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Article

# Data Accuracy Challenges and Impacts on Investment Decisions in West African Markets: Strategies for Policymakers and Investors

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Accurate and reliable data are essential for informed foreign investment decisions and economic development. However, many factors often compromise data accuracy in the developing world, particularly in West Africa. In this paper, we shed light on key challenges such as the informal economy and misinterpretation of local terminologies, infrastructure deficits and data gaps, as well as regional and regulatory variations. Furthermore, we provide actionable strategies and guidelines to address these challenges, focusing on fostering collaboration, leveraging technology, and promoting institutional reforms. By implementing these recommendations, stakeholders can improve data reliability, support evidence-based decision making, and unlock the region's economic potential.

## INTRODUCTION

In today's fast-paced global business landscape, leveraging accurate and reliable data is pivotal for sound decision-making (World Bank, 2021). Despite its importance in market expansion and foreign investment, challenges surrounding data accuracy in the African context remain underexplored. Reliable data is critical for informed decisions and business success (World Bank, 2021), yet in many African markets, data accuracy challenges persist with profound implications for foreign direct investment (FDI) and market expansion for Multinational Enterprises (MNEs). This issue is further compounded when firms rely on foreign-generated market intelligence. For instance, Marek Zmyslowski, co-founder of Jumia Travel, highlighted how a major consulting firm underestimated the number of hotels in Nigeria (Zmyslowski, 2019). Specifically, a PricewaterhouseCoopers (PWC) report claimed there were 1,500 hotels in the entire country, whereas Lagos alone had that many. This discrepancy arose from the firm's lack of understanding of local market definitions and contexts (Zmyslowski, 2019).

Similarly, in 2014, Nigeria became Africa's largest economy overnight—not due to a sudden economic surge but because of a long-overdue rebasing of its Gross Domestic Product (GDP). The method, meant to be updated every three to five years, had not been revised in decades. Accordingly, decisions in one of Africa's largest economies were based on outdated and inaccurate data. Across the continent, 65% of Millennium Development Goals indicators for Central African countries in 2015 were estimated from outdated statistical models (Beguy, 2016). These inaccuracies hinder effective investment by preventing MNEs from accurately assessing market potential and risks. Given the importance of rising opportunities and challenges in Africa (Nachum et al., 2023), this article explores key data accuracy challenges in West Africa and offers actionable strategies to help MNEs and investors navigate these complexities, enabling more informed foreign investment decision-making in this vibrant region.

## KEY DATA ACCURACY CHALLENGES IN WEST AFRICAN MARKETS

### INFORMAL ECONOMY AND MISINTERPRETATION OF LOCAL TERMINOLOGIES

The pervasive informal economy in West Africa creates significant challenges for accurate data collection. It accounts for approximately 80% of employment and 50% of GDP in West Africa (Kiaga & Leung, 2020; United Nations Development Programme, 2022), complicating economic interpretation. The informal sector also generates around 90% of new jobs in the region and contributes roughly 50% of the national economic output. For instance, informal trade is a primary factor in employment and GDP contribution in Nigeria, whereas in Ghana, the informal economy is dominated by small-scale farming and artisanal mining. In Ivory Coast, informality presents a sector-specific challenge in the cocoa trade.

This extensive informal employment leads to significant data gaps (Kiaga & Leung, 2020), as large portions of economic activity remain undocumented. Unrecorded transactions create discrepancies in labour dynamics and hinder accurate tax revenue assessments. Additionally, population data tend to be undercounted due to the prevalence of undocumented settlements and informal communities, making it difficult to obtain an accurate demographic picture.

While population size is relatively easy to measure, more complex indicators—such as purchasing power, labour participation, and business ownership—are shaped by local market conditions, making interpretation even more challenging. These indicators often do not align with standardised global metrics, which fail to capture actual market conditions due to local terminological variations. The combination of unrecorded activities and difficulties in interpreting local definitions further complicates economic analysis and policy planning across the region.

### INFRASTRUCTURE DEFICITS AND DATA GAPS

Despite the growing adoption of digital services in West Africa, infrastructure limitations remain a significant barrier to accurate data collection and analysis for foreign investors and policymakers. Insufficient access to reliable internet, electricity, and digital technologies in rural areas constrains the ability to gather and update comprehensive datasets. While Africa's Infrastructure as a Service (IaaS) market is projected to grow to $8.15 billion by 2029 (Statista, 2024), outdated manual methods still dominate data collection. For instance, Twumasi, et al. (2021) found that rural areas in Ghana experience delays in agricultural data collection due to limited internet access, which impedes efforts to allocate resources for food security initiatives.

Indeed, many agricultural sectors in such countries operate outside the formal channels. These impediments limit the capacity to collect, store, process, and disseminate data effectively, particularly in areas where digital systems are unavailable. Moreover, infrastructural connectivity disparities between urban and rural areas often exclude large segments of the population from data-driven insights. Due to a lack of data-enabling infrastructure, MNEs and investors face challenges in understanding consumer behaviour, market potential, and supply chain dynamics, which are critical for informed foreign investments. These gaps undermine policymaking for governments, particularly in addressing poverty alleviation and economic growth, to better establish digital systems in underserved regions.

