

Supply Chain Integration and SME Survival: Evidence from Botswana

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Abstract

This study examines how supply chain embeddedness may contribute to SME survival in Botswana, focusing on the mechanisms through which network participation generates survival-enhancing capabilities and on when and to what extent SMEs engage in supply chain integration. Grounded in Network Theory, the study adopts a qualitative phenomenological design. Semi-structured interviews were conducted with 30 SME owners and managers, supply chain professionals, and business incubators in Botswana, with data analysed thematically.

The findings identify seven mechanisms through which supply chain embeddedness may support SME survival: market access and expansion; collaboration and partnerships; technology and innovation; risk management and resilience; financial stability and investment access; operational efficiency and performance; and sustainability and ethical practices. However, supply chain integration remains insufficiently emphasized and relatively slow among SMEs. The findings suggest that earlier and more deliberate network engagement may strengthen SMEs' ability to access relational resources and develop survival-enhancing capabilities.

The study develops a survival-oriented analytical framework and extends Network Theory by identifying the timing and strategic emphasis placed on network embeddedness as important conditions shaping SMEs' access to and benefits from network resources in a developing-economy context.

Keywords: supply chain integration, SME survival, global value chains, entrepreneurship, Botswana, network theory.

JEL Classification: L14; L26; M21; O12.

Introduction

Small and medium-sized enterprises (SMEs) are widely recognized for their essential contribution to the global economy. They play a crucial role in fostering innovation, generating employment opportunities, creating value, and driving economic growth (Enaifoghe, 2024; Qobuljon, 2024). SMEs contribute to economic development by enhancing competitiveness, creating jobs, generating tax revenue, and fostering innovation (Yelshibayev & Tungatarova, 2024). They also support equitable development (Nor, 2024), industrialization, and the distribution of national income and wealth, making them important contributors to sustainable economic progress (Babitha & Murthy, 2024). Furthermore, SMEs enhance competition, attract investment, promote socio-economic stability, contribute to export diversification (Qobuljon, 2024), and support poverty reduction (Abdul-Azeez et al., 2024; Nor, 2024).

Despite their substantial economic contribution, SMEs continue to experience relatively low survival rates. Evidence from different economies illustrates the scale of this challenge: failure rates have been reported at 80–85% within the first five years in Nigeria (Ade et al., 2020), while approximately 60% of SMEs in Malaysia fail within their first three years. In the United Kingdom, around 35% fail after three years and 55% after five years (Ma'aji et al., 2023). SME survival is influenced by multiple interconnected factors, particularly in emerging markets, including inadequate entrepreneurial and financial management competencies (Hai et al., 2023), limited access to finance and other resources, insufficient market knowledge, and increasing global competition (Kwan & Watt, 2024; Mardikaningsih et al., 2022; Naradda Gamage et al., 2020). SMEs are also exposed to external economic shocks, rapid technological change, high tax burdens, adverse customer perceptions (Tong et al., 2019), crises (Hai et al., 2023), and inadequate risk management practices (Ade et al., 2020). Understanding how SMEs can overcome these constraints is therefore important for developing strategies that strengthen their resilience and long-term survival.

In increasingly interconnected markets, SME survival and success may depend substantially on their ability to establish and leverage relationships within supply chains (Bazile & Su, 2024; Kang & Kim, 2023). Supply chain integration can provide SMEs with access to markets, knowledge, resources, technologies, and collaborative opportunities that may otherwise remain beyond their reach. Participation in global value chains (GVCs), for example, can support SME internationalization and export activity (Nugroho, 2022; Arudchelvan & Wignaraja, 2015). Strategic network relationships and long-term collaboration with lead firms can further enable SMEs to overcome barriers to upgrading and strengthen their management capabilities (Kang & Kim, 2023). Similarly, effective supply chain integration may enhance SME performance through greater efficiency, improved inventory management, and increased market competitiveness (Rahman & Rahim, 2024).

However, SMEs often integrate into supply chains more slowly than large enterprises (LEs) and face greater barriers to developing and sustaining such relationships. Limited resources, technological constraints, weaker bargaining power, and insufficient network capabilities can restrict their ability to participate effectively in supply chain networks. Consequently, SMEs may fail to access relational resources and opportunities that could strengthen their resilience and survival. This issue is particularly relevant in developing economies, where resource constraints and institutional conditions may further influence SMEs' capacity to establish and benefit from inter-firm relationships.

Although existing studies demonstrate that supply chain integration can contribute to SME performance, resilience, innovation, market access, and internationalization, the literature provides a relatively fragmented understanding of how these benefits collectively contribute to SME survival. Existing research frequently examines individual outcomes of supply chain participation rather than the interconnected mechanisms through which network embeddedness may strengthen SME survivability. Moreover, limited empirical attention has been given to these mechanisms from the combined perspectives of SME owners and managers, supply chain professionals, and business incubators within the Botswana context. This creates a need for context-specific empirical evidence explaining how supply chain embeddedness contributes to SME survival and whether such integration is sufficiently prioritized during the early stages of SME development.

Grounded in Network Theory, this study addresses this gap by examining how embedding SMEs in supply chains contributes to their survival. Network Theory provides an appropriate theoretical foundation because inter-firm relationships can facilitate access to resources, markets, knowledge, collaborative opportunities, risk-sharing mechanisms, and other capabilities that may be difficult for SMEs to develop independently. The study therefore considers supply chain embeddedness not merely as participation in a network, but as a mechanism through which SMEs can access relational resources and capabilities that potentially enhance their ability to survive and grow.

