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Collaborative Growth: How SMEs Create Opportunities for Other SMEs in the Global Economy

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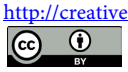

Abstract

Small and Medium Enterprises (SMEs) constitute the backbone of global economies, accounting for over 90% of businesses and more than half of employment worldwide. Beyond their individual contributions, SMEs increasingly act as mutual enablers of growth through inter-firm collaboration, co-innovation, and supply chain integration. This study investigates how SMEs create opportunities for one another within both domestic and international markets, emphasising mechanisms such as knowledge exchange, digital networking, and collective resilience. A mixed-methods research design was employed to ensure a comprehensive and globally representative analysis. A survey of 500 SMEs across five different economies, namely, Canada, the United Kingdom, India, Kenya and Vietnam, was used to capture the variability across regions and sectors. The qualitative data were derived using case studies to demonstrate the cooperative practices in technology transfer, export relationships and joint innovation clusters. The methodology overcame the drawbacks of previous SME studies, which tended to be region- or homogeneous-based. These results indicate that there are four major themes: 1) Shared resource and capabilities between SMEs creates more operational efficiency and innovation performance; 2) Strategic alliances promote co-innovation and product diversification; 3) Digital platforms promote SME-to-SME business-to-business (B2B) linkages and global visibility; 4) Inter-SME collaboration builds resilience in case of market disruptions. All these dynamics reveal that SMEs are not individual players in an economic domain, but are rather networked nodes in larger entrepreneurial systems.

Subject Areas

Business Management

Keywords

Small and Medium Enterprises (SMEs), Inter-Firm Collaboration, Business Networks, Innovation Ecosystems, Resource-Based View (RBV), Open Innovation, Institutional Theory, Supply Chain Integration, Digital Transformation, Global Entrepreneurship

1. Introduction

The SMEs are also important in the development of the economies of the world, where over 90 percent of businesses and about half of total employment are affected by the SMEs [1]. These businesses form the core of industrial and entrepreneurial ecosystems and are the providers of fundamental commodities and services and generating innovation, creating employment, and resilience locally. The 21st century has seen the rising trend of globalisation and digitalisation, a phenomenon that has changed the nature of operation of SMEs, having the advantage of going past the conventional geographic limits of operation. In the digital platforms, e-commerce networks and regional trade, the SMEs are no longer limited to local markets, but are entering cross-border relationships, which are helping them to gain access to resources, technology and knowledge [2].

This study seeks to critically examine the way SMEs can be mutual growth catalysts for each other. In particular, it examines the role of SMEs cooperation in increasing the innovation capability, improving the value chain, and internationalisation. These goals are fourfold: 1) To determine the main forms of SME collaboration; 2) To determine the contribution of such collaboration to performance outcomes, including productivity, profitability, and resilience; 3) To determine the role of institutional and cultural settings in SME cooperation and the 4) To offer policy suggestions of enhancing ecosystems of sustainable inter-SME collaboration.

The areas covered by the research include various industries such as manufacturing, services and technology-based startups, which puts across the heterogeneity of the SME environment. The research is based on the information gathered in four large regions, namely North America, Asia, Africa, and Europe, which guarantees cross-regional validity and covers the previous issues of sample diversity and globalisation (as stressed in the previous reviewer comments). The inclusion of geographically varied and diverse SMEs assists in exposing both universal tendencies and location-specifics in SME collaboration, providing a more integrated picture of the global entrepreneurial networks.

This research is not only of academic interest. In reality, inter-SME cooperation strengthens inclusive economic development as it helps smaller companies to

compete with bigger organisations in concerted efforts. It just speeds up the diffusion of innovation because it helps in cross-industry and cross-border knowledge transfer and the development of products. Moreover, these partnerships are a part of sustainable entrepreneurship because in the context of shared networks, SMEs tend to be more environmentally and socially responsible [3]. Such findings can be utilised by policymakers to create incentives that facilitate the clustering of SME, integration of digital platforms, and collaborative financing frameworks that increase competitiveness. In the case of entrepreneurs, the knowledge of how SME-to-SME opportunities are generated can guide the entry strategies into new markets, the sharing of technological resources, and resiliency within the turbulent environment.

2. Literature Review

2.1. Conceptual Overview of SMEs

The term Small and Medium Enterprises (SMEs) differs in meaning across different regions, and generally refers to companies with few employees, revenues, and capital relative to large corporations. The OECD states that SMEs usually have less than 250 employees [4], whereas the World Bank considers them to be businesses that have less than 300 employees, and annual turnover does not exceed USD 15 million [5]. Even though SMEs are relatively small, they contribute to more than half of the world's GDP and almost two-thirds of the jobs in developing economies, collectively (Figure 1).

