

A SYSTEMATIC REVIEW OF SUSTAINABILITY MANAGEMENT IN SMALL AND MEDIUM ENTERPRISES TO IMPROVE SUSTAINABLE DEVELOPMENT GOALS

Lingeswaran Subermaniam

Chief Financial & Sustainability Officer, Lak Macros Services, Malaysia, linges.s@lcboards.com

Mudiarasan Kuppusamy

Director of Compliance Technology, CATS Global Technologies (M) SdnBhd, Professor, School of Graduate Studies, Unirazak, arasan@unirazak.edu.my

Nilufar Isakulova

Uzbek State World Languages University, Uzbekistan,
n.isakulova@uzswlu.uz

Dr. Atul Dattatraya Ghate

Professor, Department of Management, Kalinga University, Raipur, India,
ku.atuldattatrayaghate@kalingauniversity.ac.in

Dr. Satya Subrahmanyam

Professor & Asst. Dean (Research), Business School, Holy Spirit University of Kaslik, Jounieh, Lebanon,
satya.sub@usek.edu.lb

Dr. Byju John

Professor, Department of Management, Kalinga University, Raipur, India, ku.byjujohn@kalingauniversity.ac.in

Highlight

This article presents an analysis of sustainability management in small and medium-improved sustainable development goals.

Abstract

This article delineates the determinants affecting the ecological, social, and economic health of Small and Medium-sized Enterprises (SMEs) within the production industry in Asia. Asian SMEs significantly contribute to financial advancement and the attainment of the region's sustainable growth objectives. SMEs are essential for creating employment, distribution of earnings, and the expansion of Asian exporters. SMEs significantly contribute to global usage of resources, air and water contamination, and waste production. This article analyzes and examines the elements that drive Asian production SMEs towards Sustainable Development Goals (SDG). An integrated literature analysis reveals that creativity and entrepreneurial mindsets, governmental interventions, and lean production methods are essential elements influencing the economic, social, and ecological success of Asian SMEs. This article delineates prospective research directions that assist Asian SMEs in achieving comprehensive sustainable growth efficiency.

Keywords

sustainability management; small and medium enterprises; sustainable development goals; sustainability.

Introduction

Small and Medium-sized Enterprises (SMEs) constitute the predominant category of firms globally. In 2016, enterprises with fewer than 270 employees comprised 98% of all businesses in the EU, accounting for approximately 75% of the workforce and producing 60 percent to 60 percent of value-added [1][2]. They comprise 48% of the workforce and 35% of the Gross Domestic Product (GDP) in developing countries [22]. SMEs are attributed to around 65% of total carbon dioxide production and 75% of worldwide pollution.

Although much focus is placed on the financial matters and administration of SMEs, less emphasis is directed towards examining their actions regarding sustainability [16]. This study focuses on SMEs, a primary category of entities that might facilitate sustainability, by thoroughly analyzing their actions and tactics for manufacturing products and services [10].

SMEs are characterized by their reactive crisis-management approach, constrained resources, informal techniques, and adaptable organizational structures [3]. Notwithstanding these attributes, SMEs are essential for attaining and maintaining success and development in Asian nations and are pivotal to their competitive capability [27]. They immediately facilitate employment and distribution of earnings, alleviating impoverishment and enhancing equitable growth in emerging Asian countries.

SME producers are essential to the expansion of Asian exporters. Asian production SMEs provide items at a lower cost than their international rivals [17]. It has been recorded that SMEs in the production sector significantly contribute to global resource demand, air and water pollution, and waste production [12]. The cumulative ecological damage inflicted by manufacturing SMEs in many areas surpasses that of their bigger counterparts despite their relatively minimal environmental footprints [5]. To attain equitable growth, SMEs must utilize resources efficiently, ensuring that economic expansion aligns harmoniously with ecological sustainability [4].