Accordingly, the study addresses the following primary research question:

RQ1. How does embedding in supply chains enhance SME survival?

Two sub-research questions complement the primary question:

SRQ1. To what extent do SMEs and business incubators prioritize supply chain integration?

SRQ2. How early do SMEs integrate into supply chains compared with large enterprises (LEs)?

To address these questions, the study draws on the perspectives and lived experiences of SME owners and managers, supply chain professionals, and business incubators in Botswana. By bringing together these different stakeholder perspectives, the study provides empirical insight into both the benefits associated with supply chain integration and the extent to which such integration is prioritized and pursued by SMEs.

The study makes empirical, theoretical, and practical contributions. Empirically, it provides evidence from Botswana on the mechanisms through which supply chain integration may support SME survival. Theoretically, it extends the application of Network Theory by examining how network embeddedness enables SMEs to access markets, knowledge, technologies, finance, collaborative capabilities, and resilience-enhancing resources that collectively contribute to survival. In doing so, the study contextualizes network-based explanations of SME survival within a developing-economy setting. Practically, the findings provide SMEs, policymakers, and business incubators with insights into the importance of prioritizing and accelerating supply chain integration as part of SME development and survival strategies.

2. Literature Review and Theoretical Framework

2.1. Supply Chain Integration and SME Survival

Supply chain integration refers to the extent to which firms establish and coordinate relationships with suppliers, customers, and other actors within their supply networks. For SMEs, such integration extends beyond transactional exchanges and involves participation in collaborative relationships through which firms can access information, resources, capabilities, markets, and opportunities that may not be readily available internally. Embedding SMEs within supply chains can therefore strengthen their capacity to respond to competitive pressures and changing market conditions (Palomero & Chalmers, 2014; Stonkutė & Vveinhardt, 2016).

The importance of supply chain integration is particularly relevant given the resource constraints commonly experienced by SMEs. While large enterprises may possess substantial financial, technological, managerial, and market capabilities internally, SMEs often depend more strongly on external relationships to complement their limited resources. Participation in

supply chains can provide access to strategic resources and capabilities, enhance competitiveness, support innovation, and facilitate market expansion (Bazile & Su, 2024; Kang & Kim, 2023; Nugroho, 2022).

Supply chain integration may also facilitate SME participation in global value chains (GVCs). Such participation can create opportunities for internationalization, export development, knowledge transfer, and access to wider markets (Nugroho, 2022; Arudchelvan & Wignaraja, 2015; Stonkutė & Vveinhardt, 2016). Strategic relationships with larger or lead firms may further enable SMEs to overcome barriers to upgrading, strengthen managerial capabilities, and improve their ability to compete within increasingly interconnected markets (Kang & Kim, 2023).

These benefits suggest that supply chain integration may have implications extending beyond short-term firm performance. By improving SMEs' access to external resources and strengthening their ability to adapt, compete, and respond to disruption, supply chain embeddedness may contribute to firm survival. SME survival can therefore be understood not only as a function of internal resources and capabilities but also as an outcome influenced by the quality and extent of relationships established within wider business networks.

2.2. Barriers to SME Supply Chain Integration

Despite its potential benefits, SMEs often lag behind large enterprises (LEs) in establishing and developing supply chain relationships. The literature identifies several factors that constrain SME participation, including limited financial and human resources, technological requirements, insufficient information, weaker bargaining power, and difficulties meeting the standards imposed by larger supply chain partners (Palomero & Chalmeta, 2014; Popović-Pantić et al., 2020; Stonkutė & Vveinhardt, 2016). These constraints can restrict SMEs' capacity to establish and maintain the relationships required for effective supply chain participation.

Resource limitations are particularly significant because supply chain integration may require investment in technology, logistics, quality assurance, certification, information systems, and specialized human capabilities. SMEs may find these requirements disproportionately costly compared with LEs, which generally have greater access to financial, technological, and managerial resources. Consequently, SMEs may integrate more slowly or remain positioned at the margins of established supply networks.

Technological requirements can create additional barriers. Increasing digitalization of supply chains requires firms to adopt systems that support information exchange, visibility, coordination, and traceability. SMEs with limited technological capacity may experience difficulties meeting these requirements (Morrell & Ezingard, 2002; Palomero & Chalmeta, 2014). Differences in bargaining power may further affect SME integration. Larger firms often possess greater influence over contractual conditions, pricing, quality requirements, and delivery expectations, while SMEs may have less capacity to negotiate favourable terms. These asymmetries can reduce the attractiveness or accessibility of supply chain participation and may expose SMEs to additional operational and financial pressures.

These constraints indicate an important paradox: SMEs may have the greatest need for the external resources and capabilities available through supply chain networks while simultaneously facing the greatest barriers to accessing them. The timing and prioritization of supply chain integration may therefore be particularly important for understanding SME survival.

2.3. Survival Mechanisms of Supply Chain Integration

The literature identifies multiple mechanisms through which supply chain integration may strengthen SME survival. Rather than treating these benefits as independent outcomes, they can be synthesized into four interconnected dimensions: market and resource access; collaboration, knowledge, and innovation; resilience and risk management; and operational and sustainability capabilities.

