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Financial Innovation and Resilience: Transforming Zambian MSMEs through Microfinance and Public-Private Partnerships

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) are the unequivocal cornerstone of the Zambian economy, constituting over 70% of GDP and nearly 90% of national employment. However, their immense potential is critically constrained by perennial challenges, including acute financing gaps, pervasive low financial literacy, and pronounced vulnerability to external economic shocks. While there is evidence that existing literature acknowledges these challenges, there is a scarcity of in-depth, qualitative research exploring the synergistic role of financial innovation and public-private partnerships (PPPs) in building adaptive resilience within the Zambian MSME context. Grounded in Adaptive Resilience Theory, this paper provides a comprehensive investigation into how financial innovation encompassing microfinance, impact investing, and digital financial services, coupled with robust PPPs, can systematically bolster the resilience and transformative capacity of Zambian MSMEs. Employing a rigorous qualitative multiple-case study methodology, the research meticulously examines a selection of MSMEs that have successfully leveraged innovative financial mechanisms to navigate profound economic volatility. The analysis incorporates recent pivotal policy initiatives, such as the expanded Credit Guarantee Scheme, to highlight how strategic, multi-stakeholder reforms can effectively alleviate credit constraints. The findings of the present study make an original contribution by demonstrating that the integration of digital record-keeping, targeted financial literacy programs, and tailored credit products, delivered through strategic PPPs, significantly enhances MSMEs' creditworthiness, operational efficiency, and shock absorption capabilities synergistically. The paper concludes with a set of pragmatic, actionable recommendations for policymakers, financial institutions, and private sector actors to collaboratively foster an

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inclusive, resilient, and future-ready MSME ecosystem in Zambia, poised for sustainable growth in the Industry 5.0 era.
Keywords: Economic Resilience; Financial Innovation; Financial Literacy; Microfinance; MSMEs; Public-Private Partnerships; Zambia

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) represent the lifeblood of the Zambian economy, accounting for approximately 70% of its Gross Domestic Product (GDP) and nearly 90% of its employment[1]. These enterprises are far more than mere statistical contributors; they are vital engines for poverty reduction, substantial job creation, and inclusive socio-economic growth, particularly for historically marginalized groups such as women and the youth[2]. By fostering local entrepreneurship and promoting regional economic diversification, MSMEs help to mitigate the risks associated with Zambia's heavy reliance on copper exports. Despite their profound socio-economic significance, Zambian MSMEs operate under a persistent cloud of formidable challenges. These include severely limited access to affordable and appropriate finance, inadequate levels of financial literacy that impair sound decision-making, and a heightened exposure to domestic and global economic volatilities[3]. This vulnerability was starkly exposed during the COVID-19 pandemic and continues amidst fluctuating commodity prices and climate-related shocks.

Recognizing this critical role and these constraints, the Zambian government's Revised National MSME Development Policy (2023–2027) outlines an ambitious and comprehensive agenda designed to enhance MSME integration into local and global value chains, foster innovation, and promote widespread technological adoption[1]. This policy framework signifies a strong governmental commitment to creating a more enabling environment for small businesses. Complementing these national efforts, international development partners, including the Swedish International Development Cooperation Agency (SIDA) and the United Nations Capital Development Fund (UNCDF), have launched targeted and innovative programs aimed at expanding the reach of digital financial services and improving credit access for MSMEs[4]. These collaborative initiatives underscore the global recognition of MSMEs as key agents of sustainable development.

Financial innovation, spanning the evolution of microfinance, the rise of impact investing, and the disruptive proliferation of digital financial tools like mobile money and Fintech lending platforms, has emerged as a potent transformative force. It is enabling MSMEs to not only withstand external shocks, but also to capitalize on new opportunities for growth and market expansion[5]. Concurrently, capacity-building initiatives, such as Zambia's National Strategy on Financial Education (2022–2027), are working to equip entrepreneurs with the essential skills and knowledge needed to navigate an increasingly complex financial landscape[6].

