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SCOPING BRIEF

IS DATA THE MISSING LINK FOR ZAMBIA'S ENTREPRENEURS?

INSIGHTS FROM MICRO, SMALL AND MEDIUM ENTERPRISES
(MSMES)

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Executive Summary

Empowering MSMEs with data for Africa's economic independence

Hannah Hanamwanza, Executive Director at Data for Change

Global power shifts are redefining Africa's economic future: foreign aid is shrinking, and the era of donor-driven decision making is coming to an end. MSMEs are the backbone of African economies, yet they remain systematically excluded from financial markets and struggle to navigate a rapidly evolving business landscape. Without data, they cannot measure risk, secure financing, or adapt to climate shocks.

Data for Change: The PARIS21 Foundation and BongoHive have partnered to bridge the data gap in Zambia's MSME sector. We believe that trusted data - not dependency - must drive Africa's future. This scoping brief lays out **practical pathways to unlock MSME potential through data** in Zambia with the end goal of foster resilience and sustainable growth.

Key Facts

MSMEs in Zambia contribute to:[1]

70% of GDP

88% of jobs

97% of all businesses

\$3.6 billion

29.4%

3%

Key Challenges

is the financing gap for Zambian MSMEs, a crisis worsened by the COVID-19 pandemic[2].

is the share of Zambian MSMEs in the formal sector denied loans due to missing financial records, highlighting severe financial exclusion[3].

is Africa's total contribution to global carbon-dioxide emissions since the Industrial Revolution, yet the continent faces the harshest climate impacts, including longer droughts, deadlier heatwaves, and more unpredictable storms and floods[4].

Are you ready for **Change?** Let's co-create actionable proposals.

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Data for Change



info@dataforchange.net

Key Findings

Insights from 35 SMEs across 10 sectors in Zambia



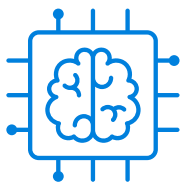
1. DATA PLAYS A KEY ROLE IN DATA COLLECTION EFFORTS, BUT MSMEs STRUGGLE TO DIGITISE KEY DATA



2. CLIMATE CHANGE IS A PRIORITY FOR MOST MSMEs, YET DATA CHALLENGES LIMIT PROGRESS



3. LIMITED CAPACITY IS THE BIGGEST BARRIER TO EFFECTIVE DATA COLLECTION



4. AI IS RECOGNISED AS BOTH A KEY OPPORTUNITY AND CHALLENGE FOR ENHANCING BUSINESS DATA

Context and Background

Setting the Scene: Zambia's MSME Landscape and the Role of Data

As digital transformation, climate change, and geo-political instability gradually transform societies, it is becoming even more paramount for businesses to leverage data to drive sustainable growth and meet evolving regulatory requirements.

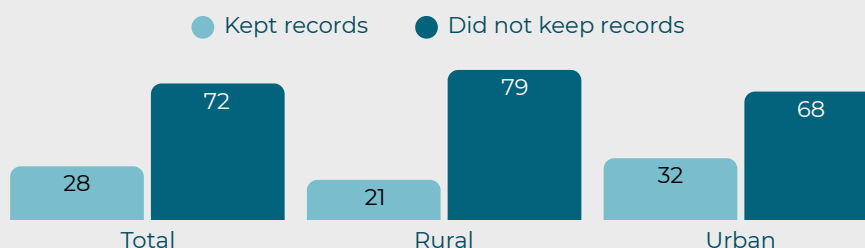
In 2022, the Zambian Statistical Agency (ZamStats) and the Bank of Zambia released the first MSME Finance Survey Report to provide insights into the challenges facing MSMEs. Firstly, 98.8% of Zambian businesses are classified as micro-enterprises, with annual turnovers under USD 3,000 and up to ten employees. Of these, 95.6 percent of MSMEs operated in the informal sector while 4.4 percent were in the formal sector.

Second, 88.6% of MSMEs – those operating in the informal sector – keep business records in ledgers or books. What's worse: 74.3% of informal MSMEs did not even maintain financial record data[6]. Lack of digitalisation increases operational costs in terms of time, energy, and resources[7].



