

## Scaling cooperative banking frameworks to support MSMEs, foster resilience, and promote inclusive financial systems across emerging economies

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### Abstract

Micro, Small, and Medium Enterprises (MSMEs) constitute a vital pillar of emerging economies, driving job creation, innovation, and local value addition. However, they often face systemic exclusion from traditional banking systems due to high collateral requirements, limited credit histories, and volatile economic environments. These challenges have underscored the need for inclusive financial frameworks capable of offering affordable, sustainable, and resilient financing solutions. Cooperative banking models, rooted in community-based governance and member-oriented principles, have increasingly emerged as viable mechanisms for addressing such gaps. This article explores the scaling of cooperative banking frameworks as a strategic pathway for expanding MSME financial access while strengthening resilience against systemic shocks. It highlights how cooperative banks can bridge the financing gap by pooling community resources, promoting shared risk management, and tailoring credit products to the specific needs of MSMEs. At the same time, partnerships with government institutions, fintech innovators, and international development agencies are shown to enhance scalability, digital integration, and regulatory compliance, enabling cooperative banks to operate effectively within broader financial systems. Through the integration of resilience-building mechanisms such as diversified credit portfolios, collective savings schemes, and digital platforms cooperative banking frameworks can promote long-term financial sustainability. Case evidence from emerging economies demonstrates how scaled cooperative models contribute not only to MSME growth but also to broader objectives of financial inclusion, social equity, and sustainable economic development. By situating cooperative banking as a cornerstone of inclusive finance, this paper emphasizes its potential to transform fragmented financial access into a resilient, community-driven ecosystem for MSMEs across emerging markets.

**Keywords:** MSMEs; Cooperative banking; Financial inclusion; Resilience; Emerging economies; Sustainable finance

### 1. Introduction

#### 1.1. Global importance of MSMEs in emerging economies

Micro, small, and medium enterprises (MSMEs) constitute the backbone of most economies, particularly in emerging markets where they account for the majority of employment and enterprise activity [1]. In Asia, Africa, and Latin America, MSMEs represent over 90 percent of registered businesses, making them central to industrialization and inclusive development [2]. Their significance is not limited to the provision of jobs; MSMEs also foster entrepreneurship, encourage innovation, and stimulate local markets that might otherwise remain underserved [3].

The role of MSMEs in economic resilience is particularly evident during periods of crisis. For instance, after financial downturns, MSMEs often rebound faster than large corporations because of their adaptability and close integration with community markets [4]. This ability to quickly realign business strategies highlights their contribution to sustainable

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growth. In addition, MSMEs provide essential linkages between the informal and formal sectors, enabling upward mobility for entrepreneurs who start small but gradually formalize operations [5].

Emerging economies depend on this dynamic sector to expand exports, diversify industries, and absorb growing labor forces. Without strong MSME development, economic disparities widen, and poverty alleviation becomes more difficult [6]. Thus, their centrality in job creation and market expansion solidifies their role as engines of inclusive global growth [7].

### **1.2. Persistent financial exclusion of MSMEs**

Despite their global importance, MSMEs remain among the most financially excluded groups. Access to affordable finance is consistently ranked as one of the most critical challenges hindering their growth [1]. Formal banks often impose stringent requirements, including high collateral and lengthy approval procedures, which many small firms cannot meet [2]. Consequently, millions of entrepreneurs rely on informal credit sources, often at exploitative interest rates, undermining long-term sustainability [3].

The financial exclusion of MSMEs is also a structural issue. Many operate in rural or peri-urban areas where banking infrastructure is underdeveloped [4]. Even where institutions exist, credit officers frequently perceive MSMEs as high-risk borrowers due to limited financial records, irregular cash flows, and vulnerability to market shocks [5]. This risk perception leads to credit rationing, leaving MSMEs without adequate resources to invest in technology, labor, or innovation.

Additionally, digital exclusion exacerbates financial marginalization. While fintech solutions are expanding, many MSMEs lack digital literacy or access to mobile banking platforms [6]. This digital divide prevents them from benefiting from emerging financial technologies that could ease their access to working capital. Persistent exclusion not only stifles business potential but also constrains broader national development objectives [7].

### **1.3. The potential of cooperative banking frameworks**

Cooperative banking frameworks offer a promising pathway to addressing the financing challenges faced by MSMEs. Rooted in mutual ownership and democratic governance, cooperative banks and credit unions prioritize member needs over profit maximization [1]. This structure creates a more inclusive financial environment where MSMEs can access loans without meeting the rigid collateral demands of conventional banks [2].

Cooperatives thrive on collective responsibility, allowing members to pool resources and share risks. Such solidarity mechanisms reduce default rates and enhance trust, making them more resilient than traditional lenders in contexts of economic volatility [3]. In many developing countries, cooperative banks are deeply embedded in local communities, offering products tailored to the realities of small enterprises, including flexible repayment schedules and lower interest rates [4].

Furthermore, cooperative frameworks promote financial literacy and empower entrepreneurs by involving them in governance processes [5]. Unlike commercial banks, cooperatives reinvest surpluses back into member communities, strengthening local economies. Evidence also suggests that cooperative banking can effectively bridge gender gaps in financial access, with women-led MSMEs benefiting disproportionately from such inclusive systems [6].

By aligning financial services with social objectives, cooperative banks serve as catalysts for MSME resilience, sustainable growth, and poverty reduction [7].

### **1.4. Objectives and scope of the article**

This article sets out to critically examine the financial challenges of MSMEs and explore inclusive alternatives that address persistent exclusion. Its objectives are threefold: first, to highlight the socioeconomic importance of MSMEs in emerging economies; second, to analyze the structural and institutional barriers preventing their access to finance; and third, to evaluate cooperative and alternative banking frameworks as sustainable solutions [1].

The scope extends beyond descriptive analysis to consider both theoretical and policy dimensions. The article reviews how collateral requirements, credit histories, and risk perceptions perpetuate exclusion, while also examining how innovations in cooperative finance, fintech, and credit guarantee schemes may provide viable alternatives [2]. Special attention is given to contexts in the Global South, where MSMEs form the majority of enterprises and yet face systemic under-financing [3].

By situating the discussion within broader debates on financial inclusion and development, the article seeks to contribute actionable insights for policymakers, financial institutions, and entrepreneurs [4]. It emphasizes that inclusive finance is not merely a development aspiration but a prerequisite for sustainable growth and poverty alleviation [5]. Ultimately, the work underscores the urgency of designing innovative, context-sensitive financial mechanisms that align with MSME realities [6,7].

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## **2. MSMEs in emerging economies: context and challenges**

### **2.1. Role of MSMEs in GDP, job creation, and poverty alleviation**

Micro, small, and medium enterprises (MSMEs) are vital engines of economic growth and social development, particularly in emerging and developing economies. Their contribution to gross domestic product (GDP) is substantial, with estimates suggesting that MSMEs account for more than 40 percent of GDP in many low- and middle-income countries [7]. Their dynamism stems from their diversity across sectors ranging from agriculture and retail to manufacturing and services making them resilient to economic fluctuations and integral to national productivity [8].

Employment creation represents perhaps the most visible impact of MSMEs. By absorbing labor across both formal and informal markets, MSMEs provide livelihoods for a wide spectrum of workers, including women, youth, and marginalized groups [9]. This capacity for labor absorption is particularly critical in contexts where large firms are unable to meet the growing demand for employment. Through such inclusivity, MSMEs not only generate income but also reduce inequality by distributing opportunities more evenly across societies [10].

The poverty alleviation role of MSMEs is equally profound. By linking local supply chains, promoting entrepreneurship, and expanding access to essential goods and services, they directly enhance household welfare [11]. In rural settings, small-scale enterprises provide markets for agricultural producers, while in urban centers they enable affordable consumer access. Their multiplier effects extend to community development, reinforcing MSMEs' place as catalysts for sustainable growth [12]. When properly supported, they become pivotal tools for reducing poverty, improving resilience, and achieving national development priorities [13].