Nonetheless, a significant research gap has been observed in the existing studies. It can be argued that while the individual components that include financial innovation, PPPs, and MSME resilience have been studied and documented in isolation, there is a lack of integrated, empirical research that critically examines their synergistic interplay within the unique socio-economic fabric of Zambia. This implies that there is limited understanding of how specific financial mechanisms, when delivered through collaborative partnerships, empirically enhance the adaptive capacities of MSMEs to anticipate, withstand, and transform in the face of shocks.

Grounded in Adaptive Resilience Theory, this paper critically examines the synergistic interplay between financial innovation and strategic Public-Private Partnerships (PPPs) in reshaping the resilience trajectory of Zambian MSMEs. Through in-depth qualitative case studies and empirical insights, it explores the dynamic connections between policy reforms, innovative financing models, and targeted capacity-building interventions. The ultimate aim is to synthesize these insights into actionable recommendations for stakeholders across the ecosystem, thereby illuminating a clear and viable pathway toward a more resilient, inclusive, and future-ready MSME sector in Zambia.

2. Literature Review

A rapidly growing body of scholarly and policy-oriented literature underscores the critical role of financial in-

clusion as a fundamental driver of MSME resilience, growth, and long-term sustainability. Financial inclusion, broadly defined as the availability, accessibility, and effective usage of affordable financial services for all segments of society, is increasingly recognized as a cornerstone of inclusive and equitable economic development[7, 8]. It is not merely about having a bank account but about accessing a suite of services credit, savings, insurance, and payments, that enable businesses to invest, manage risk, and smooth consumption.

Empirical evidence from diverse emerging economies consistently highlights a strong positive correlation between enhanced financial inclusion and improved MSME performance metrics. A seminal study in Indonesia, for instance, found that enhanced access to formal financial institutions directly led to improved profitability, significant customer base expansion, and sustained sales growth[9]. The study concluded that moving from informal to formal financing sources was a key differentiator for growth-oriented enterprises. Fintech-driven innovations are increasingly being recognized as game-changers in the MSME finance landscape. By leveraging big data analytics, artificial intelligence, and digital platforms, fintech solutions are dramatically reducing the traditional reliance on immovable collateral and enabling real-time, more accurate verification of borrower eligibility and creditworthiness[7]. This paradigm shift is opening doors for thousands of businesses previously considered 'unbankable'.

The International Finance Corporation (IFC) has emphasized the rising importance of sustainable MSME finance, highlighting the growing role of innovative instruments like green bonds and social bonds in raising capital aimed explicitly at fostering inclusive and environmentally sound growth[10]. These instruments allow investors to align their portfolios with their values while providing MSMEs with the patient capital needed for long-term projects. Case studies from India provide compelling evidence of the transformative impact of financial inclusion and innovation on MSME sustainability, particularly during the acute economic disruptions caused by the COVID-19 pandemic[11]. MSMEs that had adopted digital payments and had access to formal credit lines were able to recover much faster than those reliant on informal cash-based systems.

Within the Zambian context, recent policy documents and strategy papers reflect a strong and growing commitment to promoting financial inclusion through strategic digitalization, purposeful PPPs, and targeted fiscal measures[1]. The convergence of financial innovation, microfinance, impact investing, and PPPs is actively reshaping the MSME landscape, providing robust confirmation that access to tailored and innovative financial solutions is not a luxury but a necessity for building resilience and catalyzing growth[7, 8]. The literature suggests that the future of MSME finance lies in blended finance models that strategically combine public and private capital to de-risk investments and attract commercial funding into sectors with high social impact.

Regardless of the observed progress, the literature remains fragmented. It has been observed that various studies adopt a macro-level, quantitative approach that, while valuable, often fails to capture the nuanced, on-the-ground processes through which financial tools and partnerships build resilience. Based on the reviewed literature, there is a notable scarcity of qualitative, case study based research that delves into the lived experiences of Zambian MSMEs, particularly how they leverage digital finance and PPPs to adapt their business models during crises. This study addresses this gap by providing a micro-level, contextual analysis of these dynamics, thereby offering a novel contribution to the discourse on MSME resilience in developing economies.