Embedding in supply chains can expand SMEs' access to markets and strategic resources. Participation in established supply networks can connect SMEs with customers, suppliers, lead firms, and international markets that may otherwise be difficult to access. GVC participation is particularly relevant because it can facilitate SME internationalization and export activity (Arudchelvan & Wignaraja, 2015; Nugroho, 2022).

Supply chain relationships may also improve access to financial, technological, informational, and managerial resources. Such access is important because resource limitations frequently constrain SMEs' ability to grow and respond to market opportunities. Network relationships can therefore complement SMEs' internal resource bases and reduce some of the disadvantages associated with firm size. Collaborative supply chain relationships may additionally facilitate access to financial resources and alternative financing arrangements (Cozzolino et al., 2023; Kaur et al., 2023).

Improved market and resource access may ultimately strengthen survival by diversifying opportunities, expanding the customer base, improving revenue prospects, and increasing SMEs' ability to mobilize resources when confronted with operational or competitive challenges. A second mechanism concerns the collaborative and knowledge-based benefits of supply chain integration. Relationships with suppliers, customers, larger enterprises, and other network actors can facilitate information exchange, organizational learning, knowledge transfer, and the development of new capabilities. Strategic collaboration may also enable SMEs to overcome barriers to upgrading and strengthen their managerial capabilities (Kang & Kim, 2023).

These relationships can support innovation by exposing SMEs to new technologies, practices, market information, and problem-solving approaches. Collaboration with supply chain partners can also create opportunities for joint product development, process improvement, and technological adoption. For resource-constrained SMEs, access to external knowledge may be particularly important because developing comparable expertise internally can be costly (Yang & Ren, 2021). Knowledge and innovation benefits are therefore closely connected to SME survival. Firms that learn from network partners and adapt their products, processes, and technologies may be better positioned to respond to changing customer requirements and competitive conditions.

Supply chain embeddedness may also enhance SMEs' capacity to manage uncertainty and disruption. Access to information, alternative suppliers, collaborative relationships, and shared resources can increase visibility and flexibility, enabling firms to respond more effectively to supply disruptions and changing market conditions (Ali et al., 2017; Alshahrani & Salam, 2022; Gurbuz et al., 2022).

Network participation may facilitate risk-sharing and provide SMEs with access to information that supports earlier identification of operational and market threats. Stronger relationships with supply chain partners may also provide alternative sourcing options and collaborative responses during periods of disruption. These mechanisms can strengthen

resilience by reducing SMEs' dependence on isolated decision-making and limited internal resources (Trunk & Birkel, 2022).

This dimension is particularly important to survival because SMEs are generally more vulnerable to external shocks than larger firms. Supply chain relationships can therefore function as sources of adaptive capacity, helping SMEs absorb, respond to, and recover from disruption.

Supply chain integration may further support survival through improvements in operational efficiency and organizational performance. Effective coordination with suppliers and customers can improve inventory management, information flows, resource utilization, delivery performance, and overall efficiency (Rahman & Rahim, 2024). These improvements may reduce operating costs and enhance SMEs' ability to compete.

Increasingly, participation in supply chains also exposes SMEs to environmental, social, and ethical expectations. Relationships with larger firms and other supply chain actors may encourage SMEs to adopt improved sustainability practices, meet compliance requirements, and strengthen their legitimacy with customers and business partners (Verma et al., 2022).

Operational efficiency and sustainability should therefore not be considered separately from SME survival. Improved resource utilization can strengthen financial viability, while compliance with sustainability and ethical expectations may facilitate continued access to supply chain relationships and markets.

Taken together, these mechanisms suggest that supply chain integration can contribute to SME survival through several mutually reinforcing pathways. Market access provides commercial opportunities; network relationships facilitate knowledge and innovation; collaboration strengthens resilience and risk management; and improved operational and sustainability capabilities enhance competitiveness. This multidimensional relationship provides the basis for examining supply chain embeddedness through Network Theory.

2.4. Network Theory and SME Supply Chain Embeddedness

Network Theory provides the theoretical foundation for understanding why supply chain integration may influence SME survival. The theory emphasizes that firms are embedded within networks of relationships through which resources, information, knowledge, and opportunities are exchanged. For SMEs, whose internal resource bases are often comparatively limited, the structure and quality of these relationships may substantially influence their ability to access capabilities required for survival and growth (Jones et al., 2014; Macpherson & Wilson, 2003). From this perspective, supply chain relationships represent more than operational arrangements between buyers and suppliers. They constitute relational networks through which SMEs can obtain resources and capabilities that would be difficult or costly to develop independently. Relationships with suppliers, customers, lead firms, financial actors, and other network participants may facilitate market access, knowledge transfer, technological development, collaboration, financial opportunities, and risk management.

Network embeddedness can consequently influence SME survival through the quality of resources and capabilities made available through these relationships. Stronger and more strategically developed connections may enable SMEs to access information earlier, respond more effectively to opportunities and threats, acquire knowledge and technology, and cooperate with other actors when confronted with resource constraints or disruption. Network relationships may also support innovation by strengthening supply chain dynamic capabilities and access to complementary knowledge (Yang & Ren, 2021).

However, the potential benefits predicted by Network Theory depend upon SMEs actually entering, developing, and actively utilizing network relationships. Network resources cannot contribute to survival when firms remain weakly connected to relevant supply chain actors. This makes the timing and prioritization of supply chain integration theoretically important. SMEs that establish network relationships earlier may be better positioned to access relational resources and develop capabilities that support resilience and growth, whereas delayed integration may limit these opportunities.