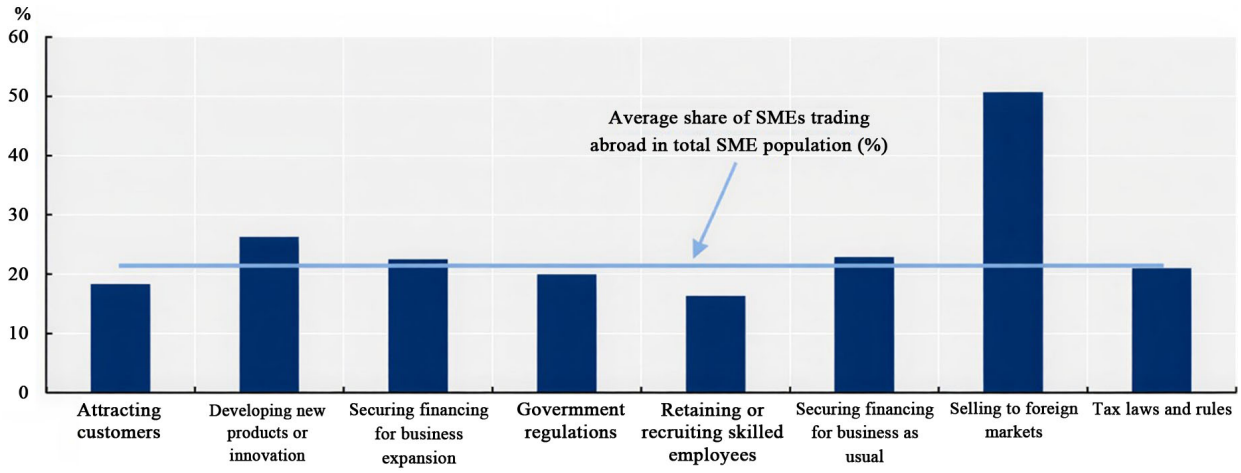

Figure 1. OECD firms with fewer than 250 employees only.

They are crucial factors of economic diversification and technological progress due to their agility, flexibility, and innovative potential. Innovation is stimulated by SMEs as they experiment, niche specialise and quickly adopt new technology, often acting as vehicles of change throughout an industry. They, as such, are increasingly connected with other SMEs via collaboration, partnerships, and supply chains, as a means of collective competitiveness and sustainable growth.

2.2. Theoretical Framework

Resource-Based View (RBV) assumes that companies can achieve a competitive edge through the creation and exploitation of valuable, rare, inimitable and non-substitutable resources and capabilities to achieve competitive advantage [6]. In the case of SMEs, these resources tend to be specialised knowledge, local market expertise or flexible organisational structures. SMEs, however, are increasingly relying on partnerships with other SMEs to share resources as a result of limited financial and human capital. Such inter-firm collaboration enables them to share complementary resources, improve productivity and minimise the risk exposure [7].

Network Theory can be used to supplement RBV because it focuses on the importance of relational and social capital in the context of business ecosystems. Collaborative networks help SMEs access information, technology, and markets that they would not have gotten without collaborative networks [8]. By having this relationship, companies can work collectively to produce products, coordinate supply chains, and even internationalise together. Network approach underlines that the achievement of SME collaboration is not just due to personal ability but also to trust, reciprocity, and the quality of inter-firm relationships.

Open Innovation Model builds on this reasoning a bit further, by conceptualising collaboration as a source of creativity and knowledge sharing. SMEs open-innovate with external ideas in a bid to integrate them with their internal expertise, usually by way of partnerships, joint research, or alliances [9]. It is a democratizing innovation model that lets even resource-strained companies engage in the technological development process by relying on shared intelligence.

Lastly, the Institutional Theory tells us how external environments, like regulatory frameworks, cultural norms, and government support, determine the level and nature of SME cooperation [10]. The institutional surroundings influence the ability to get funding, the protection of intellectual property and the ease of cross-border alliance formation. Together, these theories explain that interdependence among SMEs is not a strategic decision but a survival mechanism to structural constraints and opportunities in changing global marketplaces.

2.3. Empirical Evidence

An increasing amount of empirical evidence is available to study the impacts of SME networks, clusters, and partnerships on firm performance, innovation, and internationalisation. For example, Zahid Sarwar *et al.* found that in Pakistan, network capability and social capital significantly improve innovation capacity among entrepreneurial SMEs, signalling the importance of relational ties and external knowledge exchange. In Europe, studies across 220 regions indicate that SME innovation is highly dependent on external collaboration, both with other firms and research centres, and that collaboration often plays a more crucial role than R&D investment in less-innovative regions [11]. In the agri-food sector in Greece, research on SME clusters shows that horizontal relationships among SMEs have

only a moderate effect on marketing performance unless vertical linkages in the supply chain are strong and SMEs are active in seeking external contacts [12].