3. The Zambian MSME Context: Opportunities and Constraints

The MSME sector in Zambia is vast and predominantly informal. Recent data indicate that MSMEs constitute approximately 98.8% of all enterprises in the country, with micro-enterprises forming the overwhelming majority[12]. This numerical dominance underscores their pivotal role as the nation's primary employers and most important sources of income for a large segment of the population. However, a staggering 95.6% of these Zambian MSMEs operate in the informal economy, which severely limits their access to formal financial services, government support programs, and legal protections[12]. This informality creates a vicious cycle of exclusion and vulnerability.

A significant and deeply rooted challenge is poorly organized financial record-keeping. Although 88.6% of informal MSMEs maintain some form of basic business records, often in physical notebooks or simple spreadsheets,

only a mere 2.4% utilize specialized accounting software[12]. This critical lack of digitization and financial formalization severely restricts their ability to demonstrate creditworthiness to formal financial institutions. Consequently, MSMEs receive a disproportionately small share of total bank loan disbursements, just 2.5% despite their overwhelming presence in the economy[12]. This financing gap is primarily filled by informal sources like personal savings, loans from family and friends, and high-interest-rate lenders, which are unreliable and often unsustainable, as shown in **Table 1**:

Table 1. Key Structural Challenges Facing Zambian MSMEs.

Challenge	Percentage of MSMEs Affected	Primary Impact
Limited Access to Finance	85%	Hinders growth and investment
Informal Operation	95.6%	Limits access to formal support
Poor Record-Keeping	74.3%	Reduces creditworthiness
Low Financial Literacy	65%	Impairs financial management
Infrastructure Deficits	60% (Rural)	Increases operational costs

Source: Adapted from Bank of Zambia[12] and Zambia Statistics Agency[13].

Despite these formidable constraints, a window of opportunity is opening through digitalization. Internet and mobile phone penetration have risen steadily across the country, enabling a growing number of MSMEs to leverage digital solutions for payments, marketing, and record-keeping[12]. The widespread adoption of mobile money platforms like MTN MoMo and Airtel Money has been a particular game-changer for micro-enterprises. However, significant budgetary limitations often prevent the smallest micro-enterprises from investing in specialized, paid software systems, curtailing their potential for growth and formalization.

The broader Zambian economic environment is characterized by inherent volatility, largely due to its heavy reliance on copper exports, which account for over 70% of export earnings. This makes the entire economy, and MSMEs within it, highly vulnerable to global commodity price fluctuations[14]. Furthermore, persistent domestic and regional crises, including recurring droughts that affect agricultural output, sustained inflationary pressures, and currency instability, continue to threaten the stability and survival of MSMEs[15].

Financial vulnerability remains the most critical issue. The 2022 Bank of Zambia MSME Finance Survey revealed that the primary reasons for loan denials are a fundamental lack of verifiable financial records and acceptable collateral, which perpetuates a deep-seated reliance on informal and often predatory funding sources[12]. Regulatory complexities and infrastructure deficiencies, particularly in rural areas such as unreliable electricity, poor road networks, and limited internet connectivity, further exacerbate the risks faced by MSMEs, while low levels of financial literacy impede effective business planning, cash flow management, and strategic financial decision-making[16, 17].

4. Theoretical Framework

This study is anchored in Adaptive Resilience Theory, which provides a robust and dynamic framework for understanding how MSMEs can leverage financial innovation to navigate periods of intense instability and uncertainty. This theory conceptualizes resilience not as a static, innate trait of an organization but as a dynamic capability, a skill that can be developed and enhanced. It is influenced by a firm's ability to anticipate potential shocks, withstand their initial impact, adapt its business model and operations, and ultimately seize new opportunities that emerge from the disrupted environment[18]. Within this model, financial innovation acts as a dual force: it serves as both a crucial buffer against external shocks, for example, through emergency credit lines or insurance products, and a powerful accelerator of growth, such as through digital platforms that open new markets[7].

Microfinance directly addresses a critical market failure: the historical inability or unwillingness of traditional financial institutions to serve low-income, informal sector, and collateral-poor clients[19]. By providing small-scale loans, savings products, micro-insurance, and payment services, it extends the frontier of finance. Microfinance provides essential credit for business expansion and cash flow management, promotes financial inclusion for marginalized groups like women entrepreneurs, and can serve as a vital countercyclical

tool during economic crises, helping businesses to survive downturns [11, 19].