In a developing-economy context, this relationship may be particularly significant. Resource scarcity, institutional constraints, limited technological capabilities, and market-access challenges can increase SMEs' dependence on external relationships. At the same time, these conditions may make network entry more difficult. The Botswana context therefore provides an opportunity to examine how Network Theory operates under conditions where SMEs may simultaneously depend strongly on network resources and face significant barriers to network embeddedness.

Accordingly, this study uses Network Theory not simply to establish that business relationships matter, but to examine the mechanisms through which supply chain embeddedness may translate relational access into survival-enhancing capabilities.

2.5. Research Gap and Analytical Framework

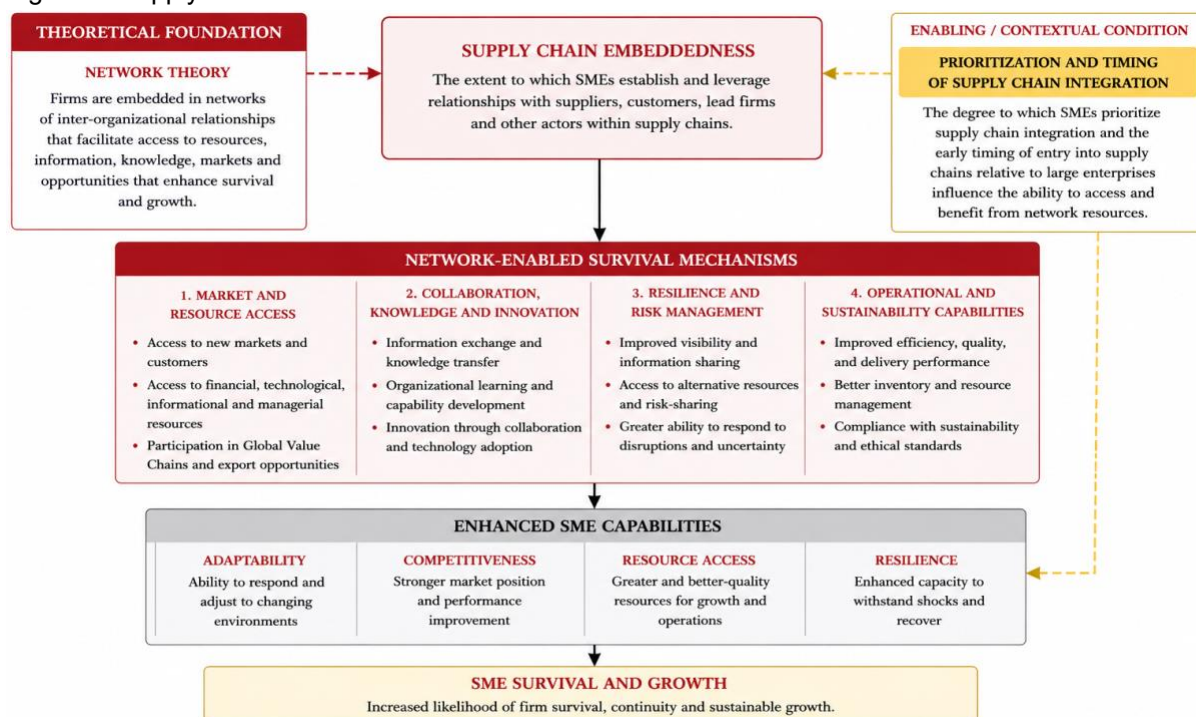
Existing literature provides substantial evidence that supply chain participation can generate benefits for SMEs, including improved market access, knowledge transfer, innovation, resilience, access to resources, operational efficiency, and internationalization. However, these benefits are frequently examined separately, resulting in a fragmented understanding of how they interact as mechanisms contributing to SME survival.

A further gap concerns the process of network embeddedness itself. Although Network Theory explains the importance of inter-firm relationships and access to network resources, less attention has been devoted to whether SMEs prioritize supply chain integration sufficiently and how early such integration occurs relative to larger enterprises. This distinction is important because the availability of network benefits does not necessarily mean that SMEs can access or exploit them.

The empirical context also remains important. Limited evidence examines these relationships through the combined perspectives of SME owners and managers, supply chain professionals, and business incubators in Botswana. Examining these stakeholders together can provide a more comprehensive understanding of both the survival benefits associated with supply chain integration and the practical constraints affecting SMEs' network participation.

Based on the literature synthesis and Network Theory, the study proposes the analytical framework presented in Figure 1. The framework conceptualizes supply chain embeddedness as a mechanism through which SMEs gain access to network-enabled resources and capabilities that may strengthen their survival and growth. It integrates four interconnected survival mechanisms, market and resource access; collaboration, knowledge and innovation; resilience and risk management; and operational and sustainability capabilities—which collectively enhance SME adaptability, competitiveness, resource access, and resilience. The framework further recognizes the prioritization and timing of supply chain integration as an enabling condition influencing SMEs' ability to access and benefit from network resources.

Figure 1: Supply Chain Embeddedness Framework for SME Growth



Note: The framework illustrates how supply chain embeddedness, supported by network relationships, generates multiple mechanisms that enhance SME capabilities and ultimately contribute to survival and growth. The prioritization and timing of supply chain integration act as an enabling condition influencing the strength of this pathway.