Representatives from SMEs across Zambia joined us at BongoHive headquarters for a roundtable to explore challenges and opportunities for harnessing SME data

Record Keeping in Rural and Urban Settings In Zambia



SOURCE: 2022 BANK OF ZAMBIA MSME FINANCE SURVEY REPORT [3]

Minimal digital record-keeping restricts growth potential, since loan applications often require certain data threshold requirements, such as financial history. This is reflected by MSMEs' low share (2.5%) of total loan disbursements [8]. Limited access to financial services, such as relying heavily on informal funding sources, hinders the growth of these enterprises. Lack of access to finance contributes to missed opportunities for innovation, improved efficiency, expansion to new markets, and job creation.

In Zambia, the Zambia Revenue Authority (ZRA) and the Patents and Company Registration Agency (PACRA) set record-keeping requirements for businesses. Yet, they offer limited guidance on digital documentation. The ZRA mandates businesses to retain financial records like invoices, receipts, and bank statements for at least six years - primarily for tax liability assessment - particularly when businesses exceed a turnover threshold of K800,000 practices [9].

PACRA's requirements are more basic; they do not specify digital formats, which sometimes results in fragmented data storage practices among MSMEs[10]. The National Pension Scheme Authority (NAPSA) encourages more modernised, digital record-keeping for employee contributions, facilitated by the eNAPSA online platform, even though digital records aren't strictly required[11].

Data for MSME Financing

Data plays a pivotal role in helping MSMEs unlock financing and market opportunities. Within Africa, Zambia ranks fourth in private finance mobilised through Official Development Assistance (ODA) and second in the region for impact capital disbursement[12].



These financial inflows are often key to fostering sustainable business growth. Policies on sustainable investment and targeted data solutions are essential for scaling MSMEs, particularly in underserved rural areas, where less than 15% of the population has electricity access[13]. The Zambian Government has previously worked with UNCTAD towards an Investment Policy Review of Zambia (IPR), published in 2006 to assess this country's legal and institutional framework for investment. In 2013, the Government requested UNCTAD's assistance to prepare a report on the implementation of the IPR[14].

Trade and Value Chains

Zambia's trade landscape highlights its strong focus on exporting minerals – in particular, copper - to global markets. More recently, trade activity has been directed towards China, Switzerland, and the EU[6]. In 2023, the EU received roughly 7.5% of Zambia's exports, primarily copper, which accounted for over 75% of Zambia's total export value, along with other metals and agricultural products, such as sugar and tobacco[6].

Exporting in Africa is a technological struggle for MSMEs. Often, MSMEs have limited access to ICT infrastructure, lack digital skills, and face financial constraints. What's more: they also struggle with poor internet connectivity and inadequate infrastructure, which weakens their e-commerce abilities and communication with international partners. Moreover, they lack knowledge of digital tools, such as using e-commerce platforms or online payment systems, which hurts their global competitiveness. Financial constraints make things worse, as the cost of buying and maintaining technology and digital tools adds to their already strained budgets[15].

Data and Climate Change

Technological underdevelopment permeates multiple areas. For instance, SMEs worldwide – and in Africa - are increasingly being asked to provide scope 3 data. Although global reporting standards may not apply to all SMEs, major corporations in international value chains are increasingly demanding data on transparency and carbon accounting¹⁵. Even though only 15% of global corporations currently set Scope 3 emissions targets, it is becoming more common to involve SMEs in climate-conscious trade practices¹⁶. Technological underdevelopment permeates multiple areas. For instance, SMEs worldwide – and in Africa - are increasingly being asked to provide scope 3 data. Although global reporting standards may not apply to all SMEs, major corporations in international value chains are increasingly demanding data on transparency and carbon accounting[16][17]. Even though only 15% of global corporations currently set Scope 3 emissions targets, it is becoming more common to involve SMEs in climate-conscious trade practices[17].