### **2.2. Barriers to accessing affordable credit and financial services**

Despite their significance, MSMEs face systemic barriers in obtaining affordable financial services. Chief among these barriers is the issue of collateral requirements. Traditional lending institutions often demand immovable assets such as land titles or property deeds that most small businesses cannot provide [7]. Without collateral, MSMEs are excluded from accessing loans, trapping them in cycles of underinvestment.

Risk perception is another major constraint. Many financial institutions classify MSMEs as high-risk borrowers due to limited diversification, inconsistent cash flows, and lack of credit insurance [8]. This perception often leads to higher interest rates or outright denial of credit. Even when loans are extended, the terms are frequently restrictive, curbing the borrower's ability to expand operations [9].

Additionally, poor credit histories or lack of formal documentation further inhibit access. MSMEs, particularly those operating informally, may lack audited statements, tax records, or standardized reporting formats, making it difficult for banks to evaluate their creditworthiness [10]. Entrepreneurs are thus penalized for systemic gaps beyond their control.

Geographical and digital barriers also perpetuate exclusion. Many MSMEs are situated in underserved rural areas where banking penetration remains low, and digital banking alternatives are not yet fully inclusive [11]. Limited financial literacy compounds these challenges, as entrepreneurs struggle to navigate complex loan application procedures [12]. These structural barriers collectively deny MSMEs access to affordable finance, undermining their potential to contribute more effectively to employment creation, GDP growth, and poverty alleviation, and perpetuating cycles of financial exclusion [13].

### **2.3. Shortcomings of conventional financial institutions**

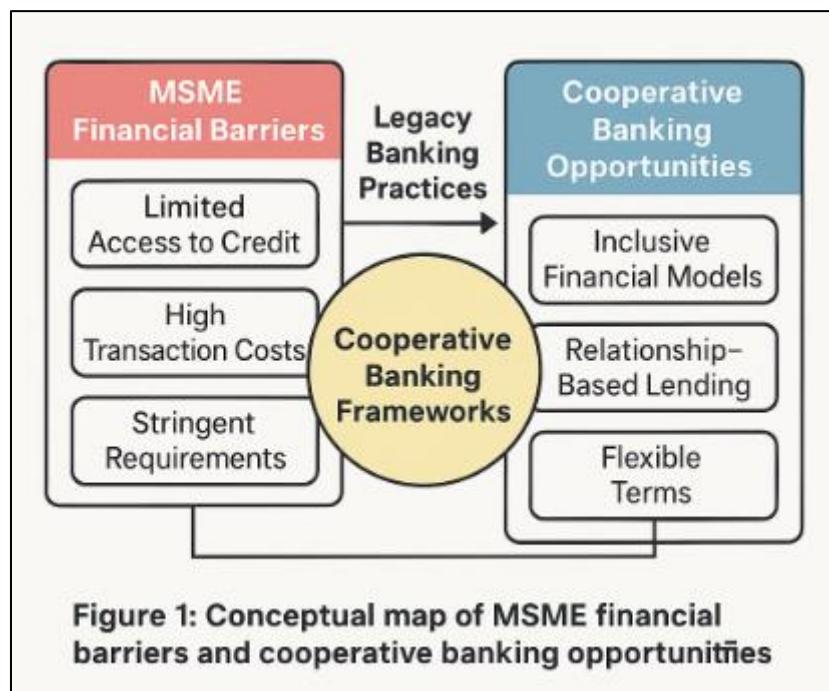
Conventional financial institutions remain structurally misaligned with the realities of MSMEs. Rigid collateralization practices dominate their lending strategies, sidelining entrepreneurs who lack traditional assets [7]. Even businesses with viable cash flows are deemed ineligible due to a narrow emphasis on tangible guarantees, perpetuating exclusion [8].

Documentation requirements further reinforce barriers. Banks prioritize clients who maintain formal records, including balance sheets, tax returns, and consistent transaction histories [9]. MSMEs, which often operate informally with cash-based systems, rarely satisfy these conditions. As a result, banks prefer larger firms, leaving smaller businesses systematically underserved [10].

High transaction costs also reduce the appetite of conventional banks for MSME lending. Loan appraisals, monitoring, and enforcement processes are resource-intensive, making small-ticket loans unattractive from a profitability standpoint [11]. This bias creates an imbalance where fewer large clients dominate credit portfolios, while MSMEs struggle with limited or no access to capital.

Geographic exclusion remains another limitation. Many small businesses operate in rural and peri-urban areas where bank branches are sparse and infrastructure underdeveloped [12]. Even when digital platforms emerge as alternatives, they cannot fully compensate for the absence of localized support services.

These structural shortcomings are summarized in Figure 1, which illustrates the conceptual map of MSME financial barriers alongside opportunities for cooperative banking frameworks [13]. The figure highlights how legacy banking practices entrench systemic gaps, necessitating more inclusive financial models capable of aligning with MSMEs' operational realities and socio-economic roles.



**Figure 1** Conceptual map of MSME financial barriers and cooperative banking opportunities

#### 2.4. Rationale for scaling cooperative banking frameworks

In light of these persistent challenges, cooperative banking frameworks offer compelling alternatives for scaling MSME access to finance. Their democratic, member-driven structures prioritize service over profit, aligning with the realities of small enterprises [7]. Unlike conventional banks, cooperative institutions emphasize trust, solidarity, and shared risk, creating an environment more conducive to inclusive finance [8].

Cooperative banks and credit unions lower barriers by pooling member contributions to create accessible credit pools. This reduces the need for stringent collateral requirements and allows MSMEs to secure financing on more favorable terms [9]. Their localized structures also enhance reach into underserved regions, ensuring rural entrepreneurs are not excluded due to geographic remoteness [10].

Moreover, cooperative frameworks promote financial literacy and community empowerment by involving members in decision-making processes. This participatory model builds a culture of accountability while simultaneously

strengthening local economies [11]. Women-led and youth-driven enterprises particularly benefit from cooperative banking, as these systems often place emphasis on inclusive growth objectives rather than profit maximization [12].

The scalability of cooperative banking is further reinforced by their complementarity with digital innovations, such as mobile banking and credit scoring tools, which enhance efficiency and broaden outreach [13]. By addressing structural limitations of conventional banking while fostering social cohesion, cooperative banking frameworks emerge as a rational and sustainable pathway for closing MSME financing gaps, expanding employment opportunities, and reinforcing inclusive economic development.

### **3. Cooperative banking models and their relevance**

#### **3.1. History and principles of cooperative finance**

Cooperative finance has deep historical roots, emerging as a grassroots response to economic exclusion and market failures. The earliest models can be traced to 19th-century Europe, where cooperative credit societies arose to counterbalance exploitative lending practices [13]. These societies were built on democratic governance, collective ownership, and mutual aid, offering affordable financial services to individuals and small businesses excluded from formal banking [14].

The underlying principles of cooperative finance remain consistent across contexts: voluntary and open membership, democratic control, economic participation of members, and concern for community development [15]. Unlike profit-driven commercial banks, cooperatives reinvest surpluses into member services or community initiatives. This framework creates institutions that are not only financial intermediaries but also vehicles for social empowerment.

Over time, cooperative banks and credit unions have become globally recognized for their ability to provide inclusive financial services to marginalized groups. Their resilience during financial crises underscores the stability of cooperative principles [16]. In contrast to conventional banks that prioritize shareholder profit, cooperatives prioritize long-term community well-being, offering products aligned with members' actual needs.

Moreover, cooperative finance has consistently emphasized education, training, and financial literacy, ensuring that members actively participate in governance [17]. This principle distinguishes cooperative institutions from other financial actors by embedding empowerment into their operational DNA. As a result, they have gained recognition not merely as alternative institutions but as integral pillars of inclusive finance [18]. Their long-standing history demonstrates the sustainability of collective finance models, reinforcing their relevance for addressing contemporary financial exclusion challenges faced by MSMEs in emerging economies [19].