As illustrated in Figure 1, Network Theory provides the theoretical foundation for understanding how inter-organizational relationships enable SMEs to access resources and capabilities beyond their internal boundaries. The framework therefore guides the empirical analysis by examining whether SMEs prioritize and enter supply chains, the survival mechanisms generated through network participation, and how these mechanisms may contribute to enhanced capabilities and, ultimately, SME survival and sustainable growth.

3. Research Methodology

Research Approach and Design

This study adopted a qualitative research approach to explore how embedding SMEs in supply chains may enhance their survival. A qualitative approach was considered appropriate because the study sought to obtain an in-depth understanding of participants' experiences, perceptions, and perspectives regarding SME participation in supply chains and the mechanisms through which such participation may contribute to survival (Oranga & Matere, 2023).

The study employed a phenomenological research design, which enabled the researchers to explore the lived experiences of participants directly involved in SME operations, supply chain activities, and business incubation. This design was particularly suitable for examining how participants perceive and experience supply chain integration, including its prioritization, timing, and potential contribution to SME survival.

The research design was guided by the primary research question, “How does embedding in supply chains enhance SME survival?”, together with the two sub-research questions examining the extent to which SMEs and business incubators prioritize supply chain integration and how early SMEs integrate into supply chains compared with large enterprises (LEs).

Participant Selection and Sample

The study involved 30 participants selected from three stakeholder groups relevant to SME supply chain integration: SME owners and managers, supply chain professionals, and business incubators in Botswana. The inclusion of these groups enabled the study to capture different perspectives on the role of supply chain integration in SME survival.

Participants were selected using purposive sampling, allowing the researchers to identify individuals with relevant knowledge and experience of SMEs, supply chain activities, and business development. This sampling approach was consistent with the qualitative and phenomenological orientation of the study, as participants were selected based on their capacity to provide informed insights into the phenomenon under investigation.

The inclusion of multiple stakeholder groups also enabled the researchers to examine SME supply chain integration from complementary perspectives. SME participants provided direct insight into their experiences and challenges, while supply chain professionals and business incubators contributed broader perspectives on the positioning, integration, and development of SMEs within supply chain networks.

Data Collection

Primary data were collected through semi-structured interviews. Semi-structured interviewing is particularly appropriate when a study requires consistency around core research topics while retaining sufficient flexibility for participants to elaborate on their experiences and perspectives (Maher & Bedwei-Majdoub, 2024).

The interviews explored participants’ views on the extent to which SMEs prioritize supply chain integration, the timing of their integration compared with LEs, and the benefits associated with embedding SMEs in supply chains. Particular attention was given to participants’ experiences concerning access to markets and resources, collaboration, technology and innovation, risk management, financial stability, operational performance, and sustainability.

The semi-structured format enabled the researchers to probe emerging issues and obtain more detailed explanations where necessary, thereby generating rich qualitative data relevant to understanding the relationship between supply chain embeddedness and SME survival.

Data Analysis

The interview data were analysed using thematic analysis. The analysis involved identifying recurring patterns within participants’ responses and organizing these patterns into themes reflecting the principal dimensions of SME supply chain integration and survival.

The analysis generated nine themes. The first two themes addressed the process of supply chain integration itself, specifically the prioritization of supply chain integration and the timing or speed of SME integration relative to large enterprises. The remaining seven themes captured the principal survival-related benefits associated with supply chain embeddedness.

These themes reflected participants' perceptions of how supply chain participation may enhance SME survival through improved market access, collaboration and knowledge exchange, technology and innovation, risk management and resilience, financial stability and investment access, operational efficiency and performance, and sustainability-related capabilities.

This distinction is important because the first two themes address whether and when SMEs become embedded in supply chains, whereas the remaining themes explain how such embeddedness may contribute to SME survival. The thematic analysis therefore provides an empirical basis for examining the pathways proposed in the analytical framework presented in Figure 1.

To strengthen the credibility of the qualitative analysis, the study drew on perspectives from different stakeholder groups involved in SME development and supply chain activities. Comparing the experiences of SME owners and managers with those of supply chain professionals and business incubators enabled the researchers to consider the phenomenon from multiple perspectives rather than relying on a single category of respondents.

The systematic organization of interview responses into recurring themes further supported consistency in the interpretation of the data. The identified themes were linked directly to the research questions and subsequently interpreted in relation to the study's analytical framework and Network Theory.

Given the interpretative nature of qualitative research, reflexivity is also important for recognizing how researchers' assumptions and perspectives may influence the research process and interpretation of qualitative evidence (Olmos-Vega et al., 2022).

Participation in the study was voluntary, and participants were informed about the purpose of the research. Confidentiality and anonymity were maintained throughout the research process, and information capable of identifying individual participants was not disclosed when reporting the findings. Interview data were used for research purposes with due consideration for participants' privacy and the responsible handling of the information provided.

4. Findings

The thematic analysis identified nine themes addressing the primary research question and the two sub-research questions. The first two themes concern the prioritization and timing of SME supply chain integration, while the remaining seven identify the principal mechanisms through which supply chain embeddedness may contribute to SME survival. This distinction clarifies the original findings, where seven survival benefits and nine overall themes were reported.

Across all three participant groups, SME owners and managers, supply chain professionals, and business incubators, respondents indicated that embedding SMEs in supply chains is not sufficiently prioritized. Although participants generally recognized the importance of supply chain relationships, integration was not consistently treated as a central component of SME development or incubation programmes.