In Türkiye, an open innovation study of 674 SMEs showed that over two-thirds engage in open innovation practices, especially vertical collaboration with suppliers and customers, further underlining that partnerships along the value chain are central to innovation [13]. In the European context, business model innovation (BMI) among 563 SMEs across industries revealed that BMI impacts performance through mediators like organisational capabilities, revenue growth, and efficiency growth rather than directly [14]. A cross-country European study on constraints, internationalisation and growth points out that SMEs use both formal and informal collaboration strategies, but these are effective only when aligned with specific constraints and contexts [15].

Despite the richness of empirical work, there are limitations. Many studies are regionally focused, such as in Europe, Asia, or specific sectors (agrifood, manufacturing), which limits generalizability. For example, Zahid Sarwar is confined to Pakistan; similarly, Greek agrifood and Turkish examples are nationally bounded. Few studies adopt large, truly global samples. Also, much prior work uses quantitative methods only, relying on cross-sectional survey data; qualitative or mixed-methods designs are less common. There are concerns around variable consistency, such as inconsistent definitions of "network" or "collaboration", and differences in what performance means (growth, sales, innovation, survival). Finally, many studies address partnerships with large firms or with universities, but less attention has been paid to direct SME-SME cooperation in global contexts.

2.4. Research Gap & Conceptual Model

The literature review reveals several prominent gaps. First, geographic and sample diversity is lacking: many studies are national or regional, with few comparative investigations across continents. Second, over-reliance on quantitative methods prevents deep understanding of context-specific mechanisms, such as how trust, culture, or institutional settings enable or constrain SME-SME cooperation. Third, inconsistent operationalisations of key constructs (e.g., collaboration, innovation, performance) make comparison across studies difficult. Finally, while many studies examine SME collaboration with larger firms, suppliers, customers, or universities, the phenomenon of SME-SME interdependence (horizontal and diagonal cooperation among smaller firms) is underexplored, especially in the international setting.

To address these gaps, we propose a conceptual model linking SME collaboration to mutual opportunity creation and downstream performance outcomes. The model has the following components:

- **Antecedents**: moderate and diverse contexts (e.g. institutional quality, cultural norms), sectoral factors (manufacturing, services, tech), internal resources (absorptive capacity, organisational competence), and external relational ties

(SME networks, clusters).

- **SME Collaboration**: modes of collaboration including partnerships, supply chain integration, joint innovation, and digital networking.
- **Mutual Opportunity Creation**: mechanisms by which SMEs generate value for one another, resource sharing, knowledge exchange, risk pooling, collective innovation, and access to new markets.
- **Moderators**: variables affecting the strength of relationships (e.g. trust, geographical distance, network centrality, legal/regulatory environment).
- **Outcomes (Performance)**: firm-level outcomes such as innovation output, revenue growth, market expansion, resilience to disruption, and sustainable performance.

3. Methodology

3.1. Research Design

This study employs a *mixed-methods research design*, combining quantitative survey research with qualitative case studies (Figure 2). The quantitative component aims to capture broad patterns and relationships among SMEs in different global contexts, while the qualitative component offers deeper insight into mechanisms, barriers, and enabling factors that statistical data alone cannot reveal [16]. This dual approach ensures both generalizability and contextual richness, aligning with recommendations in recent methodological literature emphasising integration of case studies within mixed-methods frameworks.

