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Formalising informal trade: redefining Kenya's micro, small, and medium enterprise standards and regulatory environment

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Kenya's informal sector remains excluded from formal trade due to fragmented regulation, complex standards, and the significant expansion of digital marketplaces. Drawing on market data, legislative review, and reputable literature, we identify regulatory gaps that impede compliance by informal Micro, Small, and Medium Enterprises (MSMEs), as well as significant behavioural obstacles, including elevated perceived compliance costs, information asymmetries, and limited trust. We propose a framework featuring informal MSME-specific, graduated standards, digital market surveillance, and platform-based seller verification, all aimed at fostering trust and reducing compliance friction. By addressing both behavioural and regulatory gaps, this approach seeks to enhance consumer protection, empower informal MSMEs, and promote inclusive growth in Kenya. Future research should evaluate the framework's effectiveness and scalability in Kenya and similar contexts across Africa and beyond.

KEYWORDS

informal sector, informal trade, Kenya, market surveillance, standardisation, standards

1 Introduction

The informal economy remains one of the most significant yet underregulated components of economic activity worldwide. According to the International Labour Organisation (ILO), over 2 billion people, representing approximately 61% of the global workforce, earn their livelihoods through informal employment, with the highest concentration in developing and emerging economies (ILO, 2018). Informal enterprises play a significant role in creating jobs, reducing poverty, fostering entrepreneurship, and boosting local economic growth, but they often operate outside formal regulatory, tax, and standards systems (World Bank, 2016). As global economies become more interconnected through digital commerce platforms, international value chains, and regional trade agreements, excluding informal enterprises from formal regulatory systems has become a significant obstacle to inclusive economic growth and sustainable development (UNCTAD, 2024a, b, 2025).

Across sub-Saharan Africa and Asia, MSMEs account for more than 90% of businesses and generate approximately 70% of employment opportunities (International Finance Corporation, 2024). However, a significant proportion of these

enterprises operate informally, limiting their access to finance, government support programs, quality assurance systems, and regional markets (UNDP, 2025). The implementation of regional trade initiatives such as the African Continental Free Trade Area (AfCFTA), the Southern Common Market (MERCOSUR) and the Association of Southeast Asian Nations (ASEAN), has heightened concerns that informal enterprises may be excluded from emerging trade opportunities due to their inability to comply with standards, certification requirements, and regulatory obligations (African Peer Review Mechanism, 2022; ASEAN, 2022; Tieku and Yakohene, 2023). Consequently, policymakers and development agencies increasingly recognise that economic transformation requires not only regulatory reforms but also innovative approaches to address the underlying behavioural and institutional factors that sustain informality.

Recent research shows that ongoing informality is not solely due to lax enforcement or regulatory shortcomings; it stems from a complex mix of behavioural, social, and institutional influences that shape how enterprises make decisions (Moaz and Mansour, 2025; Tingini and Eniowo, 2025). Behavioural economics offers key insights into why numerous entrepreneurs stay outside formal systems, even though formalisation could bring benefits. Informal business operators often exhibit present bias, whereby immediate compliance costs are weighted more heavily than future gains. Status quo bias encourages ongoing dependence on familiar informal practices, whereas complex administrative procedures tend to increase cognitive load and discourage engagement with formal institutions (Liao, 2024; Mehjabeen and Khan, 2024). Furthermore, perceptions of unfair treatment, trust deficits, and limited understanding of regulatory requirements often decrease entrepreneurs' willingness to engage in formal systems, especially among those with limited resources (Albarrak, 2022; Rodrigo, 2021).

These challenges are particularly evident in developing regions where informal enterprises dominate economic activity. Studies from Uganda (Akello, 2024), Bangladesh (Alam et al., 2015), South Africa (Tingini and Eniowo, 2025), Nigeria (Balogun, 2022), Ethiopia (Lorato et al., 2023), the Central African Republic (UNDP, 2025), the MENA region (Adair and Hlasny, 2022) and other developing regions reveal that regulatory complexity, limited digital literacy, and exaggerated perceptions of compliance burdens often discourage formalisation even where supportive policies exist (Akello, 2024; Maulani et al., 2023; Moyo, 2022). Consequently, traditional regulatory approaches, primarily based on enforcement and sanctions, have achieved only modest success. Emerging evidence suggests that behaviourally informed interventions, such as the simplification of procedures, default enrolment mechanisms, digital nudges, social proof strategies, and reputation-building systems, can significantly improve compliance and participation in formal economic systems (Fanelesbonge, 2023; Rwibutso, 2024; Szépe, 2025).

The rapid expansion of digital commerce further complicates the regulatory and standards landscape. Global e-commerce sales continue to grow, creating new opportunities for MSMEs to access wider markets while exposing weaknesses in product quality assurance, consumer protection, and standards enforcement (UNCTAD, 2024a, b, 2025). In many emerging economies,

online marketplaces facilitate trade without adequate verification systems, enabling the circulation of counterfeit and substandard products and eroding consumer trust (Handri et al., 2025). The absence of integrated digital compliance and surveillance mechanisms has created parallel informal digital economies where many enterprises remain disconnected from formal standards regimes and quality infrastructure systems (Merylle et al., 2025; Silupu et al., 2024). As digital trade increasingly intersects with regional and global value chains, addressing these regulatory gaps has become critical for ensuring inclusive participation in the digital economy.

Within this broader global and regional context, Kenya presents a particularly relevant case. The country's informal sector accounts for approximately 85% of total employment and constitutes a major source of livelihoods and entrepreneurial activity (KNBS, 2024). Despite its resilience and vibrancy, informal trade** in Kenya remains disconnected from formal regulatory frameworks (Blackmore et al., 2022; KEBS, 2025; KIPPRA, 2023), constraining its potential for innovation, growth, and integration into regional and international markets. The operationalisation of the African Continental Free Trade Area (AfCFTA) has further highlighted the urgency of bridging this gap, as cross-border trade opportunities risk bypassing many informal traders (Debrah et al., 2024).

The challenges faced by the formal sector in Kenya are exacerbated by the widespread lack of formal documentation, low regulatory literacy, and the prevalence of unregistered businesses (Maritim, 2020). These challenges are significant given Kenya's Vision 2030, which highlights MSME market access, innovation and development as crucial factors for economic growth and social change. The vision aims to create an enabling environment for MSMEs, emphasising capacity building and quality standards, and their integration into both local and global value chains (Kenya Vision, 2030). Additionally, the National Industrial Transformation Strategy and the Bottom-Up Economic Transformation Agenda (BETA) emphasise the vital role of MSMEs and standards in promoting industrialisation and inclusive growth (KEBS, 2023).

Behavioural economics suggests that without deliberate, context-sensitive interventions that reduce barriers, informal MSMEs are likely to remain marginalised (Moaz and Mansour, 2025). MSMEs often stick with informal practices due to present bias (overweighting immediate costs), status quo bias (preference for the familiar), and exaggerated perceptions of compliance burdens. Complex rules increase cognitive load (mental overload), reducing traders' ability to complete formalisation steps. Social proof and peer effects (imitation of others), as well as concerns regarding procedural fairness,

**While "informal trade" and "MSMEs" denote distinct conceptual categories, the former representing an unregulated market activity and the latter defining firm architecture by employment scale, this study focuses on their intersecting demographic: *informal MSMEs*. In Kenya, the vehicles that carry out informal trade are overwhelmingly micro and small enterprises. A vast majority of these enterprises fit the structural definition of an MSME (1–99 employees) according to KIPPRA (2010). Thus, these terms are utilised in tandem within this text to reflect the operational and structural realities of unregistered small-scale traders in the domestic Kenyan marketplace.

influence whether entrepreneurs trust and appreciate formal systems. Simplification, digital heuristics (easy decision shortcuts), nudges (subtle design cues that guide choices without limiting options), defaults (pre-set options that turn into the simplest choices), and Reputation tools can help traders find low-effort, credible compliance options (Albarrak, 2022; Fanelesbonge, 2023; Liao, 2024; Mehjabeen and Khan, 2024; Mudzamiri, 2023; Rodrigo, 2021; Rwibutso, 2024; Szépe, 2025).

The enduring informality in Kenya is not merely a consequence of administrative oversight or regulatory absence (FKE, 2021). Instead, it portrays a complex interplay of trust dynamics, cognitive barriers, and incentives that shape informal MSME decision-making. When compliance frameworks are designed primarily for formal enterprises that require institutional familiarity, digital access, and high literacy, they inadvertently raise the actual and perceived costs of compliance (Thaline et al., 2025). Many informal traders operate under resource constraints and bounded rationality and are thus subtly directed to remain outside the formal system, even when formalisation could create new opportunities (Mehjabeen and Khan, 2024; Moaz and Mansour, 2025; Rwibutso, 2024). Similar patterns of compliance challenges and persistent informality have been observed in other emerging economies, including Indonesia (Maulani et al., 2023), Brazil (Thaline et al., 2025), and South Africa (Tingini and Eniowo, 2025), and parts of Sub-Saharan Africa (Moyo, 2022), where behavioural frictions, such as overestimation of compliance costs and status quo bias, interact with regulatory complexity to limit formalisation.

The rapid growth of Kenya's e-commerce sector and digital economy presents additional behavioural challenges and dynamics. Informal MSMEs leverage social and online commerce platforms to reach broader audiences (Wahyudi et al., 2025). However, the lack of enforcement of digital standards and quality-assurance mechanisms has led to the proliferation of substandard and counterfeit products, undermining fair competition and eroding consumer trust (Anti-Counterfeit Authority, 2025; Handri et al., 2025; KEBS, 2025). Without verification, buyers and sellers face greater uncertainty and perceived risks. This situation promotes informal practices and discourages investments in quality upgrades. In Kenya, the problem is worsened by the fact that surveillance tools are largely offline (KEBS, 2025), allowing compliance gaps to persist and creating a parallel economy in which informal traders are excluded from cross-border trade, quality assurance mechanisms, and value-added activities. This exclusion hampers growth, worsens economic inequalities, and sustains fragmentation across Kenya's broader economy. Similar patterns are observed in Southeast Asia and Latin America, where limited digital oversight, along with cognitive and informational barriers, sustain informality (Mehjabeen and Khan, 2024; Merylle et al., 2025; Silupu et al., 2024).