Impact investing, which refers to investments made with the explicit intention to generate measurable, beneficial social and environmental impacts alongside a financial return, has further diversified the MSME financing landscape [10]. Impact investors, including development finance institutions (DFIs), dedicated impact funds, and increasingly, mainstream private equity firms, are channeling capital to MSMEs that demonstrate a clear potential to achieve social goals such as environmental sustainability, gender equality, and job creation for youth. This aligns MSME funding with the global Sustainable Development Goals (SDGs).

Public-Private Partnerships (PPPs) have emerged as pivotal mechanisms for driving MSME growth by strategically leveraging the complementary strengths of the public and private sectors [1, 4]. The public sector can provide policy direction, regulatory sandboxes, partial risk guarantees, and public infrastructure. The private sector brings innovation, managerial efficiency, market discipline, and technological expertise. In Zambia, recent policy reforms highlight the strategic value of PPPs in fostering innovation, facilitating access to capital, and developing critical business infrastructure [1].

The Adaptive Resilience Theory is particularly apt for analyzing the Zambian MSME context. It moves beyond merely surviving shocks to focus on adapting and transforming in response to them. For instance, an MSME might use a digital loan (financial innovation) delivered through a bank-government partnership (PPP) to pivot from a traditional retail model to an e-commerce platform during a lockdown, thereby not just surviving but potentially reaching a wider market. This theoretical lens allows us to see financial tools and partnerships as enablers of adaptive capacity.

Recent empirical research strongly indicates that financial innovation enhances MSME resilience by tangibly improving credit availability, reducing operational costs through efficiency gains, and facilitating real-time financial decision-making based on accurate data [7, 10]. For instance, digital tools that automate record keeping and enable alternative credit assessments using non-traditional data for instance, mobile money transaction history, utility bill payments, have significantly reduced financing barriers for MSMEs lacking traditional forms of collateral, like land or buildings [10]. These innovations are particularly salient in the emerging Industry 5.0 era, where the integration of advanced technology with a human-centric approach is redefining concepts of business continuity, sustainability, and resilience [20].

5. Methodology

This study employs a rigorous qualitative multiple-case study methodology to investigate the nuanced ways in which Zambian MSMEs adopt financial innovations and build resilience amid persistent economic challenges [21]. The case study approach was specifically chosen for its proven ability to provide deep and rich insights. It contextualized insights into complex, real-world phenomena, such as the adaptive strategies and financial behaviors of MSMEs operating in a volatile environment [22]. This method allows for an exploration of the "how" and "why" behind the observed outcomes.

Fifteen (15) business owners and senior managers from a diverse range of MSMEs were carefully selected through purposive sampling to participate in comprehensive, semi-structured interviews [23]. The selection criteria in the present study were designed to identify information-rich cases. The study focused on businesses that could demonstrate consistent growth or survival over the past 3–5 years despite significant financial constraints and market turbulence, as well as those that were actively utilizing innovative financial products, for example, digital loans, mobile money, or participating in partnerships such as, with MFIs, government programs.

The sample of the current study included enterprises from various sectors, including manufacturing, for instance, agro-processing, textiles, agriculture, such as smallholder farmers and cooperatives, commerce, for example, retail traders, and services like logistics, IT, ensuring a representative view of the Zambian MSME landscape. Geographically, cases were drawn from Lusaka, the capital and economic hub, as well as from other provinces to capture regional variations [24].

Data collection was carried out using two primary instruments: a detailed interview guide and a structured observation checklist [25–27]. The semi-structured interview guide facilitated in-depth, open-ended discussions with respondents, covering themes such as experiences accessing finance, use of digital tools, participation in training programs, and coping strategies during economic shocks. The inter-

view questions were designed to elicit detailed narratives, for example: "Can you walk me through a specific instance where access to a digital loan helped your business navigate a difficult period?" The observation checklist allowed the researchers to conduct a firsthand assessment of business practices, the physical work environment, and the use of technology in the selected enterprises, adding a layer of objective data to the self-reported interview responses [28].