SMEs must confront the challenge of environmental sustainability. Throughout Asia, local and national authorities are advocating for ecological initiatives and regulations to mitigate waste, combat contaminants in the air, and enhance the utilization of renewable energy sources [20]. A recent instance is the prohibition on plastic bags implemented by many Asian authorities, notably Bangladesh, China, Israel, Eastern India, Thailand, Taipei, and Malaysia. Such judgments are predicated on the data that these bags ultimately contribute to landfill accumulation or are deposited in one of the Ocean gyres. The Asian Developmental Bank indicates that many nations in the Asia-Pacific area continue to have challenges in attaining equitable growth targets related to responsible purchasing and manufacturing [6]. This region utilizes double the quantity of essential elements to generate one unit of GDP compared to other areas, resulting in significant ecological effects and depletion of biodiversity. Private enterprises impact the attainment of Sustainable Development Goals (SDG) for Asian SMEs proactively and adversely [7]. The paper posits the following study question: What variables, as indicated by existing literature, affect the social, ecological, and economic success of small and medium-sized manufacturing enterprises in Asia?

- The research investigates the factors influencing SMEs' ecological, social, and economic success in Asia.
- An integrated literature study has been employed as an investigation methodology to attain this purpose.

This work primarily identifies and analyzes the elements that favorably or negatively affect SMEs' social, ecological, and economic health in Asia. The paper emphasizes that these aspects are associated with both the inner elements of the companies and external elements of the organizational framework.

Background

Numerous Asian nations are significant contributors to the world's economy, and their impact on the international economy has intensified in recent years. SMEs have proliferated swiftly across Asia during the last two decades [26]. This region is notable for its economic variety, with SMEs at various stages of growth and differing services to the regional economy.

The 2016 International for Economy Cooperation and Growth study shows that SMEs constitute over 99% of all businesses [23]. In emerging Asian nations, SMEs significantly contribute to job creation, distribution of earnings, poverty alleviation, produced export growth, and the advancement of entrepreneurship, the production sector, and rural communities. SMEs constitute more than fifty percent of total employment [9]. The research indicates that in some sub-regions, SMEs play a crucial role in fostering and maintaining economic growth and efficiency [18]. These are essential to the competitive advantage of various Asian countries in the

global marketplace. Given the significance of SMEs to Asian finances, it is imperative to examine their effectiveness attributes, particularly regarding sustainability [19]. The Asian Investment Bank asserts that financial assistance for SMEs might address climate degradation in Asia.

The late 1970s to the 1990s was characterized by heightened issues for natural resource conservation, prompted by a succession of significant environmental disasters and the subsequent implementation of stringent environmental regulations [11]. Corporations began to include sustainability in their company processes and transition towards sustainable growth. Businesses are transitioning from a reactive stage to a more proactive approach to sustainability [8].

The sustainability achievement of a company encompasses economic, social, and ecological outcomes. A company's financial performance indicates its viability and is influenced by several factors, including concentration, growth, and size [28]. Social and environmental performance pertains to social activities and efforts influenced by company social responsibility or the implementation of sustainable practices [29]. In the realm of societal responsibility, businesses possess financial and legal requirements and moral and discretionary commitments; social achievement is contingent upon achieving these duties. Sustainability relies on minimizing resource use and decreasing solid and water discharge, ecological incidents, and pollutant discharges [13][14].

It is essential to observe and document the environmental outcomes of Asian manufacturing SMEs, with particular emphasis on monitoring the two major nations in the area, according to recent findings [25]. Research in India reports instances of tanner effluent discharged by SMEs involved in leather product manufacturing, resulting in significant issues for nearby communities. A comparable record of inadequate ecological performance is noted for the fabric bleaching sector. The foundry business in China, consisting predominantly of SMEs, is classified as a 'red classification' (very polluted) sector, characterized by substantial emissions of smoke and dust particles [15].