### REGIONAL AND REGULATORY VARIATIONS

African countries show different patterns in their data collection and processing methodologies, influenced by their Anglophone and Francophone historical and cultural systems. However, these systems are often outdated and do not reflect the current standards of their Western counterparts. A 2020–2021 study using the WHO Global Benchmarking Tool found that 10 National Regulatory Authorities (NRAs) in West Africa operated at suboptimal maturity levels (ML1-2), pointing out the significant gaps in quality management and emergency preparedness (Alfonso et al., 2024). This issue hinders data comparability and trust across borders, creating significant challenges for MNEs and investors in making strategic investments and market expansion.

For example, petrol prices regulated by the Federal Government vary significantly between Nigerian cities and other West African urban centres (Ngari, 2024), reflecting complex socio-economic and policy variations across the region. Without understanding these country-specific dynamics, foreign investors risk misaligning their operations with local market realities. Frequent regulatory shifts further exacerbate the complexity of data governance and reporting frameworks, making it challenging for MNEs to access reliable information.

These multifaceted challenges are illustrated in Figure 1, which summarises three interrelated sources of data inaccuracy that foreign investors must navigate in West Africa: (1) the prevalence of informal economic activities and locally defined terminologies, which often lead to misinterpretation of economic indicators; (2) infrastructure deficits and data gaps, driven by limited digital capacity and outdated data collection methods; and (3) regional and regulatory variations, including inconsistencies in regulatory frameworks and frequent policy shifts. Given the challenges summarised in Figure 1, we suggest coordinated actions to address data accuracy challenges, enabling policymakers to develop effective strategies and helping investors reduce risks from unclear compliance standards in the following section.

## GUIDELINES FOR POLICYMAKERS AND INVESTORS: STRATEGIES FOR IMPROVING DATA COLLECTION AND VALIDATION

Addressing data accuracy challenges in West African markets requires a multifaceted approach that integrates collaboration, technology adoption, and institutional reforms. Below, we outline actionable strategies to improve data collection and validation, ensuring more reliable insights for both policymakers and investors (Please see Table 1).

Inclusive and context-aware data practices are essential to address the challenges posed by West Africa's extensive informal economy. Policymakers should integrate grassroots organisations and community stakeholders into data collection efforts, ensuring key economic terms and metrics are interpreted within the global standard. Businesses and investors also need to collaborate with both formal political actors, such as government officials, and informal leaders, including traditional authorities. Additionally, independent information institutions and verification entities play vital roles in maintaining data integrity. These organisations help establish rigorous data quality standards, facilitate independent cross-checks, and validate locally gathered data aligned with international standards (Adzakor, 2024). Recognising the unique characteristics of informal economic activities, strengthening national information systems and verification mechanisms should enhance data accuracy at the country level but also lay the groundwork for cross-border comparability and trust. By integrating these efforts, firms and policymakers can gain more reliable and context-specific insights, leading to better decision-making.

Infrastructure deficits, including outdated methods and limited digital access in rural areas, pose significant barriers to data collection and validation. To overcome these challenges, investments in innovative technologies and strate-