#### **3.2. Unique strengths of cooperative banks for MSMEs**

Cooperative banks possess distinctive strengths that make them particularly well-suited to serve the needs of micro, small, and medium enterprises (MSMEs). One major advantage is their community-oriented approach, which enables them to understand local contexts and tailor financial products accordingly [13]. By engaging directly with entrepreneurs, cooperative institutions are more flexible in designing repayment schedules, loan sizes, and service delivery mechanisms [14].

Another strength lies in their emphasis on social trust and solidarity. Cooperative banks are owned and managed by their members, fostering a sense of shared responsibility. This collective accountability reduces default risks and allows cooperatives to lend without the rigid collateral requirements often imposed by conventional banks [15]. For MSMEs lacking formal assets or strong credit histories, such flexibility is invaluable.

Cooperatives also play an essential role in promoting inclusive finance for women and youth entrepreneurs. By prioritizing equity and social development, they ensure that marginalized groups gain access to resources that are frequently withheld by mainstream institutions [16]. This inclusivity enhances entrepreneurship diversity and fosters innovation across local economies.

Furthermore, cooperative banks reinvest profits into the community rather than distributing them as dividends to external shareholders. This reinvestment supports broader socio-economic development, including training programs, infrastructure projects, and business incubators [17]. MSMEs benefit not only from financial services but also from the supportive ecosystems created by cooperative reinvestment.

The trust-based and participatory nature of cooperative governance ensures that entrepreneurs remain active stakeholders, reinforcing sustainability and accountability [18]. These attributes highlight why cooperative banks are increasingly recognized as vital partners for MSMEs striving to grow, innovate, and contribute to national development goals across emerging markets [19].

### **3.3. Regional variations in cooperative banking across emerging economies**

Cooperative banking manifests differently across regions, reflecting distinct historical, cultural, and policy environments. In Africa, cooperative banks often take the form of savings and credit cooperative organizations (SACCOs), which operate at community levels to pool resources and provide small-scale credit [13]. These institutions have been instrumental in rural development, supporting farmers, traders, and informal workers who remain excluded from mainstream finance [14].

In Asia, cooperative banks are more formalized and integrated into national financial systems. India, for instance, has a well-established cooperative credit structure that operates at multiple tiers, ranging from primary credit societies to state cooperative banks [15]. These banks play an essential role in agricultural finance, offering subsidized credit to farmers and small enterprises. In Southeast Asia, cooperative banks increasingly collaborate with digital platforms to extend outreach to underserved entrepreneurs [16].

Latin America demonstrates another unique trajectory. Cooperative banks in countries such as Brazil and Colombia focus heavily on social solidarity and regional development [17]. Many are tied to agricultural value chains, supporting both producers and rural enterprises. Their integration with social movements has reinforced their legitimacy as agents of financial democratization [18].

Table 1 provides a comparative overview of cooperative banking features in Africa, Asia, and Latin America, highlighting key institutional characteristics, areas of strength, and regional challenges [19]. The table underscores the diversity of cooperative banking while emphasizing commonalities, such as community orientation and member-driven governance. This comparative perspective illustrates that while cooperative frameworks adapt to regional contexts, their core principles remain constant, underscoring their flexibility and resilience as inclusive financial models.

### **3.4. Governance and sustainability challenges**

Despite their many strengths, cooperative banks face notable governance and sustainability challenges that require careful attention. One significant issue is managerial capacity. Since many cooperative banks are community-driven, they often struggle with professional management and technical expertise, which can compromise efficiency and long-term sustainability [13].

Another challenge is balancing social objectives with financial viability. Cooperative banks aim to serve members inclusively, yet they must also remain financially sound. Excessive focus on social goals without adequate financial discipline can lead to insolvency risks, particularly in volatile economic environments [14]. Conversely, prioritizing profitability at the expense of inclusivity risks diluting cooperative values and alienating members [15].

Governance structures also pose difficulties. While democratic participation is a defining principle, member apathy or dominance by a few influential stakeholders can undermine decision-making processes [16]. Weak oversight mechanisms increase vulnerability to mismanagement, fraud, or political interference. Such issues can erode trust and destabilize cooperative institutions.

Sustainability is further threatened by external pressures, including competition from commercial banks and fintech platforms. Without technological upgrades and innovative product design, cooperatives risk obsolescence in fast-evolving financial markets [17]. Moreover, regulatory environments in many countries remain fragmented, with cooperative banks facing inconsistent oversight or lacking adequate legal frameworks [18].

Addressing these challenges requires investments in capacity building, strong governance frameworks, and digital transformation strategies that preserve cooperative values while ensuring competitiveness [19]. Only by resolving these issues can cooperative banks maintain their dual role of delivering inclusive finance to MSMEs while safeguarding institutional sustainability in the long run.

**Table 1** Comparative features of cooperative banks in Africa, Asia, and Latin America.

Feature	Africa	Asia	Latin America
Dominant model	Savings and Credit Cooperative Organizations (SACCOs)	Multi-tier cooperative banks (village societies, district/state-level banks)	Credit unions and cooperative banks embedded in social movements
Primary focus	Rural finance, agriculture, informal trade	Agricultural finance, rural MSME lending, integration with state credit programs	Social enterprises, fair trade, sustainable farming, and community projects
Collateral approach	Group lending, collective guarantees, minimal asset requirements	Flexible collateral, seasonal repayment structures linked to harvest cycles	Relationship-based lending, solidarity mechanisms
Integration with policy	Often supported by donor programs, weak formal oversight	Stronger integration into national financial systems with legal recognition	Linked with community development agendas and cooperative federations
Technology adoption	Mobile money integration emerging, especially in East Africa	Increasing use of digital platforms, fintech collaboration in India and Southeast Asia	Growing adoption of digital wallets and e-banking, though uneven regionally
Gender inclusion	Strong emphasis on women entrepreneurs in rural SACCOs	Gender-sensitive lending programs, women-focused credit societies	Women-led enterprises often supported through social solidarity cooperatives
Key challenges	Weak regulation, governance gaps, vulnerability to mismanagement	Political interference, over-indebtedness, uneven governance capacity	Regulatory fragmentation, competition with commercial banks, political instability
Strengths	Grassroots reach, trust-based models, poverty alleviation impact	Large-scale networks, government integration, strong role in agriculture	Deep integration with social economy, strong emphasis on solidarity and inclusion

#### 4. Pathways for scaling cooperative banking frameworks

##### 4.1. Policy-driven expansion and enabling legal frameworks

The success of cooperative banking systems in supporting micro, small, and medium enterprises (MSMEs) is strongly influenced by the presence of enabling policy environments and legal frameworks. Governments that recognize the unique role of cooperatives tend to implement targeted regulations that enhance their legitimacy and operational sustainability [18]. In many emerging economies, policies that provide legal recognition to cooperatives as formal financial institutions are essential for their integration into broader financial systems [19].

Enabling legal frameworks typically focus on three dimensions: regulatory oversight, prudential norms, and institutional autonomy. Oversight ensures that cooperatives adhere to sound banking practices while maintaining their member-driven governance. Prudential regulations, such as capital adequacy requirements, safeguard financial stability and protect depositors. At the same time, granting autonomy allows cooperatives to remain responsive to the needs of their members without undue bureaucratic interference [20].

Policy-driven expansion also includes state-backed incentives such as tax exemptions, access to refinancing facilities, and credit guarantee schemes that reduce perceived risks among lenders. Such measures encourage cooperative banks to expand outreach to MSMEs in underserved regions [21]. Moreover, legal clarity surrounding member rights, governance obligations, and dispute resolution enhances transparency and trust, which are critical to the sustainability of cooperative institutions [22].

When governments align cooperative finance policies with national MSME development strategies, the outcomes are more impactful. Coordinated interventions enable cooperatives to function as complementary channels alongside commercial banks and fintech solutions, fostering inclusive growth. Without such frameworks, cooperative institutions

often remain fragmented, undercapitalized, and vulnerable to external shocks [23]. Thus, policy and law remain central levers for scaling cooperative banking into a sustainable driver of MSME financing [24].

