Providers, MML provides the legitimacy and assurance users need to participate confidently. Studies show consumer trust is a decisive factor in the adoption of digital financial products. The regulatory compliance and brand recognition of MML help to rebuild that confidence.

Enabler of Data-Driven Financial Identity: The transaction data of MML—covering payments, airtime use, and transfers—creates a powerful basis for alternative credit scoring. This data helps digital lenders to evaluate borrowers who lack formal financial records. Each loan issued and repaid via mobile money (MoMo) contributes to a borrower's financial identity, making them visible to the formal financial system. For instance, similar models in China's WeBank and Kenya's FarmDrive have shown alternative data can expand access to credit for informal and micro enterprises.

Catalyst for SME Growth and Economic Resilience: By integrating digital credit into its mobile ecosystem, MML supports small and medium-sized enterprises (SMEs) with quick

and affordable financing. SMEs can borrow, restock, and pay suppliers digitally, closing liquidity gaps and reducing transaction costs. Research across Africa shows digital credit improves business continuity and resilience in the informal sector. MML's platform, therefore, becomes a direct enabler of productivity, local industry growth, and employment generation.

Partner in Risk Mitigation and Regulatory Oversight: MML contributes to financial stability by sharing its advanced fraud monitoring, anti-money laundering, and cyber risk systems with the broader digital credit ecosystem. Its scale allows regulators to supervise fewer, more compliant platforms rather than fragmented apps. This approach minimises systemic risks such as over-indebtedness and loan stacking, which have caused crises in unregulated markets like Kenya and India.

MML remains a key player in forging a path to growth. Its role in this endeavour covers strategic implementation, data analytics and credit scoring ethics, risk mitigation, and balancing innovation with prudence:

Strategic Implementation: Phased and Data-Driven Lending: MML should adopt a phased rollout of credit products, starting with micro-loans for individuals and gradually expanding to SME and agricultural finance. Global cases such as Kenya's Fuliza overdraft and PayPal Working Capital demonstrate how targeted, low-value loans can build trust and data for scaling. By using its own transaction data to build a transparent and ethical "MoMo Score", MML can extend responsible credit access while ensuring inclusivity.

Data Analytics and Credit Scoring Ethics: MML's strength lies in its vast data resources. Global experiences indicate non-traditional data improves credit predictions, however, they also highlight privacy risks. Learning from models like Tala, MML should apply transparent algorithms, obtain explicit user consent, and ensure fair access. Responsible data use will turn ordinary financial behaviour into a measurable credit history for millions of Ghanaians.

Risk Mitigation Lessons from Global Markets: Rapid expansion without safeguards can lead to debt distress. Kenya and India's crises with loan stacking and buy-now-pay-later schemes underscore the need for real-time credit monitoring. MML should collaborate with BoG to build centralised credit registries and enforce borrowing limits. It must also address

algorithmic bias and protect customer data in full compliance with the Data Protection Act, 2020 (Act 843) of Ghana.

Balancing Innovation with Prudence: MML must balance financial innovation with stability. It should emulate successful models like Fuliza and Tala while avoiding the excesses that triggered regulatory crackdowns elsewhere. Ethical data use, consumer protection, and cybersecurity should anchor all expansion efforts. By blending global lessons with local realities, MML can evolve from a payment service into a cornerstone of inclusive and resilient national growth.

Conclusion and Recommendations

Recommendations for Bank of Ghana

1. Establish a Transparent, Formula-Based Interest Rate Benchmark: The BoG should create a standardised benchmark for digital lending rates, similar to the Ghana Reference Rate used in traditional banking. This should combine a policy-based base rate with a regulated margin reflecting operational and risk costs in digital credit.

Rationale: A clear benchmark prevents exploitative pricing, protects borrowers, and ensures digital lending aligns with national monetary policy. Predictable pricing will reduce defaults from excessive interest rates and protect lenders from losses due to underpricing.

2. Mandate and Oversee Real-Time Credit Bureau Integration: BoG should move beyond daily reporting to requiring real-time data exchange between digital credit providers and credit bureaus.

Rationale: This will prevent borrowers from taking multiple loans simultaneously across platforms, mitigating loan stacking and over-indebtedness while improving the reliability of credit information.

3. Balance Consumer Protection with Lender Recovery Mechanisms: The BoG should strengthen loan recovery procedures without undermining consumer safeguards. It should establish digital small claims courts or tribunals for quick dispute resolution and develop frameworks for fair, sequential deductions from

borrowers' mobile money accounts.

Rationale: Balanced recovery systems protect consumers from harassment while ensuring lenders can recover legitimate debts, sustaining market stability and lender participation.

4. Prioritize Phased Implementation and Tiered Regulation: The BoG should introduce a regulatory sandbox or tiered licensing system that accommodates smaller fintech startups with lighter capital and compliance requirements.

Rationale: This encourages innovation, prevents market dominance by large players, and allows niche providers to reach underserved segments.

5. Launch a National Financial Literacy and Consumer Awareness Campaign: The regulator should collaborate with service providers to educate consumers on their rights, responsibilities, and the long-term benefits of maintaining good credit histories.

Rationale: Public education will close the trust and literacy gaps identified in the market readiness study, fostering responsible borrowing and informed participation in digital finance.

6. Develop Clear Guidelines on Alternative Data and Algorithmic Governance: The BoG should issue regulations to guide the ethical use of alternative data and artificial intelligence (AI) in credit scoring. These should require algorithmic fairness audits, transparency on loan decisions, and safeguards against discriminatory scoring.

Rationale: Ethical governance of algorithms ensures digital credit systems remain inclusive and prevents bias or digital exclusion of low-data users.

7. Invest in Regulatory Technology (RegTech) and Cybersecurity Oversight: The BoG should enhance its supervision capabilities by adopting RegTech tools to monitor compliance, detect anomalies, and enforce pricing caps. Regular cybersecurity audits should be mandatory for all licensed providers.

Rationale: Strong oversight and digital security are necessary to protect the integrity of Ghana's digital credit ecosystem and prevent fraud or systemic risk.

Recommendations for Service Providers

1. Collaborate to Develop and Adopt a Common Data and Scoring Utility: Industry players should jointly create a shared, non-profit credit scoring utility based on consented and anonymised data.

Rationale: A shared “Ghana Digital Credit Score” would reduce data inequality between large and small providers, lower risk assessment costs, and promote fairer competition while expanding access for customers with limited credit histories.

2. Adopt a Phased and Segmented Product Rollout Strategy: Large platforms like MML should begin with micro-loans and gradually move to SME and sector-based credit. Smaller fintechs should specialise in focused niches such as agriculture, ride-hailing, or e-commerce.

Rationale: A phased approach allows large players to scale responsibly, while niche specialisation lets smaller providers tailor products to specific markets and manage risk more effectively.

3. Champion Transparency through a “Digital Credit Label”: Providers should introduce a voluntary label certifying products that meet high standards of transparency, including full disclosure of credit costs and data use.

Rationale: Transparent labelling builds consumer confidence, enhances brand credibility, and differentiates responsible lenders from exploitative operators.

4. Integrate Embedded “Just-in-Time” Financial Education: Providers should include real-time financial education prompts within digital lending apps. For example, an alert should appear if a user tries to take multiple loans in a short period.

Rationale: Personalised, contextual education encourages responsible borrowing and reduces the risk of debt cycles, while fostering long-term user trust and retention.

5. Implement Ethical and Dynamic Debt Collection Protocols: Providers should create clear, humane collection procedures. AI can segment borrowers by intent and capacity, offering flexible repayment options to those willing but unable to pay, while applying firm recovery measures to deliberate defaulters.

Rationale: Ethical debt collection protects customer relationships, supports responsible lending, and maintains public trust in digital finance.

6. Forge Ecosystem Partnerships for Derisking and Distribution: Fintechs should partner with agribusinesses, fast-moving consumer goods (FMCG) firms, telcos, and government programmes to design linked credit models where loans are tied to specific productive activities.

Rationale: These collaborations reduce default risk, lower customer acquisition costs, and create targeted credit solutions that directly support trade, agriculture, and local industry growth.



SECTION ONE

1. Introduction

1.1. Background

The global financial landscape is being reshaped by the twin forces of digitisation and financial inclusion. Yet, for many in developing economies, access to formal credit remains a significant barrier. Globally, over 1.4 billion adults remain unbanked, with a substantial concentration in Sub-Saharan Africa (SSA), where nearly half of the population lacks an account at a financial institution (Demirguc-Kunt et al., 2022). In this region, the narrative of exclusion is being rewritten not by traditional banks, but through digital channels, particularly mobile money. The success of platforms like M-Pesa in Kenya demonstrates digital financial services could leapfrog infrastructural gaps, bringing transactional capabilities to millions. For the immense strides in financial inclusion to translate into improved livelihood and broader economic gains, the next frontier, which includes robust access to digital credit and the management of digital assets, must be fully pursued. These services, however, have often developed in a regulatory grey area, leading to concerns over consumer protection, data privacy, and financial stability (Lauer & Lyman, 2015).

Ghana stands as a pivotal case study in this evolution. As a leader in West Africa's digital finance drive, the country has achieved remarkable mobile money penetration, with over 75 million registered wallets and a transaction value expected to exceed GH¢4 trillion (US\$320 billion) in 2025 (Bank of Ghana, 2025). This widespread adoption has created a fertile ground for digital credit. However, the initial phase of digital lending was characterised by a proliferation of largely unregulated "loan

apps" which, while filling a critical credit gap, also generated widespread reports of predatory lending, exorbitant interest rates, aggressive data harvesting and unethical debt collection practices. This landscape underscores a critical lesson from other markets: without a robust regulatory framework, the tools aimed at empowering individuals can also lead to exploitation and systemic risk, ultimately undermining trust and stunting the growth of the digital economy (Cámara & Tuesta, 2017).

Therefore, the introduction of the Bank of Ghana Directive for Digital Credit Service Providers is a timely and crucial intervention. It represents a strategic move to transition digital credit from a Wild West of innovation to a structured, secure, and sustainable component of the formal financial system. For a nation like Ghana, where SMEs form the backbone of the economy but are chronically underserved by traditional banks, a regulated digital credit ecosystem is not only a convenience but an economic imperative. It promises to provide the lifeblood of the capital needed for these enterprises to thrive, thereby facilitating trade, supporting local industries, and driving broader economic growth.

For established service providers like MML, this regulatory shift is of paramount importance. MML operates the largest mobile money network in Ghana, placing it at the epicentre of the country's digital financial services ecosystem. The new directive moves the goalposts from pure payments to regulated credit provision. For MML, compliance is not just a legal requirement but a strategic opportunity to leverage its vast customer base, trusted brand, and sophisticated platform to become a leader in the newly formalised digital

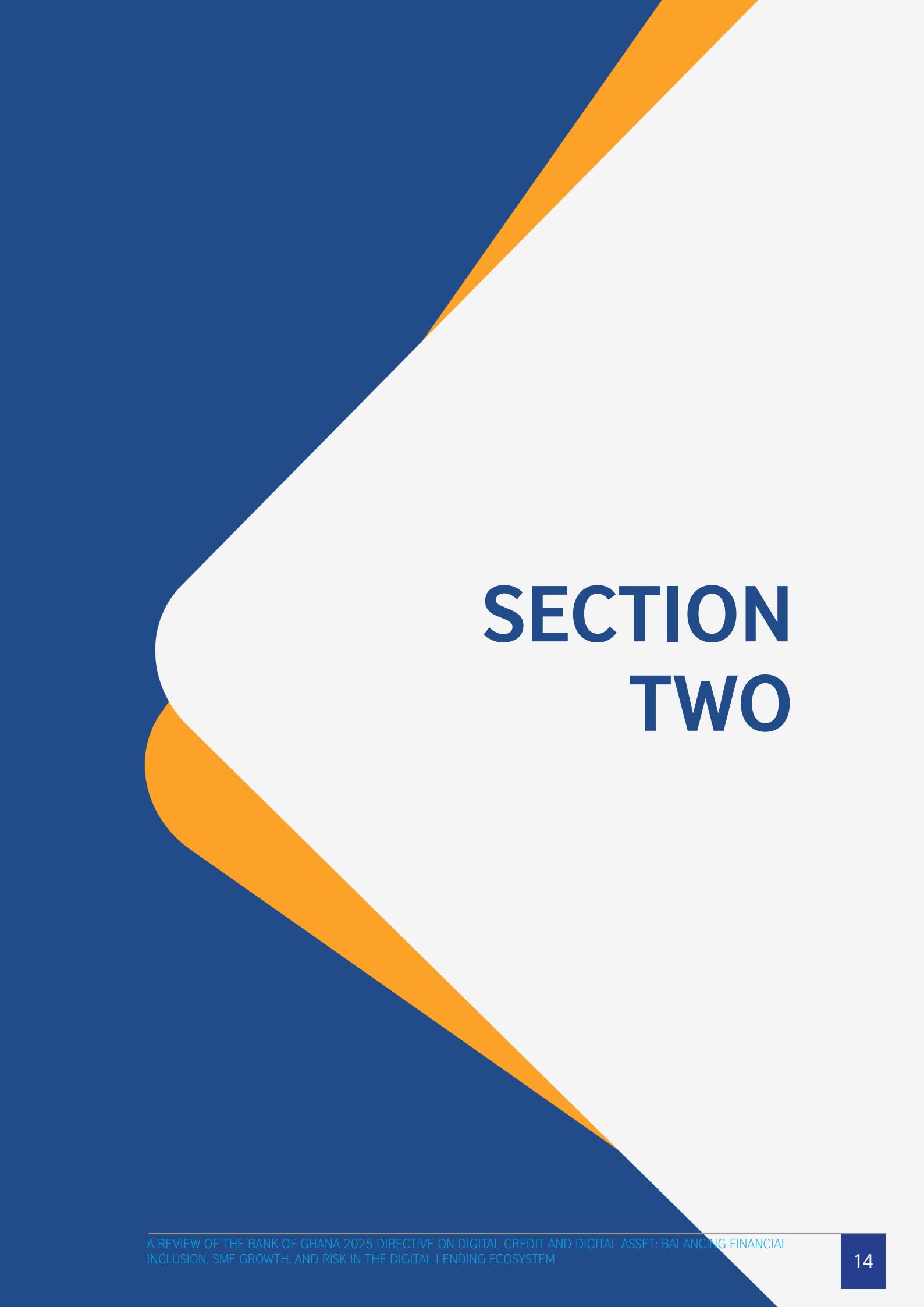
credit market. The regulation provides the legitimising framework that allows a company of MML's scale to deploy credit products with confidence, ensuring they are safe, fair, and data-compliant, thereby cementing its central role in Ghana's journey towards comprehensive digital financial inclusion. This study sought to navigate this complex interplay of policy, market readiness, and corporate strategy, analysing how a regulatory-led approach to digital credit and assets can secure Ghana's financial and economic future.