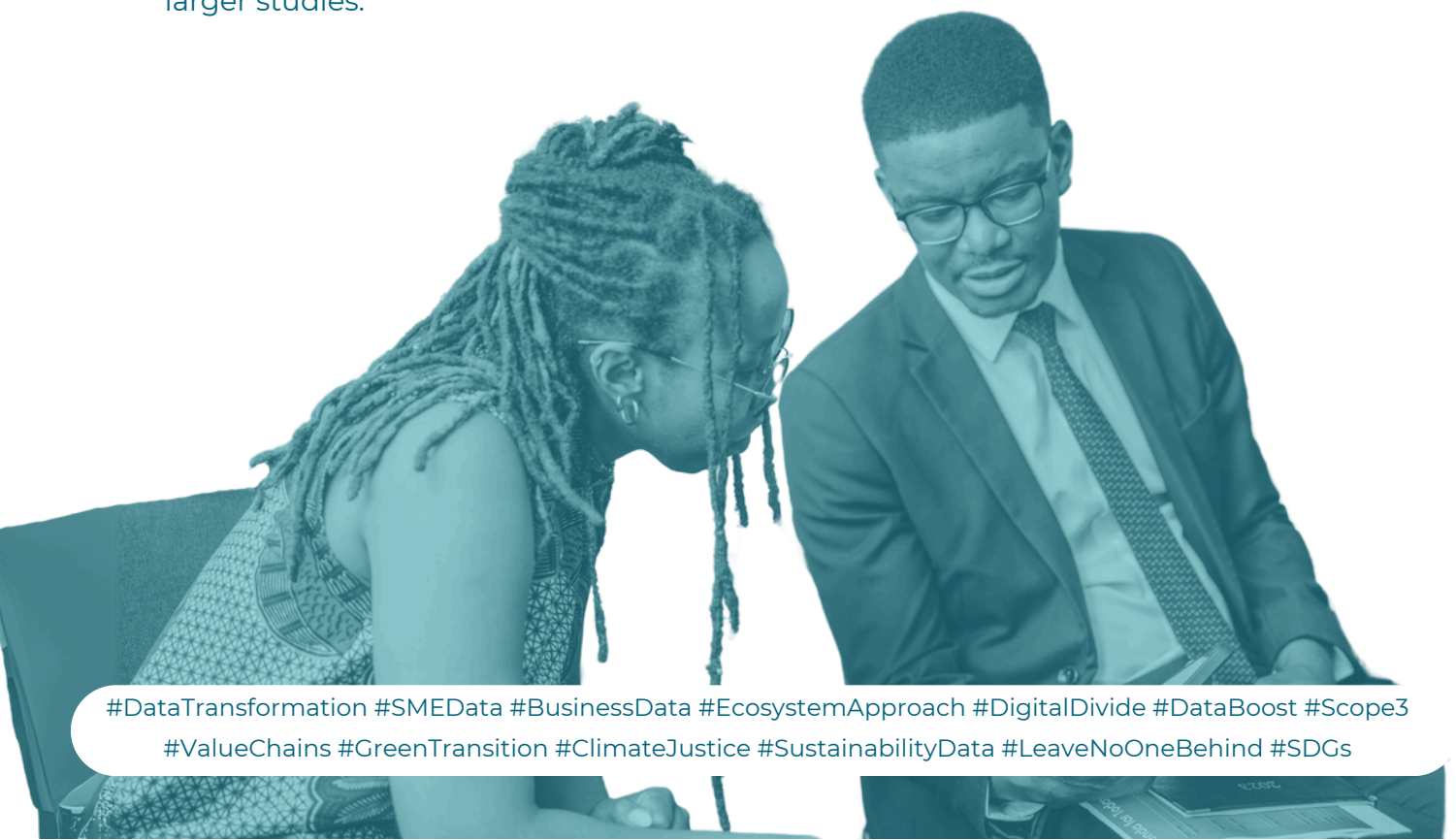
Questions to answer:

- What data do Zambian MSMEs collect?
- What are MSME data collection and usage challenges?
- Why is digitalisation important in the context of growing business sustainably?
- Why does lack of data lead to lower access to finance?

