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Public Policy Strategies For Enhancing Innovation And SME Competitiveness In Emerging Economies

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Abstract: *In the landscape of emerging economies, the ability of small and medium enterprises (SMEs) to innovate and remain competitive plays a crucial role in promoting inclusive and sustainable economic development. This study investigates the role of public policy in enhancing SME innovation and competitiveness by employing a qualitative-descriptive method through library research. The analysis draws upon a diverse range of sources, including peer-reviewed academic journals, policy documents, and reports issued by international organizations such as the OECD, World Bank, and UNCTAD, published between 2005 and 2025. The findings underscore that well-structured policy frameworks, combined with targeted financial incentives, technology transfer mechanisms, and institutional support, significantly strengthen the innovation capabilities of SMEs. In addition, the presence of collaborative governance models particularly those involving public-private partnerships contributes to the development of robust innovation ecosystems. These ecosystems facilitate knowledge exchange, infrastructure sharing, and coordinated support among stakeholders. The study concludes that aligning innovation strategies with SME development objectives is essential for maximizing the role of SMEs in driving inclusive growth. As emerging economies seek to strengthen their innovation landscapes, tailored policy interventions, grounded in local contexts and supported by continuous evaluation, will be key to unlocking the transformative potential of SMEs in global value chains and national economies.*
Keywords*: SME Competitiveness, Innovation Policy, Emerging Economies, Public Policy, Economic Development.*

INTRODUCTION

In the rapidly evolving global economy, innovation serves as a cornerstone for enhancing productivity, strengthening competitiveness, and promoting sustainable economic growth. Small and medium enterprises (SMEs) play a vital role in emerging economies as they account for a substantial portion of employment, income distribution, and local economic diversification. These enterprises often function as engines of innovation and catalysts for structural transformation. In many developing countries, SMEs contribute over 60% of total employment and a significant share of GDP, thus forming the bedrock of inclusive development (OECD, 2019).

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Despite their economic importance, SMEs in emerging economies continue to face complex challenges that undermine their competitiveness and growth potential. Common barriers include limited access to formal financing, low levels of technological adoption, weak research and development (R&D) linkages, a shortage of skilled labor, inadequate policy coherence, and fragmented institutional support mechanisms (UNCTAD, 2020). These structural constraints make it difficult for SMEs to scale operations, upgrade technology, or participate in global value chains.

Public policy has a fundamental role in mitigating these constraints and creating a supportive ecosystem for SME innovation. Effective policy strategies encompass a wide range of instruments such as financial incentives, regulatory reforms, innovation hubs, digital infrastructure development, skill enhancement programs, and public-private partnerships. Several countries have experimented with targeted policy interventions to improve the innovative capacities of SMEs, including national innovation systems, cluster development models, and entrepreneurship promotion schemes (World Bank, 2018). Yet, the outcomes of such strategies have been inconsistent, partly due to variations in institutional quality, implementation capacity, and alignment with local industrial needs.

This study is motivated by the need to critically examine how public policy can be designed and implemented to improve innovation among SMEs in emerging economies. Through a systematic literature review, the research aims to synthesize best practices and policy lessons that can inform more coherent and inclusive innovation strategies. The review adopts a qualitative-descriptive methodology based on library research, focusing on literature published in peer-reviewed journals, policy reports, and development agency publications from 2010 to 2024.

The primary objective is to provide insights into how governments can leverage policy tools to enhance SME innovation and competitiveness while ensuring alignment with national development goals and international sustainability agendas. Specific questions addressed in this study include: What types of public policies have proven effective in boosting SME innovation? How do institutional frameworks and governance structures influence policy outcomes? What are the implications of digital transformation and green innovation for SME policy design?

This research contributes to the literature by integrating cross-disciplinary perspectives from economics, public policy, innovation studies, and development planning. It highlights the

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importance of policy coherence, stakeholder coordination, and adaptive governance in fostering a resilient innovation ecosystem. In doing so, the study seeks to inform policymakers, development practitioners, and researchers about scalable and context-sensitive strategies for supporting SME-driven innovation in emerging markets.

METHOD

This study employs a qualitative-descriptive research design grounded in library research methodology. The library research approach is suitable for studies that aim to synthesize existing knowledge, examine theoretical frameworks, and evaluate policy trends across contexts. The purpose of using this method is to gather a comprehensive understanding of how public policy affects innovation and the competitiveness of small and medium enterprises (SMEs) in emerging economies. This approach facilitates critical engagement with diverse sources and supports the development of integrative insights without relying on primary data collection.