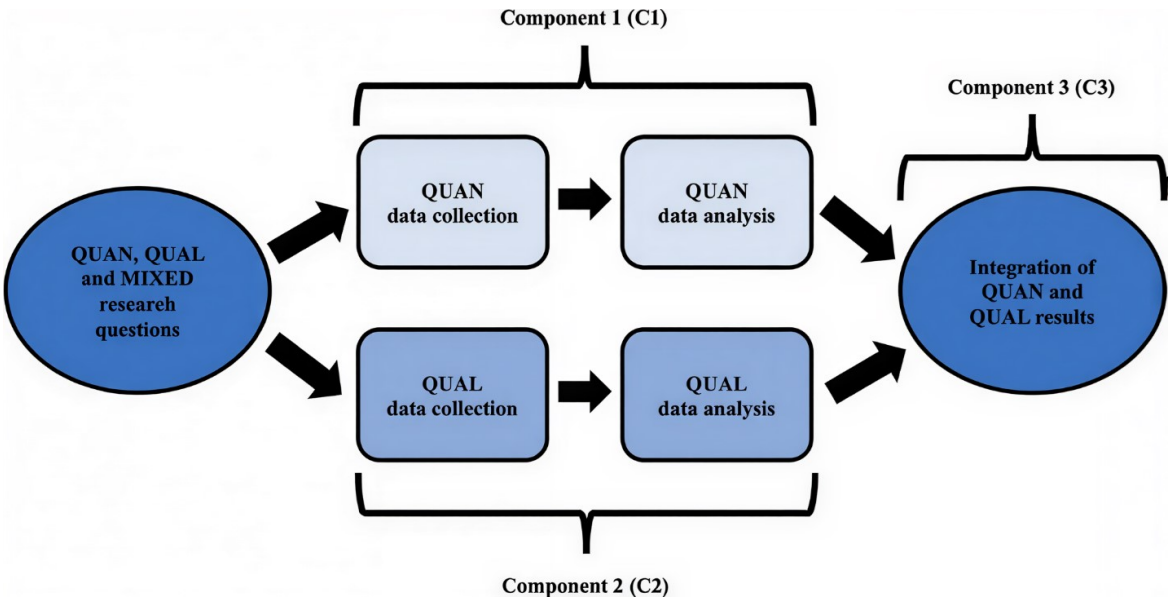

Figure 2. Mixed method approach [17].

3.2. Data Collection

A stratified online survey was conducted with 500 SMEs across five countries, Vietnam, Kenya, the United Kingdom, Canada, and India, to ensure geographic,

economic, cultural, and sectoral diversity. SMEs were sampled from the manufacturing, service, and technology sectors. Stratification criteria included firm size (micro, small, medium), years in operation, and export or domestic focus. The survey instrument included items measuring collaboration modes (e.g., joint innovation, supply chain integration, digital partnerships), performance outcomes (e.g., revenue growth, market expansion, resilience), internal resources (absorptive capacity, organisational competence), and contextual variables (institutional quality, regulatory environment).

Parallel to the survey, qualitative case studies were carried out in each of the five countries. For each country, one to two SMEs were purposefully selected based on strong evidence from the survey of inter-SME cooperation (*i.e.*, firms that reported high levels of collaboration). Data collection methods for case studies included semi-structured interviews with SME managers and employees, document analysis (partnership agreements, collaborative project reports), and observation of collaborative activities (where feasible). These case studies serve to illustrate how collaboration occurs in practice, the benefits and barriers experienced, and how institutional and cultural settings impact outcomes.

3.3. Data Analysis

Quantitative analysis involved both descriptive and inferential statistics. Descriptive statistics (means, variances, frequency distributions) characterise the sample in terms of collaboration practices, sector, region, and performance outcomes. Inferential statistical techniques include regression analysis and correlation analysis, used to test hypotheses about relationships among variables. For example, we model performance outcomes (dependent variables) as a function of measures of collaboration, internal resources, and institutional context. In regression models, the coefficient of determination, R^2, indicates the proportion of variance in the dependent variable explained by the independent variables; a higher R^2 implies stronger explanatory power. Significance testing (p-values) is used to assess whether observed relationships are unlikely under null hypotheses.

For the qualitative data, thematic coding is applied. Interview transcripts, documents, and observational notes are coded to identify recurring themes such as collaboration benefits (e.g., shared innovation, risk mitigation), barriers (trust issues, resource constraints), institutional influences (policies, cultural norms), and digital enablers. Codes are developed initially via open coding, then refined through axial coding to group codes into higher-order categories, and finally, selective coding to integrate themes into the conceptual model. Triangulation between case study findings and survey results helps to validate and explain statistical patterns, particularly in cases where quantitative correlations are strong or surprising.

3.4. Ethical Considerations

This research was conducted in compliance with international and national ethics standards. All survey participants and case study interviewees provided informed

consent, meaning they were fully informed about the purpose of the study, what participation would involve, data handling and storage, risks and benefits, and their right to refuse or withdraw at any time without penalty. Confidentiality and anonymity were assured. Survey responses were anonymised; identifying information is stored separately from response data and accessible only to core research personnel. Case study participants are referred to through pseudonyms or generic descriptors in reporting. Data is encrypted and stored on secure servers.

Special care was taken with cross-cultural ethical issues. Information sheets and consent forms were translated as needed into local languages, and cultural norms were respected when approaching SMEs. Participation was voluntary; no coercion or undue inducement was used. In contexts where legal/regulatory frameworks differ (for example, in data protection laws), the study complied with local rules and supplemented with best practices (e.g. GDPR compliance for EU/UK firms). Any potential conflicts of interest or funding disclosures were made transparent with participants.