1.2. Objectives of the Study

This study was guided by the following objectives:

1. Assess the readiness of the local market for the implementation of the directive.
2. Examine how the directive and guidelines will deepen financial inclusion and attract unbanked populations.
3. Evaluate how the directive will facilitate trade and support local industries.
4. Review the central role of MML in facilitating policy implementation to drive Ghana's economic growth.





SECTION TWO

2. Methodology

2.1. Research Design

This study employed a concurrent mixed-methods research design to analyse digital financial inclusion in Ghana under the new regulatory framework. This approach involved collecting both quantitative and qualitative data within a single research phase, making optimal use of available time resources while ensuring comprehensive investigation. The quantitative component systematically assessed market readiness levels (Objective 1) by analysing secondary data to generate empirical, generalisable findings regarding public awareness, usage patterns, and financial literacy. Concurrently, the qualitative component explored the underlying reasons for readiness state and investigated the operational and strategic dimensions of policy implementation (Objectives 2, 3, and 4). The integration of these datasets enabled the explanation and contextualization of statistical patterns from quantitative data through rich, detailed narratives from qualitative sources, thereby creating a synergistic evidence base that was both statistically robust and contextually profound.

2.2. Data Sources

The study drew upon multiple data sources to ensure a comprehensive evidence base. For the quantitative analysis, four key secondary datasets were utilised to assess market readiness. The World Bank's Global Findex

Database and the Ghana's Demand Side Survey (FinScope survey) serve as the primary sources of nationally representative data on adults' access to and use of financial services, particularly mobile money and digital credit. Industry-level insights were also obtained from GSMA's Mobile Money Reports and BoG's Economic and Financial Statistics, providing crucial context on mobile money penetration, agent network density, and transaction volumes within Ghana. Finally, aggregated data from MML on digital credit usage patterns, volumes, and user demographics offered critical intelligence on the current scale and characteristics of digital credit adoption and default within Ghana's largest mobile money ecosystem.

A comprehensive literature and document review formed the foundational qualitative source, involving systematic analysis of academic literature, policy documents from the BoG and other regulatory bodies, and case studies from other countries that have implemented similar frameworks. The review was essential for understanding global models, identifying best practices, and recognising potential regulatory pitfalls. To ground such international insights in local realities, primary data was gathered through in-depth interviews with key experts across the digital financial ecosystem, including regulators from the BoG and service provider¹.

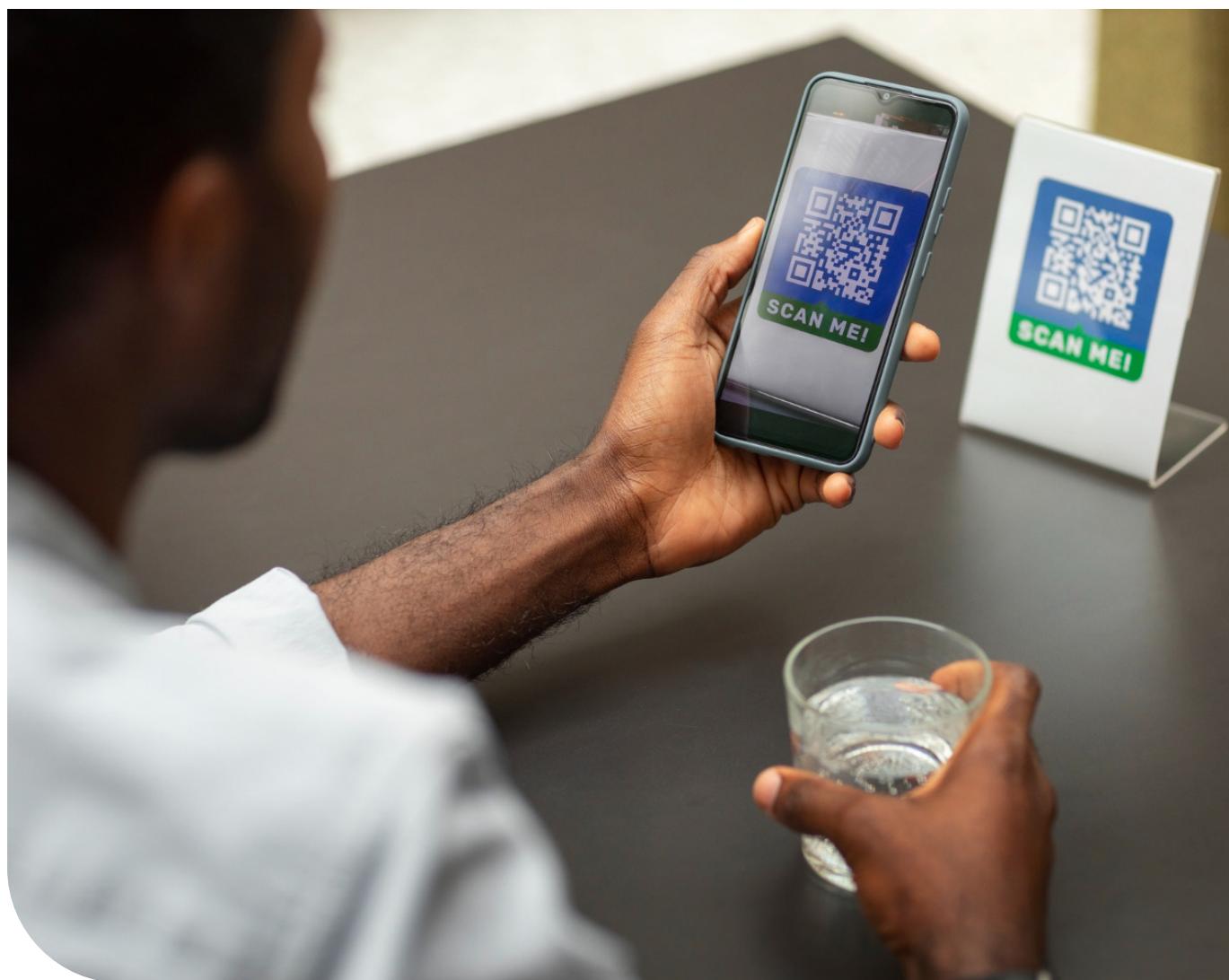
¹ We intend to engage other important institutions in this regard: National Communication Authority, Ghana Chamber of Telecommunication, the Credit Bureau, other network providers and financial technology companies.

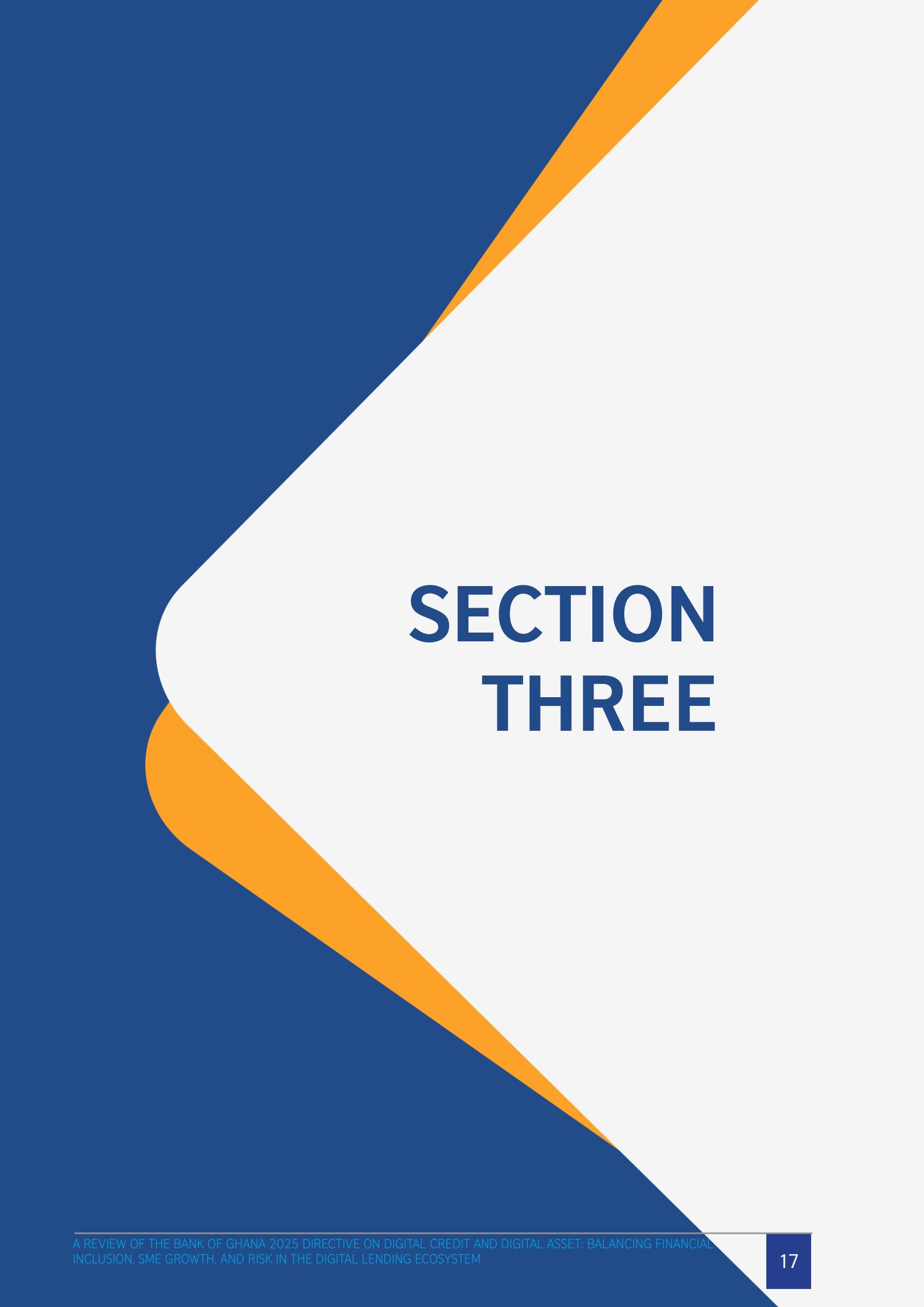
2.3. Data Analysis

A parallel approach, culminating in an integrative synthesis phase, was employed for the analysis. Quantitative data from the various secondary sources went through systematic cleaning, harmonisation, and analysis using descriptive statistical methods, including frequencies, means, and cross-tabulations to construct a comprehensive statistical profile of market readiness. The qualitative data was analysed using thematic analysis, beginning with document review where key themes from international best practices were systematically coded, followed by detailed analysis of interview transcripts to identify emergent themes from local expert perspectives. The inclusion of open-ended questions in the interview guide

ensured themes were genuinely data-driven, emerging organically from participants' experiences and professional viewpoints.

During the integration phase, all findings were synthesised with the quantitative profile of market readiness being interpreted through the conceptual lenses provided by qualitative themes from both international literature and local expert interviews. This integrated analytical approach enabled the study to not only describe Ghana's current state with statistical precision but also to develop actionable, context-sensitive strategies for achieving the policy objectives of enhanced financial inclusion, trade facilitation, and sustainable economic growth.





SECTION THREE

3. Market Readiness Assessment for Digital Credit & Digital Assets in Ghana

3.1. Introduction

To examine Ghana's market readiness for massive uptake in digital credit and virtual assets, the study considered three broad measures of market readiness: consumer, technological, and infrastructural readiness.

3.2. Consumer Readiness

Ghana's baseline use of digital finance is high, anchored by mobile money. With about 24 million active customers and 600 thousand active agents, mobile money saw a sustained growth in transaction volumes and float balances in 2024 (Bank of Ghana, 2025). The 2025 Global Findex confirms 78% of Ghanaians have mobile money accounts, noting a sharp rise in digital financial behaviour; about 22% of adults borrow through mobile money providers, which signals comfort with digital credit rails and risk scoring through wallets (Joy Business, 2025; World Bank, 2025a). According to the Ghana Demand Side Survey 2021, 87% of Ghanaians have access to mobile money (MoF, 2021). Among businesses in Ghana, 37% have adopted digital payments; 95.4% of this

proportion use personal mobile money wallets while 23.1% have dedicated business mobile money accounts (ISSER, 2025). Furthermore, there has been a sharp rise in the use of credit information by lenders, as financial institutions and authorised users conducted 29.5 million credit searches in 2024, compared to 13 million in 2023 (BoG, 2024).

However, trust looks somewhat inadequate. About 42% of mobile money service user reported having trust in the services, while 11.8% of non-users cited lack of trust as the reason for not using the service (MoF, 2021). A study by ISSER (2024) shows variation in consumer trust in mobile money vendors, with majority expressing mistrust—more than 50% rate of mistrust recorded in 93 out of 136 villages surveyed (Annan, 2024). Financial and digital literacy efforts continue, however, recent evidence points to uneven skills, especially among older informal workers (Oteng, 2024). Financial knowledge/literacy remains low (54%), while 13% are deemed to have high level of financial knowledge. Such a gap underscores the importance of the central bank undertaking literacy campaigns on digital transactions and responsible borrowing (BoG, 2023).

¹ Future assessments would examine other measures of market readiness: regulatory and policy readiness and competitive and ecosystem readiness.