This review examines the landscape of standards and their effects on the formalisation of informal trade in Kenya from a behavioural economics perspective. By analysing behavioural theories and literature in the context of informal sector formalisation, regulatory gaps, MSME inclusion challenges, and the unique aspects of online marketplaces, we propose a practical framework that aligns with the realities and

behavioural motivations of Kenya's informal sector. Drawing on global evidence, this approach highlights simplified compliance methods, default enrollment options, and digital nudges to reduce friction and build trust. The aim is to provide policymakers, regulators, and development partners with actionable insights to promote inclusive economic growth and unlock the potential of informal trade in Kenya and similar regions.

2 Theoretical background

The formalisation of informal trade has historically been a key focus in development economics, with a strong emphasis on its vital contributions to social inclusion, economic growth, and productivity (Moyo, 2022). Frameworks such as dual economy theory, institutional theory, transaction cost economics, compliance burden theory, social capital theory, platform theory, Akerlof's market-for-lemons theory, and behavioural friction theory offer essential insights into the persistence of informality and potential ways to mitigate it. The dual economy perspective views developing economies as comprising two sectors: a modern, formal sector with regulatory oversight, higher productivity, and greater market integration, and a traditional, informal sector with limited access to capital, lower productivity, and minimal involvement with formal institutions (Sumner, 2025). Formalisation is often viewed as a shift from informality to formality, leading to increased efficiency, broader market access, and economic growth (Rwibutso, 2024; Silupu et al., 2024). Evidence from countries such as Brazil, Indonesia, and India indicates that making compliance pathways clear and supporting them with nudges, such as social proof, defaults, and progress feedback, increases the likelihood that small firms will formalise their processes and invest in quality enhancements (Maulani et al., 2023; Neise et al., 2021; Thaline et al., 2025).

Institutional theory further clarifies how informal and formal rules, norms, and enforcement mechanisms influence economic behaviour. Informal trade flourishes where formal institutions are inaccessible, weak, or perceived as inadequate (Woodhouse, 2024). Behavioural insights suggest that perceptions of fairness, trust, and institutional credibility strongly influence willingness to comply (Moaz and Mansour, 2025). Informal traders might see formal rules as unpredictable, biased, or irrelevant, which decreases their likelihood of engaging formally (Thaline et al., 2025). Studies from India, Indonesia, and other developing economies show that interventions aimed at enhancing institutional trust and transparency notably boost MSME compliance and formalisation (Akang, 2024; Jomon, 2024; Mulyati and Murwadi, 2024). This highlights that establishing reliable and responsive institutions is equally as essential as streamlining regulatory requirements.

Platform theory acknowledges the transformative power of digital marketplaces. These platforms expand customer access, reduce entry barriers, and create opportunities for standards enforcement (Cennamo, 2021). Behavioural insights from studies conducted in China, India, Germany, and the United States show that platform design can influence compliance through defaults, nudges, reputation systems, and noticeable feedback. Verified seller badges, progress indicators, and ratings

can leverage loss aversion, social proof, and consistency heuristics to protect consumers and promote formal participation (Cennamo, 2021; Jia et al., 2024; Krishnan-Barman, 2025; Springer et al., 2025; Steur and Seiter, 2021). These studies confirm that integrating behavioural nudges with digital platforms increases consumer trust and seller compliance.

While platform, institutional, and dual economy theories remain instructive, they do not fully explain the decision-making processes of informal traders, whose choices are influenced by both objective benefits and costs and psychological, social, and cognitive factors. Behavioural economics enhances traditional frameworks by emphasising how heuristics, bounded rationality, cognitive overload, risk perception, and present bias affect the adoption of formalisation measures. Informal traders may view formalisation as risky or burdensome, leading them to rely on heuristics and maintain the status quo, thereby reinforcing continued informality. Loss aversion can make immediate compliance costs seem more significant than long-term benefits, while present bias can decrease the perceived value of future rewards from quality certification or formal registration (Balde, 2021; Jia et al., 2024; Nohoua, 2023; Usen, 2025). These dynamics are seen worldwide, with MSMEs often avoiding formal processes despite incentives unless the compliance options are clear, straightforward, and align with their decision-making habits.

Transaction cost economics explains informal arrangements as resulting from higher costs of enforcing agreements, gathering information, and negotiating contracts (Danquah and Sen, 2022; Mukoviz et al., 2022; Oranburg and Palagashvili, 2021). Behavioural economics builds on this by acknowledging the psychological and cognitive aspects of these costs. Opaque procedures, complex paperwork, and the need for sustained attention impose cognitive burdens beyond just financial costs. Decision fatigue, bounded rationality, and effort-minimisation heuristics lead many informal actors to postpone or avoid formalisation, a pattern observed across various developing contexts (Cristofaro, 2025; Moaaz and Mansour, 2025; Usen, 2025). Pre-filled forms, digital interventions, and step-by-step compliance pathways lower both real and perceived transaction costs, making the shift to formality easier.

The compliance burden theory emphasises that high fees, complex regulations, and procedural requirements serve as barriers to entering formal processes (Halling and Baekgaard, 2024; Mpofu, 2021; Petersen et al., 2024). Behavioural perspectives show that framing and highlighting regulatory requirements increase their deterrent effect. Informal traders respond not only to objective rules but also to their personal perceptions of challenge and risk (Thaline et al., 2025). Global evidence indicates that behavioural nudges, including defaults, simplified instructions, and visual progress cues, can substantially enhance compliance (Akello, 2024; Dinesh and Om, 2025; Kalembe et al., 2025; Mpofu, 2021).

Social capital theory emphasises the significance of trust, networks, and norms within informal economic activity. Behavioural economics highlights the importance of reputation, social influence, and peer effects. Informal traders embedded in close-knit networks often rely on community-established norms for their economic transactions. These norms can bolster informal resilience but may also limit their involvement with

formal system institutions. Compliance strategies that leverage community endorsements and social benchmarking tend to increase the likelihood of formalisation (Okello et al., 2024; Yasmin et al., 2025).

Akerlof's market-for-lemons theory offers a structural perspective on how information asymmetries can systematically hinder market efficiency. In markets where buyers cannot reliably distinguish between high- and low-quality goods, they tend to set prices based on the average expected quality. This discourages high-quality sellers and leads to a market dominated by lower-quality products, a pattern arising from market structure rather than individual mistakes (Gareth, 2022; Giza, 2024; Salah, 2025). This approach is especially relevant to informal markets, where standards, certifications, and regulatory oversight are often lacking, making it hard for traders to signal quality (Blackmore et al., 2022; Okello et al., 2024). The systemic nature of this mechanism shows how widespread information gaps, combined with institutional weaknesses, sustain low-value, low-trust trading environments. Combining Akerlof's insights with theories such as compliance burden, dual-economy, institutional, platform, and social capital highlights the complex interactions among behavioural, institutional, and structural factors. Initiatives such as platform-based verification, affordable certification, and simplified standards can improve market transparency, reduce information asymmetries, and encourage informal traders to adhere to standards, thereby bridging the gap between informal and formal markets.

Lastly, the persistence of informality can be further elucidated through behavioural friction theory, which underscores how minor financial, cognitive, procedural, and social barriers impede traders from formalising or adhering to standards, even when such actions align with their best interests (Hendriks et al., 2022; Wiseman, 2023). Informal MSMEs may refrain from certification or registration due to ambiguous requirements, intricate procedures, social norms, or perceived substantial costs, all of which favour informal trade. These frictions intensify information asymmetries and reinforce environments characterised by low trust, thereby restricting traders' capacity to signal quality and access broader market opportunities (Okello et al., 2024). Consequently, addressing informality necessitates interventions aimed at diminishing these behavioural frictions (Hendriks et al., 2022; Jessen and Kluge, 2021), such as providing explicit guidance, streamlining compliance procedures, utilising peer learning, and incorporating platform-based or digital tools that facilitate the formalisation process and adoption of standards in a manner that is more accessible, transparent, and incentivising.

Overall, these views demonstrate that formalisation is more than just a structural or regulatory issue; it is a behavioural process influenced by incentives, perceptions, cognitive limits, social norms, and trust in institutions. Informal actors respond to how choice environments are designed, the framing and prominence of information, and the appearance of fair and detectable compliance. To succeed in formalisation efforts in Kenya, strategies should combine simplified, tiered standards, platform-based incentives, participatory institutional planning, and digital monitoring tools. Incorporating behavioural principles such as heuristics, bounded rationality, social proof,

loss aversion, and default effects alongside traditional development theories helps create environments where formalisation is easier to understand cognitively, socially supported, and economically beneficial. This approach can promote inclusive growth and narrow the divide between informal and formal economies.

2.1 Synthesis of literature and research gap

The preceding theoretical perspectives collectively show that the persistence of informality among MSMEs is shaped by structural, institutional, economic, social, and market-related factors. However, the literature remains fragmented, with scholars explaining only parts of the broader challenge of formalisation. For instance, scholars supporting dualism note the coexistence of formal and informal sectors. Both sectors, dualists explain, have very few commonalities and serve different customers and markets, resulting in dual or parallel economies (Kesar, 2023). This dualist perspective includes the exclusionist view that high entry costs prevent many businesses from participating in the formal economy and trade (Tefera, 2026). As a result, informality serves as a safety net that provides work, business or trade opportunities, and income to informal agents who face exclusion from the formal economy or lack productive competencies and access to risk capital, unlike formal traders (Dell'Anno, 2021). Since the labour-absorbing capacity of the formal sector in most developing economies is severely limited, this creates room for informal MSMEs to emerge to support individuals' survival and, therefore, they operate unregistered (Haarman et al., 2022).

On its part, institutionalism emphasises regulatory inefficiencies and weaknesses in governance. In this view, informality is a rational decision made by actors in a legal environment that impedes business activity and entry into the formal economy and trade (Minbaeva et al., 2023). It attributes the informality of businesses to bureaucracy, restrictive government regulations, systemic corruption, and mandatory registration and administrative costs, such as licensing fees and taxation, which outweigh the potential gains of formalisation and hamper the growth of MSMEs (Amoah, 2024). Thus, to eschew formal legal procedures and institutions, MSMEs are forced to develop their own informal rules of operation outside the existing legal framework (Shahid et al., 2022). Hence, informality persists as a business response to over-regulation or poor governance.