Methodology



To investigate the data challenges faced by MSMEs in Zambia, we used a three-part approach. First, we ran a pre-event survey (with 51 respondents) to get an initial sense of the bigger picture of MSME data practices and challenges. Next, we gave a targeted data challenge questionnaire to 20 participants – those who showed up to our event - which looked more closely at specific data analysis and collection issues. Finally, we held an expert panel discussion with four MSME owners, which added depth and context to our understanding of the systemic challenges MSMEs face. Although our sample size is small and non-random, it still gives us a useful first look at the on-the-ground difficulties MSMEs have with data. This fact-finding approach aims to identify key obstacles and opportunities for improving data practices in Zambia's MSME ecosystem. These findings could be scaled or validated through larger studies.



KEY FINDING #1



Data plays a key role in data collection efforts, but MSMEs struggle to digitise key data

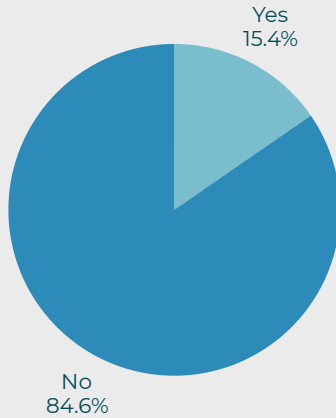
Across Zambia, MSMEs tend to use limited data collection software during their day-to-day practices. For instance, in the 2022 MSME finance survey, only 2.4% of MSMEs reported having used specialised accounting software. What's more: financial record data is also largely collected by hand[3]. This is partly due to lack of access to affordable credit[3]. Lack of financial record data was a principal reason given to MSME loan denial. This systematic barrier prohibits sustainable growth by impeding investment in key sustainability measures[19].

In the past, Zambians had also struggled with access to internet. The prospect for digital access, however, is not entirely grim. Since 2020, the percentage of internet users in the population has increased by roughly 11 percentage points, from 19% to over 30%[20].

Despite the lack of internet access across Zambia, many MSMEs are working to embrace the digital revolution. By harnessing offline digital tools, businesses can better collect relevant business data, including tracking sales and inventory, customer behaviour trends, and supply chain analytics. Such data can provide MSMEs with evidence-based insights such as profit projections, customer preferences, as well as sustainability metrics[21].

While MSMEs recognise the importance of data for making informed business decisions, data management practices among Zambian MSMEs vary widely. Some MSMEs that we surveyed have dedicated teams to manage data. Others prefer to outsource data or share data collection duties internally. Our findings suggest that smaller MSMEs are less likely to have dedicated data resources due to financial constraints. **Put simply: early-stage MSMEs lack the financial capacity to invest in dedicated data management personnel or systems**

Q: Have your staff received any training or support on how to collect and report data?



63% of MSMEs in our sample earning less than \$10,000 are just starting their digital transformation. On the other hand, most companies (85%) earning more than \$10,000 are in the middle of their transformation journeys.

A lack of training and support in data collection reduces confidence in data among MSME owners in Zambia. Most MSMEs in our small sample reported not having upskilled their staff to collect and report data.

This preliminary insight suggests that without the skills and knowledge to collect relevant business data, businesses will struggle to implement innovative data practices and make evidence-based decisions. Through data upskilling, MSMEs can overcome data management hurdles and unlock their full potential.



Zambian Entrepreneurs discuss data-related business challenges in September 2024 in Lusaka.