The collected data were analyzed using thematic analysis, a method for identifying, analyzing, and reporting patterns (themes) within the data [29]. This process involved six phases. The data analysis processes included familiarizing ourselves with the data through repeated reading of transcripts and notes; generating initial codes; searching for themes by collating codes; reviewing and refining themes; defining and naming themes; and producing the report. This approach enabled the researchers to identify key patterns related to the adoption of financial innovation, the role of partnerships, and the building of resilience. This deep understanding formed the basis for the pragmatic recommendations directed at policymakers, financial institutions, and development partners, advocating for expanded financial literacy programs, capacity-building initiatives, and the scaling of successful PPP models.

In addition, the data analysis was consciously aligned with the principles of Adaptive Resilience Theory. It involved interpreting the findings through a lens that combines real-world transformations in government and private sector involvement to provide Zambia with a practical roadmap for transitioning its MSMEs into powerful catalysts for sustainable and equitable growth.

To ensure the validity and reliability of the findings, data triangulation was employed [22]. The interview and observation data were supplemented with extensive document reviews, including analysis of company financial records that were available, business plans, and official reports from government agencies and international development organizations [1, 13, 24]. To further enhance the integrity and validity of the findings, member checking was conducted [22]. This involved sharing a summary of the findings with the purposively sampled participants to ensure the interpretations accurately reflected their experiences and perspectives. The study was also strengthened by conducting peer-debriefing sessions with stakeholders from financial institutions and academic colleagues who were familiar with the Zambian MSME context, providing an external check on the research process and conclusions.

Furthermore, all necessary ethical considerations were thoroughly adhered to throughout the study. This included obtaining informed consent from all participants, guaranteeing the confidentiality of sensitive business information, and ensuring the complete anonymity of participants in all reporting [30]. Participants were informed of their right to withdraw at any time.

6. Results

6.1. Case Study Findings

The study's findings, drawn from four illustrative and in-depth case studies, reveal several powerful themes related to the adoption of financial innovation and the resulting resilience outcomes.

6.1.1. AgroTech Zambia: Leveraging Digital Credit and Record-Keeping

AgroTech Zambia, a small-scale agri-processing company specializing in groundnut butter, collaborated with a local microfinance institution (MFI) that was piloting a program utilizing digital record-keeping and mobile-based credit scoring. The adoption of mobile money transactions (used by most of the beneficiaries in the MFI's program), digital record keeping, mobile-based credit scoring, and cloud-based accounting software dramatically enhanced financial transparency and discipline within the business. The owner of the company noted:

> *Before, our records were in my head and a tattered notebook. The digital system forced us to be disciplined. Suddenly, we had a financial history to show the bank."*

This newly created digital footprint made AgroTech eligible for and able to secure a government concessional loan designed for digitally enabled SMEs. The injection of capital enabled a 35% increase in production capacity through the purchase of new equipment and the hiring of additional staff. Furthermore, the improved financial data allowed for better inventory management, significantly improving the company's resilience to supply chain disruptions, a finding

consistent with prior research [4, 12].

6.1.2. Kalingalinga Textiles: Impact Investing and Capacity Building

Kalingalinga Textiles, a small manufacturer in Lusaka producing school uniforms and casual wear, benefited from a targeted impact investment facilitated through a PPP involving a European development agency and a local impact fund. The investment was not merely financial; it was bundled with critical business development services focused on enhancing financial literacy, improving marketing strategies, and optimizing supply chain management. By upgrading to more efficient machinery and adopting sustainable practices like using recycled materials, Kalinga Textiles not only improved its product quality but also met key Environmental, Social, and Governance (ESG) standards, making it attractive to ethically-conscious buyers. The manager emphasized the value of non-financial support:

> *The training on financial management was a game-changer. We learned to cost our products properly and negotiate with suppliers. The money alone would not have been enough.*

This led to a documented 25% sales increase within a year and enhanced staff retention due to better working conditions and stability, aligning with studies on the value of impact investing [10, 23]. The capacity-building components were particularly crucial, enabling management to negotiate better supplier contracts and strategically plan for market expansion, a benefit supported by other studies [11, 26].