#### **4.2. Technology integration for cooperative banking scale-up**

The integration of technology has become indispensable for scaling cooperative banking to meet the needs of MSMEs in emerging economies. Digital platforms can bridge traditional limitations of cooperatives by reducing transaction costs, improving efficiency, and expanding geographical reach [18]. Mobile banking, for example, enables cooperatives to deliver credit and savings services to entrepreneurs in remote areas without requiring physical branches [19].

Data-driven credit scoring systems further enhance cooperative capacity. By analyzing alternative data such as utility bills, mobile usage, and transaction histories cooperatives can evaluate creditworthiness in ways that traditional financial institutions cannot [20]. This approach mitigates the absence of formal financial records, which often excludes MSMEs from accessing loans. It also empowers cooperatives to design more flexible repayment structures tailored to individual business cycles [21].

Blockchain technologies offer another frontier by enabling transparent and tamper-proof recordkeeping. For cooperatives that rely on collective trust, blockchain enhances governance, reduces fraud risks, and ensures accountability in loan disbursement and repayment tracking [22]. Additionally, digital platforms can automate routine operations such as loan processing and member voting, freeing resources for more strategic activities.

Technology also facilitates integration with broader financial ecosystems. Cooperative banks using application programming interfaces (APIs) can link with national payment systems, insurance providers, and micro-investment platforms, thus broadening the portfolio of services accessible to MSMEs [23]. Importantly, digital transformation must be accompanied by investments in digital literacy to ensure that entrepreneurs and cooperative members can fully utilize available tools [24]. With thoughtful adoption, technology becomes a catalyst for scaling cooperative banking models, enabling them to deliver inclusive finance at a larger scale and greater efficiency.

#### **4.3. Public-private partnerships in MSME financing**

Public-private partnerships (PPPs) are increasingly recognized as powerful mechanisms for enhancing MSME financing through cooperative banking. These partnerships blend the financial capacity and innovation of private actors with the regulatory authority and social objectives of public institutions [18]. By combining resources, PPPs mitigate systemic barriers that cooperatives face, including limited capitalization and constrained risk management capacities [19].

Governments play a central role by providing guarantees, subsidies, or matching funds that lower risks for private actors engaging with cooperatives. Credit guarantee schemes, for example, reduce the burden of collateral requirements for MSMEs, enabling cooperatives to extend larger volumes of credit [20]. In turn, private sector players such as commercial banks and fintech firms contribute expertise, technology, and infrastructure that strengthen cooperative systems [21].

One of the defining advantages of PPPs lies in their ability to foster innovation. For instance, fintech firms collaborating with cooperatives can develop digital loan platforms that reduce transaction costs and enhance transparency. Private investors can also support cooperative-driven incubation centers that nurture small businesses, thereby complementing credit services with capacity-building initiatives [22].

At the same time, PPPs can strengthen alignment with national development priorities. Cooperative banking, when linked with government MSME support programs, becomes a delivery channel for targeted interventions such as subsidized interest rates, women's entrepreneurship funds, or agricultural modernization programs [23]. This integrated approach ensures that public resources reach intended beneficiaries more effectively while leveraging private efficiency.

Figure 2 presents a framework for scaling cooperative banking in emerging economies, illustrating the intersection of policy, technology, and PPPs [24]. It highlights the central role of cooperative institutions in leveraging public incentives and private expertise to deliver inclusive finance. By embedding PPPs into cooperative strategies, emerging economies can transform MSME financing into a sustainable engine for economic empowerment.

#### **4.4. Cross-border cooperative financial networks**

The globalization of cooperative banking through cross-border financial networks is emerging as a significant pathway for expanding MSME access to finance. These networks facilitate knowledge exchange, capital flows, and institutional

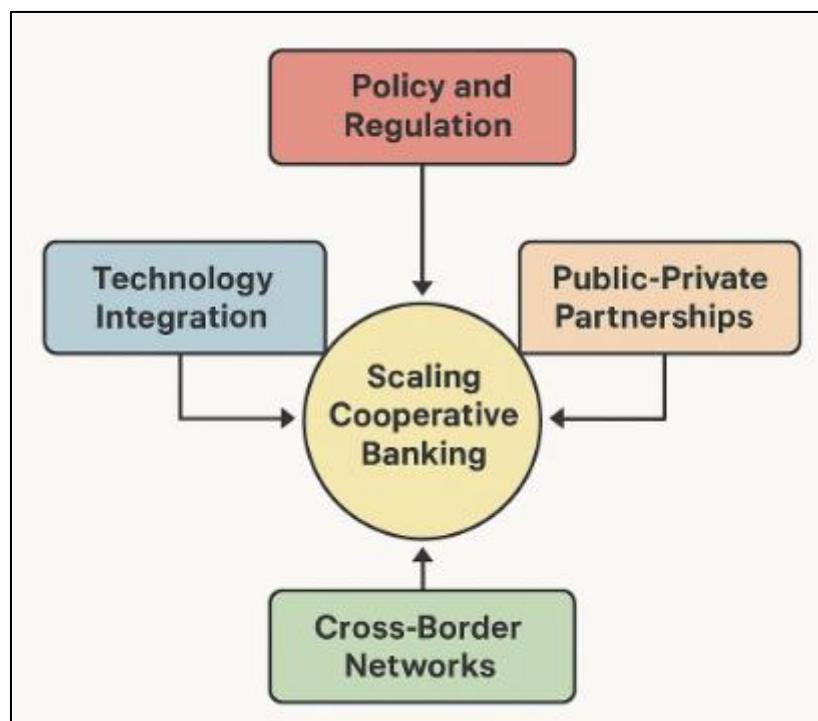
strengthening across regions, enabling cooperative banks in one country to learn from and collaborate with peers elsewhere [18]. Such networks reduce isolation and create synergies that enhance resilience in the face of global market volatility [19].

Regional cooperative federations play an essential role in this process. In Africa, for example, continental networks provide training, standard-setting, and pooled resources that smaller cooperatives would struggle to achieve independently [20]. Similarly, in Asia and Latin America, federations enable cooperatives to integrate into regional payment systems, expanding cross-border trade financing for MSMEs engaged in export activities [21].

Cross-border networks also foster innovation by allowing cooperatives to jointly experiment with new digital solutions. Shared investments in mobile banking, blockchain, and cross-border remittance platforms reduce costs while accelerating adoption [22]. Importantly, these collaborations promote financial inclusion for MSMEs engaged in regional value chains, such as agriculture, textiles, and small-scale manufacturing, which require access to financing beyond national borders [23].

**Table 2** illustrates examples of scaling mechanisms, including regional federations, digital platforms, and cross-border partnerships, and their impact on MSME access to finance [24]. The table emphasizes how networked approaches enhance not only financial capacity but also knowledge sharing and institutional resilience.

Ultimately, cross-border cooperative financial networks expand the scope and sustainability of inclusive finance. By leveraging shared values of solidarity and collective empowerment, they provide MSMEs with broader opportunities to access affordable credit, participate in international trade, and contribute to regional economic integration.



**Figure 2** Framework for scaling cooperative banking in emerging economies

**Table 2** Examples of scaling mechanisms and their impact on MSME access to finance.

Scaling Mechanism	Description	Impact on MSME Access to Finance
Regional cooperative federations	Networks of cooperatives pooling resources, training, and technical assistance across regions.	Expand outreach to rural and underserved MSMEs; strengthen institutional capacity through shared standards.
Credit guarantee schemes	Public-private partnerships offering guarantees to reduce lender risk.	Enable MSMEs without collateral to secure loans; lower interest rates by mitigating risk perception.
Digital platforms (mobile & fintech integration)	Use of mobile money, digital wallets, and APIs to connect MSMEs with cooperative banks.	Reduce transaction costs, expand financial access to remote areas, and formalize MSME financial records.
Blockchain applications	Transparent, tamper-proof ledgers and smart contracts for cooperative banking.	Improve trust and governance; enhance cross-border payments and trade finance for MSMEs.
Public refinancing facilities	Central bank or government-backed funding channels for cooperatives.	Provide liquidity and stability for cooperative lending; scale MSME financing sustainably.
Cross-border cooperative partnerships	Collaboration among cooperatives across countries to share knowledge and resources.	Facilitate trade finance and expand access to international markets for export-oriented MSMEs.