Data for this study were drawn from a wide array of secondary sources, including peer-reviewed academic journals, scholarly books, policy briefs, and institutional reports. Particular attention was given to documents published by reputable organizations such as the Organisation for Economic Co-operation and Development (OECD), the World Bank, the United Nations Conference on Trade and Development (UNCTAD), and regional development agencies. This ensured the reliability and global relevance of the selected materials. A total of 60 documents were reviewed, with publication dates ranging from 2005 to 2025 to reflect both historical development and recent policy trends.

The inclusion criteria for literature selection were guided by three main considerations. First, the thematic relevance of the source to SME innovation, public policy frameworks, and economic competitiveness. Second, the publication timeframe to ensure up-to-date and policy-relevant findings. Third, the academic or institutional credibility of the publication outlet, ensuring that all materials used in the analysis met high standards of scholarly or policy-oriented rigor (Snyder, 2019). Sources were excluded if they lacked methodological transparency, had limited policy implications, or focused solely on large enterprises without transferable insights for SMEs.

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Analytical techniques applied in this study include content analysis and thematic synthesis. Content analysis was used to identify recurring policy instruments, structural barriers, and institutional strategies discussed across the literature (Bowen, 2009). Thematic synthesis enabled the researcher to organize findings around core policy themes such as regulatory environments, innovation incentives, and internationalization support (Boell & Cecez-Kecmanovic, 2015). These methods support the identification of successful practices across multiple national contexts and facilitate the extraction of insights applicable to broader policy frameworks (Tranfield, Denyer, & Smart, 2003; Torraco, 2016).

RESULT AND DISCUSSION

Policy Frameworks that Support SME Innovation

Effective public policy plays a crucial role in creating an enabling environment for small and medium enterprises (SMEs) to innovate, grow, and contribute to national economic development. The formulation of a coherent policy framework that integrates innovation goals with SME development strategies is essential. Such frameworks often include research and development (R&D) incentives, tax relief schemes, and innovation support programmes that facilitate technology adoption and market expansion for SMEs. South Korea, for instance, has developed a comprehensive innovation ecosystem that actively engages SMEs in national R&D agendas. Through its Small and Medium Business Administration and public-private collaboration, South Korea offers innovation vouchers, subsidies for technology upgrading, and support for patent registration, which significantly enhance SME innovation capability (OECD, 2018).

In Malaysia, the government has established policies that integrate financial incentives with capacity-building programmes. The Malaysian Technology Development Corporation (MTDC) supports SMEs through funding schemes such as the Commercialisation of Research and Development Fund (CRDF), which assists in translating innovations into marketable products. Additionally, the National Policy on Science, Technology, and Innovation (NPSTI) aligns with SME development plans, ensuring that innovation support is accessible beyond large firms (Zainal et al., 2020). These policies demonstrate the importance of aligning innovation incentives with the practical needs of SMEs in a country's development trajectory.

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In the European Union, the Small Business Act (SBA) provides a strategic framework that emphasizes the "Think Small First" principle. This principle requires policymakers to assess the impact of regulations on SMEs and adapt measures that support their innovation and competitiveness. Through programmes such as Horizon Europe and the European Innovation Council (EIC), the EU facilitates SME participation in high-risk, high-impact innovation projects (European Commission, 2021). These initiatives recognize the disproportionate challenges faced by SMEs in innovation financing and respond with targeted instruments.

A similar approach has been adopted in Singapore, where the government's SME Go Digital Programme supports digital transformation across sectors. The policy framework includes digital consultancy, subsidised training, and a technology adoption roadmap. These measures aim to reduce entry barriers to innovation, especially for micro and small enterprises, by addressing the digital divide (Infocomm Media Development Authority, 2022).

Strong policy frameworks are often underpinned by inter-agency coordination and long-term strategic planning. In Finland, the collaboration between the Ministry of Economic Affairs and Employment and Business Finland ensures policy coherence and continuity in innovation support. Finland's innovation policy emphasizes inclusive growth by targeting SME clusters in rural and economically disadvantaged regions (Autio & Rannikko, 2016). This spatially inclusive approach illustrates the role of targeted regional policy in maximizing the impact of innovation frameworks.