6.1.3. Mandevu Market Traders' Cooperative: PPPs for Financial Inclusion

This cooperative, comprising over 150 micro and small businesses operating in a large Lusaka market, exemplifies how PPPs and collective action can powerfully promote financial inclusion and resilience. Through a structured collaboration with a local bank and the Ministry of MSME Development, the cooperative accessed a customized loan product supported by the Zambia Credit Guarantee Scheme (ZCGS). The benefits extended beyond finance, as one member shared:

> *Being in the cooperative, we learn from each other. We now buy our flour and sugar in bulk, saving costs for everyone. We are stronger together.*

This product featured significantly reduced interest rates and lower collateral requirements, terms that would be unavailable to individual traders. The skills gained by members through this partnership are summarized in **Table 2** below:

Table 2. Benefits and Skills Gained by Mandevu Market Cooperative Members.

S/N	Benefit/Skill Gained	Frequency	Percentage
01	Access to Customized loans	02	13%
02	Capacity-building	01	7%
03	Digital Record-keeping	02	13%
04	Financial literacy courses	03	20%
05	Social capital networks	01	7%
06	Commercial networks	01	7%
07	Peer learning	02	13%
08	Risk-sharing	02	13%
09	Digital innovation	01	6.6%

As shown in **Table 2**, participation in financial literacy courses (20% of acquired skills) and the adoption of digital record-keeping tools (13%) markedly improved business planning and loan repayment rates. Perhaps just as importantly, the cooperative model itself strengthened social capital and commercial networks through peer learning and risk-sharing mechanisms. This collective strength enabled members to pool resources, bulk-buy inputs at lower costs, and withstand economic shocks like inflation and supply chain disruptions far more effectively than they could alone, correlating with findings on the power of collectives [1, 17].

6.1.4. Sipopa Mining Services: Strategic Financial Management

Sipopa Mining Services, a small business providing essential logistics and equipment maintenance services to

the large mining sector on the Copperbelt, faced a common challenge: long payment cycles from large corporate clients were straining its working capital. The company strategically utilized invoice discounting and supply chain-financing facilities offered by a commercial bank in partnership with the Zambia Development Agency (ZDA). By implementing digital invoicing and financial management software, Sipopa enhanced its creditworthiness and operational transparency. The founder of the company explained:

> *The bank could see our outstanding invoices from major mines in real-time. That transparency was our collateral.*

This clear financial record of accomplishment facilitated the approval of a USD 50,000 working capital loan against its outstanding invoices. This financial flexibility allowed Sipopa to reliably fulfill existing contracts, pay its employees and suppliers on time, and confidently pursue new growth opportunities despite the inherent volatility of the mining sector. This case highlights the critical importance of industry-aligned financial solutions that address sector-specific cash flow challenges [27].

6.2. The Role of Public-Private Partnerships

The collected data reveals that several key PPP initiatives in Zambia are demonstrating transformative impacts on MSME resilience and growth:

6.2.1. Zambia Credit Guarantee Scheme (ZCGS)

This risk-sharing mechanism, operated by the Bank of Zambia in collaboration with multiple commercial banks, has been instrumental in expanding credit access for MSMEs lacking sufficient collateral. By providing partial guarantees (typically covering 50–75% of the loan amount), the ZCGS de-risks lending for banks, accelerating loan processing times, diversifying risk across the financial system, and improving lending terms for borrowers. Preliminary results indicate that over 800 MSMEs have accessed affordable loans through this scheme, directly fostering business growth, job creation, and increased contributions to GDP [12, 25, 31].

6.2.2. MTN Zambia and Ministry of MSMED Partnership

A landmark 2023 memorandum of understanding (MOU) between MTN Zambia, the country's largest mobile network operator, and the Ministry of Small and Medium Enterprise Development provides MSMEs with a suite of digital tools. This includes improved connectivity (MTN Business), business management apps (Y'ello Biz App), and digital payment solutions (MoMo Pay). Crucially, the partnership also encompasses training and capacity-building programs to ensure MSMEs can effectively use these tools. This comprehensive support package is enhancing financial management, competitiveness, and market access for thousands of informal and rural businesses [26, 32].