Table 3.1: Summary of evidence on consumer readiness

Indicator	Details	Rating
Awareness of DFS	Near-ubiquitous presence of MoMo by individuals (96% awareness). Individuals' awareness and access to mobile money are almost universal.	High
Usage of DFS and financial behaviour	23 to 24 million active MoMo customers in 2024, roughly 400 thousand active agents, rising transaction volumes and balances. Findex 2025 highlights use of mobile channels for borrowing, with 22% of users borrowing on the platform. (BoG, 2025; World Bank, 2025a)	High
Trust in DFS	42% of users of MoMo services noted having trust in the services; 11.8% of non-users cited the lack of trust for not using the service (MoF, 2021).	Low to medium
Financial and digital literacy	Financial knowledge/literacy: Low – 54%, Medium – 33%, High – 13% (MoF, 2021).	Medium
Digital Credit usage	As of 2023, less than 25% adult Ghanaians had had some credit histories (Ghana Credit Reference Bureau Association, n.d.). About 22% of Ghanaians obtain credit through their MoMo wallets (World Bank, 2025). Financial institutions and authorised users conducted 29.5 million credit searches in 2024, compared to 13 million in 2023 (BoG, 2024), indicating a growth in the appetite for digital credit.	Low

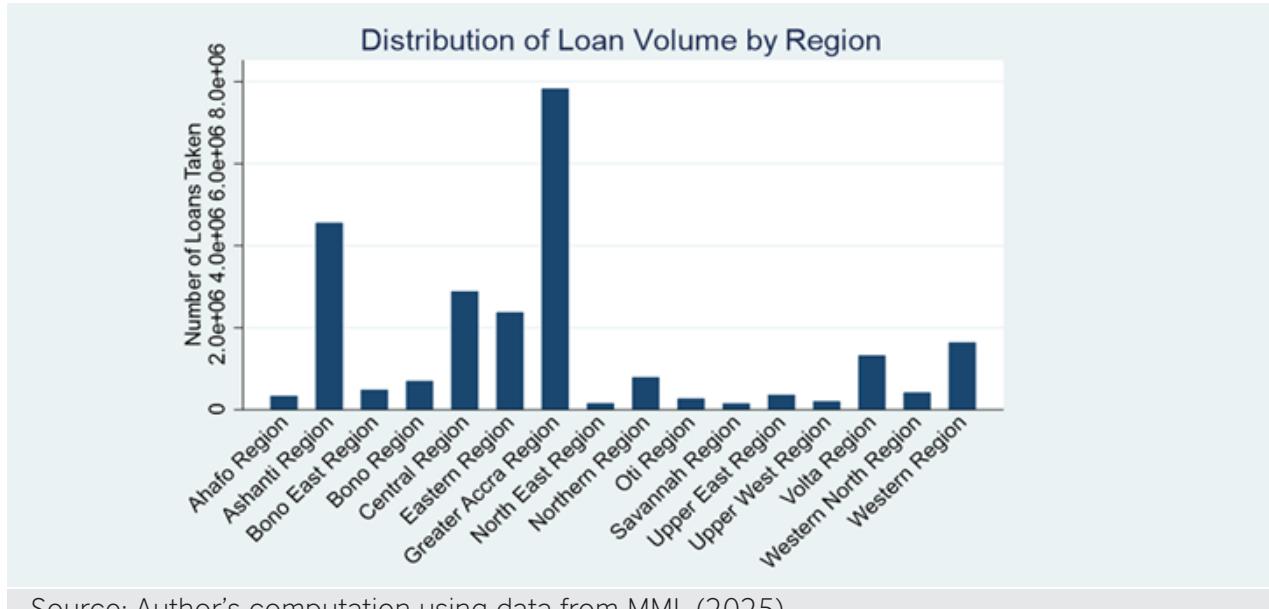
3.2.1 MML's Digital Credit Platform

MML has partnered with several credit providers who leverage MML's platform to issue various credit facilities to consumers. Notable among such credit products are the AhomkaLoan, BoseaLoan, EazyCash, Quickloan, XtraCash, and XtraBalance (see Appendix A for more information on these products). Data from MML on loan issuance between October 2024 and November 2025 indicates the Greater Accra

and the Ashanti regions have the highest loan issuances while the regions in northern Ghana have the lower counts (see Figure 1). This is consistent with the population distribution.

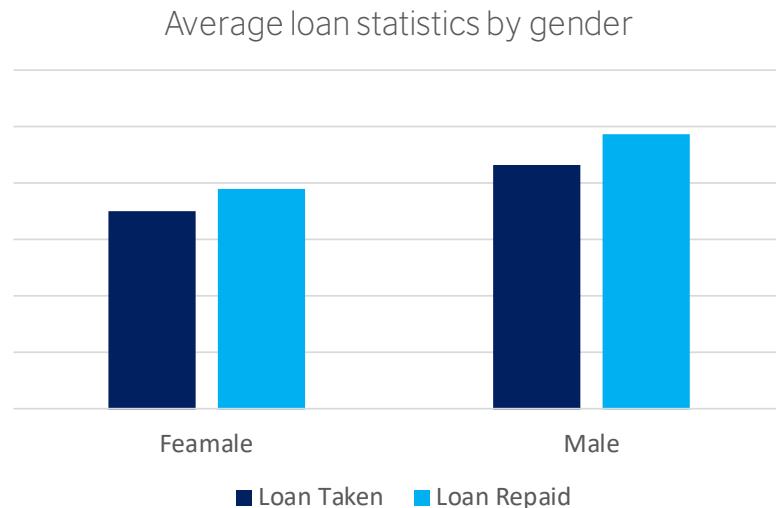
Among the loanees customers[1], the average value of loans taken by males (GH₵432.00) exceeds that of females (GH₵349.00). Also, the average repayment made by male and female customers amounted to GH₵487.00 and GH₵390.00, respectively (see Figure 2).

Figure 1: Regional distribution of loans taken



Source: Author's computation using data from MML (2025)

Figure 2: Average value of loans taken by gender

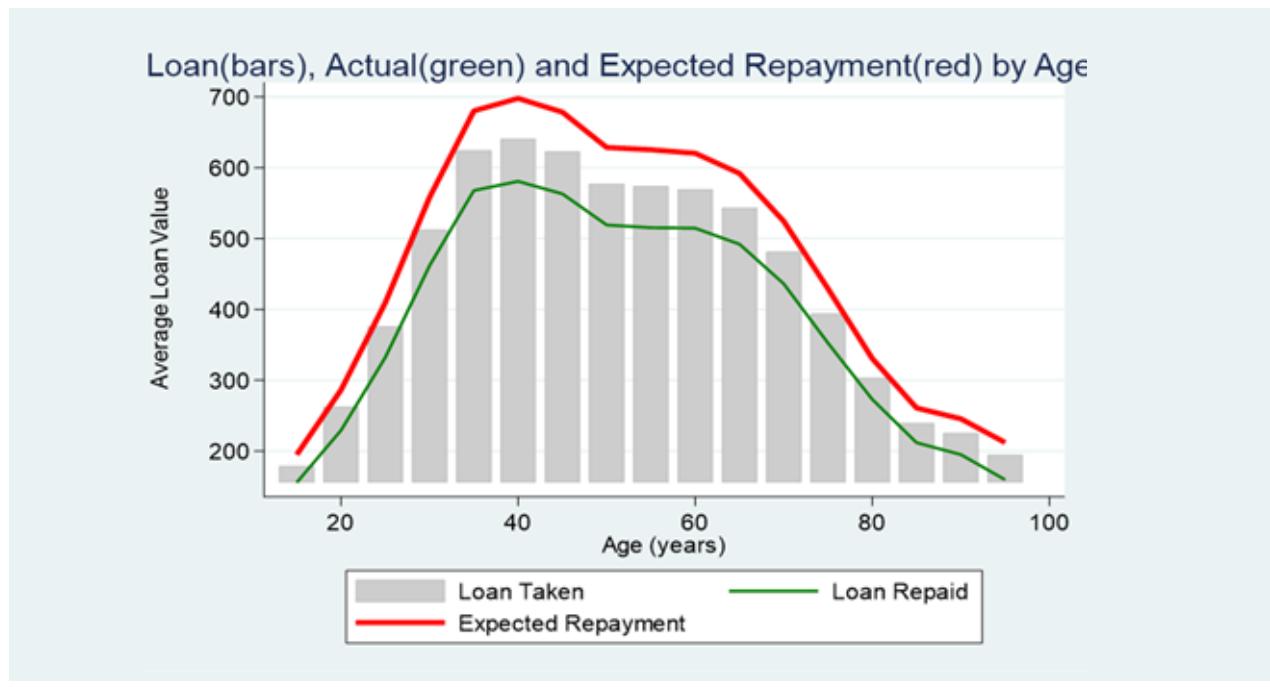


Source: Author's computation using data from MML (2025)

The value of loans taken follows a normal distribution across the different age bands. For instance, customer under age 30 and those over 65 take loans below GH¢400.00 within the reference period while mid-age customers take up to GH¢635.00. The study made two keen observations from Figure 3: firstly, while the expected repayments[2] exceeds the value of loans taken, actual repayments lie below the value of loans taken; secondly, the difference between expected and actual repayment reflects default. Additionally, the study observed default was higher among mid-age customers. Figure 4 shows about 40.2% of customers fully

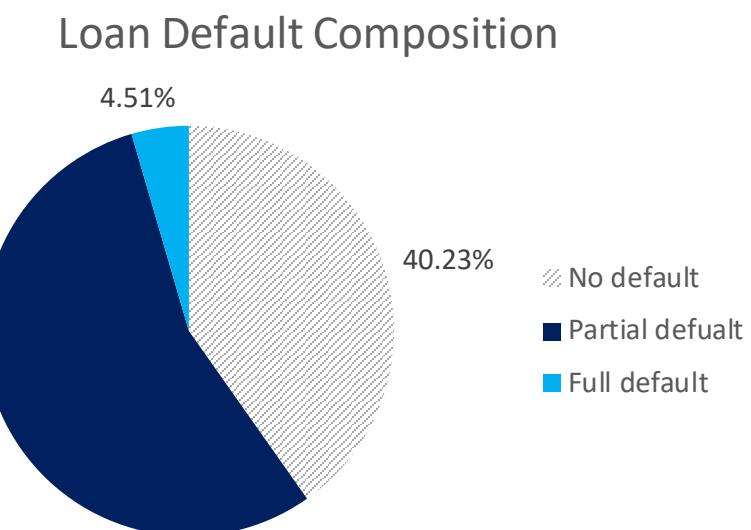
repay their loans within the stipulated period, while 4.5% of customers are unable to make any repayment. Majority of customers can be categorised as partial defaulters—thus, they make some payment but are unable to repay fully. Could this be due to high interest rate? To attempt answering this question, the study observed the association between credit purchase[4] quintile and default. It was observed the proportion of customers who default is higher among customers in the lower credit purchase quintiles (see Figure 5). In other words, default tends to fall as one moves to higher credit purchase quintiles.

Figure 3: Loan taken, actual repayment and expected repayment by age bands



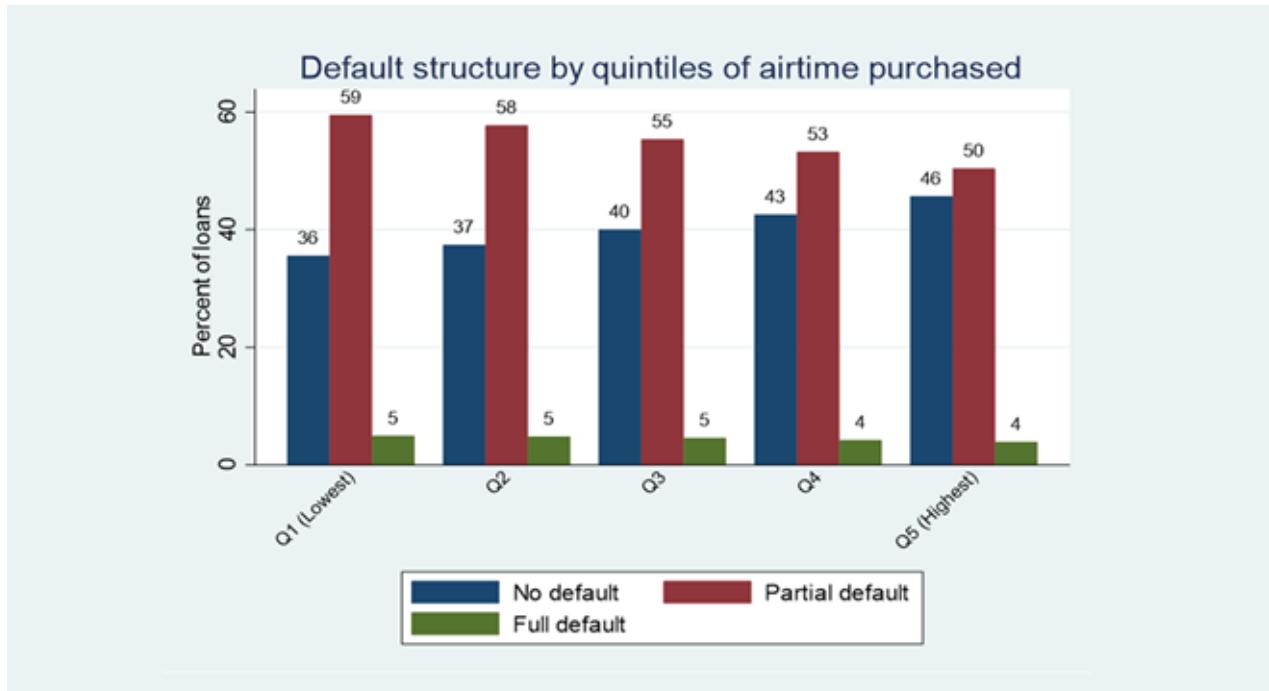
Source: Author's computation using data from MML (2025)

Figure 4: Composition of loan default



Source: Author's computation using data from MML (2025)

Figure 5: Default structure by quintiles of airtime purchased



Source: Author's computation using data from MML (2025)

This suggests default may be strongly linked to inability to pay, perhaps, due to high interest rates. It must be noted, however, that digital credit is anchored by identification via the Ghana Card which has seen many implementation challenges^[5]. Thus, the digital credit ecosystem can still be perceived as a high-risk area, prompting high interest rates.

[1] This is the sample of non-defaulters. Statistics on the total sample are also provided below.

[2] Expected repayment is the sum of the principal loan value and the interest.

[3] We show more figures on default (see Appendix B).