## 5. Digital transformation in cooperative banking

### 5.1. Digital banking tools and mobile platforms for MSMEs

The rapid expansion of digital banking tools and mobile platforms has transformed financial access for micro, small, and medium enterprises (MSMEs) in emerging economies. Mobile money platforms have become essential instruments for providing low-cost, accessible, and real-time financial services [23]. These tools bypass the need for physical branches, enabling entrepreneurs in remote areas to conduct transactions, save securely, and access microloans through handheld devices [24].

Mobile wallets also create opportunities for MSMEs to formalize financial records. By digitizing transactions, small businesses generate data trails that can later be used to demonstrate creditworthiness to lenders [25]. In many African and South Asian markets, digital payment platforms have enabled enterprises to reduce reliance on cash, improve financial transparency, and integrate into national payment systems [26]. The adoption of QR-code payments and mobile-enabled merchant services has further lowered entry barriers for micro-entrepreneurs.

Another strength of mobile platforms is their capacity to integrate with other financial tools such as insurance and savings products. Bundled services allow MSMEs to access multiple solutions in one ecosystem, thereby reducing administrative burdens [27]. Moreover, digital platforms enhance efficiency for cooperative banks by lowering operational costs and expanding outreach to geographically dispersed members.

However, effective adoption of digital banking tools depends on ensuring affordability, digital literacy, and robust network infrastructure [24]. Without these enablers, small enterprises risk being excluded from the very systems designed to promote inclusion. Nonetheless, mobile banking tools remain among the most scalable solutions for bridging financial gaps faced by MSMEs in developing regions [23].

### 5.2. AI-driven credit scoring and alternative data models

Artificial intelligence (AI) has introduced transformative opportunities for addressing long-standing challenges in MSME financing. One of the most impactful innovations is AI-driven credit scoring, which relies on advanced algorithms to analyze both traditional and alternative data sources [23]. By moving beyond conventional financial statements, AI enables cooperatives and banks to assess creditworthiness even when formal documentation is limited [24].

Alternative data models draw on diverse sources, including mobile phone usage, e-commerce transaction histories, social media activity, and utility payments [25]. These non-traditional indicators provide valuable insights into an entrepreneur's reliability, spending patterns, and repayment capacity. For MSMEs operating informally or in cash-based economies, such data-driven approaches present an opportunity to bypass traditional barriers like lack of collateral [26].

AI-driven models also reduce biases inherent in manual assessments. Automated credit evaluations are faster, more scalable, and adaptable to fluctuating market conditions [27]. This speed benefits MSMEs that often require quick access to working capital to maintain operations. Moreover, predictive analytics allow financial institutions to forecast risks more accurately, improving portfolio stability.

Another key advantage lies in personalization. AI systems can recommend tailored financial products based on the unique profiles of individual MSMEs, increasing satisfaction and improving loan performance [24]. By integrating AI models into cooperative banking structures, institutions can expand lending capacity while safeguarding financial sustainability.

Nevertheless, challenges remain, particularly regarding data privacy and algorithmic transparency [25]. Overreliance on opaque models could create mistrust or unintended discrimination. Effective governance frameworks and ethical AI standards are thus critical for maximizing benefits while minimizing risks. When properly regulated, AI-based credit scoring represents a breakthrough in bridging MSME financing gaps [23].

### **5.3. Blockchain-enabled cooperative banking solutions**

Blockchain technology is increasingly recognized as a game-changer for cooperative banking, particularly in improving transparency, security, and efficiency for MSME financing [23]. At its core, blockchain provides tamper-proof and decentralized ledgers that enhance trust among cooperative members [24]. This is especially valuable for institutions that rely heavily on mutual accountability and collective governance.

One of the primary applications of blockchain lies in secure loan disbursement and repayment tracking. By recording every transaction on immutable ledgers, blockchain reduces fraud, prevents mismanagement, and strengthens confidence in cooperative systems [25]. Smart contracts further automate processes by executing loan terms automatically when conditions are met, reducing administrative overhead and delays [26].

Blockchain also facilitates cross-border transactions for MSMEs engaged in regional or global trade. Decentralized platforms eliminate intermediaries, lowering transaction costs and making international payments faster and more accessible [27]. This functionality expands opportunities for small businesses seeking to participate in export markets.

Additionally, blockchain strengthens financial inclusion by supporting the tokenization of assets. Cooperative banks can leverage blockchain-based tokens to enable fractional ownership of assets, creating new financing models for MSMEs [23]. Such mechanisms allow small entrepreneurs to access capital without traditional collateral requirements.

The potential of blockchain extends beyond finance to governance. Transparent digital voting systems can empower cooperative members to participate more effectively in decision-making, reinforcing democratic principles [24].

Figure 3 illustrates the digital ecosystem model for cooperative banking, showing how blockchain integrates with AI and mobile platforms to create a resilient and inclusive system [25]. By embedding blockchain within cooperative frameworks, emerging economies can advance financial inclusion while building trust-based, technologically robust financial ecosystems [26].

### **5.4. Risks and barriers to digital inclusion**

While digital tools promise significant benefits for MSME financing, the risks and barriers to inclusion cannot be ignored. A major concern is the digital divide, which persists across geographic, gender, and income lines [23]. Limited internet access, poor infrastructure, and high data costs continue to exclude many small enterprises, particularly in rural areas [24].

Digital literacy is another critical barrier. Entrepreneurs may lack the technical skills to effectively use mobile applications, AI-driven platforms, or blockchain systems [25]. Without adequate training, digital banking tools risk reinforcing existing inequalities instead of reducing them [26]. Women and marginalized groups are often disproportionately affected, limiting the inclusivity of digital finance.

Cybersecurity risks further complicate digital adoption. As MSMEs transition to online platforms, they become vulnerable to fraud, hacking, and data breaches. Weak security frameworks in emerging economies exacerbate these risks, potentially undermining trust in digital financial systems [27]. Data privacy concerns also arise when alternative data models rely on sensitive personal information for credit scoring.

Affordability remains another barrier. The cost of smartphones, reliable connectivity, and service fees can discourage adoption among microenterprises with thin profit margins [24]. Unless cooperative banks and policymakers implement subsidies or cost-reduction measures, the benefits of digital finance may remain unevenly distributed.

Finally, regulatory gaps pose systemic risks. Many countries lack comprehensive legal frameworks governing digital finance, blockchain, and AI-driven credit models [25]. The absence of clear standards can deter investment, limit innovation, or expose entrepreneurs to predatory practices.

Addressing these barriers requires a holistic approach that combines infrastructure investment, education, cybersecurity protocols, and supportive regulation [26]. Only then can digital inclusion become a sustainable enabler of MSME growth and cooperative banking innovation [23].



**Figure 3** Digital ecosystem model for cooperative banking in emerging economies

## 6. Building resilient financial systems through cooperative banking

### 6.1. Resilience frameworks in financial inclusion

Resilience frameworks in financial inclusion emphasize the ability of financial systems to absorb shocks, adapt to change, and sustain access for vulnerable groups such as micro, small, and medium enterprises (MSMEs). These frameworks focus on building systemic flexibility that ensures continuity of services even during crises [26]. They integrate financial instruments, institutional designs, and social safety nets that help MSMEs weather both predictable and unforeseen disruptions [27].

A key element of resilience frameworks is diversification of financial channels. When MSMEs can access credit, savings, and insurance from multiple sources including cooperatives, fintech platforms, and government-backed schemes they are less vulnerable to the failure of any single institution [28]. This redundancy creates buffers that stabilize the financial environment in which entrepreneurs operate.

Risk-sharing mechanisms also form a critical pillar. Cooperative models and mutual guarantee funds distribute risks across members, lowering individual exposure to defaults and economic downturns [29]. Such collective insurance systems strengthen resilience by making shocks more manageable at the community level.