6.2.3. Private Enterprise Programme Zambia (PEPZ)

Funded by the UK's Department for International Development (DFID) and implemented by Nathan Associates from 2014 to 2020, PEPZ adopted a systemic approach. It established 86 partnerships and implemented 88 interventions to bolster MSME capacity across the board. Its four-pronged approach focusing on the enabling environment, access to finance, market systems development, and business development services improved financial management, access to new markets, and policy advocacy for thousands of MSMEs [27, 33]. Notably, PEPZ's targeted interventions in the mining sector increased its goal reach by four times, enabling 583 MSMEs to access new markets and integrate into larger value chains [27]. Such integration is a critical step in enhancing SME competitiveness and building resilient, sustainable supply chains [33].

Table 3 below summarizes the impact of these key PPP initiatives:

Table 3. Impact of Key Public-Private Partnership Initiatives on Zambian MSMEs.

PPP Initiative	Lead Organizations	Key Interventions	Measurable Outcomes
Zambia Credit Guarantee Scheme (ZCGS)	BoZ, Commercial Banks	Partial loan guarantees	800+ MSMEs accessed loans; Increased lending by 121% in 2023
MTN-MSMED Partnership	MTN Zambia, Ministry of MSMED	Digital tools (Yello Biz, MoMo), Training	Enhanced digital payment adoption; Improved market access

Table 3. *Cont.*

PPP Initiative	Lead Organizations	Key Interventions	Measurable Outcomes
PEPZ Programme	UK DFID, Nathan Associates	Business development, Market linkages	583 MSMEs accessed new markets; 4x reach in mining sector

Source: Compiled from National Assembly of Zambia [25], MTN Zambia [26], and Nathan Associates [27].

7. Discussion

7.1. Linking Findings to Adaptive Resilience Theory

The findings from this study provide robust empirical support for the propositions of Adaptive Resilience Theory. The cases demonstrate how financial innovation and PPPs enhance the four core capacities of adaptive resilience, namely, anticipate, withstand, adapt, and transform.

Anticipating is the first core capacity. It shows that digital financial tools provided MSMEs with better data for forecasting. For example, AgroTech Zambia's use of cloud-based accounting enabled better inventory planning for potential supply chain disruptions [34].

Using withstand as a capacity, the study reveals that products like the ZCGS and invoice discounting served as critical buffers. Sipopa Mining Services used supply chain finance to withstand the shock of long payment cycles, ensuring operational continuity.

Thirdly, the study confirms that MSMEs in Zambia actively adapted their business models using new financial resources. Kalingalinga Textiles adapted its production processes to meet ESG standards, accessing new markets [35].

Finally, the Mandevu Market Cooperative transformed from a collection of vulnerable individual traders into a resilient collective entity with enhanced bargaining power and risk-sharing mechanisms, fundamentally altering its market position.

The above results and analysis extend the application of Adaptive Resilience Theory by demonstrating that resilience is not only an internal capability but can be systematically scaffolded through externally provided financial tools and collaborative partnerships [36].

7.2. Comparison of the Present Results with Prior Literature

Our findings both confirm and extend existing literature. The critical role of digital finance in overcoming collateral constraints [7, 8] is strongly validated by the cases of AgroTech Zambia and Sipopa Mining Services. However, our study adds nuance by showing that the mere availability of technology is insufficient; its integration with capacity-building (as seen in Kalingalinga Textiles) is crucial for effective use, a point less emphasized in earlier macro-level studies.

Similarly, while the value of impact investing is recognized [10], our case study reveals that its resilience-building effect is magnified when combined with non-financial support, leading to both operational upgrades and improved management practices. This aligns with but provides deeper qualitative evidence than the survey-based findings of Singh and Agarwal [11] in India.

Furthermore, the success of the Mandevu Cooperative underscores the power of collective action, a factor often underplayed in MSME finance literature that tends to focus on individual firms [34–36]. This finding resonates with community-level resilience studies [18] and suggests that PPP models targeting business collectives can be highly effective.