[4] Credit purchased is used as the proxy for income, with the implicit assumption that well-to-do customers would be able to purchase more credit and vice versa.

[5] There are instances where people's valid Ghana Cards have been used to register SIM cards that are alien to them.

reliability remain a visible pain point. National Communications Authority bulletins show large data subscription bases and sustained 3G and 4G footprint, with quality-of-service monitoring and drive testing in all districts (NCA, 2024c, 2025a). Ghana experienced major internet disruptions in March 2024 due to multiple undersea cable cuts, fully repaired by 8 May 2024, which exposed external dependency risks (NCA, 2024a, 2024b; Reuters, 2024). Access points are dense through the agent network and merchant acceptance continues to expand. By the end of 2024, there were about 400 thousand active agents providing services in urban and rural locations (BoG, 2025). As of August 2025, the total number of agents stood at 938 thousand, with 433 thousand actively working. MoMo interoperability (MMI) has been operational since 2018 and now processes large volumes and values across wallets and bank accounts, with the Ghana Interbank Payment and Settlement Systems (GhIPSS) Instant Pay and MMI cited as catalysts of payment growth (BoG, 2024; GhIPSS, 2024; AfricaNenda, 2024).

In August 2025, the value of interoperability transactions stood at GH₵4.9 billion, relative to GH₵354 billion for all mobile money transactions (i.e., about 1.4% share of total mobile money transaction value). During the same period, the share of interoperability in total volume of MoMo transactions was 3.2%.

3.3. Technological and Infrastructural Readiness

Coverage and access are strong, although

Data affordability is improving, however, it remains a binding constraint for heavy, always-on digital services. Ghana sits mid-pack in West Africa on 1 GB affordability by independent trackers (A4AI, 2024; GhanaWeb, 2024). Smartphone adoption keeps rising, along with the SSA regional trend, yet replacement cycles and costs still exclude lower-income users from richer app ecosystems (GSMA, 2024b, 2024a).

Table 3.2: Summary of evidence on technological and infrastructural readiness

Indicator	Details	Rating
Indicator	Details	Rating
National 3G/4G coverage	Widespread population coverage, ongoing QoS monitoring, and drive tests by the regulator (NCA, 2024c, 2025a).	High
Network reliability	Strong domestic networks, but 2024 subsea cable outages caused multi-day degradation, highlighting resilience gaps in international capacity (NCA, 2024a, 2024b; Reuters, 2024).	Medium
Access points, agent network density	There are over 400 thousand active agents by the end of 2024, agent presence in urban and rural locations (BoG, 2025). Total agents stood at 938 thousand (active-433k) as of August, 2025.	High
Cost of data	Affordability improving across SSA, Ghana performs reasonably but not top tier; cost burdens still bind low-income users (A4AI, 2024; GhanaWeb, 2024).	Medium
Mobile money interoperability	Operational since 2018, supports wallet-to-wallet and wallet-to-bank flows at scale, with large transaction values (BoG, 2024; GhLPSS, 2024; AfricaNenda, 2024). 1.4% of total MoMo transaction value and 3.2% of the total volume of MoMo transactions.	High

Source: Author's review





SECTION FOUR

4. Influence of the BoG Directive on Digital Credits in Deepening Financial Inclusion

4.1. Introduction

The rapid proliferation of digital credit in emerging economies presents a dual promise: to expand financial inclusion at an unprecedented scale and to pose new risks of consumer harm and market instability. The BoG Directive for Digital Credit Services Providers (2025) is a strategic intervention to harness this potential while mitigating its perils. By establishing a formal regulatory framework for non-bank digital lenders, the BoG aims to transition a previously nebulous sector into a structured, transparent, and accountable component of the financial system. Drawing on empirical evidence and theoretical insights from analogous regulatory shifts in Kenya, India, and beyond, the analysis evaluated the potential of the directive to deepen financial inclusion in Ghana. Financial inclusion is understood not merely as access, but as access to responsible, useful, and affordable financial services that meet the needs of underserved populations (Demirguc-Kunt et al., 2018).

4.2. Ways the Directive Deepens financial inclusion

The directive has the potential to deepen financial inclusion in several ways:

Formalising and Cultivating Trust through Regulatory-Guaranteed Transparency and Protection

A fundamental barrier to financial inclusion is the deep-seated distrust of formal financial institutions among the unbanked, who often perceive the banks as opaque, exploitative, and risky. Karlan, Ratan, and Zinman (2014) confirm that complexity and a lack of transparency significantly deter the poor from engaging with formal credit. The BoG directive directly confronts this trust deficit by legislating clarity and fairness. The mandate for a digital pre-agreement (§6.1b) ensures borrowers are fully informed of costs upfront, eliminating the fear of hidden charges. Furthermore, the explicit prohibition of abusive debt collection tactics, such as using threats or contacting a borrower's personal networks (§7.2), is a direct lesson from markets like Kenya, where the absence of such rules in the early days of digital lending led to widespread consumer abuse and a subsequent erosion of public trust, necessitating a regulatory crackdown by the Central Bank of Kenya (Central Bank of Kenya, 2019). By embedding these protections, the BoG provides a regulatory guarantee of safety, making formal digital credit a less daunting prospect for risk-averse, unbanked individuals.

By mandating formal licensing, a physical office for customer redress (§2.3), and fit-andproper tests for owners (§2.1), the BoG confers legitimacy on Digital Credit Services Providers

(DCSPs). This formalisation is critical for fostering the public trust required for widespread adoption. Studies have shown that regulatory uncertainty and a lack of formal recognition can inhibit the uptake of digital financial services, particularly among low-income users who are most vulnerable to fraud (Mazer & McKee, 2017). The experience in Kenya post-regulation underscores this; after the Central Bank of Kenya (CBK) began licensing Digital Credit Providers in 2022, a report found 68% of users felt more confident using regulated apps, citing the presence of a known regulator as a key factor (FSD Kenya, 2023). The BoG's analogous move is, thus, a foundational step in building the social license necessary for digital credit to become a mainstream tool for inclusion.

Leveraging Ubiquitous Technology to Bridge the Physical Access Gap

The directive astutely recognises that, for the unbanked, the smartphone is the new bank branch. The policy mandates that digital credit be provided exclusively through digital channels (Definitions, §1.8) and explicitly forbids manual processes at physical offices for core services like onboarding and disbursement (§2.3). This institutionalises a model of service delivery that is inherently more accessible. This approach builds on a proven global precedent. The success of MoMo platforms like M-Pesa in Kenya and bKash in Bangladesh demonstrates digital channels could achieve mass adoption for payments by overcoming geographical and infrastructural barriers (Mazer & Rowan, 2016). However, as Demirguc-Kunt, Klapper, and Singer (2017) note, the journey to full inclusion requires moving from transactions to credit. The BoG's framework facilitates this exact evolution, ensuring the leap from using a phone for airtime and payments to accessing a loan does not require a visit to a physical branch or complex paperwork, thereby seamlessly integrating credit into the digital ecosystems which the unbanked already inhabit.

Transforming the Unbanked from 'Risky' to 'Bankable' through Data

Perhaps the most transformative aspect of the directive is its focus on building financial identity. The unbanked are often trapped in

a cycle of informality: they are deemed "high risk" because they lack a credit history, and they cannot build a history because they are denied access to formal credit—a phenomenon known as the "credit information paradox" (de Andrade & Thomas, 2007). The directive shatters this paradox by mandating that DCSPs submit customer credit information to a credit bureau daily (§7.3). This policy effectively turns every small, short-term loan (as defined in §1.8) into a data point for building a formal financial reputation. This mirrors the success of alternative data scoring models in other regions, such as in Peru, where fintechs have utilised non-traditional data to create credit scores for individuals previously invisible to the formal system (Higgins, 2019). For the first-time borrower in Ghana, responsible repayment of a digital micro-loan ceases to be an isolated event and becomes the foundation of a "financial passport"—a verifiable track record that can unlock access to larger loans and other formal financial services over time, as tracked in longitudinal studies by the World Bank's Global Findex (Demirguc-Kunt et al., 2022).

Enhanced Consumer Protection and Mitigating Over-Indebtedness

The robust consumer protection provisions in the directive address well-documented predatory practices in digital lending. The explicit prohibitions against abusive debt collection (§7.2), such as shaming tactics and unauthorised calls to contacts, are a direct response to practices that have caused significant social harm in other jurisdictions. Research on digital lending in East Africa has linked aggressive recovery practices to psychological distress and social exclusion, ultimately deterring future use of formal financial services (Cook & McKay, 2015). Furthermore, the requirements for transparent pre-agreement disclosure, a ban on product bundling (§6.1), and the stipulation that interest shall not be compounded (§7.1) are crucial for preventing the debt traps associated with high-cost, short-term credit. A study of digital borrowers in India found unclear pricing and hidden fees were primary drivers of over-indebtedness, highlighting transparency is as critical as the cost of credit itself (Singh & Agarwal, 2022). By embedding these principles into law, the directive aligns with global best

practices for responsible finance.

Data Governance, Privacy, and the Social Contract of Digital Finance

The integration of data protection into the directive—requiring a Data Protection Impact Assessment and certificate (§2.1) and explicit customer consent for data sharing (§7.3)—recognises data is the lifeblood of digital credit, and its misuse is a significant exclusionary risk. Digital lenders often use alternative data for algorithmic credit scoring, which can expand access but also raises acute privacy concerns. Mann and Matzner (2019) argue that, without strong data governance, digital finance can lead to a “datafication” of poverty, where individuals are exploited based on their digital footprints. The requirement for informed consent is a key step towards empowering customers. Evidence from Kenya’s dynamic credit market suggests that when consumers trust their data is safe, they are more likely to engage with a wider range of digital services, thereby deepening their financial footprint (Bär et al., 2020).

Fintech companies can leverage the application of AI, real-time data, and behavioural or unstructured data to build credit profiles of consumers (prospective loan applicants) based on their credit scores. The availability of this information to DCSPs through their interconnected systems with fintechs enables them to make credit decisions and handle disbursement and collection, thereby reducing over-indebtedness within the digital credit system.

“But we use AI algorithms where we can analyse vast amounts of data. We receive data from MTN, for example, concerning your wallet usage, how often you top up, and so on. And then we use that to assess your creditworthiness and build a score profile for you. Based on that, we’re able to give you a loan. So, this aspect of using machine learning to do this, to create your creditworthiness, that alone leads to fewer loan defaults, because we don’t just give it out to anybody, per se. We’re using machine learning and your history to build a profile for you. So that alone will lead to fewer loan defaults and eventually improve profit margins for more partners.”

~ KII Fintech

4.3. Adverse Risks of the Directive to Financial Inclusion

While the BoG directive is designed to promote financial inclusion, a critical analysis revealed several potential adverse risks that could inadvertently hinder the goal of bringing in the unbanked. These risks, evidenced by empirical studies and experiences from other markets, stem from the unintended consequences of formalisation and stringent regulation.

The Risk of Market Consolidation and the “Formalisation Barrier” to Innovation

A significant unintended consequence of the directive is the potential to erect high barriers to entry that stifle innovative fintech startups often most adept at reaching the unbanked. The stringent requirements for capital, certified technology systems, and extensive compliance documentation (§§2.1 & 3.1) necessitate substantial upfront investment. This creates a “formalisation barrier”, favouring large, well-capitalised incumbents and potentially leading to market consolidation. Evidence from India following its 2022 digital lending guidelines is instructive; reports indicate nearly half of all lending apps exited the market, with smaller, innovative players disproportionately affected (Dhole & Roy, 2023). The risk for Ghana is that a less competitive market, dominated by a few large providers, may offer less product diversity and higher costs, ultimately reducing the tailored, affordable credit options that are essential for attracting the unbanked.

The Threat of Legitimised Over-Indebtedness and Debt Cycles

By creating a regulated and legitimised digital credit market, the directive potentially accelerates a crisis of over-indebtedness. The official sanction of licensed providers lends a veil of safety and trust to digital lending, which may encourage higher borrowing volumes and a false sense of security among new entrants to the formal credit system. The core of this risk lies in the potential for “loan stacking”—

where borrowers take multiple loans from different providers to service existing debt. The requirement of daily credit reporting (§7.3) is a critical safeguard, but its efficacy depends on real-time, seamless integration across all providers. Historical evidence from the Mexican microfinance crisis demonstrates that even with credit bureaus, a lag in data sharing and a rapid expansion of credit can lead to systemic over-indebtedness (De Quidt, Fetzer & Ghatak, 2018). If the BoG's supervisory technology cannot keep pace with market growth, the ease of access to multiple, regulated digital loans could trap the newly banked in a destructive and inescapable cycle of debt, fundamentally undermining the goal of sustainable financial inclusion.

4.4. Conclusion

The BoG's directive represents a pivotal and necessary evolution in Ghana's financial landscape, marking a decisive shift from an unregulated digital credit wild west towards a structured, inclusive, and responsible financial ecosystem. The analysis confirmed the directive possesses significant potential to deepen financial inclusion by systematically addressing the core barriers that have historically excluded millions. By cultivating trust through regulatory-guaranteed transparency and consumer protections, it directly counters the deep-seated distrust that deters the unbanked. By leveraging ubiquitous digital channels, it bridges the physical access gap, bringing credit to the

palm of users' hands. Most transformatively, by mandating comprehensive credit reporting, the directive creates a pathway for the unbanked to build a formal financial identity, transforming them from "risky" unknowns into "bankable" individuals.

However, this journey is not without perils. The promise of inclusion is cautiously tempered by the adverse risks inherent in the regulatory process itself. The potential for market consolidation threatens to stifle the innovation that makes fintech agile enough to serve the poor, while the threat of legitimised over-indebtedness looms if supervisory frameworks and real-time credit bureau integration fail to keep pace with market growth.

Therefore, the ultimate success of the directive in achieving deep and sustainable financial inclusion will not be determined by its enactment alone. It will hinge on the BoG's vigilant and adaptive supervision, its commitment to fostering a competitive market that includes innovative startups, and its ability to ensure the credit reporting infrastructure functions with the speed and accuracy required to prevent systemic risk. The directive is not the finish line, but the starting block for a more complex race—one that requires a continuous balancing act between fostering innovation, ensuring consumer protection, and maintaining financial stability to truly unlock the transformative potential of digital credit for all Ghanaians.