KEY FINDING #2

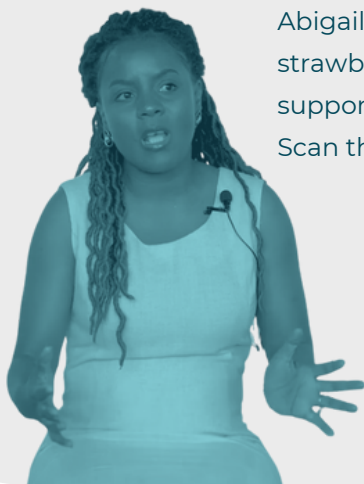


Climate change is a priority for most MSMEs, yet data challenges limit progress

SMEs across Zambia are increasingly exposed to the direct and indirect impacts of climate change. The direct impacts of climate change - which include floods and droughts - can cause disruptions to business operations and infrastructure[22]. For example, MSMEs in the agricultural sector report experiencing reduced crop yields and livestock production because of shifting precipitation levels[23]. Beyond the direct impacts of climate change on MSMEs, businesses across Zambia are also experiencing various indirect impacts of climate change, such as supply chain disruptions and reduced access to financing opportunities[24].

Supply chain disruptions and reduced access to financing opportunities are salient examples of indirect impacts of climate change. Representatives from Panuka Farm - a Zambian horticultural enterprise - highlight the link between sustainable business practices, data collection, and access to finance. They note that collecting environmental data from their business practices provides insights into pathways for enhancing crop sustainability and facilitates access to green financing opportunities that often require regular data reporting.

Strawberry farming and the power of data



Abigail shares her experience as an SME in a family owned strawberry business in Lusaka, discussing how data supports her marketing strategies, and decision making. Scan the QR code to hear her story!

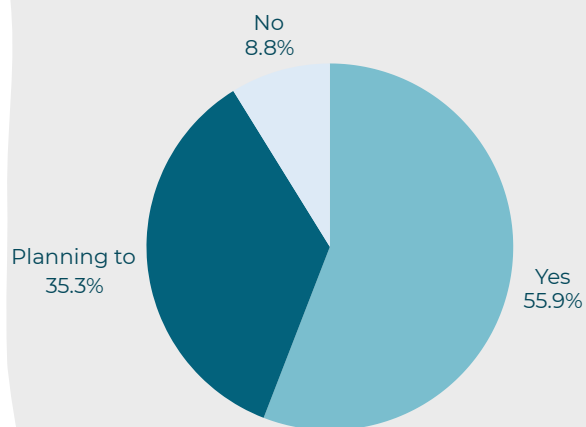


Understanding business through context and data

Tendai shares her insights on how this relationship drives impact in the industry. Scan the QR code to hear more!



Q: Are you implementing climate mitigation strategies in your company?



While MSMEs in our sample recognise the growing threat of climate change to their business operations, several barriers hinder their production of relevant sustainability data. Our survey suggests that climate change is perceived as a significant threat to businesses with all but 3 participants reporting that their businesses were affected. Roughly half of the MSMEs we surveyed said they are already using strategies to reduce their impact on climate change, and around a third plan to do so soon.

Half of surveyed MSMEs have climate targets in place. Data tracking includes rainfall, carbon footprint, and deforestation rates. Yet, when these targets are combined with existing data challenges, climate adaptation efforts become difficult to implement clearly. The findings indicate that these MSMEs – and potentially others across Zambia – struggle to analyse relevant data due to lack of necessary skills. These barriers leave MSMEs in the dark, struggling to access finance and monitor impending climate threats.



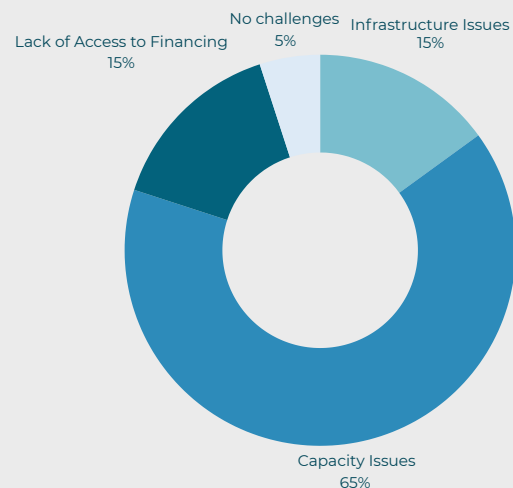
KEY FINDING #3

Limited capacity is the biggest barrier to effective data collection

The main barrier to data collection in our scoping exercise of Zambian MSMEs was capacity issues. That is, certain individuals employed by MSMEs lack the training and necessary skills to analyse their business data. This is part of a broader trend[15] across Southern Africa. A lack of technical, managerial, and marketing skills limits access to foreign markets[26], mainly due to informational gaps that can result in missed opportunities.