Further, another school of thought highlights the burdens associated with compliance. It opines that MSMEs deliberately embrace informality to evade taxes and other labour regulations while maximising profits (Amoah, 2024). In so doing, informal enterprises gain price advantages that enable them to thrive on unfair competition with formal businesses (Ntunyu, 2025). For informal traders who enjoy high profitability, the perceived advantages of formal registration, such as access to government contracts and credit, are relatively outweighed by the potential regulatory and taxation costs and the risk of losing their autonomy and flexibility (Dell'Anno, 2021). Therefore, cost-benefit analyses favour the intentional avoidance of statutory oversight to safeguard and maintain or increase revenues.

Similarly, the literature further illustrates how administrative complexity and informal social networks shape economic participation. From a compliance-burden perspective, the advantages of operating formally are minimal relative to the costs of complying with government regulations and navigating administrative bureaucracy (Ackom et al., 2025). Hence, the voluntary compliance of MSMEs with state or government regulations declines dramatically, especially when there are minimal or no returns on their taxes (Mishra, 2022). Thus, informality is attractive because informal businesses face little or no compliance costs and can therefore operate at low productivity levels and still make a profit (Ackom et al., 2025). However, bribery and corruption thrive in business environments burdened with enormous compliance and regulatory costs, thereby forcing firms to remain informal (Valdiglesias, 2025).

Another argument notes that the informal economy persists because it fills the gap left by formal institutions in offering essential resources for trade, such as labour, credit, and market access (Minbaeva et al., 2023). Informality thrives on localised or closed social capital bonds or networks among family members, friends, and communities through which one can access informal credit, reciprocal labour, and mutual aid when state support and conventional financial institutions are missing, inaccessible, inefficient, overly bureaucratic, or untrustworthy (Suseno and Horak, 2024). However, overreliance on informal networks excludes businesses from access to vast formal market information and trade, traps them in minimally productive operations, and restricts profit reinvestment and opportunities to scale up into the formal economy (Suseno and Horak, 2024).

Consequently, the role of information asymmetry and trust deficits in market exchanges is described in the literature. Studies note that digital platforms reinforce informality rather than eliminating it. They integrate, coordinate, and rearrange marginalised labour by formalising transactions while maintaining highly informal social protections, labour conditions, and regulatory compliance (Santamarina and Moares, 2026). Digital platforms standardise operations but not employer-employee relationships; for instance, they avoid harmonising labourers' contracts and benefits (Santamarina and Moares, 2026). By eliminating conventional formal requirements, such as organisational hierarchies, minimum education levels, or specialised licensing, digital platforms reduce entry barriers and help attract and absorb surplus labour (Boakye et al., 2026). The resulting flexibility enables them to access a vast, on-demand pool of labour that has been excluded from the formal economy.

Lastly, the literature posits that economic informality persists due to hindrances to formalisation, such as asymmetric information and adverse selection, which small, unverified, or unknown businesses face (Awasthi and Tripathi, 2026). Since informal enterprises often lack collateral, verifiable credit records, and sound accounting systems, financiers are unable to distinguish profitable from unprofitable informal businesses, resulting in limited lending or high interest rates that offset the risks of lending (Dari-Mattiacci et al., 2021). The sustained presence of informal traders who frequently evade taxes, labour laws, and safety legislation to cut costs eventually degrades market standards (Sanghro, 2026). Consumers and large

business buyers tend to favour low prices because they cannot verify product/service quality and regulatory compliance (Awasthi and Tripathi, 2026). Formal enterprises that bear taxation and other regulation costs are disadvantaged, forcing their exit from the market or adoption of informal practices to survive.

Collectively, these perspectives provide valuable insights into why informal trade persists across developing economies. Despite these contributions, the literature remains largely descriptive and insufficiently integrated. Existing studies primarily examine structural constraints, institutional failures, transaction costs, or market inefficiencies in isolation, with limited synthesis of how these factors interact to influence informal MSME decision-making. As a result, current theoretical explanations insufficiently account for the micro-level behavioural processes through which informal traders interpret, respond to, and navigate compliance environments. Hence, a major gap in the literature is the limited attention to the behavioural dimensions of formalisation. Most traditional theories implicitly assume that informal MSMEs respond rationally to incentives, regulations, and market opportunities. However, evidence from emerging economies increasingly demonstrates that compliance decisions are not determined solely by objective regulatory requirements or economic costs. Instead, informal MSME participation in formal systems is strongly influenced by perceptions of risk, institutional trust, cognitive limitations, social influence, and behavioural responses to uncertainty.

The literature reviewed suggests that structural and institutional barriers often generate behavioural frictions that reinforce informal practices. Regulatory complexity, weak digital enforcement, fragmented oversight systems, and high compliance costs increase the administrative burden and uncertainty for small enterprises. Concepts such as bounded rationality (reliance on mental shortcuts or heuristics to make decisions under uncertainty); cognitive overload; present bias (overvaluing immediate rewards); optimism bias (underestimating future obligations or penalties); and loss aversion (The pain from losses is felt more strongly than the pleasure from equivalent gains) (Ayeni, 2025; Usen, 2025) are fundamental to understanding the behavior of informal MSMEs. The mental pressure of bureaucratic formalities, such as endless paperwork, unclear regulations, and multiple agencies, wears businesses down and paralyses their decision-making (Usen, 2025). Informal traders focus on meeting their everyday needs and obligations while overlooking potential adverse outcomes and future liabilities, such as penalties or audits (Usen, 2025). Informal enterprises are also strongly risk-averse due to compliance costs, fears of audits, and regulatory or bureaucratic corruption (Sen et al., 2022). In cases of corruption or poor public service delivery, taxes are perceived as a loss to be avoided by delaying formalisation (Sen et al., 2022). Moreover, informal businesses exhibit present bias or hyperbolic discounting by weighing current financial expenses, such as registration fees or taxes, against future gains, such as access to formal credit, social security, or legal protection (Ayeni, 2025; Usen, 2025). Consequently, they postpone formalisation because the immediacy of the costs outweighs futuristic benefits.

Behavioural economics, therefore, complements transaction cost and institutional theories by clarifying how informal MSMEs operating under conditions of scarcity and uncertainty psychologically experience and interpret compliance costs. Informal traders frequently rely on heuristics, peer networks, and short-term survival strategies rather than engaging with complex formalisation processes. This explains why many MSMEs continue operating informally even where formalisation opportunities and potential long-term benefits exist. Therefore, behavioural economics adds a valuable dimension to current theories by illustrating how structural and institutional limits lead to ongoing informal behaviour. Similarly, the literature highlights the significance of informal networks and community norms, while behavioural economics shows how social proof and peer influences help normalise non-compliance in informal markets. Platform theory and information asymmetry explain trust issues in digital marketplaces, but behavioural insights also reveal how low perceived enforcement risk, weak verification systems, and reliance on heuristics promote counterfeit trade and the acceptance of low standards in online commerce. The literature review indicates that ongoing informality cannot be fully explained by institutional or structural theories. Instead, it results from the interactions between market conditions, regulatory systems, and behavioural responses within compliance environments. While existing studies adequately describe regulatory gaps and institutional weaknesses, they offer limited insight into how informal MSMEs respond behaviourally to these constraints.

A notable gap in theory exists: there is no comprehensive framework that connects structural conditions, market forces, institutional factors, and behavioural mechanisms in MSME formalisation and standards adoption. This research addresses this gap by proposing a behaviourally informed approach that views the persistence of the informal sector as resulting from the interaction of structural and behavioural frictions. It suggests that effective formalisation relies not only on institutional enforcement and regulatory reforms but also on how well compliance systems align with human decision-making, trust levels, and cognitive realities in informal markets. This synthesis provides the conceptual foundation for the methodology, thematic analysis, and implementation framework developed in the study's subsequent sections.

2.1.1 Conceptual model

This synthesis leads to the development of an Integrated Behavioural Conceptual Model of MSME Formalisation (see Figure 1). The model suggests that various structural and institutional factors, such as regulatory complexity, compliance costs, fragmented oversight, information asymmetries, and weak digital enforcement, create behavioural frictions for MSMEs. These frictions, including bounded rationality, cognitive overload, loss aversion, present bias, and institutional mistrust, influence compliance decisions and encourage continued engagement in informal markets. Additionally, the model indicates that behaviourally informed interventions, such as simplified standards, phased compliance procedures, digital nudges, platform verification, and trust-enhancing mechanisms,