4.5: Section Summary

Key Area	Mechanism for Deepening Financial Inclusion	Associated Adverse Risks & Challenges
1. Trust & Formalisation	Mandates transparency (e.g., pre-agreement disclosure), prohibits abusive collection, and confers legitimacy through licensing. This builds the trust necessary for the unbanked to engage with the formal sector.	High compliance costs can create a "formalisation barrier", stifling innovative startups and leading to market consolidation. This may reduce competition, product diversity, and affordability.
2. Access & Technology	Requires services to be delivered exclusively via digital channels (e.g., mobile apps, USSD), leveraging the existing widespread use of mobile phones to bridge the physical access gap.	The reliance on formal data (e.g., Ghana Card, digital footprints) for KYC and algorithmic underwriting can lead to digital redlining , excluding those with thin or no formal financial histories.
3. Financial Identity	Mandates daily reporting of customer credit data to bureaus. This shatters the "credit information paradox" by allowing the unbanked to build a credit history through small loans, creating a "financial passport".	The legitimisation of digital credit can create a false sense of security, potentially accelerating over-indebtedness . The risk of "loan stacking" remains if credit bureau data is not integrated and accessed in real-time by all providers.
4. Consumer Protection	Explicitly bans predatory practices like social shaming and unauthorised data sharing. Rules on simple interest and product bundling prevent hidden debt traps.	The perception of safety under a regulated framework might lower consumer vigilance, making borrowers susceptible to other exploitative practices not explicitly covered by the rules.
5. Data Governance	Integrates data protection laws, requiring impact assessments and customer consent. This aims to build a social contract based on privacy and responsible data usage.	Effective enforcement of data privacy rules is challenging. Without it, the directive could legitimise extensive data collection without guaranteeing its proper usage.





SECTION FIVE

5. BoG Directive on Facilitating Trade & Supporting Local Industries

5.1. Introduction

Ghana's economy is overwhelmingly informal, with the sector accounting for a substantial portion of its economic activity and employment. According to the International Monetary Fund (IMF), the informal economy constitutes approximately 80% of Ghana's total employment. Furthermore, a 2023 report by the Ghana Statistical Service (GSS) indicates informal sector activities contributed about 35% to the country's Gross Domestic Product (GDP). This vast landscape of small-scale enterprises operates largely outside the formal financial system, facing a critical barrier in accessing credit from traditional banks that require collateral and formal credit histories.

SMEs, which form the backbone of Ghana's commercial landscape, have historically been underserved by traditional financial institutions. The BoG's forward thinking directives on digital credit does not merely represent financial regulations, but a strategic intervention to dismantle this barrier and build a digital bridge that directly fuels economic growth. By enabling lenders to use alternative data, including MoMo transactions, to assess creditworthiness (§4.2), these policies can unlock capital for these businesses, integrate them into the formal financial ecosystem, and ultimately harness the full potential of this dominant segment of the national economy.

5.2. Ways the Directive Facilitates Trade and Supports Local Industries

The directive offers multiple pathways to strengthen trade and empower SMEs:

Democratising Capital: How BoG Directives Unlock Credit for SMEs

The most immediate and profound impact of the BoG's framework is the democratisation of capital access. Traditional banks, with their stringent requirements for collateral and formal credit history, have largely been inaccessible to the typical SME, a phenomenon extensively documented in the literature on credit constraints (Beck & Cull, 2014). The BoG's regulated digital credit landscape bypasses this exclusion by sanctioning the use of alternative credit scoring. This approach is grounded in the growing evidence that non-traditional data such as MoMo transaction history, airtime purchases, and utility bill payments can serve as a robust proxy for creditworthiness, particularly for those excluded from the formal financial system (Bazarbash & Eriksson, 2020; Berg et al., 2020). Consequently, a petty trader with a consistent daily cash flow can now qualify for a loan, unlocking capital that was previously out of reach. Furthermore, the operational model of digital credit, characterised by rapid application

processing and disbursement within hours via mobile phones, directly addresses a critical barrier for small businesses. This speed allows SMEs to seize fleeting market opportunities and manage inventory, thereby mitigating the crippling “cash flow gap” that is widely recognised as a primary constraint to business growth and operational resilience in emerging markets (Stein et al., 2010).

Beyond Capital: How Digital Credit Enhances SME Operational Efficiency

Beyond injecting capital, the directive enhances the operational efficiency and competitiveness of SMEs. Digital credit streamlines financial operations, significantly reducing the time and transaction costs associated with loan applications and cash management, which are recognised as significant burdens for small firms (World Bank, 2019). The automation inherent in these platforms lowers administrative costs for lenders, a saving that can, over time, translate into more competitive pricing for borrowers (Claessens et al., 2002). More significantly, digital credit is often embedded within larger business ecosystems, a concept aligned with the “digital stacks” that are reshaping emerging markets (Suri, 2017). An SME can receive a loan, pay its suppliers digitally, and receive payments from customers all within an integrated platform. This integrated approach drastically reduces the transaction costs, inefficiencies, and security risks inherent in a cash-based economy (Demirgüç-Kunt et al., 2018), thus, allowing business owners to reallocate their scarce time and energies from logistical hurdles towards core business activities like growth and innovation (McKenzie & Woodruff, 2006).

Building Credit, Informing Policy: The Dual Benefit of Financial Formalisation

A less obvious but equally critical support mechanism is the role of the directive in formalising the economy and enabling data-driven growth. When an SME transacts and borrows digitally, it leaves a verifiable financial footprint. Each loan, repaid successfully, builds a formal credit history, transforming the business from an informal entity into a “bankable” one, a process that directly tackles the problem of the

“missing middle” in credit markets (de la Torre, Martínez Pería, & Schmukler, 2010). This new financial identity, built on alternative data, makes the SME eligible for larger, more traditional forms of credit in the future, facilitating a growth trajectory from a micro-enterprise to a small industry (Bruhn & Love, 2014). From a macroeconomic perspective, the aggregated data from these digital transactions provides the BoG and policymakers with an unprecedented, real-time view of the SME sector, moving beyond traditional, often outdated, economic statistics. This enables a new paradigm of “nowcasting” economic activity (Choi & Varian, 2012), allowing regulators to identify which industries—be it retail, agriculture, or services—are most in need of capital, monitor regional economic activity, and design evidence-based support programmes that are precisely targeted to the real needs of traders and industrialists (Ahmad & Schreyer, 2016).

Fostering Innovation: How Regulatory Certainty Spurs Tailored Financial Solutions

SMEs form the bedrock of Ghanaian trade and industry, yet they have perennially been hamstrung by a critical constraint: access to timely and appropriate capital, a phenomenon globally recognised as a key inhibitor of SME growth (Beck & Demirgüç-Kunt, 2006). The BoG strategic introduction of a directive for digital credit is a transformative intervention designed to dismantle this barrier. By moving beyond mere deregulation to creating a structured, secure, and innovative ecosystem, the directive is building a digital financial bridge that directly supports SMEs. This aligns with the World Bank’s emphasis on “good” financial sector regulation that enables, rather than stifles, innovation and inclusion (World Bank, 2022).

The regulatory certainty offered by the BoG is fostering a wave of sector-specific innovation that directly benefits SMEs. A clear regulatory framework is widely acknowledged as a critical precursor for significant fintech investment and product development (Zetzsche et al., 2017). The directive has created a fertile ground for fintechs to develop tailored financial products. For instance, the agricultural finance model mirrors digital lending innovations that use mobile data for credit scoring and align repayment with harvest cycles (Suri & Jack, 2016). Supply

chain finance solutions, which are enhanced by digital platforms, allow large anchor buyers to partner with fintechs to offer early payments to SME suppliers, thereby strengthening entire industrial value chains (Tan & Luan, 2022). Furthermore, Pay-As-You-Go models, which have successfully financed productive assets like solar generators, demonstrate how flexible repayment structures can unlock capital for small businesses, ensuring uninterrupted production and fostering resilience (GOGLA, 2023). This targeted innovation, spurred by a clear regulatory framework, provides bespoke solutions to the unique challenges faced by different segments of trade and industry.

5.3. Conclusion:

The BoG's directive on digital credit is far more than financial regulations; it is a sophisticated industrial policy tool for the digital age. By prioritising consumer protection, credit risk management, and financial stability, the BoG ensures this new ecosystem is sustainable and trustworthy. In doing so, the BoG has constructed a robust financial infrastructure that empowers Ghanaian SMEs to become the true engines of trade and industry to overcome their most significant hurdle. This support is not merely about providing loans; it is about building a foundation for these enterprises to compete, innovate, and ultimately drive sustainable and inclusive national economic growth.





SECTION SIX

6. The Role of MML in Facilitating Policy Implementation to Drive Ghana's Economic Growth

6.1. Introduction

The BoG Directive for Digital Credit Services Providers (2025) represents a pivotal intervention to formalise Ghana's digital lending landscape. However, the transition from a regulatory framework to tangible economic impact is not automatic. It requires a catalytic agent with the scale, trust, and technological capability to operationalise the policy. MML, as the operator of Ghana's most extensive mobile financial services platform, is uniquely positioned to play this central role. This section critically analysed MML's multifaceted function in facilitating this policy across several key thematic areas, drawing on global parallels and academic insights to illustrate the potential to drive financial inclusion and economic growth.

6.2. Role of MML

Below are the roles MML can play to facilitate the policy implementation to drive Ghana's economic growth

Infrastructure as a Public Good

A foundational role of MML is that the provision of critical infrastructure, essentially as a public good for the implementation of the BoG's policy. The core premise of the directive is the exclusive delivery of credit through digital channels (§1.8), a mandate that would

be largely theoretical without a pre-existing, ubiquitous platform. With a network of over 400 thousand active agents and over 24 million active customers, MML's platform offers the necessary reach to make digital credit a reality for a significant portion of the population. This mirrors the foundational role played by M-Pesa in Kenya, where its extensive agent network and user base serve as the bedrock upon which digital credit products like M-Shwari and KCB M-Pesa were built, demonstrating the MoMo infrastructure is a prerequisite for scaling inclusive credit (Ndung'u, 2021). By providing this ready-made distribution channel, MML drastically reduces customer acquisition and service delivery costs for licensed DCSPs, enabling them to offer more cost-effective services, which aligns with the BoG's objective to promote "cost effective and responsible digital credit services" (§1.3).

Architect of Trust and Legitimacy

In a sector previously marred by predatory "loan apps", the BoG's directive aims to cultivate trust through formalisation and consumer protection (§1.3). As a highly regulated and trusted household brand, MML acts as a crucial architect of this legitimacy. Its involvement in the digital credit value chain—whether as a direct provider or a platform host for other DCSPs—confers a veil of safety that is essential for encouraging adoption among risk-averse, previously unbanked, or exploited individuals. This function addresses the "low to medium"

trust rating identified in the market assessment report. Academic research consistently shows trust is a primary determinant of financial service adoption, particularly among low-income populations who are most vulnerable to exploitation (Karlan et al., 2014). The global example of GCash in the Philippines accurately illustrates this; its transformation from a simple wallet to a platform for regulated savings, investment, and credit products (GCredit) was underpinned by the trust it had built as the nation's leading MoMo service. MML's brand, combined with the BoG's regulatory oversight, creates a powerful trust synergy that is vital for deepening financial inclusion.

Enabler of Data-Driven Financial Identity

The most transformative role MML can play is enabling the BoG's requirement for comprehensive credit reporting (§7.3). This policy is designed to dismantle the "credit information paradox", where individuals lack credit history because they are excluded from formal financial services. MML's platform generates a continuous stream of alternative data—transaction volumes, frequency, airtime purchases, and bill payment histories—that serves as a proxy for traditional creditworthiness assessment. When leveraged with customer consent, this data allows DCSPs to build algorithmic credit scores for the financially invisible. This model has been proven by WeBank in China, a digital-only bank that utilised alternative data from Tencent's ecosystem to assess the creditworthiness of millions of micro-entrepreneurs and individuals, thereby expanding credit access at an unprecedented scale (Cornelli et al., 2023). For Ghana, each small loan applied for and repaid via the MoMo platform contributes to a formal financial identity for the borrower, creating a "financial passport" that can unlock access to larger loans and other formal financial services over time, a process tracked and facilitated by the data MML generates.

Catalyst for SME Growth and Economic Resilience

The ultimate economic impact of the directive hinges on its ability to provide capital to the SMEs that form the backbone of the Ghanaian economy. MML is the primary catalyst for this flow of capital. The integration of digital credit into the MoMo ecosystem means a small

trader can seamlessly access loans to restock inventory and instantly pay suppliers via the same platform. This solves the crippling "cash flow gap" that stifles business growth and enhances operational efficiency by reducing the transaction costs and security risks of a cash-based economy. Studies on digital credit in Africa confirm the significant impact on SME operational resilience, particularly in the informal sector where traditional banking is inaccessible (Sanga & Aziakpono, 2024). The success of Nubank in Brazil in rapidly scaling micro-loans to underbanked segments demonstrates how a digital-first approach can democratise capital. By facilitating this for Ghanaian SMEs, MML is not just providing a financial product; but directly supporting local industries, facilitating trade, and driving the "broader economic gains" highlighted in the report's introduction.

Partner in Risk Mitigation and Regulatory Oversight

A critical, though less visible, role for MML is as a strategic partner to the BoG in mitigating systemic risks. The BoG directive imposes stringent requirements for technology systems, fraud monitoring, and Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) controls (§3.5, §5). By virtue of its scale, MML has invested heavily in these areas for its core payments business. By applying these mature, sophisticated systems to digital credit activities on its platform, it creates a safer and more stable environment. This allows BoG to conduct more efficient and effective supervision by focusing on a few large, compliant platforms that host multiple DCSPs, rather than attempting to monitor a fragmented landscape of hundreds of stand-alone apps. This helps to mitigate pervasive risks such as over-indebtedness and "loan stacking", which have been documented in other markets like Kenya and India where regulatory oversight initially lagged in market innovation.

6.3. Forging a Path to Growth: Strategic Implementation and Risk Mitigation for MML

The global experience with digital credit

offers a rich repository of successes and failures, providing a clear playbook for MML. To successfully drive economic growth, MML must adopt a nuanced strategy informed by these international lessons, while proactively mitigating the significant risks that have derailed similar initiatives elsewhere.