Public procurement has emerged as another effective tool in fostering SME innovation. Governments in countries like the United States and the United Kingdom have introduced innovation-oriented procurement policies that prioritize SME participation in public contracts. These frameworks not only provide market opportunities for SMEs but also stimulate innovation through competitive tendering processes that reward creative solutions (Uyarra et al., 2014). Such procurement strategies act as a demand-side instrument, complementing traditional supply-side R&D incentives.

An essential element of effective policy design is ensuring feedback mechanisms that allow SMEs to inform policy adjustments. In Australia, the Business Innovation and Investment Programme (BIIP) incorporates periodic consultations with SME stakeholders to ensure relevance and responsiveness. These consultative platforms enhance policy learning and adaptability,

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making it possible to respond to evolving technological trends and market conditions (Department of Industry, Science and Resources, 2021).

The diversity of successful frameworks across national contexts underscores the importance of tailored policy design. There is no one-size-fits-all model. Instead, policy effectiveness depends on alignment with local industrial structure, institutional capacity, and the innovation ecosystem. Countries that integrate fiscal tools, digital readiness programmes, public-private partnerships, and regulatory reforms into a unified policy framework tend to exhibit stronger SME innovation outcomes (Ghosh & Chatterjee, 2023).

Policy frameworks that support SME innovation are multidimensional. They require a strategic combination of fiscal incentives, innovation funding, skill development, regulatory support, and institutional coordination. When designed with inclusivity, flexibility, and accountability, these frameworks can transform SMEs into dynamic contributors to national innovation systems and engines of sustainable economic growth.

Financial and Institutional Support Mechanisms

Access to finance continues to be one of the most significant barriers facing small and medium enterprises (SMEs), particularly in developing and emerging economies. Traditional financial institutions often perceive SMEs as high-risk borrowers due to their limited collateral, lack of credit history, and informal business practices. As a result, many SMEs remain financially excluded or underserved, which restricts their ability to invest in innovation, adopt new technologies, or expand into new markets (Beck & Demirguc-Kunt, 2006; World Bank, 2020).

Governments across different regions have introduced a range of financial interventions to address this financing gap. Public guarantee schemes have become a widely used instrument to encourage commercial banks to lend to SMEs. These schemes mitigate the risk borne by lenders, thereby improving the creditworthiness of small businesses. For example, the Credit Guarantee Corporation in Malaysia and the Korea Credit Guarantee Fund have been effective in expanding SME access to loans, supporting not only working capital but also investment in innovation-related activities (OECD, 2019; UNCTAD, 2021).

Innovation grants and soft loans also provide targeted financial support that enables SMEs to pursue research and development (R&D) without the immediate pressure of commercial return.

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Countries such as Germany and Singapore have institutionalized innovation funding mechanisms through agencies like the High-Tech Strategy Framework and Enterprise Singapore, which offer co-funding arrangements and technical assistance (European Commission, 2020; Chaminade et al., 2018). These programs often come with performance monitoring systems and milestone-based disbursements to ensure accountability and effectiveness.

The institutional architecture supporting SMEs plays a complementary role in financial facilitation. Dedicated agencies such as SME development corporations, business incubators, and innovation hubs act as intermediaries that connect SMEs with funding sources, training, mentorship, and markets. These institutions often help navigate bureaucratic processes, improve business formalization, and enhance the absorptive capacity of firms to utilize financial support productively (Zeng et al., 2010; Kharub & Sharma, 2016).

The establishment of digital platforms for financing, such as online grant portals and fintech-based lending, has further improved the reach and inclusiveness of financial support systems. In Indonesia, for instance, government-linked platforms like LPDB-KUMKM provide low-interest loans to cooperatives and micro-enterprises, while also integrating fintech solutions to streamline disbursement and reporting (Ministry of Cooperatives and SMEs, 2022). These digital tools reduce administrative burdens and increase transparency in fund allocation.

International development institutions have also played a vital role in strengthening financial and institutional frameworks. Organizations such as the World Bank, Asian Development Bank (ADB), and United Nations Industrial Development Organization (UNIDO) provide technical assistance and concessional financing to support the creation of enabling environments for SME innovation. Their programs often emphasize capacity-building for financial institutions and alignment with national development strategies (ADB, 2019; UNIDO, 2020).

In sum, comprehensive financial and institutional support mechanisms are crucial for enabling SME innovation. While financial tools such as guarantees, grants, and soft loans address the capital constraints directly, institutional support enhances the capacity of SMEs to access and utilize these resources effectively. The integration of these mechanisms within national innovation ecosystems contributes to more inclusive and sustainable economic development.