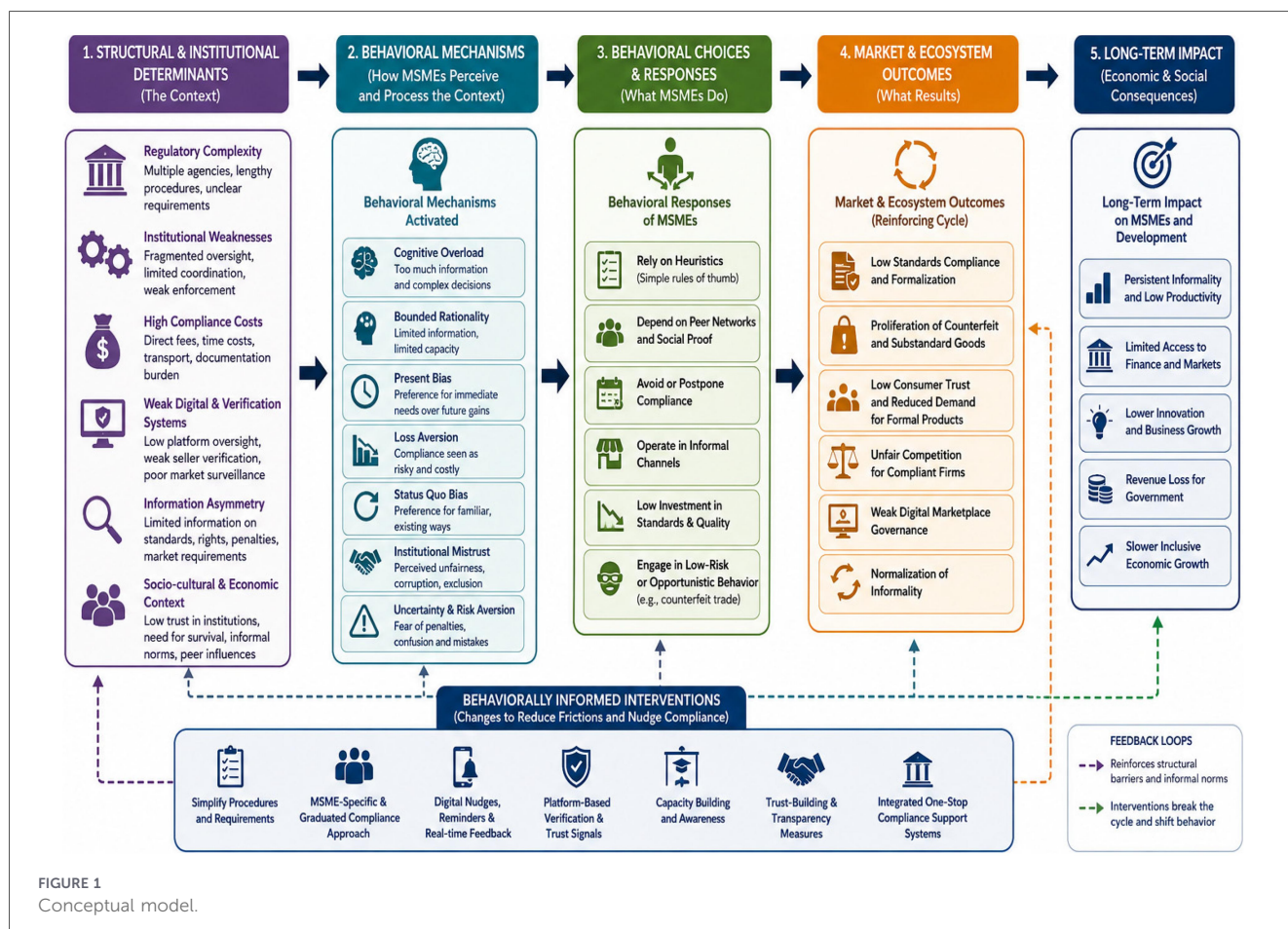


FIGURE 1
Conceptual model.

can help mitigate these frictions and improve outcomes in standards adoption, formalisation, and market participation.

As illustrated in Figure 1, behavioural economics serves as the linking mechanism through which regulatory complexity, institutional weaknesses, compliance burdens, information asymmetries, and digital governance gaps translate into MSME decision-making outcomes. The model therefore extends existing formalisation theories by integrating macro-level structural explanations with micro-level behavioural processes, providing a more comprehensive explanation of persistent informality and pathways toward formalisation.

3 Methodology

This study employed a structured review approach to examine the regulatory, institutional, and behavioural factors influencing the formalisation of informal trade in Micro, Small, and Medium Enterprises (MSMEs) in Kenya. The review integrated academic literature, policy documents, legislation, institutional reports, and market data to develop a behaviourally informed framework for strengthening standards compliance and digital market governance. The review was conducted between October 2025 and June 2026 using a systematic search strategy across major academic databases, including Scopus, Web of Science, Google Scholar, JSTOR, ScienceDirect, SSRN, and EconLit. Searches combined keywords and Boolean operators relating to

informal trade, MSME formalisation, standards compliance, behavioural economics, digital marketplaces, market surveillance, and e-commerce regulation. Examples of search strings included: “informal trade” AND Kenya; “MSME formalization” AND behavioral economics; “informal sector regulation” AND Africa; “standards compliance” AND MSMEs; “behavioral barriers” AND compliance; “digital marketplaces” AND standards enforcement; “e-commerce regulation” AND MSMEs; “consumer protection” AND online platforms; “market surveillance” AND digital trade; “informality” AND standards adoption; and “behavioral economics” AND formalization. Reference lists of relevant publications were also reviewed to identify additional studies and policy documents.

In addition to peer-reviewed literature, the review incorporated grey literature and policy documents obtained from national and international institutions, including the Kenya Bureau of Standards (KEBS), Kenya National Bureau of Statistics (KNBS), Micro and Small Enterprises Authority (MSEA), Competition Authority of Kenya (CAK), Communications Authority of Kenya (CA), Anti-Counterfeit Authority (ACA), the International Labour Organisation (ILO), the World Bank, and the African Development Bank (AfDB). Particular attention was given to documents relating to standards regulation, MSME development, digital trade, consumer protection, and market surveillance. The legislative review focused on Kenya’s standards and regulatory environment and examined the [Standards Act \(Cap 496\)](#),

Pharmacy and Poisons Act (Cap 244), Public Health Act (Cap 242), Trade Descriptions Act (Cap 505), Weights and Measures Act (Cap 513), the Food, Drugs and Chemical Substances (Food Hygiene) Regulations No. 106 of 1978, the Climate Change (Carbon Markets) Regulations No. 84 of 2024, the proposed Standards Bill of 2025, the National Trade Policy, Kenya Vision 2030, the National Industrial Transformation Strategy, the Bottom-Up Economic Transformation Agenda (BETA), and relevant KEBS policy documents, including the MSME Policy (2023), the Baseline Survey on the Status of Implementation of Standards in Kenya (2024), and the Baseline Study on the Standards Regulatory Framework, MSME Compliance, and Online Marketplace Regulatory Gaps in Kenya (2025).

Sources were selected based on their relevance to MSME formalisation, informal trade, standards compliance, behavioural barriers, digital commerce, and regulatory governance. The review primarily considered studies published between 2015 and 2026, although seminal theoretical works and key legislative instruments were retained where necessary to provide conceptual and policy context. Studies focusing exclusively on large formal enterprises, sources lacking empirical, theoretical, or policy relevance, and inaccessible or duplicate publications were excluded.

The selected evidence was synthesised using a narrative thematic approach. Data were extracted and organised around recurring themes, including standards and regulatory gaps, MSME inclusion challenges, behavioural determinants of compliance, digital marketplace governance, consumer protection, and enforcement mechanisms. Behavioural economics concepts such as bounded rationality, present bias, loss aversion, cognitive overload, social proof, and institutional trust were used as analytical lenses to interpret patterns observed across the literature. Findings from legislation, policy documents, institutional reports, and empirical studies were subsequently triangulated to identify convergent themes and inform the development of the proposed implementation framework and behavioural pathway to a digital compliance ecosystem in Kenya.

The study presented some limitations. It mainly relied on secondary data and published sources, which may not fully capture the fast-changing informal markets and digital

commerce ecosystems. Additionally, the proposed framework has not yet undergone primary empirical testing. However, integrating multiple evidence sources and triangulating academic, legislative, institutional, and market data strengthened the robustness and credibility of the review results.

Table 1 outlines the four-step methodology employed in this study. It begins by evaluating Kenya’s standards and regulatory environment, then explores the inclusion of MSMEs and the challenges they face in digital marketplaces. Finally, it consolidates these insights into a practical framework for formalising the informal sector.

4 Findings and discussion

4.1 Standards, landscape, and gaps affecting formalisation

Kenya’s standards framework is anchored in a wide range of laws and regulations that collectively shape the nation’s strategies for quality assurance, market access, and consumer protection. Core frameworks include the Standards Act (Cap 496, 1974, revised 2012), which established the Kenya Bureau of Standards (KEBS) and mandates the development and enforcement of Kenya Standards. (KS); the Pharmacy and Poisons Act (Cap 244, 1956, revised 2012); the Public Health Act (Cap 242, 1921, revised 2022); the Food, Drugs and Chemical Substances Regulations (1978, revised 2022); the Trade Descriptions Act (Cap 505, 1977, revised 2012), and the Weights and Measures Act (Cap 513, 1987, revised 2022). These instruments collectively aim to establish a comprehensive framework for certification, enforcement, and surveillance across various sectors. The proposed Standards Bill (2025) seeks to modernise the system while continuing to prioritise physical goods, traditional supply chains, and offline enforcement.

Although these frameworks align with international best practices in theory, behavioural and empirical evidence highlight structural gaps in how informal MSMEs engage with this regulatory system. Kenya’s system enforces a universal compliance model that applies equally to micro, small, and large firms, requiring them to meet the same standards, processes,

TABLE 1 Methodological steps.

Step	Focus area	Key questions	Analytical approach	Output
1	Standards Landscape & Gaps	What is the current regulatory framework for standards? Where are the gaps in enforcement and adaptation for informal trade?	Policy and legislative review; gap analysis	Mapping of standards ecosystem and identification of regulatory gaps
2	MSME Inclusion Gaps	How are MSMEs and informal traders addressed in standards policy? What barriers exist to their participation?	Review of MSME data Review of standards regulatory framework on MSME inclusion	MSME Inclusion Gap in Kenya’s Standards and Regulatory Framework
3	Online Marketplace Gaps	How do digital platforms and social commerce affect standards compliance? What are the unique challenges in e-commerce?	Market data analysis, platform review, regulatory mapping	Identification of compliance and quality assurance gaps in digital trade
4	Implementation Framework	What practical interventions can bridge the standards gap for informal traders? How can a toolkit be designed for scalability and impact?	Synthesis of findings, Framework development inculcating the first 3 steps	Implementation roadmap and behavioral pathway for compliance.

and documentation demands. Behavioural economics demonstrates that small enterprises or individuals, when confronted with high upfront costs, complex administration, and substantial cognitive demands, tend to experience decision fatigue, choice overload, and present bias (Akello, 2024; Esubalew, 2024; Moaaz and Mansour, 2025; Usen, 2025). This leads them to prioritise immediate survival rather than long-term compliance benefits. As a result, informal MSMEs see compliance as mentally exhausting, expensive, and risky, which strongly encourages them to stay outside the formal standards system. Comparative analyses from Indonesia (Maulani et al., 2023), Brazil (Thaline et al., 2025), and India (Sudan and Taggar, 2025), where digitally facilitated certification, phased compliance pathways, and standards explicitly tailored for MSMEs have been implemented, demonstrate that minimising obstacles and streamlining procedures substantially enhance compliance. Kenya's continued enforcement of a uniform standards regime thus inadvertently reinforces loss aversion and risk avoidance among small enterprises, rendering informality a rational behavioural response.

Devolution has not yet addressed these issues (Kanyinga, 2016; Otele, 2026). County licensing laws and bylaws specify standards for safety, hygiene, and market regulation, but enforcement varies widely, leading to arbitrary fee duplication and conflicting directives that hinder formalisation. Consequently, many microenterprises operate outside the regulatory framework, missing opportunities for quality improvement, market access, or integration into formal value chains. Broader industrial policies, such as the 2012 National Industrialisation Policy and its 2025 review, focus on export readiness and value chain integration (Ministry of Industrialisation, 2012; State Department for Industry, 2026). Still, their effects on *jua kali* producers (small-scale producers in open-air markets) are limited, with few participating in industrial parks.