Literature Review

This paper employs an integrated literature review as its research approach. The procedures used in this integrated literature study are indicated in Figure 1. Each phase is elucidated in the subsequent subsections [21]. The integrated literature review proceeds in the following order: article searching, article choices, and data collection and evaluation.

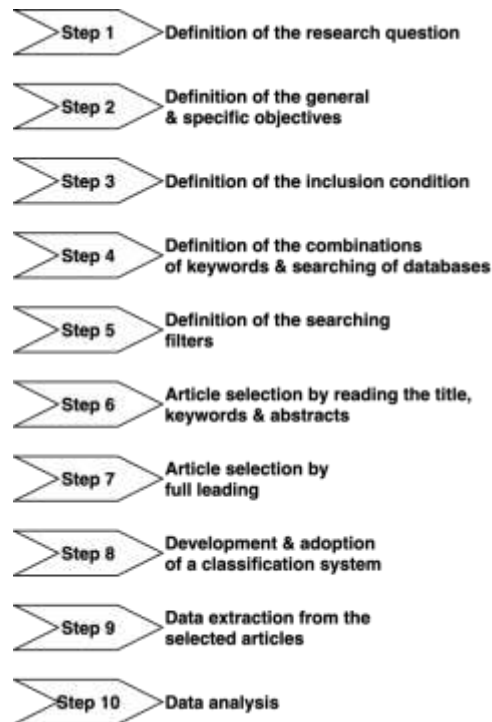


Figure 1. Integrated literature review

The search for articles

The study topic was formulated, objectives were described, and inclusion conditions were devised. The inclusion conditions were established according to the study question and aim. Four criteria for admission were established:

- To incorporate studies that demonstrate the determinants affecting social, environmental, and economic success.
- To incorporate studies employing quantitative methodologies consistent with the predominant research approach.
- To encompass just studies situated within the Asian setting.
- To encompass studies investigating Asian SMEs.

The included conditions facilitated the selection of papers, and only those that fulfilled all requirements were chosen. The sequences of keywords utilized in the database queries were determined. The pairings aimed to discover articles that addressed elements favorably or adversely affecting the ecological, social, and economic health of Asian SMEs. To ensure the precision of the search, specific keywords were utilized to narrow down the outcomes, including nation names. The investigation was restricted to document types, specifically published papers and publications in publication. Only publications employing a quantitative methodology were considered. Quantitative inquiry approaches encompass the analysis of the intricacies of real-life scenarios and procedures, including their causal links, trade-offs, and aspects of sustainability. A publication dedicated to the intersection of technology and management is esteemed for disseminating innovative quantitative investigation papers; hence, the research restricted the study to articles employing quantitative methodologies.

The investigation used the Scopus records, specifically employing its sophisticated search functionality. The Scopus dataset is beneficial as it indexes around 65% more publications than comparable options like the Web of Science database and offers more extensive coverage of contemporary literature. Two hundred thirty-six publications were discovered using this assortment of keywords for the query.

Selection of Articles

After the preliminary searches, the Search Filtering (SF1 and SF2) was established and implemented. All 250 papers have been sent to SF1, necessitating the examination of the title, abstract, and keywords. Articles advanced to SF1 alone if they promised to fulfill the four inclusion requirements. Out of the 250 papers, just 70

satisfied this requirement. The 70 papers were sent to SF2 for comprehensive review. Similar to SF1, only those who satisfied the four inclusion conditions progressed to SF2. Out of the 70 papers, 40 completely satisfied all the inclusion criteria.

Systematic Review

The review procedure concentrated on the information and evidence from scholarly peer-reviewed literature. Figure2 illustrates a flowchart of the review procedure.

Recognition:Initially, the research formulated two theoretical search strings to identify research among two principal online repositories of scientific literary works: Web of Science and Business Standard Premium (EBSCO). The strings included pertinent phrases, which were initially compared and stemming using the RTextTools program v. 1.4.2, truncated, then expanded with wildcards to guarantee comprehensiveness, and ultimately amalgamated employing Boolean and proximity variables.The texts were modified to conform to the specialized, sophisticated search via the command-line syntax of the selected datasets.The research conducted reverse and forward searching in Google Scholar to mitigate publishing prejudice and guarantee a thorough study.