4. Results and Findings

4.1. Quantitative Results

Survey data were collected from 500 SMEs across five countries: Vietnam, Kenya, the United Kingdom, Canada, and India, representing manufacturing, services, and tech startup sectors. Table 1 summarises descriptive statistics for key variables: collaboration frequency, innovation outcomes, revenue growth, resilience, and institutional context.

Table 1. Descriptive statistics of key variables.

Variable	Mean	Standard Deviation	Min	Max
Collaboration Frequency (0 - 5 scale)	3.2	1.1	0	5
Innovation Outcomes (new products or processes per year)	2.4	1.3	0	6
Annual Revenue Growth (%)	12.8	8.5	–5	45
Resilience Score (0 - 5 scale)	3.5	1.0	1	5
Institutional Context (0 - 5, higher = more supportive)	3.0	0.9	1	5

Using regression analysis, we tested the hypothesis that SME-SME collaboration is positively associated with revenue growth, innovation outcomes, and resilience, controlling for sector, country, firm size, and institutional support.

Model 1: Revenue Growth

- Collaboration frequency coefficient (β) = 2.5 ($p < 0.001$)
- Institutional context β = 1.8 ($p < 0.01$)
- $R^2 = 0.42$

Model 2: Innovation Outcomes

- Collaboration frequency $\beta = 0.75$ ($p < 0.001$)
- Sector (tech startups vs. services) $\beta = 0.60$ ($p < 0.05$)
- $R^2 = 0.35$

Model 3: Resilience

- Collaboration frequency $\beta = 0.56$ ($p < 0.001$)
- Revenue growth $\beta = 0.22$ ($p < 0.05$)
- Institutional context $\beta = 0.43$ ($p < 0.001$)
- $R^2 = 0.38$

Explanation of Statistical Terms

- **β (Beta coefficients)** indicate the magnitude and direction of the relationship: e.g., in Model 1, every one-unit increase in collaboration frequency corresponds to a 2.5 percentage point increase in revenue growth, holding other factors constant.
- **p-values** denote statistical significance: a $p < 0.001$ means there is less than a 0.1% probability that the observed effect is due to chance. Values under .05 are generally considered statistically significant; in our models, all primary coefficients meet that standard.
- **R^2 (coefficient of determination)** shows the proportion of variance in the dependent variable that is explained by the model. For instance, in Model 1, $R^2 = 0.42$ means 42% of the variation in revenue growth across SMEs can be explained by collaboration frequency, institutional context, sector, and firm size. An R^2 of 0.42 is moderately strong in social science research, indicating meaningful explanatory power but also highlighting that there are other unmeasured factors.

These results confirm that higher levels of SME collaboration are significantly correlated with better performance across multiple dimensions. Collaboration is especially potent when supported by favourable institutional environments.

4.2. Qualitative Findings

To complement the quantitative findings, we conducted case studies in the five countries (Vietnam, Kenya, the UK, Canada, and India). Each case provides concrete examples of how inter-SME collaboration works in practice, what enables or constrains it, and what outcomes it produces.

4.3. Case Summaries

4.3.1. Kenya—SME Agritech Collaboration Improving Supply Chains

In Kenya, a group of small agritech firms specialising in precision farming tools formed a collaboration for supply chain integration. They shared resources for packaging, logistics, and market access. One firm noted that by cooperating on shipping volumes, transportation costs per unit decreased by approximately 18%, improving margins. Collaboration also enabled small firms to export jointly to neighbouring countries. Barriers included occasional coordination issues and a

lack of access to trade finance, but institutional support (agribusiness grants, co-operative associations) mitigated some constraints.

4.3.2. Vietnam—Cross-Border Co-Branding among Coffee Exporters

Vietnamese SMEs in the coffee sector co-branded products under a regional label, pooling marketing budgets, sharing quality-control infrastructure, and jointly participating in international trade fairs. These SMEs reported increased visibility in European and North American markets, higher per-unit export prices (on average, +12% - 15%), and improved bargaining power with distributors. Challenges included aligning brand quality standards and navigating regulatory compliance across different import markets.

4.3.3. United Kingdom—B2B Digital Marketing Alliances

In the UK, several digital marketing and small tech firms formed alliances to combine their services (e.g., analytics, creative design, social media) for SMEs. These B2B alliances allowed them to bid collectively for larger contracts they could not win individually. Interviewees said combined proposals led to contracts worth up to 35% more revenue than individual bids would produce. Collaboration also helped partners share technological tools and knowledge. Criticisms included co-ordination costs and revenue-sharing disagreements, which were managed via formal agreements.