7.3. Limitations of the Study

This study has limitations. The qualitative case study approach, while providing depth, limits the generalizability of the findings. The MSMEs studied were selected for their engagement with innovation and partnerships, and thus may represent more proactive enterprises than the average Zambian MSME. Future research could employ mixed methods to quantitatively test the relationships identified here across a larger, representative sample.

8. Conclusions

This paper has thoroughly examined the critical and interconnected roles of financial innovation and public-private partnerships in enhancing the resilience and growth of Zambian MSMEs. The study underscores the vital contribution of MSMEs to Zambia's economy and the profound obstacles they face. The findings demonstrate convinc-

ingly that digital financial tools, microfinance, impact investing, and strategic PPPs can effectively address these longstanding challenges by tangibly improving credit access, boosting operational efficiency, and enhancing shock absorption capabilities. Ultimately, the study concludes that resilience in Zambian MSMEs is not a passive state but an active capability, one that can be systematically built and strengthened through a synergistic ecosystem of innovative finance, strategic partnerships, and targeted capacity building.

Based on the comprehensive analysis, the following actionable recommendations are proposed for policymakers, financial institutions, and development partners:

(1) Scale Up Successful PPP Models: Policy formulation institutions should proactively expand and replicate successful PPP initiatives, such as the Zambia Credit Guarantee Scheme and the MTN Zambia partnership, to reach a greater number of MSMEs, with particular focus on rural, informal, and women-led enterprises. This scaling requires increased and sustained funding, streamlined implementation protocols, and robust monitoring and evaluation frameworks.

(2) Promote Digital Financial Inclusion Aggressively: There is a need to accelerate the adoption of digital financial services through targeted infrastructure development, such as expanding broadband access, ensuring reliable electricity, affordability measures like subsidizing data costs for business apps, and comprehensive digital literacy programs. Regulatory reforms should foster a supportive "sandbox" environment that encourages innovation while ensuring consumer protection.

(3) Integrate Financial Literacy with Financial Products: Financial institutions are expected to move beyond offering standalone financial products. Financial institutions and development programs should combine loans, savings, and insurance with tailored financial literacy training and business development services. This integrated "credit-plus" approach demonstrably enhances MSMEs' ability to manage finances effectively and maintain strong loan repayment histories, as evidenced by the Kalingalinga Textiles and Mandevu Cooperative cases.

(4) Foster an Enabling Policy Environment: Implement and enforce coherent policies that actively support MSME formalization, innovation, and access to markets. Key measures include simplifying and digitizing business registration processes, providing tax incentives for MSMEs that adopt digital tools and sustainable practices, and promoting gender-inclusive finance.

(5) Encourage Impact Investing and Sustainable Finance: Develop a conducive ecosystem for impact investing by establishing clear national ESG standards and metrics for MSMEs, creating tax incentives for impact investors, and developing digital matchmaking platforms that efficiently connect investors with high-potential, impact-oriented MSMEs.

The study shows that by embracing these recommendations with commitment and coordination, Zambia can unlock the immense transformative potential of its MSME sector. This will drive inclusive growth, create dignified employment, and build a more economically resilient and diversified nation, fully prepared to thrive in the Industry 5.0 era.

Author Contributions

Two authors conducted the study. R.P.A.C. conducted an investigation and collected data. R.P.A.C. also dealt with methodology, wrote the literature review, and presented the findings. R.P.A.C. further dealt with the introduction and part of the theoretical locale. P.S. dealt with the conceptualization of the study, validated data collection tools, organized data and typesetting, and organized and ordered the references according to the journal's requirements. P.S. also did a formal analysis of the data, wrote the original draft paper, did the final writing of the article (review, editing), and the final revision/corrections after receiving the reviewer's comments, including writing the letter for the corrections and revisions made to the final manuscript. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement

The study did not require ethical approval from the institutional review board.

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability Statement

The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy and confidentiality agreements with the research participants.

Conflicts of Interest

The authors declare no conflict of interest.

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