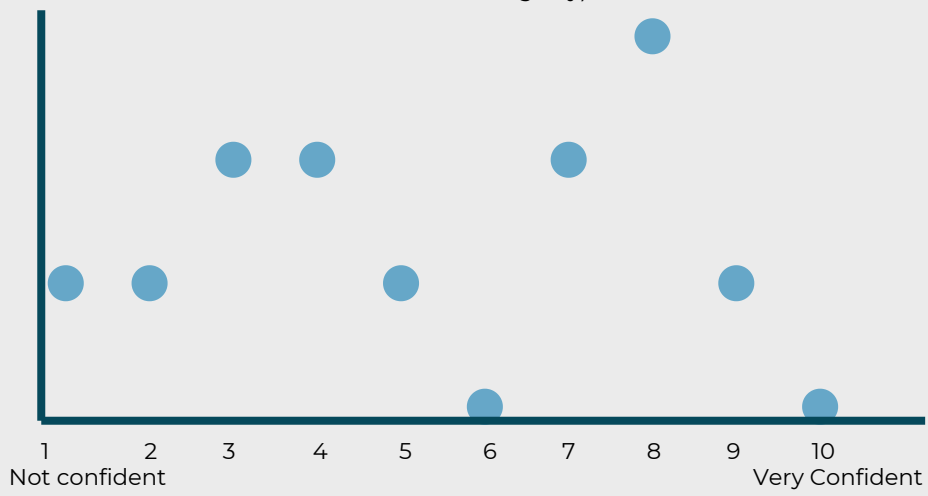
There are still big gaps in Zambia's digital literacy and skills development among the public. This may be a systemic issue of the education system lacking a generic ICT curriculum. What's worse: there aren't enough people who can teach these skills, whether in schools or elsewhere[25].

Q: My biggest challenge to data collection along my supply chain is..



In addition to training and skills, limited digital infrastructure – such as laptops - is a key challenge for many MSMEs across Zambia[15] . Limited digital infrastructure has led many MSMEs to rely on manual data collection methods – such as ledgers - which can lead to data accuracy issues. This issue was salient amongst our interviewees. When asked about data accuracy, the average response was just 5.3 out of 10. When many MSMEs rely on the collection of robust, reliable data to access financing opportunities for their businesses, low data quality can exacerbate this feedback loop.

Q: How confident are you in the accuracy of your company's data (if you are tracking any)?



5 out of 10 is the average level of confidence of MSME accuracy in their data.

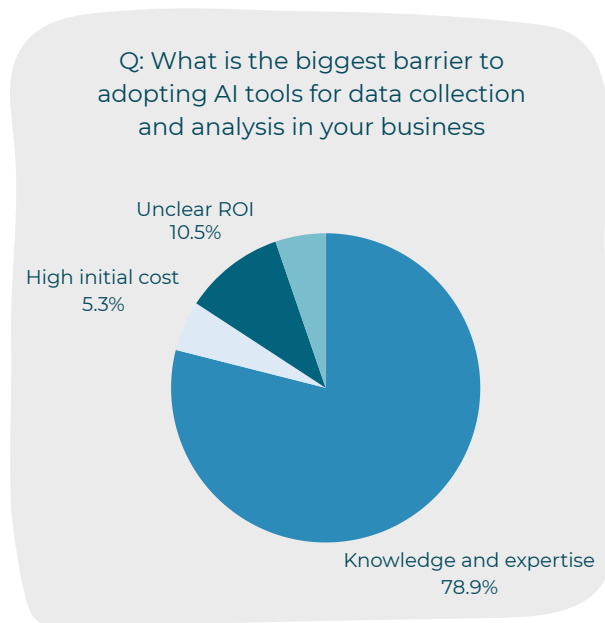
KEY FINDING #4



AI is recognised as both a key opportunity and challenge for enhancing business data

Artificial intelligence (AI) is a hot topic among businesses – particularly MSMEs – due to significant business value it offers. This value can take the form of: i)making public administration more efficient, ii)boosting digital security, iii)increasing access to finance, iv)simplifying skills management and job matching, and v)reducing the costs of innovation and experimentation[27].