Technology Transfer and Capacity Building

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Technology transfer and capacity building are fundamental components of fostering innovation among small and medium enterprises (SMEs), particularly in emerging and developing economies. These mechanisms not only enhance internal capabilities but also facilitate the diffusion of knowledge and technical know-how across sectors. As global competition intensifies and industries evolve, the ability of SMEs to absorb and adapt to new technologies becomes increasingly vital to their survival and growth.

Collaborations between academic institutions, research centers, and SMEs serve as a significant avenue for technology transfer. Universities often possess extensive research infrastructure and expertise, while SMEs bring agility, localized market knowledge, and operational flexibility. These partnerships provide a platform through which scientific discoveries can be translated into practical business applications. In countries such as Germany and Finland, structured frameworks have been developed to promote university–industry linkages, offering SMEs access to laboratories, testing facilities, and specialized personnel (Etzkowitz & Leydesdorff, 2000). Such interactions support the co-creation of innovations tailored to real-world problems faced by local businesses.

Technology parks, innovation hubs, and incubators also play a strategic role in facilitating technology transfer. These entities offer an ecosystem where startups and SMEs can interact with mentors, researchers, and larger enterprises. Facilities such as the Bandung Techno Park in Indonesia and the Kenya Industrial Research and Development Institute (KIRDI) provide support services that include prototyping, technology licensing, and commercialization assistance (UNESCO, 2021). These environments foster a culture of experimentation and learning that is essential to innovation-driven growth.

Another dimension of capacity building is the development of human capital through training and skills development. Many SMEs operate in contexts where the availability of highly skilled labor is limited. National and regional governments have responded by designing training programmes focused on digital literacy, industrial technologies, and management practices. For instance, the Republic of Korea’s SME Training Consortiums Programme facilitates customized learning experiences tailored to the needs of small businesses, often through sector-specific modules (OECD, 2021). These initiatives aim to build absorptive capacitythe ability to recognize,

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assimilate, and apply new knowledgewhich is a critical prerequisite for innovation (Cohen & Levinthal, 1990).

In addition to formal education and training, informal and experiential learning also holds significance. Peer learning platforms and mentorship networks allow SMEs to benefit from the experiences of more established firms. Such networks are often facilitated by chambers of commerce, trade associations, or government agencies. They serve to reduce information asymmetries and promote collective learning within industrial clusters or value chains (Schmitz, 1995). These types of social capital are particularly valuable in resource-constrained settings.

Digital tools have further enabled new forms of capacity building. Online platforms can now deliver technical training to SMEs in remote or underserved areas. Mobile-based learning, webinars, and virtual workshops can be deployed with minimal infrastructure. This approach has gained traction during the COVID-19 pandemic, as face-to-face training was disrupted in many countries. The integration of e-learning with traditional training programmes expands the reach and inclusivity of capacity development initiatives (World Bank, 2022).

Public-private partnerships are essential to ensuring that technology transfer and capacity building efforts are sustainable and scalable. While governments can provide initial funding and regulatory support, the private sector offers market-driven solutions and incentives for innovation. A coordinated approach helps bridge the gap between research and commercialization and aligns national development objectives with enterprise-level needs.

Strengthening SME innovation through technology transfer and capacity building requires a multidimensional strategy. This involves fostering collaborative linkages, developing human resources, creating enabling environments, and leveraging digital solutions. When these elements are effectively integrated, SMEs are better equipped to innovate, compete, and contribute meaningfully to national economic transformation.

Public-Private Partnerships and Ecosystem Development

A robust innovation ecosystem depends not only on individual enterprise capacity but also on the strength of collaborative networks that enable knowledge exchange, resource sharing, and joint problem-solving. Public-private partnerships (PPPs) represent a strategic mechanism to foster such collaboration. Through PPPs, governments can leverage the agility and technical capabilities

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of the private sector, while businesses benefit from public funding, policy support, and shared infrastructure. This co-creation model aligns with global trends that emphasize inclusive and sustainable economic development through stakeholder engagement.

Many countries have adopted innovation ecosystems that are driven by multi-stakeholder collaboration. For instance, the European Union's Horizon 2020 programme promotes cooperation between public research institutions, small enterprises, and large industry players to accelerate technological breakthroughs (European Commission, 2020). Innovation districts, which are geographically concentrated areas where research institutions, companies, and start-ups cluster, provide fertile ground for ecosystem development. Examples such as Barcelona's 22@ district and Boston's Innovation District have demonstrated how place-based innovation strategies can foster productivity, generate employment, and stimulate entrepreneurship (Katz & Wagner, 2014).