One respondent explained: "While we know the importance of embedding SMEs in supply chains, and somehow do promote it through networking events, we do not have it specifically emphasised as a top priority on our incubation programmes." (Respondent 1)

The responses suggest a gap between recognizing the value of supply chain integration and actively prioritizing it. This finding is particularly relevant to business incubation, as participants indicated that supply chain integration may be promoted indirectly through networking activities without being explicitly incorporated as a core element of training and mentorship programmes.

Participants also highlighted that SMEs tend to integrate into supply chains slowly, particularly during their formative years. Limited resources, lack of market recognition, and insufficient networking capacity were identified as important constraints affecting the speed of integration.

As one participant stated: “We are quite slow in our supply chain integration because we are new in markets without any experience and with little resources to network on a larger scale.” (Respondent 7)

The findings therefore indicate that SMEs may face difficulties establishing supply chain relationships precisely during the early stages when access to external resources and networks may be particularly important for their development and survival.

Participants consistently identified market access and expansion as an important benefit of supply chain embeddedness. Supply chain relationships enabled SMEs to access broader distribution channels and reach customers that had previously been difficult or impossible to access.

One respondent described this experience: “Being part of a larger supply chain helped us reach new customers that we previously couldn't access. The exposure has been invaluable for our business growth.” (Respondent 3)

These accounts indicate that supply chain participation can extend SMEs' market reach and create opportunities for business expansion. For resource-constrained firms, access to established supply chain networks may therefore provide commercial opportunities that would be difficult to develop independently.

Access to financial support also emerged as an important theme. Participants reported that integration into structured supply chain networks could improve SMEs' perceived stability and facilitate access to finance and investment.

One respondent noted: “Before joining a structured supply chain, securing funding was a challenge. Now, financial institutions see us as more stable, and we've had better access to trade finance.” (Respondent 29)

The findings suggest that supply chain embeddedness may strengthen SMEs' financial position not only through commercial opportunities but also by improving their credibility and attractiveness to financial institutions and potential investors.

Participants consistently described supply chain embeddedness as facilitating collaboration and partnerships with other network members. These relationships supported knowledge sharing, process improvements, product development, and innovation, particularly where SMEs interacted with larger and more experienced firms.

One respondent explained: “Through our supply chain partnerships, we've been able to co-develop products with larger firms. This has helped us innovate and stay competitive in the market.” (Respondent 11)

The findings indicate that collaboration provides SMEs with opportunities to combine their own capabilities with knowledge and resources available elsewhere in the network.

Participants further reported that supply chain relationships enabled SMEs to access technologies that would otherwise have been difficult or too expensive to acquire independently. Such access was associated with faster production, lower costs, and opportunities for technological learning.

As one participant explained: “Collaborating with our supply chain partners, we were able to use their advanced technologies which we couldn’t afford by ourselves. This helped us cheaply and quickly produce our products as much as it helped us quickly get knowledge on how to use those technologies.” (Participant 18)

These experiences suggest that supply chain embeddedness can facilitate both access to technology and knowledge diffusion, allowing SMEs to benefit from capabilities already available within their networks.

Participants identified risk management and resilience as another important benefit of supply chain integration. Existing relationships with supply chain partners were particularly valuable during periods of disruption, when firms could share resources, information, and strategies.

The COVID-19 pandemic provided a clear example: “When the pandemic disrupted supply chains, our ability to adapt quickly was largely due to our existing partnerships. We shared resources and strategies, which helped us survive.” (Participant 25)

The findings therefore indicate that supply chain networks may provide SMEs with relational resources that strengthen their capacity to adapt to disruption and maintain business continuity during periods of uncertainty.

Participants also reported improvements in operational processes and cost efficiency resulting from supply chain participation. Greater visibility, collaboration, and coordination with network partners enabled SMEs to streamline processes, optimize resource utilization, reduce waste, and respond more effectively to customer demand.

One respondent stated: “Being part of a structured supply chain has enabled us to streamline our processes and reduce costs significantly. We now know what is happening in our supply chain at any moment. Collaboration has optimized our resource use, minimized waste, and helped us respond better to customer demands.” (Respondent 5)

These findings suggest that supply chain embeddedness may strengthen SME performance by improving the efficiency with which limited organizational resources are deployed.

The final theme concerns the adoption of sustainability and ethical practices. Participants indicated that interaction with more experienced supply chain partners exposed SMEs to established sustainability standards and ethical practices, enabling them to learn and adopt such practices earlier.

One participant explained: “Integrating into the supply chain exposed us to the sustainability and ethical standards followed by our larger, more experienced network partners. Learning from them helped us adopt better practices, ensuring compliance and improving our brand image in the market.” (Respondent 23)

Participants associated this learning process with improved compliance, reputation, and recognition among market stakeholders, suggesting that supply chain participation can also contribute to the development of organizational legitimacy and sustainability-related capabilities.

Taken together, the findings reveal two interconnected dimensions of SME supply chain embeddedness. The first concerns access to the network itself: participants indicated that supply chain integration is insufficiently prioritized and occurs relatively slowly among SMEs. The second concerns the survival-enhancing mechanisms generated once SMEs become embedded in supply chains.

The seven identified mechanisms include market access and expansion; collaboration and partnership; access to technology and innovation; risk management and resilience; financial stability and access to investment; operational efficiency and performance; and sustainability and ethical practices. These findings provide empirical support for the pathways represented in the analytical framework presented in Figure 1 and establish the basis for their interpretation through Network Theory in the following Discussion.