Strategic Implementation: A Phased and Data-Driven Approach to Inclusive Lending

A critical strategic imperative for MML is to adopt a phased, segment-specific product rollout, moving beyond a monolithic credit product. The most successful global models have begun addressing acute, low-value liquidity needs before scaling to more complex lending. The phenomenal success of M-Pesa's Fuliza in Kenya is a prime example. Launched as an overdraft service, it solved the immediate problem of failed transactions due to insufficient e-float. By processing over US\$10 billion in its first three years, Fuliza demonstrated meeting a fundamental user pain point can achieve rapid adoption and generate a rich data trail for risk assessment (Suri & Jack, 2016). Following this, MML should develop products for SMEs, using merchant transaction history as collateral, akin to KCB M-Pesa. However, a more instructive model for economic impact is PayPal Working Capital in the United States. Instead of relying on credit scores, it offers merchant cash advances based on a business's PayPal sales history, with repayment automatically deducted as a percentage of future sales. This creates a seamless, self-adjusting repayment cycle that is perfectly suited for small businesses with fluctuating revenues (Berg et al., 2020). For Ghana's agricultural sector, which employs a significant portion of the population, MML could study the FarmDrive model in Kenya, which partners with financial institutions to use alternative data to create credit scores for smallholder farmers (Campion et al., 2018), or the Juhudi Kilimo model, which specifically finances agricultural assets. By sequencing its offerings from micro-overdrafts to SME and agricultural finance, MML can systematically address the working capital gaps that hinder productivity and growth across the economy.

Underpinning any credit offering must be a sophisticated and ethical approach to data analytics. MML's most significant competitive advantage is its vast repository of alternative data. The global frontier in this area is

exemplified by Ant Group's Sesame Credit in China, which created a proprietary scoring system using Alipay transaction data, social networks, and behavioural analytics (Huang et al., 2020). While its specific model raises privacy concerns, the principle is sound: non-traditional data can powerfully predict creditworthiness. A more replicable and responsible case is Tala, which operates in markets like the Philippines and Kenya. Tala's mobile app analyses thousands of data points from a user's smartphone—such as SMS patterns of utility bill payments and app usage—to generate an instant credit score for individuals with no formal banking history (Björkegren & Grissen, 2020). Academic research by Bazarbash and Eriksson (2020) confirms such digital credit models are uniquely capable of overcoming the "lack of documentation and credit history" that excludes SMEs and individuals from traditional finance. Further studies demonstrate leveraging MoMo transaction data can lead to more accurate credit scoring than traditional methods in certain contexts (Barboni & Field, 2021). For MML, the strategy must be to build a "MoMo Score" using its own transactional data, ensuring it is transparent, fair, and used with explicit customer consent. This would transform everyday financial behaviour into a tangible asset—a credit history—for millions of Ghanaians, thereby driving financial inclusion and enabling productive borrowing.

Navigating the Pitfalls: Critical Cautions from Global Markets

The pursuit of growth must be tempered by a rigorous focus on risk mitigation, with over-indebtedness representing the most clear and present danger. The cautionary tale comes sharply from Kenya and India. In Kenya, the unregulated proliferation of digital lenders led to a severe crisis of "loan stacking". Borrowers used new apps to repay existing loans, spiralling into inescapable debt. This prompted the CBK to launch a major crackdown in 2019, blacklisting unregulated apps and introducing strict new licensing requirements (CBK, 2019). Cook and McKay (2015) highlight the links between digital credit and over-indebtedness in East Africa. Similarly, in India, the rapid growth of Buy Now, Pay Later (BNPL) services led to widespread reports of over-leverage, especially among young urban populations, forcing the Reserve Bank of India to intervene and tighten regulations in 2022 (Dhole & Roy,

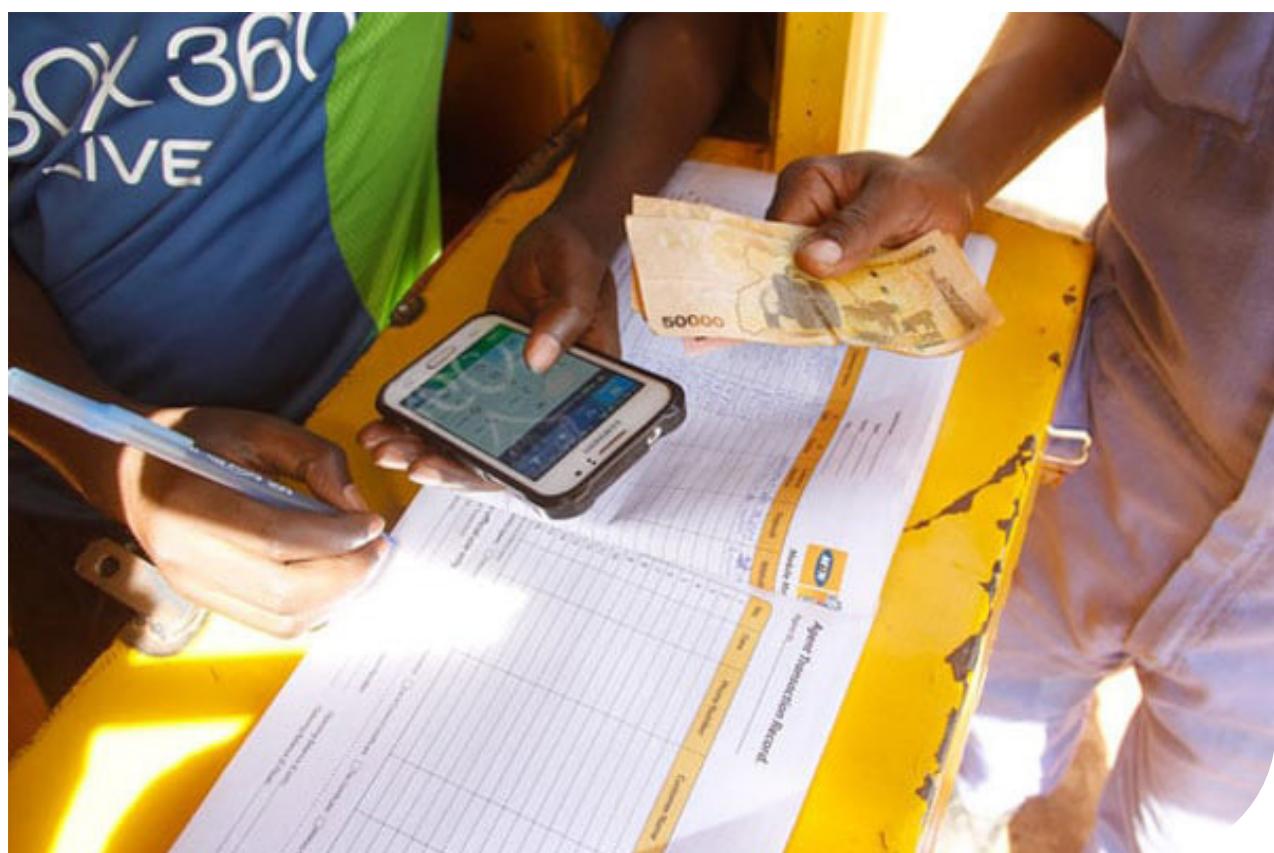
2023). The lesson for MML is that aggressive, uncoordinated growth is unsustainable. Mitigation requires investment in a real-time, centralised credit registry and setting conservative, dynamically adjusted borrowing limits, a practice supported by findings that real-time data sharing is crucial for preventing systemic risk in digital lending (De Quidt, Fetzer, & Ghatak, 2018).

Furthermore, MML must navigate the dual threats of algorithmic bias and data privacy abuses. The risk of “digital redlining”, where algorithms systematically disadvantage certain demographics, is real. Studies show AI models can perpetuate historical biases if trained on skewed data (Yun, 2025). Research in the United States has documented how fintech algorithms can disproportionately deny credit to minority neighbourhoods (Fuster et al., 2022). MML must proactively audit its algorithms for fairness. On data privacy, the scandal that engulfed many Indian loan apps is a stark lesson. These apps were found to access borrowers’ personal data, using it to harass and shame them for late payments—a direct violation of the ethical collection practices mandated by the BoG directive (§7.2). Such practices have been identified as a major consumer risk in digital finance (Mazer & McKee, 2017). Therefore, MML’s strategy must include a watertight data

governance framework, ensuring compliance with Ghana’s Data Protection Act, 2012 (Act 843). Finally, the growing threat of cyberattacks on financial infrastructure, as seen in the Colonial Pipeline incident, underscores the need for robust cybersecurity measures to protect customer data and maintain systemic integrity (Hossain, 2023).

Balancing Innovation with Prudence

The path for MML is clearly illuminated by global experiences. The successes of Fuliza, PayPal Working Capital, and Tala provide a strategic blueprint for using a phased, data-centric approach to unlock capital for individuals and businesses. Conversely, the regulatory crises in Kenya and India, alongside the ethical failures concerning data privacy and algorithmic bias, serve as powerful warnings. MML’s role is, therefore, dual in nature: it must be an aggressive innovator in financial inclusion and a conservative guardian of financial stability and consumer rights. By strategically blending global lessons with local context, MML can transcend its role as a utility to become the core engine of a more inclusive, resilient, and growing Ghanaian economy.



SECTION SEVEN

7. Conclusions and Recommendations

7.1. Conclusion

This study aimed to assess the implications of the BoG 2025 Directive on Digital Credit Service Providers, and based on a comprehensive analysis, is the study concluded the directive represents a foundational step towards a formalised, inclusive, and productive digital credit ecosystem in Ghana. The findings addressed the study's objectives, revealing both significant opportunities and critical implementation challenges.

Firstly, regarding local market readiness, the assessment revealed a landscape of contrasts. Ghana possesses a robust technological foundation, characterised by high MoMo penetration, an extensive agent network, and advanced interoperability, which positions the market for the rollout of regulated digital credit. However, this strength is tempered by significant soft infrastructural gaps. Consumer readiness is mixed, with high awareness and usage undermined by a persistent trust deficit and variable financial literacy levels. Furthermore, data from MML indicates worrying patterns of partial defaults, suggesting the cost of credit remains a binding constraint for many, while credit bureau coverage, though improving, still leaves a majority of the adult population without a scorable financial history. Therefore, while the infrastructural readiness is high, socio-behavioural and data-related readiness requires targeted intervention.

Secondly, the study confirmed the directive has the potential to deepen financial inclusion and attract the unbanked population. By mandating

transparency, prohibiting abusive practices, and requiring daily credit reporting to bureaus, the framework systematically dismantles key barriers to inclusion. It builds trust through regulatory oversight and, most transformatively, creates a pathway for the unbanked to build a formal financial identity using alternative data from their MoMoS transactions. This shatters the "credit information paradox" that has historically excluded them. However, this positive outcome is not guaranteed; it is cautiously tempered by the risk that over-zealous regulation could consolidate the market, stifling the innovative fintechs that often serve the marginalized, and that without robust, real-time credit monitoring, the legitimisation of digital lending could inadvertently accelerate over-indebtedness.

Thirdly, the analysis strongly indicated the directive will facilitate trade and support local industries by acting as a powerful industrial policy tool. The core of this impact lies in addressing the critical financing gap for SMEs. By enabling lenders to use alternative data for credit scoring, the policy democratises access to working capital, allowing SMEs to manage cash flow, seize market opportunities, and invest in growth. Moreover, the integration of digital credit into broader payment ecosystems lowers transaction costs, enhances operational efficiency, and reduces the risks of a cash-based economy. As SMEs transact and borrow digitally, they leave a verifiable financial footprint, aiding their transition from the informal sector and providing policymakers with unprecedented data for evidence-based economic support.

Finally, the review unequivocally established

the central role of MML in facilitating policy implementation to drive economic growth. MML is not only a participant but an essential catalytic agent. Its vast network, trusted brand, and rich transactional data make it the key infrastructure provider, architect of trust, and enabler of data-driven financial identities. MML is uniquely positioned to catalyse SME growth by embedding credit directly into business operations and to act as a partner in risk mitigation for the regulator. For MML to fully realise this role, it must adopt a strategic, phased approach to lending, informed by global best practices, while proactively mitigating the risks of over-indebtedness, algorithmic bias, and data privacy that have plagued other markets. In essence, MML's ability to balance innovation with prudence will be a primary determinant of the overall success of the directive in achieving its socioeconomic objectives for Ghana.

7.2. Recommendations

Separate recommendations are made for the considerations of the regulator and the service providers as detailed below

7.2.1 Recommendations for BoG

The successful implementation of the directive requires a collaborative effort between the regulator and service providers. The following recommendations are designed to harness the identified opportunities and mitigate the associated risks, ensuring a balanced, fair, and sustainable digital credit ecosystem.

1. Establish a Transparent, Formula-Based Interest Rate Benchmark:

- Develop and mandate a clear benchmark for digital lending rates, akin to the Ghana Reference Rate (GRR) used by traditional banks. This benchmark should consist of a base rate (reflecting the BoG's policy rate and cost of funds) plus a transparent, regulated margin that accounts for operational costs and risk premiums specific to digital lending.
- **Rationale:** This provides a predictable structure for lenders, prevents exploitative pricing, protects consumers, and aligns digital credit with national monetary policy. As the stakeholder noted, a balanced

benchmark is crucial to avoid the dual pitfalls of high defaults (from excessive rates) and lender insolvency (from rates that are too low).

2. Mandate and Oversee Real-Time Credit Bureau Integration:

- Move beyond the daily reporting requirement to enforcing a real-time or near-real-time data exchange protocol between all licensed DCSPs and credit bureaus. This is the single most critical technical measure to prevent "loan stacking" and systemic over-indebtedness.

3. Balance Consumer Protection with Lender Recovery Mechanisms:

- While upholding the strong consumer protections provided against abusive collection practices, BoG should also provide a clear and efficient legal framework for loan recovery in cases of genuine default. This could include:
 - Establishing a specialised, fast-track small claims digital court or tribunal for resolving loan disputes.
 - Defining clear rules for the fair and sequential deduction of loan repayments from a customer's incoming MoMo transactions, without pushing them into hardship.
- **Rationale:** Protecting service providers' ability to recover their investments is essential for the long-term sustainability of the digital credit market. A balanced approach ensures responsible borrowers are protected from harassment, while lenders are not discouraged from serving the market due to the inability to enforce legitimate contracts.