Moreover, resilience frameworks prioritize adaptability. Flexible repayment schedules, emergency liquidity facilities, and temporary interest reliefs allow financial institutions to respond dynamically to crises [30]. By integrating these tools, cooperative banks and inclusive finance systems can maintain MSME participation even during recessions.

Finally, embedding resilience in policy ensures continuity beyond isolated interventions. Regulatory frameworks that promote deposit insurance, digital infrastructure, and credit guarantees embed resilience into the broader financial ecosystem [31]. In emerging economies, these principles are crucial for enabling MSMEs to survive volatility while maintaining their central role in job creation and poverty alleviation [32]. Resilience in finance is thus not merely about stability, but about ensuring the capacity of MSMEs to sustain growth under uncertainty [33].

## **6.2. Cooperative banks as stabilizers during economic shocks**

Cooperative banks play a critical role as stabilizers during economic shocks by leveraging their community-oriented models and risk-sharing mechanisms. Unlike commercial banks, which often retract credit during crises, cooperatives maintain lending to members because of their mutual trust and collective accountability frameworks [26]. This continuity allows MSMEs to sustain operations when other financing avenues contract [27].

During financial downturns, cooperative banks reduce volatility by reinvesting surpluses into member support. They often provide emergency loans, restructure repayment schedules, and extend grace periods that ease the burden on small entrepreneurs [28]. Such measures cushion enterprises against defaults and business closures, maintaining economic stability at the local level [29].

The embeddedness of cooperatives in local communities strengthens their capacity to respond effectively. Their proximity enables them to understand the unique challenges of members, offering tailored interventions that are often overlooked by centralized financial institutions [30]. For example, cooperatives serving agricultural MSMEs may adjust repayment cycles to seasonal harvests, ensuring financial stability even amid price volatility [31].

Furthermore, cooperative banks support resilience by mobilizing collective savings. In times of crisis, pooled resources can be quickly deployed as liquidity buffers, reducing dependency on external bailouts [32]. This internal stabilization mechanism makes cooperatives both self-sustaining and reliable for members.

The resilience of cooperative banking during shocks also contributes to broader macroeconomic stability. By preventing widespread MSME collapses, cooperatives mitigate unemployment surges and preserve local demand [33]. As such, they are indispensable partners for governments and development agencies seeking to ensure financial inclusion and stability during turbulent periods.

## **6.3. Linking cooperative finance with sustainable development goals**

Cooperative finance aligns naturally with the Sustainable Development Goals (SDGs), particularly those related to poverty reduction, gender equality, and economic growth. By design, cooperatives emphasize inclusivity and equitable participation, making them powerful vehicles for advancing SDG 1 on ending poverty [26]. Through affordable credit and savings services, they empower MSMEs to expand income-generating opportunities and strengthen household resilience [27].

Cooperatives also support SDG 8 on decent work and economic growth by financing enterprises that generate employment in marginalized communities [28]. Their localized operations enable targeted investments in sectors such as agriculture, crafts, and services, which are often excluded from mainstream finance. This inclusivity broadens economic participation and fosters innovation [29].

Gender equality (SDG 5) is another area where cooperative finance demonstrates impact. Women entrepreneurs, who frequently face barriers in accessing conventional loans, often find more equitable access in cooperative systems [30]. Empowering women-led MSMEs through cooperatives strengthens household welfare and fosters intergenerational benefits in education and healthcare [31].

Sustainability is also reinforced through environmental goals. Many cooperative banks finance green enterprises, renewable energy initiatives, and sustainable agriculture projects, directly contributing to SDGs 7 and 13 [32]. Their

emphasis on community development ensures that financial activities align with social and environmental objectives rather than short-term profit maximization [33].

Moreover, cooperatives embody SDG 17 partnerships for the goals by fostering collaboration among members, governments, and development agencies [26]. This collaborative ethos enhances the collective capacity to tackle systemic challenges. By linking cooperative finance with SDGs, policymakers and practitioners create pathways where financial inclusion not only addresses economic exclusion but also drives broader social and environmental transformation [27].

#### 6.4. Training and capacity-building for MSME resilience

Training and capacity-building are integral to enhancing MSME resilience within cooperative banking ecosystems. Capacity-building initiatives equip entrepreneurs with skills in financial management, digital literacy, and strategic planning, which are essential for sustainable enterprise growth [26]. Without these competencies, access to finance alone cannot guarantee long-term resilience [27].

Financial literacy programs remain a cornerstone. Cooperative banks often organize workshops that teach members about budgeting, credit management, and investment planning [28]. These initiatives enable MSMEs to optimize loan utilization and reduce the risk of default, strengthening both individual enterprises and cooperative portfolios [29].

Capacity-building also extends to digital skills. As cooperatives adopt mobile banking and blockchain systems, entrepreneurs must be trained to navigate these platforms effectively [30]. Digital inclusion depends not only on access to technology but also on the ability of MSMEs to use it productively for transactions, record-keeping, and market expansion [31].

Managerial and entrepreneurial training enhances resilience further by equipping business owners to adapt to shocks. Skills in diversification, supply chain management, and crisis planning enable MSMEs to withstand disruptions such as pandemics or climate-related shocks [32]. Cooperative banks that invest in such training programs create ecosystems where resilience becomes a shared asset rather than an individual struggle.

Table 3 summarizes tools for resilience-building through cooperative banking, including financial literacy, digital training, managerial capacity-building, and community-based mentoring [33]. These interventions demonstrate that resilience is multidimensional, requiring both financial instruments and human capital development. By embedding training within cooperative frameworks, MSMEs not only access credit but also acquire the skills needed to navigate uncertainty and drive inclusive development.

**Table 3** Tools for resilience-building through cooperative banking in MSME ecosystems.

Resilience Tool	Description / Implementation	Impact on MSME Resilience
Financial literacy programs	Training on budgeting, credit use, and savings management organized by cooperatives.	Improves loan utilization, reduces default risk, and strengthens enterprise financial health.
Digital skills training	Capacity-building for mobile banking, e-payments, and blockchain-based platforms.	Expands digital inclusion, enhances efficiency, and integrates MSMEs into modern finance.
Managerial and business training	Workshops on entrepreneurship, diversification, and crisis planning.	Equips MSMEs to adapt to shocks, manage growth, and maintain operational continuity.
Community-based mentoring	Peer learning, cooperative mentoring networks, and local leadership support.	Builds trust, reinforces cooperative solidarity, and encourages sustainable enterprise models.
Risk-sharing and mutual funds	Collective savings and insurance schemes to buffer against shocks.	Distributes risks, cushions MSMEs during crises, and provides emergency liquidity.
Governance capacity-building	Training for cooperative boards in compliance, transparency, and digital oversight.	Strengthens accountability, reduces mismanagement, and enhances long-term institutional trust.

## 7. Case studies of cooperative banking in emerging economies

### 7.1. African cooperative banking and microfinance integration

In Africa, cooperative banking has historically developed in close alignment with microfinance, creating a hybrid system that responds to the continent's unique financial challenges. Savings and credit cooperative organizations (SACCOs) are the most prominent model, pooling resources to provide small loans and savings services for low-income populations [32]. These institutions are embedded in communities and are particularly important in rural areas where formal banking penetration remains limited [33].

The integration of cooperative banking with microfinance has enhanced accessibility for micro and small enterprises, enabling them to invest in agriculture, trade, and informal services. SACCOs also address one of the biggest obstacles faced by African MSMEs collateral requirements by using group guarantees and collective accountability instead of fixed assets [34]. This makes them especially valuable for women and youth entrepreneurs, who often lack formal ownership of land or property.

Moreover, African cooperative banks emphasize capacity-building. Many operate training programs on financial literacy and entrepreneurship, helping members strengthen their businesses and manage credit more effectively [35]. Their localized governance ensures responsiveness to community-specific needs, whether seasonal agricultural cycles or urban micro-trade dynamics.

The link between cooperatives and microfinance has also drawn the attention of policymakers and international donors, who see them as tools for poverty alleviation and inclusive development [36]. However, challenges remain, including weak regulatory oversight and vulnerability to mismanagement. Despite these hurdles, African cooperative banking demonstrates that integration with microfinance can create sustainable grassroots financial ecosystems [37]. By reinforcing community resilience and economic inclusion, this model continues to play a transformative role across the continent [38].