However, there are also challenges. In sub-Saharan Africa, studies reveal that MSMEs face significant barriers to AI tools adoption, including limited technology access, insufficient technical expertise[28], and funding constraints. Further, cultural and language differences[29], as well as a lack of understanding about AI's benefits also impede adoption[30].



Many MSMEs perceive artificial intelligence (AI) as an opportunity for harnessing data to improve business operations. Yet, many MSMEs – especially early-stage MSMEs – struggle to employ AI tools due to a lack of knowledge and expertise on the tools. Several of the surveyed MSMEs reported having an unclear understanding of how AI tools can be applied in a business context, with few MSMEs feeling confident in utilizing AI tools in general.

These local findings suggest that MSMEs still have a lot to gain from learning how to use AI to collect and analyze business data. Many early-stage MSMEs say they don't have a dedicated data team because they can't afford it, but training their staff on basic, open-source AI tools could help them learn the basics of AI-assisted data collection and analysis.

Recommendations

Based on our findings, here are some recommendations for enhancing SME data across Zambia



Toolkit for Digitising MSME Records: Building Zambia's Data Ecosystem



Leverage free and open-source data tools



Prioritise essential data



Utilise mobile technology



Collaborate with partners



Advocate for enhanced digital infrastructure across Zambia



Increase MSME access to finance to reduce barriers to digitalisation adoption and innovation

Recommendations

Based on our findings, here are some recommendations for enhancing SME data across Zambia



Toolkit for Digitising MSME Records: Building Zambia's Data Ecosystem

- Digitising Records for Stronger Data: Implement PARIS21's Toolkit to help SMEs transform paper records into digital formats through training and practice
- Empowering the National Statistical System (NSS): Create a data flow where digitised SME data feeds into the NSS, supporting a centralized SME Database. This enables the Ministry for SME Development to develop precise, data-driven policies that meet SME needs.
- Improving Data Quality and Trust: By establishing a consistent data cycle, this system not only supports SMEs in tracking financial access and compliance but also builds trust and transparency in Zambia's statistical and economic ecosystems



Leverage free and open-source data tools

- Harnessing cloud-based platforms such as Google workspace to manage data and collaborate more effectively
- Exploring open-source software: Open-source tools for data analysis and visualization such as Gemini, R, Python, or Tableau Public

Recommendations

Based on our findings, here are some recommendations for enhancing SME data across Zambia



Prioritise essential data

- Focusing on core metrics, (identify critical data points for your business, such as sales, customer acquisition cost, and inventory levels).
- Starting small and gradually expand *begin with collecting essential data and gradually add more as a business grows



Utilise mobile technology

- Harnessing mobile apps and tools to collect data on the go (give examples), especially for field-based operations
- Harnessing mobile payment solutions – consider mobile payment options to track transactions and customer data



Collaborate with partners

- Partnering with other SMEs – share resources and expertise with other SMEs to reduce costs and enhance data collection capabilities
- Seeking assistance from NGOs and government agencies – explore opportunities for technical assistance and training from orgs that support data for sustainable development

Recommendations

Based on our findings, here are some recommendations for enhancing SME data across Zambia



Advocate for enhanced digital infrastructure across Zambia

- Engaging with industry associations and chambers of commerce – collaborate with other businesses and advocate for collective interests. It can provide a platform for MSMEs to share their concerns and recommendations regarding digital infrastructure to policymakers and government agencies.



Increase MSME access to finance to reduce barriers to digitalisation adoption and innovation

- Accessing credit is important for MSMEs because it allows them to innovate, improve efficiency, expand to new markets, and contribute to job creation.