4. Prioritise Phased Implementation and Tiered Regulation:

- Introduce a sandbox or tiered licensing framework that allows smaller, innovative fintechs to enter the market with proportional capital and compliance requirements. This prevents market consolidation and fosters the product diversity needed to serve low-income and niche segments.

5. Launch a National Financial Literacy and Consumer Awareness Campaign:

- Partner with industry players to fund and launch a public campaign focused on educating consumers on the terms of digital credit, their rights under the new directive, and the long-term importance of their credit history. This addresses the trust and literacy gaps identified in the market readiness assessment.

6. Develop Clear Guidelines on Alternative Data and Algorithmic Governance:

- Issue specific regulations on the ethical use of alternative data and AI in credit scoring. This should include requirements for algorithmic fairness audits, transparency (e.g., explaining key reasons for loan denial), and measures to prevent “digital redlining” that could exclude populations with thin digital footprints.

7. Invest in Regulatory Technology (RegTech) and Cybersecurity Oversight:

- Strengthen BoG’s own supervisory capacity by investing in systems that can monitor the digital credit market for emergent risks, transaction anomalies, and compliance with pricing caps. Conduct regular, mandatory cybersecurity stress tests for all licensed DCSPs.

7.2.2 Recommendations for Service Providers

To thrive under the new regulatory framework and contribute to a sustainable digital finance ecosystem, all service providers, from large incumbents like MML to emerging fintech startups, should adopt the following strategic actions:

1. Collaborate to Develop and Adopt a Common Data & Scoring Utility:

- Action: Instead of each fintech building a proprietary score in isolation, leading players should collaborate to create a non-profit, industry-wide utility for alternative data sharing and scoring (e.g., a “Ghana Digital Credit Score”). This pool of consented, anonymised data would allow smaller fintechs with less

data to make better lending decisions, fostering a more level playing field.

- **Rationale:** This reduces the competitive advantage of data monopolies, lowers the cost of risk assessment for the entire ecosystem, and expands responsible credit access to thin-file customers, thereby driving collective financial inclusion.

2. Adopt a Phased and Segmented Product Rollout Strategy:

- Action for Incumbents (e.g., MML): Launch with low-value overdraft products, then progress to SME and sector-specific finance.
- Action for Niche Fintechs: Focus on deep, vertical specialisation from the outset. For example, develop credit products exclusively for smallholder farmers (using agri-data), Uber drivers (using ride-hailing data), or e-commerce merchants (using platform sales data).
- **Rationale:** A phased approach allows for risk-calibrated scaling for large players, while niche targeting allows smaller fintechs to achieve superior risk assessment in specific markets and compete effectively.

3. Champion Transparency through a “Digital Credit Label”:

- Action: As an industry, develop a voluntary “Digital Credit Label” that certifies products which meet superior standards of transparency. This would include displaying the all-inclusive cost of credit using a standardised format (like the BoG’s benchmark), having no hidden fees, and providing clear, simple language on terms and data usage.
- Rationale: This industry-led initiative would build consumer trust faster than regulation alone, helping to rehabilitate the sector’s image and allowing ethical providers to differentiate themselves from bad actors.

4. Integrate Embedded “Just-in-Time” Financial Education:

- Action: Move beyond generic financial literacy campaigns. Use data analytics to provide personalised, “just-in-time” education within the loan app. For example, if a user is about to take a third

loan in a month, the app could trigger a warning about debt cycles and offer a link to a budgeting tool.

- **Rationale:** This proactive, contextual approach is more effective at changing consumer behaviour, directly reducing the risk of over-indebtedness and building long-term customer loyalty.

5. Implement Ethical and Dynamic Debt Collection Protocols:

- Action: Develop and publicly commit to a code of ethical conduct for collections that go beyond the BoG's minimum requirements. Use AI to segment defaulters:
- Willing but Unable: Offer flexible repayment plans, loan restructuring, or temporary hardship pauses.
- Strategic Defaulters: Follow a clear, escalating process that culminates into the fast-track legal mechanisms recommended by the BoG.
- **Rationale:** This humane approach preserves the customer relationship for those in genuine difficulty, maintains the provider's social license to operate, and provides a clear, efficient path

for recovering assets from fraudulent borrowers.

6. Forge Ecosystem Partnerships for De-risking and Distribution:

- Action: Actively seek partnerships beyond the financial sector. Partner with agribusinesses, FMCG distributors, telcos, and government programmes to create "closed-loop" credit solutions. For example, a loan for seeds is disbursed directly to an agri-input dealer, and repayment is linked to the sale of the harvest to a specific off-taker.
- **Rationale:** These partnerships reduce the risk of default by linking credit to a specific economic activity, lower customer acquisition costs by leveraging existing networks, and create more valuable, impactful financial products.

By adopting these collaborative, transparent, and customer-centric strategies, the entire spectrum of digital credit providers—from the largest platform to the smallest startup—can ensure their own sustainability while collectively building a more robust, inclusive, and trustworthy financial ecosystem for Ghana.



REFERENCES

- Abdul Rahman Khan, Zainab Khan, & Ahmad Zia Massoud. (2024). The Rise of Digital Currencies: Implications for Global Trade and Finance. Proceeding of The International Conference on Economics and Business, 3(2), 102–106. <https://doi.org/10.55606/iceb.v3i2.473>
- Adelaja, A. O., Umeorah, S. C., Abikoye, B. E., & Nezianya, M. C. (2024). Advancing financial inclusion through fintech: Solutions for unbanked and underbanked populations. *World Journal of Advanced Research and Reviews*. <https://doi.org/10.30574/wjarr.2024.23.2.2379>
- Adeniran, I. A., Abhulimen, A. O., Obiki-Osafile, A. N., Osundare, O. S., Agu, E. E., & Efunniyi, C. P. (2024). Global perspectives on fintech: Empowering SMEs and women in emerging markets for financial inclusion. *International Journal of Frontline Research in Multidisciplinary Studies*, 3(2), 030-037. <https://doi.org/10.56355/ijfrms.2024.3.2.0027>
- Adeoye, Omotayo Bukola, et al. "Leveraging AI and data analytics for enhancing financial inclusion in developing economies." *Finance & Accounting Research Journal* 6.3 (2024): 288-303
- Anuyahong, B., & Ek-udom, N. (2023). The Impact of Cryptocurrency on Global Trade and Commerce. *International Journal of Current Science Research and Review*, 06(04). <https://doi.org/10.47191/ijcsrr/V6-i4-37>
- Anyanga, R. M., Jugurnath, B., & Maalu, J. (2025). Financial technology and entrepreneurship in Kenya: A propensity score matching approach. *Journal of the International Council for Small Business* null, 1-14. <https://doi.org/10.1080/26437015.2024.2415889>
- Ashubwe-Jalemba, J., Wanyama, M., Siyumbu, J., Zuijlen, I. V., Mutegi, N., Verschuur, S., Wit, T. R. D., Mulder, D., Janssens, W., & Dieteren, C. (2024). Gender disparities in financial inclusion: The potential of digital loans in empowering female health entrepreneurs in Kenya. <https://doi.org/10.21203/rs.3.rs-5187398/v1>
- Bank of Ghana. (2025). Summary of Economic and Financial Data: September 2025. <https://www.bog.gov.gh/wp-content/uploads/2025/09/Summary-of-Economic-and-Financial-Data-September-2025.pdf>
- Bazarbash, M., Beaton, K., & Eriksson, U. (2020). Filling the gap: Digital credit and financial inclusion. (IMF Working Paper No. 20/150). International Monetary Fund.
- Boison, D. K. (2025). Leveraging digital assets to enhance trade and investment in Africa – A comparative analysis of global adoption trends. <https://www.myjoyonline.com/leveraging-digital-assets-to-enhance-trade-and-investment-in-africa-a-comparative-analysis-of-global-adoption-trends/>
- Chalamalasetty, P. S. (2025). Empowering financial inclusion through credit and predictive analytics. *European Modern Studies Journal*, 9 (3), 300-309. [https://doi.org/10.59573/emsj.9\(3\).2025.25](https://doi.org/10.59573/emsj.9(3).2025.25)
- Chen, A. Y., Even-Tov, O., Kang, J. K., & Wittenberg-Moerman, R. (2025). Digital lending and financial well-being: Through the

- lens of mobile phone data. *Accounting review: A quarterly journal of the American Accounting Association*, 1-25. <https://doi.org/10.2308/tar-2024-0046>
- Chen, E. R. (2021). Determining the economic impact of cryptocurrency adoption on international trade from a gravity model framework. *Research and Reviews: Journal of Social Sciences*, 8(1), 1-11.
- Chen, Q. (2024). Fintech innovation in micro and small business financing. <https://doi.org/10.62051/ijgem.v2n1.36>
- Chhetri, J., Uniyal, A. K., Devi, H., & Johri, A. (2025). The impact of digital currency adoption on business performance. <https://doi.org/10.4018/979-8-3373-0315-4.ch009>
- Cirolia, L. R., Pollio, A., Sitas, R., Fortuin, A., ODEO, J. O., & Sebarenzi, A. G. (2024). Fintech 'frontiers' and the platformed motorcycle: Emergent infrastructures of value creation in African cities. *Environment And Planning D: Society And Space*. <https://doi.org/10.1177/02637758241276324>
- Cornelli, G., Frost, J., Gambacorta, L., Rau, P. R., Wardrop, R., & Ziegler, T. (2023). Fintech and big tech credit: Drivers of the growth of digital lending. *Journal of Financial Stability*.
- Cruz, N. A. O. D., Villanueva, A. C., Tolin, L. A. C., Disse, S., Lensink, R., & White, H. (2023). Protocol: Effects of interventions to improve access to financial services for micro-, small and medium-sized enterprises in low- and middle-income countries: An evidence and gap map. *Campbell Systematic Reviews*, 19(3). <https://doi.org/10.1002/cl2.1341>
- Dahi, M. B. E. (2024). Fintech solutions for west african smes: Post-crisis challenges. *The International Journal of Social Sciences and Humanities Invention*. <https://doi.org/10.18535/ijsshi/v11i04.01>
- Dangkeng, A., & munir, R. (2025). Fintech and financial inclusion: How digital payment systems empower small entrepreneurs. *Journal of Indonesian Scholars for Social Research*, 5(1), 46-55. <https://doi.org/10.59065/jissr.v5i1.172>
- Disse, S., & Sommer, C. (2020). Digitalisation and its impact on sme finance in Sub-Saharan Africa: Reviewing the hype and actual developments. *Research Papers in Economics*. <https://doi.org/10.23661/DP4.2020>
- Dudu, O. F., Alao, O. B., & Alonge, E. O. (2024). Advancing financial inclusion through digital payment platforms in emerging markets. <https://doi.org/10.51594/farj.v6i11.1696>
- Ebong, J., & Babu, G. (2020). Demand for credit in high-density markets in Kampala: Application of digital lending and implication for product innovation. *Journal of International Studies*, 13(4), 295-313.
- El Hajj, M., & Farran, I. (2024). The Cryptocurrencies in Emerging Markets: Enhancing Financial Inclusion and Economic Empowerment. *Journal of Risk and Financial Management*, 17(10), 467. <https://doi.org/10.3390/jrfm17100467>
- Enaigbe, O., & Ezeliora, P. (2025). Fintech and financial inclusion: Evaluating the impact of mobile banking on sme growth in Sub-Saharan Africa. *IOSR Journal of Economics and Finance*, 16(3), 30-43. <https://doi.org/10.9790/5933-1603063043>

- Erondu, I. N., Ndigwe, C. I., Nnamdi, K. C., Oyeniran, T. T., Ilesanmi, H., Maiyaki, S. F., & Ekpemuaka, E. (2025). Digital financial inclusion and entrepreneurship growth. *Advances in Business Strategy and Competitive Advantage* (pp. 225-250). <https://doi.org/10.4018/979-8-3693-9440-3.ch010>
- Falaiye, T., Elufioye, O. A., Awonuga, K. F., Ibeh, C. V., Olatoye, F. O., & Mhlongo, N. Z. (2024). Financial inclusion through technology: A review of trends in emerging markets. <https://doi.org/10.51594/ijmer.v6i2.776>
- Girma, A. G., & Huseynov, F. (2023). The causal relationship between fintech, financial inclusion, and income inequality in African economies. *Journal of Risk and Financial Management*. <https://doi.org/10.3390/jrfm17010002>
- Greenwald, M. (2021). How Digital Assets will Impact Financial Inclusion and Energy Consumption. Belfer Center for Science and International Affairs, Harvard Kennedy School. <https://www.belfercenter.org/publication/how-digital-assets-will-impact-financial-inclusion-and-energy-consumption>
- Halawa, F., Gulo, M. J., Halawa, B., Sinaga, H. E., & Yunanda, F. (2025). Fintech innovation: A solution to enhance the sustainability of micro, small, and medium enterprises. *KETIK*, 2(03), 28-41. <https://doi.org/10.70404/ketik.v2i03.147>
- Hossain, M. B. (2023). Acquiring an awareness of the latest regulatory developments concerning digital assets and anti-money laundering. *Journal of Money Laundering Control*, 26(6), 1251–1270.
- Igwe, U. (2025). Cryptocurrency and the quest for financial inclusion in Africa. <https://blogs.lse.ac.uk/africaatlse/2025/09/23/cryptocurrency-and-the-quest-for-financial-inclusion-in-africa-2/>
- IntelligentHQ. (2025). Cryptocurrency and Its Impact on Financial Inclusion. <https://www.intelligenthq.com/cryptocurrency-and-its-impact-on-financial-inclusion/>
- Jang, Y. (2024). An analysis of bitcoin-driven microfinance in Africa: Financial inclusion and economic self-sufficiency of small businesses. *Sam ui jil hyangsang yeongu*, 2 (3), 1-9. <https://doi.org/10.59434/jqolr.2024.2.3.001>
- Johnen, C., & Mußhoff, O. (2023). Digital credit and the gender gap in financial inclusion: Empirical evidence from Kenya. *Journal of International Development*, 35(2), 272–295. <https://doi.org/10.1002/jid.3687>
- Johnen, C., Parlasca, M., & Mußhoff, O. (2021). Promises and pitfalls of digital credit: Empirical evidence from Kenya. *PLOS ONE* 16(7), e0255215.
- Jun, W., & Ran, X. Q. (2024). Dynamics in digital finance and its impact on SME financing. *Helion*. 10(9), e30586. <https://doi.org/10.1016/j.heliyon.2024.e30586>
- Kaveh, F., Delshad, M. M., & Chobar, A. P. (2025). Transformation of SME financing models using disruptive technologies. <https://doi.org/10.4018/979-8-3693-4369-2.ch015>
- Khlifa, S. H., & Srifi, N. (2025). Fintech: Innovating financial inclusion for african small and medium-sized enterprises. *Management*