5. Discussion

5.1. Supply Chain Embeddedness as a Mechanism for SME Survival

The findings demonstrate that the relationship between supply chain integration and SME survival is multidimensional. Participants did not associate embeddedness with a single benefit; rather, supply chain participation generated a combination of market, relational, technological, financial, operational, resilience, and sustainability-related benefits. This supports existing research showing that supply chain networks can facilitate market access (Takawira, 2024), collaboration and knowledge transfer (Oyeyemi et al., 2023), access to technology (Ramakrishna, 2021; Ugrinov et al., 2024), resilience (Primadasa et al., 2025; Hassan et al., 2024), financial stability (Popović-Pantić et al., 2020; Talib et al., 2023; Ferretti, 2023), and operational efficiency (Rahman & Rahim, 2024; Oyeyemi et al., 2024).

The present findings suggest that these benefits should not be interpreted independently. Market access can strengthen revenue opportunities, while collaboration facilitates knowledge and technology transfer; access to technology may improve efficiency and adaptability; network relationships can strengthen resilience during disruption; and improved operational and sustainability capabilities may reinforce competitiveness and market legitimacy. SME survival therefore appears to emerge from the cumulative and mutually reinforcing effects of network-enabled capabilities rather than from any single benefit of supply chain participation.

This interpretation strengthens the analytical framework proposed in Figure 1. Supply chain embeddedness provides the relational structure through which SMEs gain access to resources and capabilities, while the resulting improvements in adaptability, competitiveness, resource access, and resilience create pathways toward survival and sustainable growth.

5.2. Extending and Contextualizing Network Theory

The findings support the central proposition of Network Theory that firms derive value from their relationships with other actors by gaining access to resources, information, knowledge, and opportunities that may not be available internally. For SMEs, this relational dimension is particularly important because resource constraints can limit their capacity to independently develop the financial, technological, managerial, and market capabilities required for survival.

However, the findings also provide a useful contextual refinement of Network Theory. The value of network resources depends not simply on the existence of potential relationships but on whether SMEs enter, develop, and actively participate in those networks. Participants indicated that supply chain integration is not sufficiently prioritized by SMEs or within incubation programmes and that the process of integration tends to be relatively slow. This is consistent with previous evidence that SMEs may be less proactive and slower than large enterprises in establishing supply chain relationships (Aem-on et al., 2024; Rahman & Rahim, 2024; Primadasa et al., 2025; Logožar, 2013).

This distinction extends the application of Network Theory from a relatively static emphasis on network membership and relational access toward a more process-oriented interpretation in which prioritization and timing of embeddedness influence SMEs' ability to obtain network benefits. In other words, network resources may have limited survival value if firms remain weakly connected or enter relevant networks only after significant constraints have already emerged.

The Botswana evidence therefore suggests that the relationship can be conceptualized as: Network Embeddedness → Access to Relational Resources and Capabilities → Enhanced SME Capabilities → SME Survival and Growth, while prioritization and timing of supply chain integration influence the strength and accessibility of this pathway. This represents the study's main theoretical contribution: it contextualizes Network Theory by showing not only why network relationships matter for SME survival, but also why the timing and active prioritization of network participation matter for realizing their potential value.

5.3. Implications for SMEs in a Developing-Economy Context

The findings have particular relevance to SMEs operating in developing economies such as Botswana. SMEs frequently face resource limitations, restricted access to technology and finance, limited market visibility, and vulnerability to external disruption. Under these conditions, supply chain networks can function as important mechanisms for accessing capabilities that firms may be unable to develop independently.

The findings concerning technology are particularly illustrative. Participants reported that relationships with larger supply chain partners enabled access to advanced technologies that SMEs could not independently afford, while simultaneously facilitating knowledge about how those technologies could be used. Similarly, supply chain participation was associated with improved access to finance and greater perceived stability among financial institutions. These findings demonstrate how network relationships may partially compensate for internal resource constraints. The results also highlight an important role for business incubators. If supply chain integration is recognized as beneficial but remains insufficiently emphasized within incubation programmes, SMEs may miss opportunities to develop network relationships during their formative stages.

Embedding supply chain networking, partnership development, buyer–supplier relationships, and GVC participation more explicitly within SME training and mentorship programmes could therefore strengthen the capacity of new firms to establish relevant networks earlier.

For SME owners and managers, the findings similarly suggest that supply chain integration should be approached as a strategic development priority rather than a later-stage operational activity. Earlier engagement with suppliers, customers, larger enterprises, financial actors, and other network participants may improve access to the relational resources required to navigate resource constraints and periods of uncertainty.

At policy level, the findings suggest that SME development initiatives should extend beyond support focused solely on internal firm capabilities. Policies that facilitate network formation, supplier development, SME–large enterprise linkages, participation in value chains, technology partnerships, and access to finance through supply chain relationships may provide complementary mechanisms for strengthening SME resilience and survival.

Conclusions and Implications

This study examined how supply chain integration may contribute to SME survival, drawing on the lived experiences and perspectives of SME owners and managers, supply chain professionals, and business incubators in Botswana. Grounded in Network Theory and using a qualitative phenomenological design, the study provides empirical insight into both the process of SME supply chain integration and the survival-enhancing mechanisms associated with network embeddedness.