Kenya's standards system is further constrained by its focus on traditional supply chains. For instance, KEBS' primary enforcement instruments, such as the Pre-Export Verification of Conformity (PVoC), Diamond Mark, and Standardisation Mark, are tailored for offline inspections and physical markets (KEBS, 2025). Behaviourally, these processes create high-friction costs, requiring interactions with multiple agencies, manual paperwork, and travel. These frictions support the status quo bias: informal MSMEs generally prefer to continue with familiar informal operational methods that demand less time and mental effort. In contrast, nations such as India (Shekhar and Rai, 2025) and South Africa have undertaken initiatives involving real-time monitoring systems, platform-integrated automated digital certification tools, and compliance prompts (Choudary et al., 2020). These tools reduce cognitive hurdles by integrating compliance seamlessly into traders' daily routines.

Kenya's limited digital enforcement capabilities create a regulatory gap in the fast-growing digital and social commerce sectors, leading to moral hazard (KEBS, 2024, 2025). Online traders perceive a minimal risk of detection and enforcement, which, coupled with optimism bias, encourages the proliferation of substandard and counterfeit products. Unfortunately, the standards framework currently lags the rapid evolution of digital marketplaces, AI, and green markets such as carbon and climate initiatives. There are noticeable gaps in e-commerce regulation,

digital labelling, carbon verification, and medical technology standards, indicating a broader delay in green transition efforts and Industry 4.0 updates (KEBS, 2024, 2025). As the global economy shifts towards digital compliance, circularity, and traceability, Kenya risks falling behind unless it quickly develops new Kenya Standards (KS) that incorporate emerging technologies like automated conformity assessment, digital product passports, and blockchain.

Institutional fragmentation worsens these challenges. Enforcement duties are spread across various ministries and agencies, with minimal coordination, especially for digital trade (KEBS, 2025). Behaviorally, such fragmentation causes information asymmetry and confusion costs. When rules seem contradictory or unclear, small traders often experience decision paralysis and revert to simpler informal practices. Countries like Brazil (Morini et al., 2024) and Indonesia (Rahman et al., 2024) have begun integrating standards oversight with efforts to reduce administrative complexity, regulate digital commerce, and build trust in formal systems. In Kenya, however, the lack of a dedicated e-commerce law and overlapping institutional mandates force MSMEs to navigate a complex web of requirements, undermining confidence in regulatory institutions and increasing dependence on peer networks, where informal norms prevail (KEBS, 2025).

Compliance patterns mirror these behavioural barriers. Only 23% of SMEs comply with Kenya standards compared with nearly 77% of large firms. Research indicates that small firms experience significant cognitive and administrative challenges. These are worsened by a scarcity mindset, which hampers their capacity for long-term planning and compliance (KEBS, 2024). When simplified, behaviorally informed interventions such as reminders, stepwise approvals, micro-certification schemes, or peer-based learning models are implemented worldwide, compliance among informal firms tends to improve.

Kenya's standards framework is still not well-suited to informal trade. Existing programs and awareness campaigns mainly target formal MSMEs. However, if informal traders had the same level of institutional knowledge, literacy, and operational stability, which is often not the case, they would benefit equally. Informal traders depend heavily on peer learning, experiential knowledge, and social norms, which makes traditional training methods misaligned with their behavioural realities. Successful initiatives in Brazil (Morini et al., 2024; Thaline et al., 2025) and India (Shekhar and Rai, 2025; Sudan and Taggar, 2025) show that interventions targeting the informal sector, especially those that blend behavioural nudges with digital technologies, can increase compliance without creating excessive cognitive or financial demands.

In summary, Kenya's standards regime is fundamentally sound in its technical aspects; however, it exhibits behavioural misalignment. It establishes barriers to trust, introduces administrative challenges, and imposes significant cognitive demands on informal MSMEs. Additionally, it lacks digital pathways to promote adoption and unintentionally reinforces informal norms by failing to consider how firms make decisions under uncertainty. Addressing these gaps requires regulatory reforms that incorporate behavioural insights, such as simplification, digital tools, nudges, social proof, and trust-building, while adapting to local constraints and contexts

(KEBS, 2023, 2024, 2025). Kenya needs to update and harmonise its standards framework, a process that requires coordinated action between national and county governments. This includes boosting institutional capacity, tailoring compliance procedures, encouraging behavioural change, and expanding digital tools for the informal sector. Without these measures, the divide between policy objectives and actual outcomes will continue to widen.

4.2 MSME inclusion gaps and behavioural insights

In Kenya, MSMEs form the backbone of the private sector, accounting for approximately 10.4 million businesses and 90% of all private-sector enterprises. This extensive network underscores its crucial role in spurring economic activity and encouraging entrepreneurship nationwide, as noted in the latest data from the Micro and Small Enterprises Authority (MSEA, 2024). Figure 2 presents the distribution of MSMEs in Kenya, clearly showing that informal MSMEs account for the largest share of the country’s total MSMEs.

Among these, formal MSMEs number approximately 1.9 million, mainly small-scale operations: 90.1% are microenterprises, 9.1% are small, and only 0.8% are medium-sized. In contrast, the informal sector is significantly larger, with 8.5 million MSMEs, highlighting the grassroots nature of much of Kenya’s business scene. According to MSEA (2024), these informal businesses are predominantly involved in trade (65%), followed by services (17%), agribusiness (11%), and manufacturing (7%). Geographically, they are primarily located in rural areas (66.1%), with the remaining 33.9% in urban centres, underscoring the sector’s deep embeddedness in both rural livelihoods and city economies (MSEA, 2024).

Despite comprehensive legislation and regulatory systems in Kenya, the current framework fails to account for the behavioural realities and constraints of informal MSMEs. Table 2 outlines deficiencies in the inclusion of informal MSMEs in Kenya’s regulatory framework.

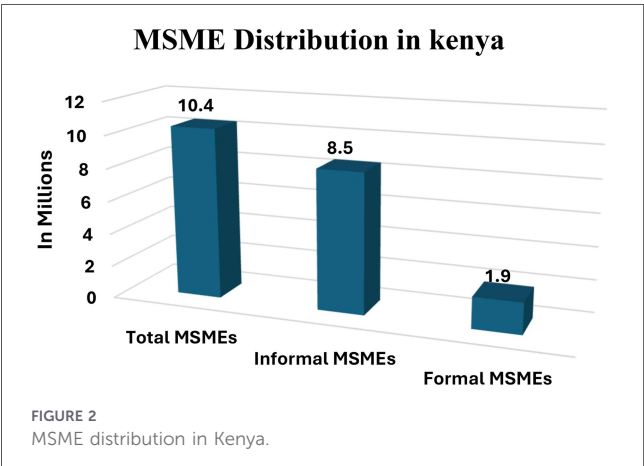
None of the laws or regulations offers MSME-specific adaptations, exemptions, or simplified procedures, effectively treating small firms as if they face the same operational,

financial, and cognitive challenges as large enterprises. Nevertheless, informal MSMEs face significant compliance challenges primarily due to behavioural barriers ingrained in these systems, rather than legislative inadequacies. A behavioural economics perspective explains why even well-intentioned informal MSMEs frequently underperform or avoid engaging with formal regulatory procedures (KEBS, 2024, 2025).

First, complexity and cognitive load greatly influence informal MSME behaviour. Regulations such as the Pharmacy and Poisons Act, the Food Hygiene Regulations, and the Standards Act are administratively demanding and technically dense. For small entrepreneurs managing daily survival, high information complexity leads to rational inattention and decision fatigue. This makes compliance seem costly, distant, or unimportant. The lack of simplified standards, tiered requirements, and user-friendly templates exacerbates these cognitive barriers (KEBS, 2025).

TABLE 2 MSME inclusion Gap in Kenya’s standards and regulatory framework.

Standard/System	Key Legislation/Policy (Year)	What’s Missing
Kenya Standards (KS)	Standards Act (Cap 496, 1974, rev. 2012); Standards Bill (2025); Public Health Act (Cap 242, rev. 2022); all subsidiary legislation	• Informal MSME-specific KS, simplified certification, phased compliance, technical support
Food Safety/Hygiene	Food Hygiene Regulations (1978, rev. 2022); Public Health Act (Cap 242, rev. 2022); Standards Act (Cap 496, 1974, rev. 2012); Standards Bill (2025)	• Informal MSME-friendly hygiene protocols, subsidized licensing/inspection, training
Pharma/Poison	Pharmacy and Poisons Act (Cap 244, 1956, rev. 2012); Standards Act (Cap 496, 1974, rev. 2012); Standards Bill (2025)	• Informal MSME-adapted pharma standards, simplified registration, mentorship
National metrology institute/Weights and Measures	Weights and Measures Act (Cap 513, 1987, rev. 2022); Standards Bill (2025)	• Informal MSME-accessible calibration, mobile verification, group certification
Trade Descriptions/ Labelling	Trade Descriptions Act (Cap 505, 1977, rev. 2012); Standards Bill (2025); Public Health Act (Cap 242, rev. 2022)	• Informal MSME labelling templates, legal clinics, simplified compliance guides
Environmental/ Carbon Markets	Climate Change (Carbon Markets) Regulations (2024); Standards Bill (2025)	• Informal MSME entry support, micro-project certification, technical assistance



Secondly, liquidity constraints and present bias elucidate the enduring disparity between long-term advantages and immediate compliance costs (Moaaz and Mansour, 2025). MSMEs tend to prioritise immediate, tangible expenses, such as inventory or rent, over long-term investments in regulatory or quality approvals. Without mobile verification services, phased compliance, or subsidised inspections, regulatory systems reinforce this present bias, making formalisation feel like an uncertain and delayed payoff.

Third, limited self-efficacy and perceived procedural fairness affect compliance decisions. Many informal MSMEs see regulatory institutions as complicated, unclear, or meant for larger companies. This view reduces trust and diminishes intrinsic motivation to comply with regulations. The absence of mentorship, difficult-to-access calibration services, and vague labelling guidance reinforces the feeling that “*compliance is not for people like me*”, a common behavioural barrier rooted in learned helplessness and identity influences (Esubalew, 2024; Usen, 2025).