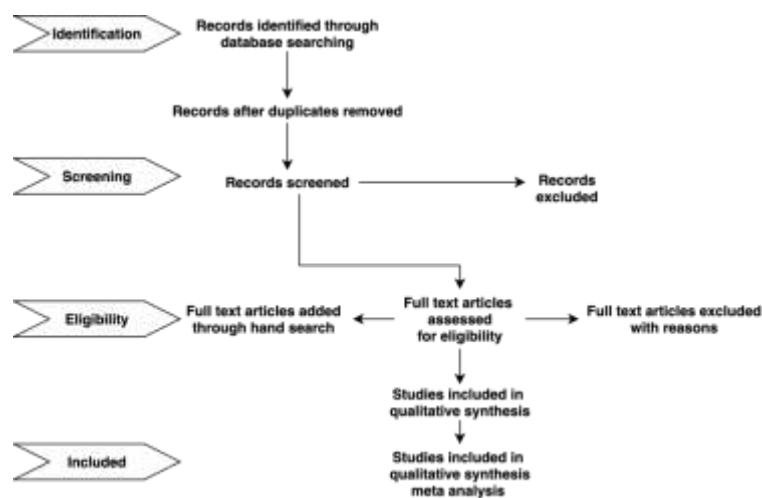


Figure 2. Workflow of the article selection

Screening and qualification, specifically attribution: The research initially selected relevant papers based on title, abstract, and phrases by the included and excluded parameters. This was succeeded by a comprehensive review of the study that passed the preliminary screening. Only papers published between 2018 and 2024 were evaluated due to the rapidly evolving nature of these subjects. The study must be released in English and scientific, peer-reviewed publications. Conference papers were used in forward and reverse searching for String II research because of the limited quantity of valuable outcomes.

Data Extraction

The concluding phases of the integrated literature review involved formulating and implementing a categorization system, along with data extraction and evaluation. All 36 pieces were meticulously organized, and their material was categorized into the following nine measurements:

The papers were categorized into three categories based on the financial circumstances of the respective countries under examination. The classifications included developing nation, advanced nation, and not relevant.

- Asian sub-region: the papers were categorized based on the specific subregion of Asia they addressed.
- The publications were categorized according to their substance into three classifications: environmental, financial, and a combination of monetary and ecological efficiency.

- Base concept: this aspect assesses whether the papers employed a theory of organization as a foundation for their claims and analyses.
- Implementation of quantitative methodology: articles were categorized based on the quantitative method utilized in the evaluation.
- Elements that enhance social and ecological performance in Asian SMEs: publications were categorized based on the positive aspects they identified about environmental and social efficiency.
- Factors that improve revenue growth in Asian SMEs: Papers were categorized based on the positive elements they identified regarding financial results.
- Variables adversely affecting social and ecological outcomes in Asian SMEs: publications were categorized based on the negative variables they identified concerning environmental and social efficiency.
- Issues adversely affecting the economy in Asian SMEs: publications were categorized based on the detrimental issues they identified concerning financial results.

Results

Bibliometric Evaluation

Bibliographic relationships and the most frequently cited phrases for each article in the Google Scholar repository. The study investigates the correlation between overall quality control and productivity in SMEs, whereas other studies explore creative procedures inside SMEs in Taiwan. The setting of SMEs is a significant subject in Asian academics.

The year with the most papers released is 2020, with 10. In 2021, there was a notable rise in released publications examining the determinants of organizations' economic and environmental/social performances. The surge of articles about SMEs and sustainable growth is attributed to the creation of global sustainability objectives, the 2030 Plan in 2020, and the Paris Accord in 2024. The appendices and essential keywords of the papers were examined.