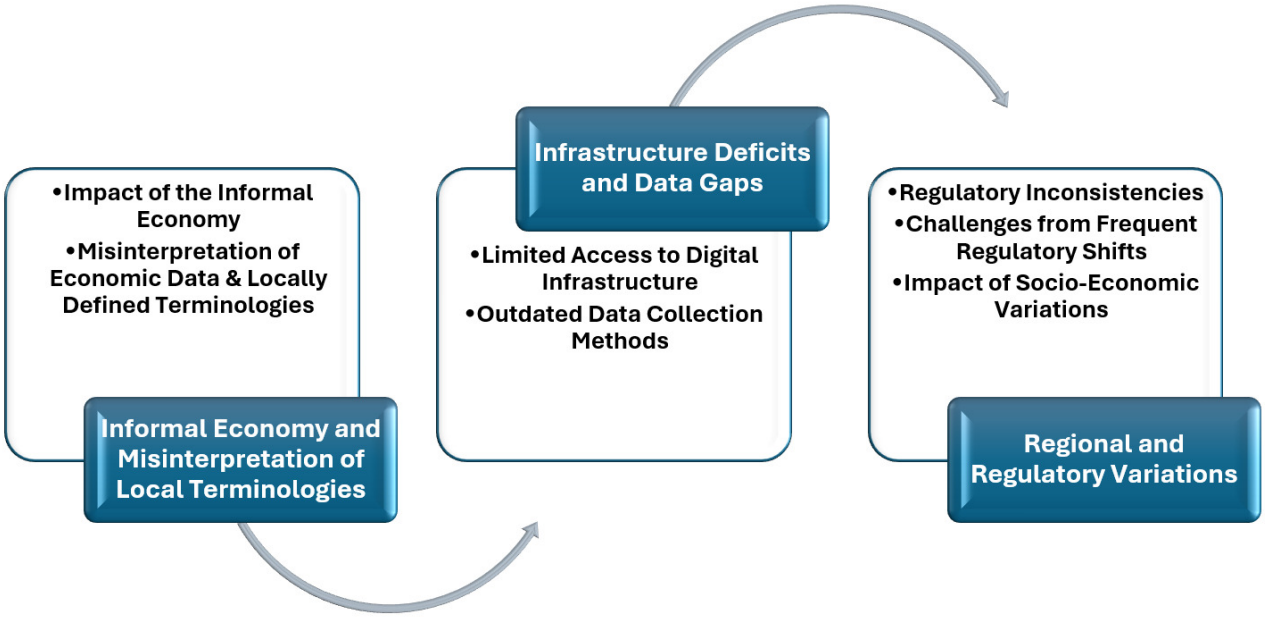


**Figure 1. Key Data Accuracy Challenges in West Africa**

**Table 1. Guidelines for Actionable Strategies to Improve Data Collection and Validation**

| Nature of Challenges and Constraints | Description | Possible solutions for the future and practising executives |
|---|---|---|
| Informal Economy and Misinterpretation of Local Terminologies | • Inconsistent or misunderstood definitions of economic terms hinder accurate assessments of market dynamics<br>• High prevalence of informal businesses operating outside formal structures. | • **Align locally defined terminologies to global standard**: Collaborate with local experts, community leaders, and informal actors to align data definitions with standardised global metrics.<br>• **Investment in skilled data professionals and analysts**: Train local analysts to generate, interpret, and validate market data within cultural and economic contexts |
| Infrastructure Deficits and Data Gaps | • Outdated manual methods create delays and inaccuracies in data processing<br>• Lack of reliable digital systems, especially in rural areas, hinders comprehensive data collection | • **Leverage innovative technology through public-private partnerships**: Adopt blockchain, IoT, and mobile tools for real-time data collection and validation in underserved areas<br>• **Introduce digital incentives**: Use mobile payment systems or tax benefits to motivate informal businesses to formalise operations<br>• **Build capacity for data use and foster a data-sharing culture:** Offer training on data management to improve the ability and willingness of government agencies, businesses, and local communities to engage with data infrastructure. |
| Regional and Regulatory Variations | • Varying levels of institutional maturity impede the harmonisation of data standards<br>• Diverse economic priorities and regulatory frameworks across countries create inconsistencies in data collection and reporting | • **Establish multi-stakeholder partnerships**: Bring together governments, NGOs, and businesses to co-develop cross-border data-sharing frameworks<br>• **Encourage open data policies**: Governments should make key datasets accessible to improve transparency and comparability for investors and policymakers. |

gic partnerships are crucial. Governments and businesses should leverage mobile platforms, blockchain, and IoT for real-time data collection and secure data management in each country. For instance, mobile tools can facilitate agricultural data collection in remote areas, addressing delays caused by manual methods. Additionally, service-based businesses can adopt pay-per-use models that allow informal sector participants to access affordable services while contributing valuable data. These technology-driven solutions not only improve data accuracy but also enable stakeholders to derive actionable insights from underserved segments of the economy. Collaborations between public institutions and private investors can drive investments in digital infrastructure, such as broadband expansion and

cloud computing systems. These initiatives can modernise data collection processes and bridge access gaps across West African countries.

Beyond technological advancements, the effectiveness of data infrastructure in West African markets equally depends on non-technical dimensions, including sociotechnical factors such as the ability to generate, interpret, and utilise data, as well as the willingness to engage with data systems. Low digital literacy and inadequate data management skills among government officials, businesses, and civil society limit their ability to collect, validate, and apply data-driven insights in decision-making. Additionally, mistrust in data systems—stemming from concerns about data misuse, lack of transparency, or perceived biases in reporting—could discourage individuals and organisations from actively contributing to national and regional data ecosystems.

The diversity of West African markets, marked by differing priorities, regulatory frameworks, and institutional capabilities, requires targeted strategies for harmonisation and capacity-building initiatives. Policymakers should collaborate through regional platforms to establish standardised data collection and reporting, ensuring national-level consistency to build cross-border efforts. Governments, NGOs, and businesses should co-develop transparent data-sharing frameworks to reduce inconsistencies and build trust. Prioritising open government data improves decision-making for investors and allows policymakers to develop evidence-based strategies. Furthermore, investments in digital literacy, data governance, and stakeholder engagement can strengthen both the ability and the willingness of actors to effectively establish data infrastructure.

## CONCLUSION

This article has examined some of the critical issues affecting data accuracy in West African markets and explained their implications for policymakers and investors. Such advancements are essential for attracting investments and fostering the growth of new businesses. By adopting strategies tailored to the unique challenges of misrepresentation, infrastructure deficits, and regional variations, policymakers and investors can significantly enhance data accuracy in West African markets. These measures will not only foster informed decision-making but also contribute to sustainable economic growth and reduce investment risks in this dynamic region.

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