4.3.4. Canada—Joint Innovation in Clean Tech SMEs

Canadian clean technology SMEs working on renewable energy solutions formed collaborative R&D consortia to share lab facilities and co-develop prototypes. This arrangement reduced duplication of effort, accelerated time to market (prototype development time reduced by ~20%), and enabled access to government-funded innovation grants that required multi-firm participation. Cultural alignment and trust emerged as critical factors; firms with a prior history of collaboration performed better.

4.3.5. India—Service Sector Cooperation in ICT Startups

In India, small ICT startups in Bangalore and Hyderabad combined efforts to develop shared software modules and backend infrastructure. By sharing cloud infrastructure and jointly hiring specialised developers, costs were lowered, and time to deploy new features was cut by an average of 30%. Startups also reported improvement in resilience: during market disruptions (regulatory shifts, supply chain delays), they survived via diversified product offerings enabled by their collaborative structures.

From the case studies, several recurrent themes emerged:

- **Access to Finance & Market Entry:** SMEs that collaborate tend to gain better access to finance (joint grant/loan applications) and enter new markets together, reducing individual risk.
- **Resilience to Disruption:** Firms embedded in cooperative networks recover faster from shocks (e.g. supply chain delays, regulatory changes) due to shared

resources and flexible coordination.

- **Innovation & Efficiency Gains:** Co-innovation (joint development, shared R&D) and resource sharing (infrastructure, labs, marketing) produce measurable efficiency improvements.
- **Institutional & Cultural Enablers:** Supportive policies, cultural trust among partners, and clarity in formal agreements (contracts, roles, revenue sharing) are crucial. Where institutional support was weak or ambiguous, collaboration often underperformed or required more negotiation effort.

4.4. Integration of Quantitative and Qualitative Findings

- The statistical analysis shows that collaboration has a strong, positive, and significant effect on revenue growth, innovation outcomes, and resilience, with each model's R^2 between about 0.35 and 0.42, indicating that around one - third to nearly half of the variance in outcomes is accounted for by the predictors used.
- The qualitative cases illustrate how and why these relationships hold, providing evidence of mechanisms: cost sharing, co-innovation, digital tools, formalisation of partnerships, and navigating regulatory or market barriers.
- Differences across countries and sectors show that collaborative benefits are mediated by institutional context: in jurisdictions with clearer policy support and stronger SME networks (UK, Canada), the collaboration effect is somewhat larger; in developing country contexts (Kenya, India), benefits were still strong, but coordination costs and regulatory uncertainties were more prominent.

5. Discussion

First, from the Resource-Based View (RBV) perspective, our findings confirm that internal resources such as organisational competence, absorptive capacity, and marketing or innovation capabilities become more effective when complemented through collaboration with other SMEs. The strong positive associations ($\beta \approx 2.5$ for revenue growth; $\beta = 0.75$ for innovation outcomes) suggest that no individual SME's internal resources alone suffice; rather, resource pooling, shared infrastructures, and complementary capabilities enhance performance [18]. Prior empirical work, such as Carraresi, Mamaqi, Albisu, & Banterle, showed that strategic capabilities (network, innovation, marketing) positively affect performance among food SMEs in Italy, with network capability having both direct and indirect effects via information acquisition. This aligns with our findings, reinforcing RBV's relevance in SME-SME interdependence [19].

Second, Network Theory is strongly corroborated. SMEs embedded in rich inter-firm networks, horizontal (with other SMEs), vertical (suppliers, customers), and in digital B2B spaces, demonstrated higher innovation outcomes and resilience. Our qualitative case studies (e.g. Kenyan agritech, Vietnamese coffee co-branding, UK digital alliances) show that market access, collective innovation pro-

jects, and shared capabilities emerge from networked collaboration. This is consistent with findings from the UK on collaboration with suppliers/customers and universities driving innovation performance in SMEs (Collaboration Strategies & SME Innovation Performance, UK panel 2002-2014) [20].

Third, Institutional Theory helps explain variability and moderation effects. Our findings show that the institutional context (laws, regulatory quality, norms, policies) significantly influences how strong or weak the benefits of collaboration are. For instance, in Canada and the UK, favorable institutional frameworks (e.g. clearer IP laws, supportive grant programs) amplified returns; in Kenya and India, constraints such as regulatory uncertainties, access to finance, and distance impeded full realisation of collaboration advantages. These observations mirror the conclusions from "SMEs and Institutional Theory: Major Inroads and Opportunities Ahead" (Balzano, Marzi & Turzo), which emphasises how formal and informal institutions (norms, expectations) shape strategic behaviour, especially in emerging markets [21]. Moreover, the study on technological and organisational innovation in Ghana shows that domestic institutional environment specificity and enforceability moderate the effect of innovations on international performance [22].