- and Business Research Quarterly, 34, 42-63. <https://doi.org/10.32038/mbrq.2025.34.03>
- Kikulwe, E. M., Fischer, E., & Qaim, M. (2014). Mobile money, smallholder farmers, and household welfare in Kenya. *PLoS one*, 9(10), e109804.
- Kim, M., & Duvendack, M. (2025). Digital credit for all? An empirical analysis of mobile loans for financial inclusion in Kenya. *Information Technology for Development*, 31(3), 559–576. <https://doi.org/10.1080/02681102.2024.2402996>
- Lee, L. (2024). Enhancing Financial Inclusion and Regulatory Challenges: A Critical Analysis of Digital Banks and Alternative Lenders Through Digital Platforms, Machine Learning, and Large Language Models Integration. <https://doi.org/10.48550/arxiv.2404.11898>
- Mathibe, M. S., & Oppong, C. (2025). Enhancing financial inclusion and entrepreneurship drive in Africa: Do digital technologies matter? *Business Strategy and Development*, 8(3). <https://doi.org/10.1002/bsd2.70202>
- Modina, M., Fedele, M., & Formisano, A. V. (2024). Digital finance for smes and startups: A bibliometric analysis and future research direction. *Journal of Small Business and Enterprise Development*. <https://doi.org/10.1108/jsbed-01-2024-0021>
- Mpofu, F. Y. (2024). Industry 4.0 in finance, digital financial services and digital financial inclusion in developing countries: Opportunities, challenges, and possible policy responses. *International Journal of Economics and Financial Issues*, 14(2) 120-135. <https://doi.org/10.32479/ijefi.15081>
- Muradyan, S. V. (2023). Digital assets: Legal regulation and estimation of risks. *Journal of Digital Technologies and Law*, 1(1).
- Ndung'u, N. S. (2021). A digital financial services revolution in Kenya: The M-Pesa case study. In *Digital Financial Services* (Chapter 5). African Economic Research Consortium.
- Ngwenya, M. (2024). Credit scoring in Africa: Employing logistic regression on alternative data. <https://doi.org/10.1109/iceccme62383.2024.10796011>
- Noutchie, S. C. O. (2025). Unlocking SME potential through digital platforms: Insights from three African digital economies. *International Journal of Business Ecosystem & Strategy*, 7(4), 106-112. <https://doi.org/10.36096/ijbes.v7i4.859>
- Ocharive, A., & Iworiso, J. (2024). The impact of digital financial services on financial inclusion: A panel data regression method. *International journal of data science and analysis*. <https://doi.org/10.11648/j.ijdsa.20241002.11>
- Okeke, N. I., Achumie, G. O., & Ewim, S. (2024). Leveraging cryptocurrencies and digital assets for small and medium-sized enterprises (SMEs): Opportunities and challenges. *International Journal of Frontiers in Science and Technology Research*, 7 (2), 011-019. <https://doi.org/10.53294/ijfstr.2024.7.2.0052>
- Okoye, C. C., Nwankwo, E. E., Usman, F. O., Mhlongo, N. Z., Odeyemi, O., & Ike, C. U. (2024). Accelerating sme growth in the african context: Harnessing fintech, AI, and cybersecurity for economic prosperity. *International Journal of Science and Research Archive*. <https://doi.org/10.11648/j.ijrsa.2024.1002.11>

doi.org/10.30574/ijrsa.2024.11.1.0231

- Omokhoa, H. E., Odionu, C. S., Azubuike, C., & Sule, A. K. (2024). AI-powered fintech innovations for credit scoring, debt recovery, and financial access in microfinance and SMEs. <https://doi.org/10.51594/gjabr.v2i6.55>
- Omokhoa, H. E., Odionu, C. S., Azubuike, C., & Sule, A. K. (2024). Digital transformation in financial services: Integrating AI, fintech, and innovative solutions for SME growth and financial inclusion. <https://doi.org/10.51594/gjabr.v2i6.56>
- Omowole, B. M., Urefe, O., Mokogwu, C., & Ewim, S. E. (2024). Integrating fintech and innovation in microfinance: Transforming credit accessibility for small businesses. *International Journal of Frontline Research and Reviews*, <https://doi.org/10.56355/ijfrr.2024.3.1.0032>
- Omowole, B. M., Urefe, O., Mokogwu, C., & Ewim, S. E. (2024). The role of fintech-enabled microfinance in SME growth and economic resilience: Case studies and lessons learned. *Finance & Accounting Research Journal*, 6 (11), 2134-2146. <https://doi.org/10.51594/farj.v6i11.1727>
- Otieno, W. O., & Thuo, N. N. (2024). Effects Of Digital Credit Providers on Financial Inclusion of Low-Income Youth in Nairobi and The Need for Government Regulation. *European Academic Journal-I*, 3(001).
- Oyedokun, G. E., Anyahara, I. O., & Oyedokun, P. O. (2025). Harnessing fintech and artificial intelligence for financial inclusion and entrepreneurial growth: An empirical review. *Journal of Economics, Finance and Management Studies*, 08 (07). <https://doi.org/10.47191/jefms/v8-i7-62>
- Raji, M. A., Ołodo, H. B., Oke, T. T., Addy, W. A., Ofodile, O. C., & Oyewole, A. T. (2024). The digital transformation of SMEs: A comparative review between the USA and Africa. <https://doi.org/10.51594/ijmer.v6i3.884>
- Rane, D. P., Choudhari, A. A., & Kakade, R. (2024). Technology-driven financial inclusion: Opportunities for corporate expansion in emerging markets. *The Scientific Temper*, 15 (04), 3320-3330. <https://doi.org/10.58414/scientifictemper.2024.15.4.41>
- Sanga, B., & Aziakpono, M. J. (2024). Fintech developments and their heterogeneous effect on digital finance for SMEs and entrepreneurship: Evidence from 47 African countries. *Journal of Entrepreneurship in Emerging Economies*, 17(7), 127-155. <https://doi.org/10.1108/jeee-09-2023-0379>
- Soundararajan, B. (2024). Developing AI-powered credit scoring systems for underserved populations. *Indian Scientific Journal Of Research In Engineering And Management*, 08 (12), 1-7. <https://doi.org/10.55041/ijserm39701>
- Suri, T., & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. *Science*, 354(6317), 1288-1292.
- Tetteh, G. K. (2023). Local digital lending development and the incidence of deprivation in Kenya. *Financial Innovation*, 9(1), Article 102. <https://doi.org/10.1186/s40854-023-00507-0>
- The financial digital assets frontier. <https://doi.org/10.4018/979-8->

- Tidjani, C., & Madouri, A. (2024). Fintech, financial inclusion, and sustainable development in the african region. *Frontiers in Applied Mathematics and Statistics*, 10, 1276218. <https://doi.org/10.3389/fams.2024.1276218>
- Umar, U. H., Baita, A. J., Hamadou, I., & Abduh, M. A. (2024). Digital finance and sme financial inclusion in africa. *African Journal of Economic and Management Studies*, 16(1), 18–33. <https://doi.org/10.1108/ajems-08-2023-0323>
- Usman, A. Y., Halidu, S. I., & Mohammad, S. W. (2025). Impact of fintech adoption on operational resilience and financial inclusion among small and medium enterprises in Nigeria's informal sector. <https://doi.org/10.58806/ijmir.2025.v2i5n02>
- Wachira, M. W., & Kihara, A. (2023). Effect of mobile network operator facilitated digital credit on the financial health of youth borrowers in Kibera, Nairobi county, Kenya. *Journal of business and strategic management*, 8(5), 25–47. <https://doi.org/10.47941/jbsm.1470>
- Wang, H. (2024). Achieving Financial Inclusion Through Digital Currencies. <https://www.undp.org/policy-centre/singapore/blog/achieving-financial-inclusion-through-digital-currencies>
- Xie, Y. (2025). The role of financial technology in improving credit inclusion for small and micro enterprises in poor areas. *Advances in Economics, Management and Political Sciences*, 176(1), 129–134. <https://doi.org/10.54254/2754-1169/2025.22116>
- Xu, Z., Xu, Z., Dai, Y., Pan, Y., & Qian, F. (2025). Digital inclusive finance and urban entrepreneurial activity. *Deleted Journal*, 12 (2), 144-157. <https://doi.org/10.54097/y8swbe21>
- Yaramolu, L. S. K. G. (2025). Architecting AI-driven microfinance platforms: Reimagining credit access for global financial inclusion. *European Journal of Computer Science and Information Technology*, 13 (13), 23-38. <https://doi.org/10.37745/ejcsit.2013/vol13n132338>
- Yun, L. (2025). Analyzing credit risk management in the digital age: Challenges and solutions. Beijing Language and Culture University.

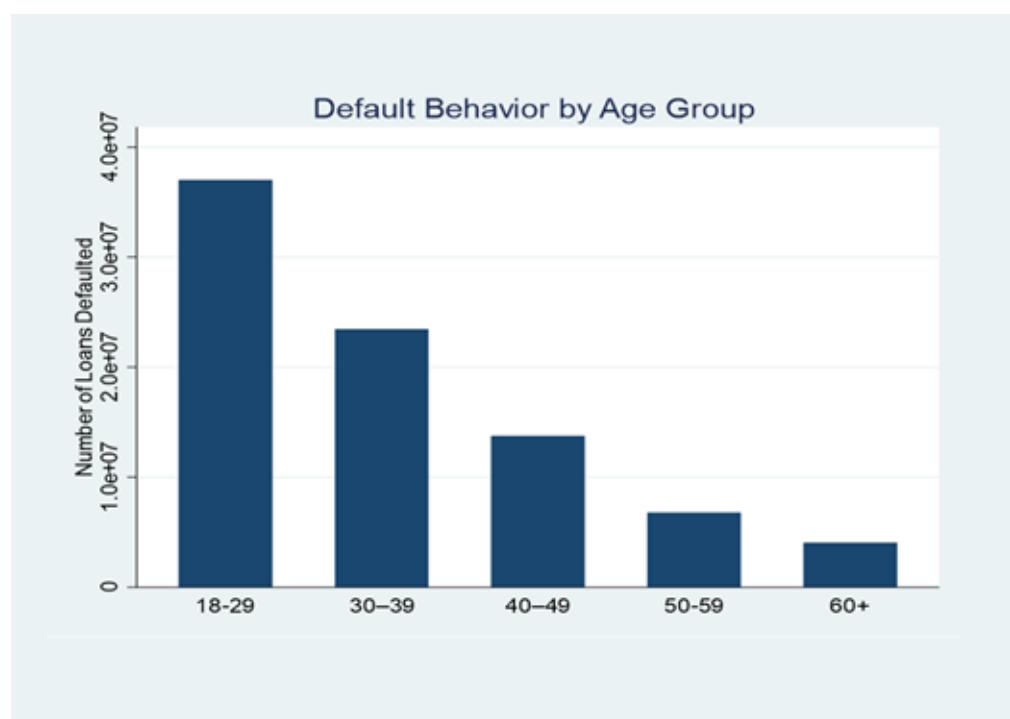


Appendix A

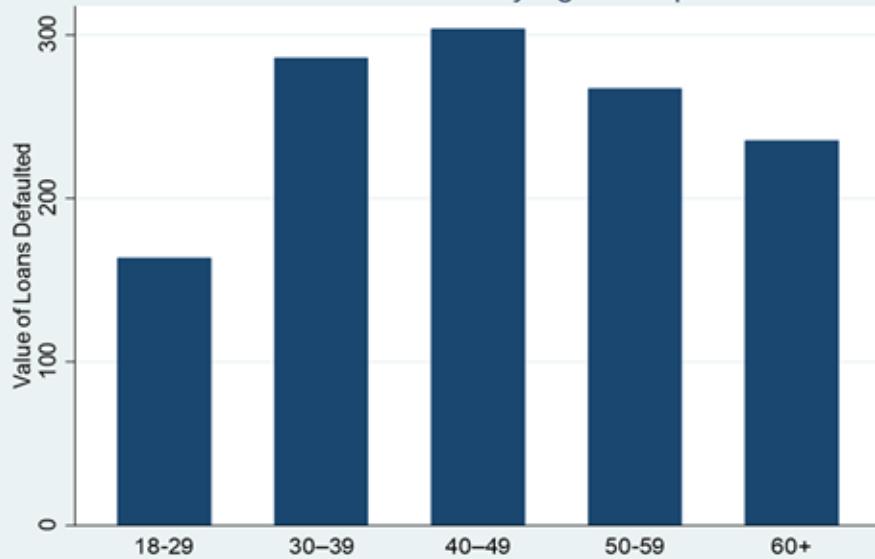
MML Platform's Loan Portfolio

Loan type	Definition
Ahomka Personal	Mobile wallet micro-loan product. Interest rate = 6.9%
Bosea personal	A short-term loan product that provides quick access to credit through mobile phones, allowing customers to borrow based on their financial activity and eligibility
EazyCash personal	Micro lending scheme. Interest rate: 8.9%
Qwikloan personal	Instant digital microloan via MTN MoMo. Varied interest rate, no collateral, auto deduction at loan due date. Interest rate: 8.9%
XtraCash personal	Cash credit via MTN Diamond Yello wallet. Run in partnership with Forms Capital Ltd. Which hosts loan terms.

Appendix B



Default Amount by Age Group



Default structure within each loan type