Fourth, social norms and peer effects significantly influence behaviour (Kalembe et al., 2025). In sectors such as informal pharmaceuticals or food production, entrepreneurs frequently imitate peers working outside formal systems. When non-compliance is the prevalent norm, the perceived legitimacy of regulatory frameworks diminishes. The lack of robust MSME support structures, such as community-based training or group certification, hinders the development of positive compliance norms.

Finally, even small friction costs, such as paperwork, multiple visits, and travel for calibration, have outsized impacts on informal MSMEs (Hendriks et al., 2022; Wiseman, 2023). Behavioural economics indicates that even minor administrative obstacles can significantly lower participation in beneficial programs. In Kenya, the current systems, such as complex registration processes, centralised metrology services, and detailed carbon market documentation, create many of these friction points. Reducing these barriers through one-stop support, digital guidance, mobile services, or other means can significantly boost compliance (KEBS, 2025).

Viewed through a behavioural lens, the challenge is not just regulatory misalignment but also the buildup of procedural, financial, and cognitive friction that influences informal MSME decision-making. By employing targeted nudges, simplification, normative cues, trust-building strategies, and phased implementation, existing laws can be made more accessible for small enterprises. This behavioural approach clarifies current compliance challenges and highlights the importance of informal MSME-centered design for successful regulation and enforcement.

4.3 Online marketplace gaps

Kenya’s e-commerce sector continues to grow rapidly, with revenue reaching USD 900 million in 2024 (International Trade Administration, 2024) and an expected penetration rate of 53.6% by 2025 (CIO Africa, 2025). The digital economy aims to contribute KSh 662 billion by 2028 (CAK, 2025). MSMEs play a key role, providing about 15 million jobs and accounting for 34% of GDP (MSME, 2025). Many operate informally on social commerce platforms or in local fashion, grocery, and beauty

product markets, with low barriers to entry. Figure 3 presents the number of online platform users from 2020 to 2025. Internet users increased from around 22.86 million in 2020 to over 27.4 million in 2025, driven by the expansion of mobile broadband, smartphone use, and rising e-commerce activity. Despite fluctuations that dropped to roughly 17.9 million in 2023 and then rebounded to 22.7 million in 2024 (Statista, 2025), the overall trend shows strong growth in digital connectivity.

Although digital marketplaces see high participation, the adoption of standards and compliance remains limited. This is due to both legislative gaps and behavioural barriers. KEBS’s current market surveillance approach is primarily physical and fails to address the prevailing tendencies and default biases that lead sellers to ignore formal standards in online trade (KEBS, 2025). The lack of real-time monitoring tools, automated seller verification, and digital nudges on platforms like Masoko, Jiji, Kilimall, Jumia, and Copia allows informal practices to persist without oversight. From a behavioural standpoint, sellers experience cognitive overload, limited visibility into compliance obligations, and a minimal perceived risk of enforcement, which together sustain non-compliance. Consequently, Kenya’s fast-growing digital economy fails to enforce product-quality standards, exposing consumers to counterfeit, substandard, unsafe, or non-compliant products (KEBS, 2025). This highlights the importance of implementing a behaviorally informed, digitally integrated compliance system that leverages defaults, reputational incentives, and real-time monitoring to promote market conduct aligned with established standards.

When incorporating conversational channels and social commerce, the overall digital commerce transaction value in Kenya is estimated to reach approximately US\$3.1–4 billion in 2024, underscoring the pivotal role of socially mediated, informal transactions (Statista, 2025). Table 3 presents the usage of major e-commerce platforms in Kenya. As of early 2025, internet penetration stands at approximately 48%, with about 27.4 million users, while social media users reach 15.1 million, representing 26.5% of the population (DataReportal, 2025). Behavioural economics explains the rapid uptake of social commerce by highlighting factors such as social proof, low barriers to entry, and the adoption of default heuristics, which motivate both consumers and MSMEs to engage in

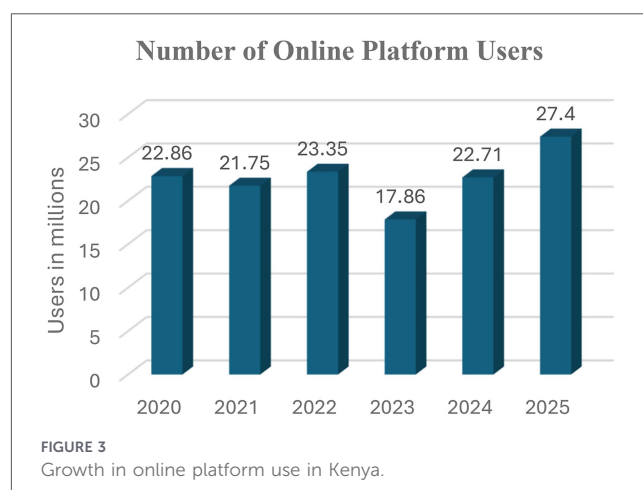


TABLE 3 Usage of Major E-commerce platforms in Kenya.

Platform	Recent Usage Indicators	Interpretation	Surveillance Gap
Jumia	- Weekly activer users: 1.8–2M + (Q1 2025) - 60% of orders from rural areas - 1,300 + pickup points (2024) (Jumia Technologies AG, 2025)	Kenya's largest digital marketplace; wide national footprint	Very Low/Nearly Non-Existent. Surveillance remains overwhelmingly physical, with minimal capacity to track online vendors or product listings in real time.
Kilimall	- More than 10 million registered users and an average of over 1 million monthly visitors (Otiato, 2024).	Significant mid-tier platform	Very Low/Nearly Non-Existent. No structured digital surveillance mechanism exists.
Jiji Kenya	- Approximately 2.3 million monthly visits (Similarweb, 2026) - Major C2C marketplace	Extremely popular for peer-to-peer and second-hand goods	Almost Zero Surveillance. Difficult to track listings and cannot verify the origin or compliance of goods sold. Physical inspections cannot capture most digital transactions.
Copia	- 2M customers - 30,000 agents in 27 counties (Business Daily Africa, 2024)	Strong in rural/low-connectivity areas	Very Low. Surveillance is limited to physical audits of agents and sampled goods
Masoko (Safaricom)	- Known platform; limited public usage statistics	Benefits from Safaricom ecosystem	Very Low/Not Systematically Conducted. No publicly documented digital-surveillance activity; compliance checks are physical
Green spoon	over 400,000 orders to more than 60,000 customers (Greenspoon, 2025).	Popular for high end organic-focused products	Very Low/Not Systematically Conducted. No publicly documented digital-surveillance activity; compliance checks are physical and not platform-based. No KEBS product mark schemes (like S-Mark)

online transactions. Surveys show that 49% of Kenyans have purchased products through platforms such as Facebook, Instagram, WhatsApp, and TikTok, while more than 40% of internet users in key African markets report engaging in similar activity ([Sagaci Research, 2024](#)). This change is especially noticeable among MSMEs, which rely on trust built through relationships and convenience heuristics to avoid traditional marketplaces. Behavioural principles such as the commitment-consistency heuristic, peer influence, and trust in familiar sellers strengthen informal sales patterns. While M-Pesa and other mobile payment systems have boosted growth, these behavioural patterns also exacerbate quality assurance and compliance issues, such as inadequate verification processes and the spread of counterfeit products. As a result, unless measures are taken to reconfigure incentives, set defaults that favour verified sellers, and make standards more visible, informal practices continue to be reinforced through behaviour. This ongoing reinforcement weakens consumer protection and efforts toward formalisation.

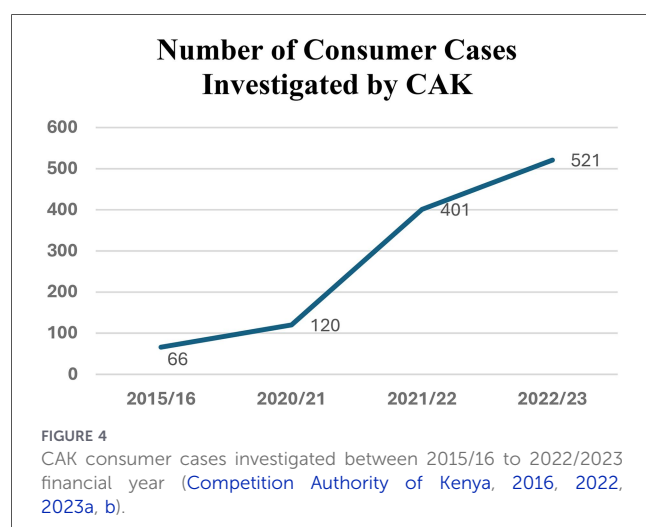
Table 4 presents the key social media platforms in Kenya and their role in MSME e-commerce distribution. The table highlights platforms such as Facebook, WhatsApp, TikTok, Instagram, and traditional online marketplaces utilised by informal MSMEs. These e-commerce platforms intensify existing systemic issues in Kenya's digital marketplace. The inherently trust-dependent aspect of social commerce, which relies on influencers, chat interactions, and peer recommendations, postpones the detection of inferior or counterfeit products. This delay accounts for e-commerce-related complaints reported by the Competition Authority of Kenya (CAK) and cases of unintentional

counterfeit transactions identified by the [Anti-Counterfeit Authority \(2022\)](#). Product discovery continues to be predominantly hybrid in nature: 63% of Kenyan consumers initiate their searches through search engines (for example, Google queries such as “best electronics Nairobi”), whereas 51% utilise social media platforms, and 58% depend on reviews to inform their purchasing decisions ([U.S. Department of Commerce, 2024](#)). Informal MSMEs often underuse Search Engine Optimisation (SEO) due to limited digital literacy, leading them to rely more on unregulated social listings. Although paid advertisements on WhatsApp, Facebook, TikTok, and Instagram broadcasts offer affordable entry into the market, advanced digital marketing strategies, such as optimised content and retargeting, are rarely employed by micro-sellers. These practices deepen information asymmetries, enabling the manipulation of ratings and reviews to sustain low-quality listings. This, in turn, undermines consumer protection and worsens gaps in seller verification within Kenya's digital trade ecosystem.