### 7.2. South Asian cooperative finance for rural MSMEs

South Asia presents one of the most diverse landscapes for cooperative finance, with a long history of cooperative credit societies designed to serve rural populations. India offers a particularly strong example, where a multi-tiered cooperative banking structure operates from village-level credit societies to state-level cooperative banks [32]. These institutions provide vital services to rural MSMEs, especially those engaged in agriculture and small-scale manufacturing [33].

A defining feature of South Asian cooperative banking is its role in agricultural finance. Cooperative banks supply affordable credit for seeds, equipment, and irrigation systems, helping rural MSMEs overcome barriers to productivity [34]. By aligning repayment schedules with harvest cycles, cooperatives reduce the risk of default and foster stronger relationships with members. In countries like Bangladesh, cooperatives have also been instrumental in financing microenterprises alongside community development initiatives [35].

South Asian cooperatives integrate financial inclusion with social development. Many adopt gender-sensitive programs, offering loans and training specifically targeted at women entrepreneurs [36]. This approach not only fosters inclusivity but also improves household welfare and long-term resilience. Cooperative banks are also increasingly experimenting with digital tools to expand their outreach, reflecting global trends toward digitized finance [37].

Despite successes, South Asian cooperative banking faces challenges such as political interference, over-indebtedness, and uneven governance capacity [38]. Nevertheless, their ability to combine financial services with social empowerment highlights their importance for rural MSMEs. By offering flexible, community-driven finance, cooperatives in South Asia contribute significantly to rural development and inclusive economic growth [32].

### 7.3. Latin American cooperative banks supporting social enterprises

In Latin America, cooperative banking has evolved as a crucial vehicle for financing social enterprises and community-driven economic initiatives. Countries such as Brazil, Colombia, and Mexico host robust cooperative banking networks that emphasize solidarity, inclusion, and sustainability [33]. Unlike purely profit-driven models, Latin American cooperative banks often embed social objectives within their operational frameworks, making them natural allies of social enterprises [34].

These banks provide credit for initiatives that prioritize community well-being, such as agricultural cooperatives, worker-owned enterprises, and environmental projects [35]. By offering affordable loans and reinvesting surpluses locally, they strengthen both social and financial capital. In Colombia, for example, cooperative banks have financed rural associations that promote fair trade and sustainable farming practices [36].

Latin American cooperatives also excel at fostering local innovation. They support enterprises in renewable energy, artisanal production, and cultural industries that might otherwise be overlooked by commercial banks [37]. Their participatory governance structures ensure that communities retain ownership of economic activities, reinforcing democratic values and accountability.

However, these institutions are not without challenges. Weak regulatory environments, competition from commercial banks, and political instability can undermine their operations [38]. Despite this, cooperative banks in Latin America remain resilient due to their deep integration with grassroots movements and social development agendas [32]. Their experience demonstrates how cooperative finance can simultaneously address financial exclusion and foster inclusive, socially oriented economic growth [33].

#### **7.4. Key lessons and transferability to other regions**

The comparative experiences of Africa, South Asia, and Latin America reveal valuable lessons about cooperative banking models and their applicability in other contexts. A central insight is that cooperative banks thrive when they integrate financial inclusion with community-specific needs, whether through microfinance in Africa, agricultural cycles in South Asia, or social enterprise support in Latin America [34].

One lesson is the importance of governance. Strong local participation and transparent decision-making processes enhance trust, reduce default rates, and ensure resilience during economic shocks [35]. Cooperative models succeed when members view themselves as co-owners, actively contributing to sustainability rather than passive clients. Another transferable lesson is flexibility in financial design. Aligning repayment schedules with local income cycles or adopting group-based lending reduces exclusion and enhances repayment performance [36].

Technology adoption also emerges as a key factor. Across regions, cooperatives are increasingly leveraging mobile platforms, AI-driven models, and blockchain to improve efficiency and expand outreach [37]. Yet, digital tools must be combined with training and capacity-building to ensure equitable inclusion.

Figure 4 synthesizes case studies from Africa, South Asia, and Latin America, illustrating commonalities and regional distinctions in cooperative banking approaches [38]. The figure highlights pathways for adapting lessons across regions, emphasizing governance, inclusivity, and technology as core pillars. By learning from these experiences, policymakers and practitioners in other regions can adapt cooperative finance models to local conditions, creating resilient ecosystems that support MSMEs and advance inclusive development [32].



**Figure 4** Case study synthesis of cooperative banking models in emerging economies [33]

## 8. Policy, governance, and regulatory implications

### 8.1. Central bank policies for cooperative banking scale-up

Central banks play a pivotal role in shaping the environment for cooperative banking scale-up by setting regulatory directions that influence credit flows and institutional resilience. Supportive policies include refinancing facilities, liquidity windows, and concessional lending schemes that provide cooperative banks with stable funding sources [36]. By granting access to central bank reserves and interbank markets, authorities reduce the dependence of cooperatives on volatile external capital [37].

Prudential regulations also matter. Well-designed frameworks that balance risk management with inclusivity enable cooperative banks to expand responsibly without exposing members to instability [38]. For instance, proportionate regulation allows smaller institutions to meet compliance standards without bearing the costs imposed on commercial banks.

Central banks also shape innovation pathways. By endorsing digital payment systems and facilitating interoperability, they allow cooperative banks to integrate into national financial ecosystems [39]. This integration reduces transaction costs for MSMEs and increases outreach. Moreover, central bank directives promoting financial inclusion often prioritize underserved regions, encouraging cooperatives to channel resources toward rural and marginalized populations [40].

Through monetary and regulatory instruments, central banks therefore act as enablers of cooperative banking growth. Their policies determine not only the scale of outreach but also the sustainability of these institutions as pillars of inclusive financial systems [41,42].

### 8.2. Legal frameworks supporting inclusive financial systems

A robust legal framework is essential to ensure the effectiveness and credibility of cooperative banking within inclusive financial systems. Legislation provides the foundation for recognition, governance, and accountability of cooperatives, protecting both members and depositors [36]. Without clear legal definitions and standards, cooperative banks risk operating in regulatory grey areas that undermine their long-term sustainability [37].

Inclusive financial laws typically emphasize three key pillars: recognition of cooperative institutions as formal entities, rights of members, and obligations of managers. Recognition ensures cooperatives can legally mobilize deposits and provide credit, expanding their reach in underserved areas [38]. Member rights safeguard democratic participation, ensuring accountability and transparency within governance processes [39].

Another important element is dispute resolution. Clear legal mechanisms allow for timely handling of conflicts between members or between cooperatives and regulators [40]. This promotes stability and builds trust in cooperative banking systems.

Harmonized legal frameworks also facilitate partnerships between cooperatives, governments, and private sector actors. When laws encourage interoperability and resource pooling, cooperative institutions can expand faster and achieve greater efficiency [41]. By anchoring inclusive finance within transparent, rights-based legal systems, policymakers lay the groundwork for resilient cooperative banking sectors that contribute to broader development goals [42].

### **8.3. Consumer protection and governance safeguards**

Consumer protection and governance safeguards are critical to maintaining trust in cooperative banking, particularly as these institutions expand to serve vulnerable populations. Safeguards begin with transparency requirements, ensuring that members clearly understand loan terms, interest rates, and repayment obligations [36]. This transparency reduces risks of exploitation and fosters informed decision-making.

Governance safeguards are equally important. Democratic participation, periodic audits, and elected boards help ensure accountability in cooperative management [37]. When governance is weak, cooperatives risk mismanagement, corruption, or capture by influential elites, which can erode member confidence [38]. Effective oversight mechanisms both internal and external are therefore necessary to preserve cooperative integrity.

Consumer protection also extends to fair lending practices. Provisions against predatory lending, hidden fees, and discriminatory credit allocation ensure equitable access for MSMEs [39]. Cooperatives, by design, are member-centric, but formalizing these protections in regulatory codes strengthens trust across wider communities.