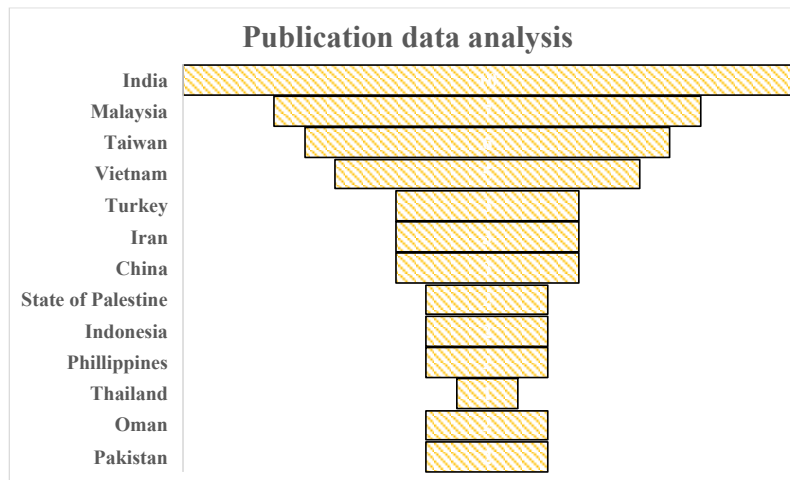


Figure 3. Country-wise article publication results

The terms that are used with the most frequency include "organizational efficiency," "financial efficiency," "organizational education," "entrepreneurial introductions," and "Asia." The findings indicate that most papers examine various aspects affecting the three components of sustainable efficiency, with a primary emphasis on the economic aspect. The findings suggest India is among the more extensively researched countries. It is crucial to recognize that this research relies on the frequency of phrases within the examined papers, rendering it hard to conclude without accounting for the context of every term's application.

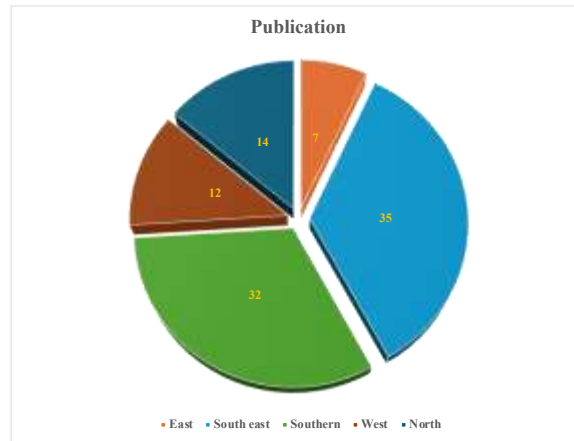


Figure 4. Area-wise publication analysis

Figure 4 designates India as the most researched nation, with nine publications about this area overall. Malaysia is the next most researched nation, with six articles, accompanied by Taiwan with five and Vietnamese with 4. Overall, 37% of the publications examined nations in South-Eastern Asia, while 34% investigated nations in Southern Asia. Figures 3 and 4 illustrate that Eastern Asia is inadequately covered in the research, and further study should prioritize East Asian countries since the attributes of this area facilitate progress in this academic domain.

Theoretical and Research Methodology

Of the papers analyzed, 30 did not employ theories to provide a theoretical framework or to substantiate their analyses, debates, or findings. Merely seven articles embraced this viewpoint. Among these publications, two utilized the Resource-Based View Theories, and another applied Institutional Economics. The Resource-Based View posits that institutional assets and skills differ among organizations and are a crucial differentiator that enhances productivity and competitiveness. Organizational Theory examines the external surroundings of organizations and illustrates how environmental influences can influence the adoption of policies and behaviors. Both concepts are essential for comprehending the internal and external aspects affecting organizations' performance; hence, they could be more extensively utilized in such investigations. Additional theories used in only one of the papers comprise Diffraction of Innovation Theories, which delineates a product's creativity lifespan and the various stages it traverses to achieve popularity among five distinct user groups; Ecological Modernity Theories, which address the roles of technological developments, nations, and 'the marketplace' for the environment. Modifications and Additional Orientation Theories pertain to elevated 'other introductions' and diminished self-concern. Refer to Figure 5 for a detailed analysis of the frameworks employed in the papers.