Figure 4 shows the number of consumer complaints that led to investigations from 2015 to 2023 ([Competition Authority of Kenya, 2016, 2022, 2023a, b](#)). Data from online marketplaces indicate a significant and sustained rise in consumer protection complaints about misleading listings, low-quality products, deceptive tactics, and counterfeit items ([Anti-Counterfeit Authority, 2022](#)). These complaints mainly concern informal MSME sellers on platforms such as Facebook Marketplace, Jiji, Jumia, and OLX, where low barriers to entry enable quick onboarding but offer little in terms of quality verification.

TABLE 4 Key social Media platforms and their role in MSME E-commerce distribution.

Platform	Estimated Usage/Prevalence (2024–2025)	Primary MSME Use Cases	Share of Social/Digital Purchases	Quality/Compliance Challenges	Source
Facebook (incl. Marketplace)	55.2% of internet users; 13.01 million users.	Local listings, C2C/B2C sales (electronics, fashion)	Dominant for informal/social buys (40%–50% of social commerce)	High counterfeit/substandard goods; fake profiles; frequent CAK/ACA complaints	(DataReportal, 2025, CAK, 2023a, b)
WhatsApp	>50% penetration	Direct orders,	Primary closure channel (40%–60% of social transactions)	Anonymous sellers; no quality checks; scam/non-delivery risks	(DataReportal, 2025)
TikTok (incl. Shop/Live)	29%–40% usage; fastest-growing	Viral videos, live shopping (beauty, electronics)	Growing rapidly (15%–25%, esp. youth/Gen Z)	Emerging dropshipping counterfeits; unverified sellers	(DataReportal, 2025)
Instagram Shopping	40%–50% among urban/youth	Visual showcases, influencer sales	20%–30% of social buys	Misleading visuals; lax verification	(DataReportal, 2025; Sagaci research, 2024)
Traditional Marketplaces (Jumia, Jiji, etc.)	5–8 million users. broader digital commerce participation, may reach 12–15 million users	Structured listings, logistics	Declining relative to social among MSMEs	Significant counterfeits (31% online fakes) but better oversight than social	(DataReportal, 2025; Sagaci research, 2024)



4.4 Key quality assurance and compliance gaps in Kenya's e-commerce

From a behavioural economics perspective, the deficiencies in quality assurance and compliance within Kenya's e-commerce sector for informal MSMEs extend beyond mere technical or regulatory shortcomings; they are fundamentally rooted in the trust dynamics, heuristics, and incentives that influence the behaviour of both consumers and sellers in digital marketplaces. The recurrent discrepancy between advertised and actual product quality exemplifies a classic case of information asymmetry (Osuri and Ghabon, 2025), in which sellers possess more comprehensive knowledge of the goods' true quality than buyers. In the absence of effective verification mechanisms, platforms function as passive intermediaries, leaving consumers to rely on imperfect indicators such as seller ratings, reviews, or images (Anti-Counterfeit Authority, 2025; Njogu and Associates

Legal team, 2026; Oduor, 2025; Osuri and Ghabon, 2025). This environment heightens the risk of adverse selection: sellers offering counterfeit or inferior goods are motivated to enter the market, cognizant of the low probability of detection or sanctions. Consequently, repeated negative experiences, such as receiving spoiled or incorrect products, diminish consumer trust, prompting a considerable proportion of users to abandon platforms after such encounters (Cao, 2023). This erosion of trust is a behavioural tipping point, as it not only reduces repeat purchases but also discourages legitimate sellers and new entrants, creating a vicious cycle of declining quality and participation.

The widespread non-compliance with standards in Kenya's digital marketplaces is worsened by the absence of digital enforcement measures and the requirement for KEBS verification of online listings (KEBS, 2025). From a behavioural standpoint, the lack of clear, visible compliance indicators and the low likelihood of enforcement reduce informal MSMEs' perceived risk of non-compliance. When compliance costs are high, and the chance of detection is low, rational actors tend to seek shortcuts and rule-bypassing (Akello, 2024; Maulani et al., 2023; Moyo, 2022). This issue is especially pronounced among small businesses and rural users, who may already feel alienated from formal institutions and view regulatory requirements as distant or unimportant (Alam et al., 2015). This creates a higher-risk market and a widening gap in consumer protection between urban and rural areas.

Regulatory fragmentation and the absence of a comprehensive e-commerce law create additional behavioural hurdles (KEBS, 2025). Fragmented policies across various agencies and inconsistent enforcement heighten decision fatigue and uncertainty for both buyers and sellers. The involvement of foreign platforms further complicates jurisdictional issues, making it difficult for local participants to anticipate outcomes or seek redress. In this setting, ambiguity aversion and cognitive overload may lead to inertia, causing consumers to become

more disengaged or cautious and MSMEs to revert to informal practices.

The widespread occurrence of counterfeit products in digital commerce is directly attributable to behavioural and intentional deficiencies. With 31% of online transactions involving counterfeit items and nearly 70% of consumers unknowingly purchasing fakes, the market demonstrates significant moral hazard (Anti-Counterfeit Authority, 2025). Sellers, aware that detection is unlikely and penalties are minimal (Osuri and Ghabon, 2025), are motivated to misrepresent their products, while consumers, lacking reliable verification tools, are compelled to rely on heuristics such as popularity or price, often to their disadvantage. Additionally, manipulated ratings and reviews further distort consumer decision-making, as individuals rely on social proof that may be misleading or artificially inflated. For legitimate MSMEs, this scenario creates an uneven competitive landscape, as they must contend with unscrupulous competitors who face lower compliance costs and can underprice them.

Ineffective complaint resolution mechanisms introduce an additional source of behavioural resistance. When consumers perceive that their grievances are unlikely to be adequately addressed or that the process is laborious and protracted, they are less inclined to report problems or seek redress, thereby fostering a culture of low accountability (Kyenze and Wambugu, 2024; Nyaga, 2022). For MSMEs, substantial compliance costs and the uncertainty arising from fragmented enforcement discourage investment in quality improvements and formalisation, thereby perpetuating informality and impairing market efficiency.

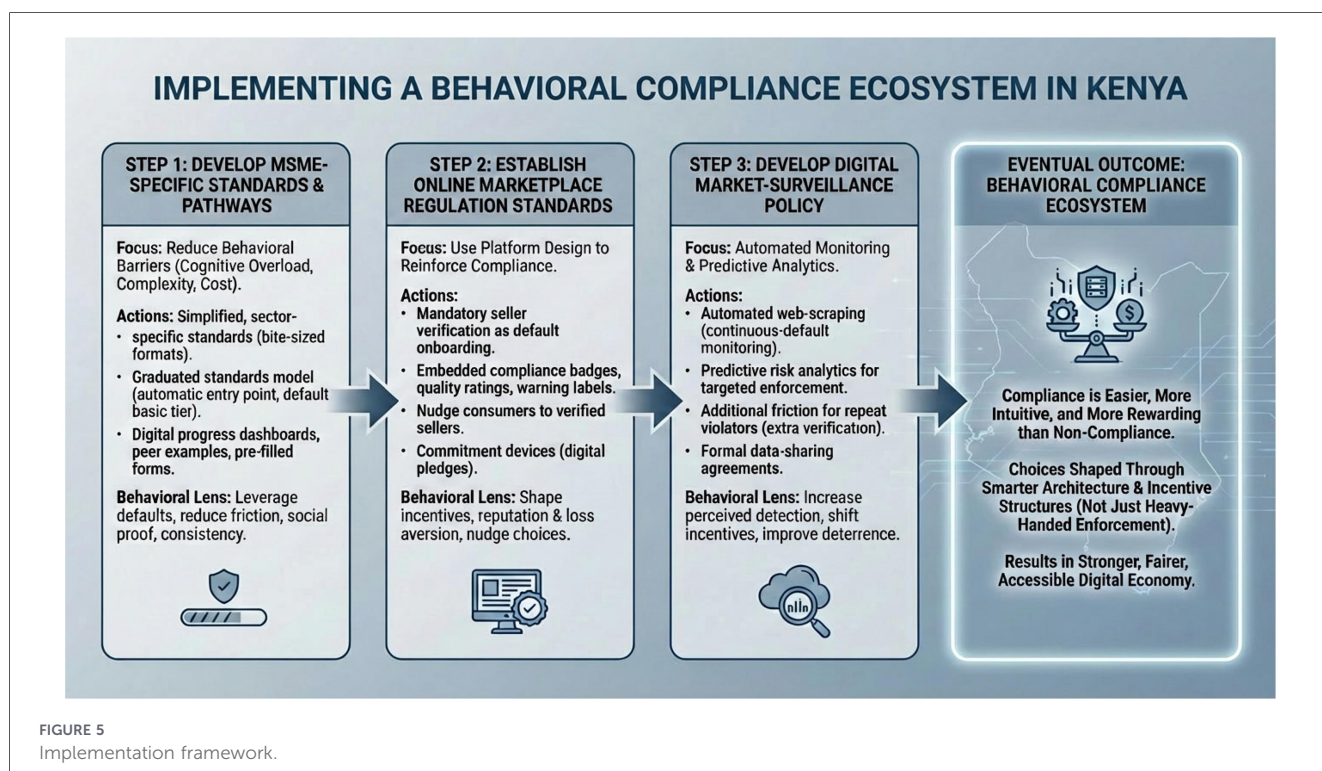
In summary, the behavioural economics view shows that Kenya's e-commerce compliance issues are not merely technical or legal but rooted in how incentives, trust, information, and

cognitive biases influence participants' behaviour. Closing these gaps involves more than regulatory changes and digital monitoring; it also requires implementing behavioural interventions such as clear compliance signals, platform nudges, and trust-enhancing strategies. These measures aim to shift norms, reduce perceived compliance costs, and restore confidence among MSMEs and consumers in the digital market.

5 Framework for implementation

The development of the implementation framework is based on insights from the earlier analytical steps. Figure 5 highlights the stages that would enable Kenya to implement a behavioural compliance ecosystem. The standards landscape assessment (Step 1) identifies regulatory gaps that influence compliance behaviour among informal and MSME traders. The MSME inclusion analysis (Step 2) pinpoints the structural and behavioural barriers that limit engagement with the standards ecosystem. The digital marketplace assessment (Step 3) further shows how social and online commerce environments create new friction points, incentives, and compliance risks. Collectively, these diagnostics provide the behavioural, regulatory, and market-level evidence needed to shape the implementation framework, ensuring that the interventions are grounded in analysis and reflect the realities of decision-making for digital and informal traders.