Capacity-building for governance committees further enhances resilience. Training board members in financial management, compliance, and digital security ensures that safeguards adapt to modern challenges [40]. Coupled with government and civil society oversight, these measures create resilient cooperative ecosystems [41]. Strong governance and consumer protection ultimately ensure cooperatives maintain their dual mission of inclusivity and sustainability [42].

### **8.4. Regional and global cooperation for financial inclusion**

Regional and global cooperation provides pathways for scaling cooperative banking beyond national boundaries. Collaborative platforms allow cooperative institutions to share knowledge, pool resources, and adopt best practices that strengthen financial inclusion [36]. Regional federations in Africa, Asia, and Latin America already serve as hubs for training, technical assistance, and standard-setting [37].

Cross-border cooperation also facilitates trade finance for MSMEs. By linking cooperative banks into regional payment systems, small enterprises can access credit for cross-border activities, fostering integration into regional value chains [38]. This is particularly significant for export-oriented MSMEs in agriculture and manufacturing.

Global organizations further contribute by setting standards and providing funding. Partnerships with international financial institutions and development agencies provide cooperatives with capital and capacity-building resources [39]. These collaborations also promote harmonization of regulations, making it easier for cooperative banks to interact across jurisdictions [40].

Technology-driven cooperation is another frontier. Shared investment in digital platforms enables cooperative banks from different regions to innovate collectively, reducing costs and enhancing outreach [41]. Ultimately, global cooperation fosters resilience by embedding cooperative banking in international networks of solidarity and knowledge exchange [42]. Such integration ensures cooperative banks remain relevant and effective in advancing inclusive finance worldwide.

## **9. Future directions and research priorities**

### **9.1. Hybrid cooperative-digital banking models**

Hybrid cooperative-digital banking models are emerging as transformative frameworks that blend the trust-based foundations of cooperatives with the scalability of digital platforms [43]. By integrating mobile wallets, AI-driven scoring, and blockchain verification, cooperatives can extend financial services to MSMEs in underserved areas without sacrificing their member-centric principles [44]. This hybridization addresses long-standing issues of collateral and risk assessment while lowering transaction costs [45].

Mobile-enabled cooperative structures also enhance transparency by digitizing governance processes, such as member voting and dividend distribution [46]. These innovations preserve democratic values while modernizing service delivery. By bridging cooperative trust with digital efficiency, hybrid systems create resilient ecosystems where MSMEs gain affordable access to credit, insurance, and savings. The model thus strengthens inclusion while future-proofing cooperative banking institutions [47,48].

### **9.2. Global networks for MSME resilience**

Global networks play an increasingly crucial role in fortifying MSME resilience by connecting cooperative banks across borders [43]. These networks facilitate knowledge sharing, enabling institutions to replicate best practices from diverse regions [44]. Joint platforms for cross-border remittances and trade finance expand opportunities for MSMEs engaged in regional value chains [45].

Collaborative mechanisms also enhance bargaining power with global stakeholders. By pooling resources, cooperatives gain access to concessional funds and digital infrastructure otherwise unattainable for small institutions [46]. Furthermore, international federations set standards for governance and financial reporting, fostering consistency across contexts [47].

Through shared learning and resource mobilization, global networks enhance stability and responsiveness to crises [48]. They empower MSMEs to withstand global shocks while aligning local cooperative finance models with international inclusion agendas [49,50].

### **9.3. Gaps for academic and applied research**

Despite progress, significant gaps remain in the academic and applied study of cooperative finance for MSMEs. One gap lies in the lack of longitudinal evidence on the long-term impacts of digital integration in cooperative systems [43]. Few studies track how AI, blockchain, or mobile finance alter cooperative governance, repayment behavior, and member trust over time [44].

Another gap involves cross-regional comparisons. While case studies exist, systematic evaluations of African, South Asian, and Latin American cooperative models remain limited [45]. Research is also needed on how policy and legal environments influence cooperative sustainability in volatile economies [46].

Applied research should explore practical pilots combining cooperative finance with green investments or climate adaptation [47]. Addressing these gaps will generate evidence-based strategies that strengthen inclusive finance ecosystems [48,49,50].

### **9.4. Long-term vision for inclusive finance**

The long-term vision for inclusive finance lies in creating resilient, hybrid ecosystems that integrate cooperatives, technology, and global cooperation [43]. This vision emphasizes democratization of financial systems while embedding transparency, equity, and sustainability [44]. By scaling hybrid cooperative-digital platforms, inclusive finance can reach MSMEs at scale, bridging rural and urban divides [45].

Future systems must prioritize environmental sustainability, linking finance to renewable energy, sustainable agriculture, and climate resilience projects [46]. Inclusivity should also extend across gender, youth, and marginalized communities, ensuring equitable access to resources [47].

Global solidarity networks will be central, aligning cooperative banking with international frameworks such as the SDGs [48]. Ultimately, inclusive finance must transcend national limitations to build a globally connected system that empowers MSMEs as engines of sustainable growth [49,50].

## 10. Conclusion

### 10.1. Summary of findings

This article has examined the multifaceted role of cooperative banking in advancing financial inclusion for micro, small, and medium enterprises (MSMEs). The analysis demonstrated that MSMEs remain central to economic growth, job creation, and poverty alleviation, yet continue to face systemic barriers in accessing affordable and reliable financial services. Conventional banking models often exclude these enterprises due to rigid collateral demands, high-risk perceptions, and complex documentation requirements.

Cooperative banks emerged as a compelling alternative, offering member-driven structures that emphasize equity, trust, and community development. Their ability to integrate with microfinance in Africa, serve rural agricultural needs in South Asia, and finance social enterprises in Latin America illustrates their adaptability across diverse contexts. The study also highlighted the importance of digital integration, public-private partnerships, and cross-border cooperative networks in scaling impact.

Overall, findings confirm that cooperative banking provides a resilient and inclusive pathway for bridging financial gaps, aligning with sustainable development goals, and empowering MSMEs to contribute more fully to national and regional economies.

### 10.2. Implications for MSMEs and financial systems

The implications of this analysis extend to both MSMEs and broader financial systems. For MSMEs, cooperative banking models present not only affordable credit but also capacity-building opportunities that enhance business resilience and long-term growth. By combining financial services with training, digital literacy programs, and collective insurance mechanisms, cooperative institutions address both financial and non-financial barriers faced by entrepreneurs. This creates an enabling ecosystem where enterprises can innovate, expand, and withstand economic shocks.

For financial systems, the cooperative model reinforces inclusivity while maintaining stability. Cooperative banks distribute risks across members, reinvest surpluses locally, and prioritize democratic participation, thereby reducing systemic vulnerabilities. Their integration with digital technologies and alignment with policy-driven frameworks expands outreach to underserved areas and enhances efficiency.

Additionally, the cooperative approach complements traditional and fintech-driven finance by filling structural gaps. Financial systems that embrace cooperatives as partners gain diversity, resilience, and stronger connections to grassroots economies. This integration strengthens national financial architectures and ensures that inclusion remains a sustainable and achievable goal.

### 10.3. Final reflections on inclusive financial transformation

The transformation toward inclusive finance requires more than incremental reforms; it demands a systemic reimaging of how financial institutions serve society. Cooperative banking demonstrates that finance can be both economically viable and socially equitable. Its hybridization with digital innovations creates opportunities to extend outreach while preserving values of solidarity and democratic governance.

The lessons drawn from different regions confirm that no single model is universally transferable. Instead, adaptability, contextual relevance, and participatory design are key to successful cooperative frameworks. This underscores the need for policies, technologies, and global networks that prioritize flexibility and inclusivity over uniformity.

Ultimately, inclusive financial transformation is not just about expanding credit; it is about empowering people, communities, and enterprises to shape their futures with dignity and resilience. By embedding cooperatives within national and international financial ecosystems, the long-term vision of equitable finance becomes attainable. Cooperative banking thus offers both a roadmap and a moral compass for building inclusive financial futures.

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