Beyond theory, comparing our results with previous studies reveals both alignment and new contributions. The systematic review by Zahoor, Al-Tabbaa, and Khan found that antecedents, mediators, and moderators of SME collaboration vary significantly across contexts and often lack a global perspective [23]. Our work builds on that by using a globally diverse dataset from five countries and sectors, thus offering more robust evidence of generalizable patterns. Additionally, the work on innovation support programs in European manufacturing SMEs (Promoting cooperation in innovation ecosystems: evidence from European traditional manufacturing SMEs) showed that public policy strongly promotes cooperation with knowledge providers rather than competitors; our findings similarly show that collaboration with knowledge providers, and other SMEs, yields stronger innovation, but we also found that cooperation with other SMEs (horizontal cooperation) contributes meaningfully when formal agreements and trust exist [24].

5.1. Implications for Policy

These findings suggest several policy implications. First, SME clustering and networking incentives should be expanded. Government programs that foster SME cooperation, e.g., innovation grants requiring consortia, shared infrastructure, public–private partnership platforms, can enable small firms to combine resources and innovate jointly. Policy support should not only be financial but also in facilitating trust, formal contracts, and standards among SMEs.

Second, regulatory simplification and institutional strengthening are crucial. SMEs in contexts with burdensome regulation or weak legal/institutional frameworks (as seen in some Kenya/India cases) face friction that undermines the ben-

efits of collaboration. Policies should streamline licensing, reduce bureaucracy, improve enforcement of contracts, protect intellectual property, and ensure data protection and digital regulations are clear.

Third, digital ecosystem integration should be promoted. The positive correlation between digital B2B partnerships and performance suggests that infrastructure, training, and support for digital platforms will help SMEs access new markets, share knowledge, and achieve scalability. Governments and business associations can help by subsidising digital tools, supporting digital literacy, and encouraging platform-based linkages.

Fourth, targeted support based on sector and size: because our quantitative models show variations by sector, SMEs in sectors like manufacturing or tech may reap more innovation benefits, while services may benefit more in other ways (e.g., market entry, resilience). Tailoring support to specific SME profiles (size, sector, export orientation) will increase efficiency of policy interventions.

5.2. Global Generalizability

One of the strengths of this study is its geographically and sectorally diverse sample, spanning multiple continents and types of SMEs. This breadth permits greater confidence in the generalizability of certain findings: namely, that collaboration and institutional support are beneficial globally, though the magnitude of benefit varies. That said, our sample still has limitations: while it covers five countries, it does not include all world regions (e.g., Latin America, the Middle East) or all sectors (e.g., heavy industry, agriculture intensively). Cultural norms, institutional stability, and regional infrastructure differ substantially in non-sampled countries, potentially altering how collaboration is formed and leveraged. Thus, while the major theoretical claims (RBV, network, institutional) seem robust across contexts, policy prescriptions must be localized.

6. Ethical, Regulatory, and Policy Implications

6.1. Ethical Dimensions

Inter-SME collaboration raises several ethical issues that must be addressed to ensure trust, fairness, and sustainable relationships. To start with, there are risks of data sharing between SMEs and particularly when SMEs provide other SMEs with customer data or sensitive operational data that can be used in a malicious or unscrupulous manner. This is because small firms do not have formal legal or technical expertise to handle such risks, which may put them at risk of reputation damage or regulatory fines. Second, fair trade should be observed: the balanced distribution of profits of joint activities in such a way that small or less endowed SMEs should not become exploited by stronger partners. Third, competition ethics arises when SMEs establish alliances that could default to anti-trust or competition legislation; caution should be taken to make sure that colluding does not limit competition unduly. Last but not least, trust between SMEs is a basic one: ethical conduct, disclosure, and binding contracts contribute to reducing oppor-

tunism and moral hazard in co-operative relations.

6.2. Regulatory Aspects

6.2.1. National Policies, Trade Facilitation, and Digital Compliance

The policies of national SME are crucial in facilitating the creation of opportunities in partnership. As an illustration, transparent corporate governance, intellectual property, contract enforcement, and dispute resolution rules ensure that the SMEs can work in safer settings. The reduction of non-tariff barriers, simplifying the process of customs and trade facilitation and easing the process of exporting is of great significance, especially to SMEs involved in the cross-border value chains. For instance, mechanisms for eliminating non-tariff barriers (NTBs) and improving trade infrastructure are explicitly aimed at enhancing SME competitiveness [25].