The analysis indicates that, for Kenya, creating an effective compliance ecosystem involves more than just regulatory changes; it requires understanding the behavioural factors that influence digital platforms, consumers, and MSMEs. Traditional regulations often assume rational decision-making, but informal trade realities highlight the roles of loss aversion, information



gaps, bounded rationality, and cognitive overload. Applying behavioural economics provides a framework for developing compliance systems that not only establish rules but also shape the decision-making environment of market participants. This thinking aligns with the findings of [Thaline et al. \(2025\)](#), whose study of formalisation in Brazil concluded that “*policymakers must carefully weigh not only the extent of enforcement but also whether the regulatory environment allows firms to sustain compliance*”. The implementation framework is therefore developed based on this understanding.

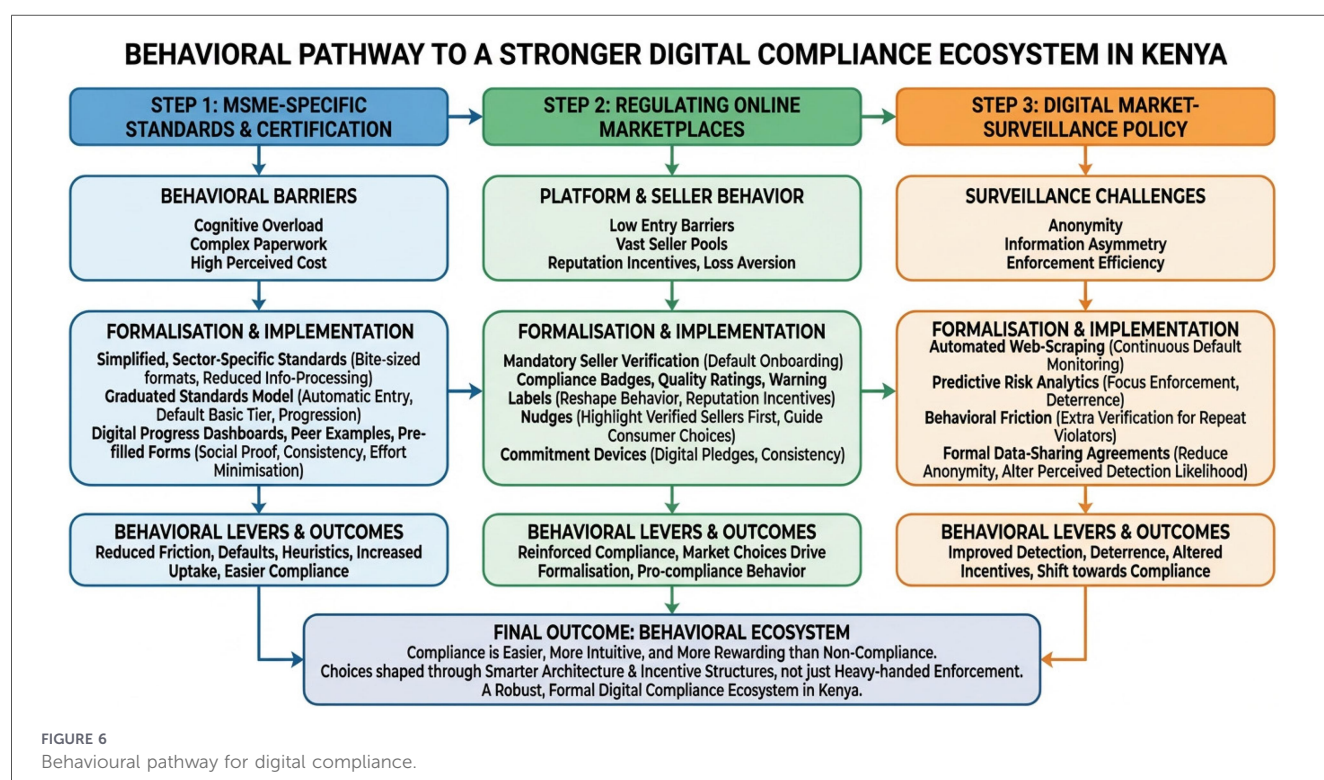
The initial component of the framework focuses on developing informal MSME-specific standards and certification pathways that address behavioural barriers to compliance. Many informal MSMEs face significant cognitive limitations, including limited information processing capacity, time constraints, and a high perceived cost of navigating complex standards. These issues lead to behaviours such as sticking to the status quo, cognitive overload, and bounded rationality, which can result in disengagement or procrastination in formal compliance efforts. To mitigate these barriers, KEBS should develop simplified, sector-specific standards presented in clear, easy-to-understand formats. A tiered standards system, serving as the default compliance route, would automatically assign micro and small enterprises to a baseline level, allowing them to advance gradually as their capacity improves ([KEBS, 2025](#)). Incorporating peer benchmarking, pre-filled application forms, and digital dashboards can leverage effort-reduction heuristics, nudges, and social proof to reduce friction costs, encourage participation, and ensure accessibility and fairness.

Importantly, these efforts should be integrated into a Standardisation and Market Access Toolkit: a digital, easy-to-use guide that simplifies standards, helps MSMEs follow a clear

compliance process, and outlines straightforward routes to formal markets. By highlighting standards, lowering perceived costs, and making progress seem achievable, the toolkit could help tackle both behavioural and structural barriers to formalisation. This resource not only encourages compliance but also builds trust, boosts market participation, and promotes inclusive economic growth aligned with the goals of Kenya’s national quality infrastructure and, eventually, regional and continental scaling through the African Continental Free Trade Area (AfCFTA).

The framework can be broken down further to identify the specific aspects required for each step, providing a clear behavioural pathway to a stronger digital compliance ecosystem in Kenya, as shown in [Figure 6](#) below. The image further breaks down the three-step behavioural framework to strengthen digital compliance in Kenya by addressing MSME standards, regulating online marketplaces, and improving digital market surveillance. The overall goal is to create a formal digital ecosystem in which compliance becomes the natural and preferred choice, driven by improved systems, incentives, and smarter enforcement mechanisms.

The second component involves creating standards to regulate online marketplaces by using platform architecture to shape compliance behaviour. Digital platforms often operate in environments with high anonymity, low barriers to entry, and asymmetric information between buyers and sellers, conditions that can lead to opportunistic behaviour, as explained by Akerlof’s market-for-lemons theory. To address this, platform design should incorporate compliance defaults and nudges that promote pro-social actions. Requiring seller verification during onboarding serves as the default, making it more prominent and reducing impersonation risks. Behaviorally informed cues such



as quality ratings, verified badges, trust markers, and warning labels trigger loss aversion and reputation incentives, shaping seller conduct and influencing consumer choices. Featuring verified sellers in search results uses choice architecture to steer consumers toward compliant sellers, creating indirect market pressure for standards. Adding commitment devices, like digital pledges to maintain quality standards, further encourages ongoing compliance by leveraging consistency preferences.

The third component involves developing a specialised digital market-surveillance policy that encompasses both technological and behavioural strategies. Online marketplaces frequently enable opportunistic actors to exploit low detection probabilities, perceived anonymity, and ambiguous jurisdictional boundaries to engage in non-compliant activities. An enforcement approach informed by behavioural insights should aim to amplify the perceived likelihood of detection, a critical factor in deterrence identified by behavioural economics. Automated web-scraping tools can function as consistent surveillance mechanisms, monitoring listings for risky sellers or false claims. Predictive analytics, guided by behavioural indicators such as suspicious pricing, repeated product delistings, and high return rates, assist regulators in concentrating enforcement efforts through a targeted-risk strategy, thereby enhancing efficiency and fairness. For sellers who frequently violate rules, introducing small, intentional obstacles, like requiring extra verification before relisting, uses behavioural friction theory to discourage misconduct without heavy penalties. Furthermore, formal data-sharing agreements between platforms and regulators can close information gaps and increase transparency, changing sellers' perceptions of anonymity and impacting their compliance choices.

Collectively, these interventions create an enabling behavioural ecosystem in which compliance becomes easier, more intuitive, and more rewarding than non-compliance. Rather than relying solely on traditional command-and-control regulation, this framework uses incentive-compatible structures, strategic defaults, and behaviourally informed design to sustainably shift market behaviour. By aligning Kenya's digital compliance systems with the actual decision-making patterns of informal MSMEs, platforms, and consumers, the approach strengthens both participation in formal standards and trust within digital marketplaces, contributing to a more resilient and inclusive regulatory environment.

6 Conclusion

Kenya's informal sector contributes significantly to the economy, but limited adoption of standards and digital compliance hinders informal MSMEs' access to formal markets. Factors such as behavioural frictions, status quo bias, cognitive overload, social norms, and perceived costs help explain why traders continue to use informal practices despite the advantages of formalisation. This paper introduces a framework that combines informal MSME-specific graduated standards, platform-based verification, and a digital market-surveillance ecosystem to simplify compliance, make it more intuitive, and increase its rewards. Policy recommendations include streamlining procedures, supporting digital verification, incorporating behavioural nudges, and offering incentives that

make formalisation easier and more appealing. Future research should assess the framework's effectiveness and scalability in Kenya and other African informal markets. By combining behavioural and structural reforms, this approach provides a replicable model for boosting market participation, protecting consumers, and building trust in institutions.

Author contributions

EN: Supervision, Funding acquisition, Writing – review & editing, Resources. JN: Conceptualization, Formal analysis, Methodology, Resources, Validation, Writing – original draft, Writing – review & editing. CN: Writing – original draft, Formal analysis, Resources, Methodology, Conceptualization, Validation, Writing – review & editing. VO: Resources, Supervision, Writing – review & editing. CG: Data curation, Writing – review & editing. AR: Data curation, Writing – review & editing. EN: Data curation, Writing – review & editing. GM: Data curation, Resources, Writing – review & editing. HR: Resources, Supervision, Writing – review & editing. PK: Data curation, Resources, Writing – review & editing.

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Conflict of interest

The author(s) declared that this work was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declared that generative AI was used in the creation of this manuscript. Generative AI was used in the

preparation of this manuscript to render the conceptual frameworks presented in Figures 4 and 5. Specifically, these figures were generated based on detailed, step-by-step textual instructions derived solely from the authors' human-led behavioral gap analysis of the KEBS- KCAU baseline report. The AI tool served as a graphical visualization assistant only; all logical steps, policy recommendations, and final visual outputs were manually verified, edited, and approved by the authors to ensure 100% accuracy and alignment with the research findings.

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