The findings reveal two important aspects of SME supply chain integration. First, despite its potential importance, supply chain integration is not sufficiently prioritized by SMEs or within business incubation programmes, and SMEs tend to become embedded in supply chains relatively slowly compared with large enterprises. Second, once embedded, SMEs may gain access to a range of network-enabled benefits that strengthen their capacity to survive and grow. These include market access and expansion, collaboration and partnerships, technology and innovation, risk management and resilience, financial stability and investment access, operational efficiency and performance, and sustainability and ethical practices.

Taken together, the findings suggest that SME survival is not associated with a single benefit of supply chain participation but with the combined and mutually reinforcing capabilities generated through network relationships. Supply chain embeddedness can provide SMEs with access to resources, knowledge, markets, technologies, finance, and collaborative opportunities that may be difficult to develop independently. Earlier and more deliberate integration into supply chains may therefore strengthen SMEs' ability to address resource constraints, respond to disruption, and build capabilities that support longer-term survival and growth.

The study contributes to the literature by integrating the multiple benefits of supply chain participation within a survival-oriented analytical framework. Rather than examining market access, collaboration, technology, resilience, finance, operational performance, and sustainability as isolated outcomes, the study conceptualizes them as interconnected mechanisms through which supply chain embeddedness may strengthen SME capabilities and contribute to survival.

The findings also extend the application of Network Theory by highlighting the importance of prioritization and timing of network embeddedness. Network Theory explains how inter-organizational relationships provide access to resources, information, knowledge, and opportunities. The present findings suggest that the survival value of these relational resources depends not only on their availability within a network but also on whether SMEs enter, develop, and actively participate in relevant supply chain relationships.

This provides a more process-oriented interpretation of Network Theory in the SME context. Supply chain embeddedness enables access to relational resources and capabilities, which may enhance adaptability, competitiveness, resilience, and resource access and, ultimately, support SME survival and growth. However, delayed or insufficiently prioritized integration may restrict SMEs' ability to realize these benefits during the formative stages when they are particularly vulnerable.

The Botswana context further contributes to the theoretical interpretation by illustrating the relevance of network embeddedness in a developing economy, where SMEs may simultaneously depend strongly on external network resources and face significant constraints in accessing them. The study therefore contextualizes Network Theory by showing that the survival value of networks depends not simply on relational access but also on SMEs' capacity and willingness to establish those relationships sufficiently early.

The findings have practical implications for SME owners and managers, policymakers, and business incubators. For SMEs, supply chain integration should be considered a strategic development priority rather than an activity pursued only after the firm has become established. Proactive engagement with suppliers, customers, larger enterprises, financial institutions, and other supply chain actors may enable SMEs to access resources and capabilities that strengthen resilience and survival.

For policymakers, the findings suggest that SME development policies should complement traditional forms of firm-level support with initiatives that facilitate network formation and supply chain participation. Supplier-development programmes, SME–large enterprise linkages, access to global and domestic value chains, technology partnerships, and mechanisms that connect SMEs with financial and market actors may strengthen SMEs' ability to access external resources and opportunities.

Business incubators also have an important role. The finding that supply chain integration is not sufficiently prioritized within incubation and mentorship programmes suggests a need to incorporate supply chain networking and integration more explicitly into SME development programmes. Training and mentorship could include supplier and buyer relationship development, network-building capabilities, partnership formation, value-chain participation, and strategies for establishing relationships with larger enterprises. This may help SMEs develop relevant network connections earlier in their life cycle and maintain them beyond the incubation period.

Several limitations should be considered when interpreting the findings. The phenomenological design relies on participants' lived experiences and perceptions, which may be influenced by individual perspectives and subjective interpretations. Although reflexive procedures were used to strengthen the credibility of the analysis, the interpretative nature of qualitative research means that researcher subjectivity cannot be completely eliminated.

The study is also context-specific. Its empirical evidence is derived from SMEs and relevant stakeholders in Botswana, and the findings should therefore not be assumed to apply directly to SMEs operating in different institutional, geographical, or economic environments. The particular opportunities and constraints affecting supply chain integration in Botswana may differ from those encountered elsewhere.

Future studies could build upon these findings using quantitative or mixed-method approaches to test the relationships proposed in the analytical framework across larger samples. Quantitative research could examine whether the extent and timing of supply chain integration are associated with measurable indicators of SME survival, resilience, market performance, innovation, access to finance, and operational efficiency.

Comparative research across other African economies and broader developing-economy contexts would also be valuable for determining whether the mechanisms identified in Botswana operate similarly under different institutional and market conditions. Such studies could help distinguish context-specific findings from more general patterns of SME supply chain embeddedness and survival.

Further research could also examine the temporal dimension of network embeddedness, particularly whether SMEs that prioritize supply chain integration earlier in their development achieve stronger survival outcomes than firms that integrate later. This would directly test one of the principal theoretical propositions emerging from the present study and further clarify the role of prioritization and timing within the relationship between network embeddedness and SME survival.

CRedit Authorship Contribution Statement

Mukonyo, A.: Conceptualization; Methodology; Investigation; Data curation; Formal analysis; Writing – original draft; Writing – review & editing.

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The author declares no conflicts of interest related to the research, authorship, or publication of this article.

Data Availability Statement

The qualitative data generated during this study are not publicly available due to participant confidentiality and privacy considerations. Anonymized data may be made available by the corresponding author upon reasonable request, subject to ethical and confidentiality restrictions.

Ethical Approval Statement

Participation in the study was voluntary, and participants were informed about the purpose of the research. Confidentiality and appropriate handling of participant information were maintained throughout the study.

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