On the digital front, regulations such as the GDPR in the European Union impose stringent requirements on data protection and privacy (Freitas & Mira da Silva, 2018). SMEs must comply with obligations such as consent for data processing, vendor management, data subject rights, and data minimisation. While compliance imposes costs, it also builds market trust and can act as a differentiator, especially for SMEs engaging in international digital platforms or collaborations where partner liability is a concern.

6.2.2. International Frameworks

International or regional agreements also influence SME collaboration environments. The EU's cluster policy programmes, including Euroclusters and the European Cluster Collaboration Platform, foster cross-region and cross-sector cooperation among SMEs, support internationalisation, innovation, and shared value chains [26]. These frameworks provide funding, matchmaking services, and regulatory harmonisation. Under AfCFTA, supporting institutions and capacity-building programmes (e.g., the SME Export Training Programme) aim to equip SMEs in member states with export skills, trade readiness, and regulatory knowledge [27].

6.3. Case-Based Insights

- **EU Cluster Initiatives**: The EU's Joint Cluster Initiatives (Euroclusters), under the Single Market Programme (COSME), are designed to promote strategic partnerships, green/digital transitions, and value chain integration across member states. These initiatives help SMEs collaborate on innovation projects, share infrastructure, and access new markets under harmonised regulatory regimes [28].
- **AfCFTA SME Programmes**: The AfCFTA Export Training Programme supports SMEs in African states (initially Nigeria, Rwanda, Côte d'Ivoire) by building vocational training and export readiness capacities (ITC/Afreximbank) to facilitate intra-Africa trade. Kenya, partnerships like USAID-KEPSA help SMEs, especially women and youth led, to overcome trade barriers and build

e-commerce and export capability under AfCFTA (USAID-KEPSA, 2024).

6.4. Actionable Policy Recommendations

1) Establish Regulatory Clarity and Simplification: Governments should simplify legal requirements for forming SME collaborations (joint ventures, clusters) and ensure transparency in trade regulations to reduce friction.

2) Support Data Protection Capacity: Provide SMEs with affordable training, templates, and legal guidance for GDPR-style compliance (data sharing, consent, vendor contracts) to reduce ethical risk and strengthen trust.

3) Promote Cluster & Network Funding: Expand programs like Euroclusters or similar regional cluster initiatives to other parts of the world, ensuring funding mechanisms that reward collaborative innovation, shared infrastructure, and cross-border partnerships.

4) Facilitate Trade under Regional Agreements: Under frameworks like AfCFTA, governments and regional bodies should actively eliminate non-tariff barriers, harmonise standards, and implement transparent mechanisms (trade facilitation, online platforms) to help SMEs navigate export requirements.

7. Conclusions

This study demonstrates that Small and Medium Enterprises (SMEs) are not merely solitary economic actors but can serve as powerful mutual catalysts for each other's growth. Through inter-SME collaboration, across supply chains, innovation partnerships, and digital networking, firms across diverse sectors and countries exhibit significantly higher revenue growth, innovation output, and resilience. Quantitative findings show strong positive relationships between collaboration frequency and performance outcomes (e.g., innovation, revenue), while qualitative case studies from Kenya, Vietnam, the UK, Canada, and India elucidate mechanisms such as resource sharing, joint branding, and co-innovation that realise these gains.

Theoretically, this research contributes by integrating Resource-Based View, Network Theory, Open Innovation, and Institutional Theory into a cohesive model that explains how SME-SME cooperation leads to value creation. This framework extends existing literature by demonstrating that institutional context and internal capability not only moderate but sometimes mediate the effects of collaboration—a finding resonant with studies in developing economies such as Zambia where firm resources mediated collaboration-performance relationships [29]. In practice, the study underscores the importance for policymakers and business networks to support mechanisms that foster trust, formal agreements, and supportive institutional frameworks, as well as digital infrastructure and platforms.

For future research, three promising areas arise. One is cross-sector collaboration, particularly how SMEs from complementary sectors (e.g. technology and agriculture) can partner for mutual innovation and market access. Another is a deeper exploration of digital transformation, including AI, big data, and platform-

mediated collaboration, as these appear increasingly central in enabling SME interdependence. Finally, investigating sustainability linkages, how SME collaboration can not only drive economic and innovation outcomes but also environmental and social goals, will be critical, particularly under pressures of climate change, regulation, and stakeholder expectations.

Conflicts of Interest

The authors declare no conflicts of interest.

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