Cluster development initiatives have become a core feature of innovation ecosystems. These clusters, which are industry-specific or multi-sectoral agglomerations, enable SMEs to connect with suppliers, customers, universities, and government bodies. The presence of shared facilities, such as laboratories and prototyping centres, reduces costs and fosters experimentation. In South Korea, for example, the Daedeok Innopolis cluster integrates academic research, start-ups, and large firms under a government-supported framework, producing substantial innovation outputs and patents (Lee et al., 2016).

Successful PPPs also require a governance structure that ensures transparency, accountability, and mutual benefit. Governments play a coordinating role, often through specialized innovation agencies or ministries. These entities manage resources, define policy direction, and evaluate outcomes. The Malaysian Innovation Agency (Agensi Inovasi Malaysia) and the UK's Catapult Centres illustrate how government-sponsored intermediaries can bridge gaps between research, industry, and the market (OECD, 2019).

Ecosystem development also includes the establishment of digital platforms and incubators that connect innovators across geographies and sectors. Digital innovation hubs provide SMEs with mentorship, training, access to financing, and entry points into larger supply chains. The EU's Digital Innovation Hubs initiative supports such platforms across member states, offering SMEs tools and expertise in areas like artificial intelligence and robotics (European Commission, 2021).

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In addition, initiatives like Start-Up Chile demonstrate how ecosystem-oriented policies can position a country as a regional innovation hub by attracting talent, promoting investment, and supporting local entrepreneurs (Álvarez & Grazzi, 2018).

The active engagement of academia and civil society adds value to PPPs by introducing a broader perspective and enhancing societal relevance. Universities contribute through research commercialization, student entrepreneurship, and community outreach. Civil society actors, including non-profits and professional associations, bring inclusion, sustainability, and ethical considerations to the innovation agenda. In India's Smart Cities Mission, collaboration between municipalities, technology providers, universities, and local NGOs has created scalable models of urban innovation that address mobility, waste management, and digital inclusion (Bhattacharyya et al., 2020).

These examples underscore the importance of a systems-thinking approach to SME innovation. Rather than acting in isolation, governments and enterprises must co-invest in infrastructure, knowledge, and networks. As ecosystems mature, they become more resilient to economic shocks and better equipped to respond to societal needs. Ecosystem-based innovation strategies thus serve not only as economic accelerators but also as platforms for inclusive development.

The path toward ecosystem maturity involves continuous learning, policy iteration, and stakeholder dialogue. Feedback loops between policy design and implementation ensure that innovation systems remain responsive and adaptive. Regular monitoring and independent evaluations are essential for tracking progress, identifying bottlenecks, and scaling successful models. When public and private actors collaborate within a well-orchestrated innovation ecosystem, the potential for sustainable SME growth and inclusive economic transformation significantly increases.

CONCLUSION

This study concludes that strategic public policy plays a central role in fostering innovation and enhancing the competitiveness of small and medium enterprises (SMEs) in emerging economies. Through an in-depth synthesis of global literature, it is evident that policy frameworks

that effectively combine financial incentives, institutional support, and innovation-oriented ecosystem development significantly contribute to SME performance. Government interventions such as innovation grants, tax incentives, and public guarantee schemes help mitigate traditional financing barriers, while the establishment of dedicated SME development agencies and innovation hubs provides structural support for long-term growth. Capacity-building initiatives, including technology transfer partnerships with universities and research institutions, contribute to internal capability enhancement and knowledge diffusion among SMEs. Collaborative governance models, particularly those involving public-private partnerships and innovation clusters, further amplify these effects by fostering shared infrastructure, coordinated policy execution, and mutual learning. Such integrative approaches help SMEs navigate technological disruption, access global markets, and build resilience. The alignment of innovation policies with national development goals ensures that SME support mechanisms are not only inclusive but also responsive to the socioeconomic needs of different regions. For sustainable outcomes, policies should be contextually tailored, reflecting local economic conditions, industrial structures, and innovation potential. Policymakers are encouraged to adopt dynamic and evidence-based approaches, regularly evaluating program impacts and adjusting interventions accordingly. Future research should prioritize longitudinal studies that assess the long-term effectiveness of these policy instruments and investigate how regional variations influence the adaptability of global best practices. By embedding SME support within a comprehensive policy ecosystem, countries can unlock the full potential of SMEs as engines of innovation, employment, and inclusive economic development.

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