Conclusion

What is at stake?

This report underscores a pressing need for robust data practices within Zambia's MSME sector. Rich data systems foster sustainable growth, access to finance, and resilience against broader global challenges such as climate change and digital inequality. **The lack of data infrastructure and the digital divide create significant barriers, preventing MSMEs from fully participating in the green transition and international markets.** Without accurate data, small businesses are left behind, making it difficult to track business performance, environmental impact, access finance, and make progress on the SDGs.

Smartphones are widely used among MSMEs and are transforming the economies of Southern Africa. They provide entrepreneurial Zambians with the tools to collect, produce, and transform data into valuable information that informs and improves their business decisions. This is especially important in today's complex world, where climate change is causing more uncertainty.

While there are many obstacles to sustainable economic transformation, we can take inspiration from Zambia's founding president Kenneth Kaunda's words: 'ambition never dies'[31][32]. As Zambia celebrates its 60th birthday, it can build on its peaceful and technological transformation to address these challenges.

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Definitions

Company Type	Definition
SME (Small and Medium Enterprises)	See below
MSME (Micro, Small and Medium Enterprises)	See below
Start-Up	Refers to a business venture in its early stages of operations
Micro Enterprise	<ul style="list-style-type: none"> • Annual turnover up to K1,000,000 • Up to 10 employees • Investment limits (excluding land/buildings): <ul style="list-style-type: none"> ◦ Agriculture: K1 - K250,000 ◦ Mining/Quarrying: K1 - K5,000,000 ◦ Manufacturing/Other: K1 - K400,000 ◦ Services/Trade: K1 - K250,000 ◦ Construction: K1 - K400,000
Small Enterprise	<ul style="list-style-type: none"> • Annual turnover between K1,000,001 and K10,000,000 • 11 to 50 employees • Investment limits (excluding land/buildings): <ul style="list-style-type: none"> ◦ Agriculture: K250,001 - K5,250,000 ◦ Mining/Quarrying: K5,000,001 - K10,500,000 ◦ Manufacturing/Other: K400,001 - K8,400,000 ◦ Services/Trade: K250,001 - K5,250,000 ◦ Construction: K400,001 - K8,400,000
Medium Enterprise	<ul style="list-style-type: none"> • Annual turnover between K10,000,001 and K50,000,000 • 51 to 100 employees • Investment limits (excluding land/buildings): <ul style="list-style-type: none"> ◦ Agriculture: K5,250,001 - K25,000,000 ◦ Mining/Quarrying: K10,500,001 - K50,000,000 ◦ Manufacturing/Other: K8,400,001 - K40,000,000 ◦ Services/Trade: K5,250,001 - K25,000,000 ◦ Construction: K8,400,001 - K40,000,000

SOURCE: 2022 BANK OF ZAMBIA MSME FINANCE SURVEY REPORT [3]

Survey Data

Question	Responses (n)
How do you currently use data to inform your business decisions?	23
How frequently do you review your business data to make strategic decisions?	21
What words come to mind when you think about data challenges for your company?	106
What data do you currently collect from your suppliers to monitor costs, delivery, and product quality?	21
Do you have a dedicated team or person responsible for managing your business data?	20
How confident are you in the accuracy of your company's data (if you are tracking any)?	18
Do you work with a larger corporation as part of a bigger supply chain?	20
My biggest challenge to data collection along my supply chain is..	20
Most of my business data is easily accessible in digital format	19

Question	Responses (n)
Have any of your clients or larger partners asked you to provide data on your company's climate impact or emissions?	20
What is the main climate-related data (if any) you currently track in your operations?	18
Do you currently have any climate or environmental targets in place for your business?	19
Have your staff received any training or support on how to collect and report data?	20
If you could get support to improve any area of sustainability data collection, what would it be?	51
Have you ever used AI tools to collect or analyze data in your business?	20
What is the biggest barrier to adopting AI tools for data collection and analysis in your business?	19
How confident are you in your ability to leverage AI for business growth?	31

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