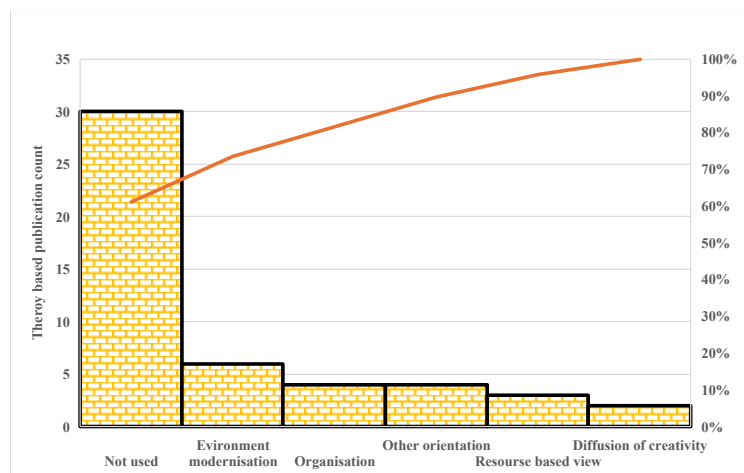


Figure 5. Applied theory analysis

Most publications employed various forms of structural equation modeling for quantitative data analysis. SEM is used to analyze the connections among variable dependents and multiple predictors. This statistical approach is widely utilized in research and can be advantageous for examining variables influencing efficiency. The methodologies employed in the papers are presented below in Figure 6.

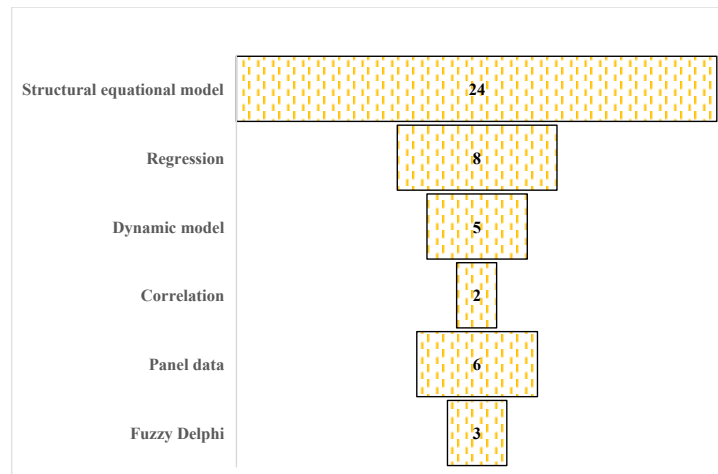


Figure 6. Applied quantitative model analysis

Efficiency and SDG in Asian SMEs

The publications analyzed in this study were categorized based on their relevance to the research questions and aims. The result illustrates the correlation between the papers and the three areas of financial success, environmental efficiency, and the combined economic and social achievement. Of the 38 papers examined, 29 incorporate a variable influencing the financial results of Asian manufacturing enterprises. Five elements affect environmental and social efficiency, but three aspects impact enterprises' economic and ecological/social outcomes. SDG relies on the synergy and equilibrium of ecological, social, and economic factors. Limited research has examined these three pillars concurrently. Additional research into the intricacies of these connections in Asian production SMEs is essential.

Most publications incorporated several elements affecting the financial health of SMEs within the Asian production industry. The articles predominantly emphasize elements that favorably influence financial success rather than those that exert a negative impact. The elements discovered in the research were categorized as internal and external. Most scholars indicate that internal elements are crucial for attaining favorable financial success. In contrast, things that might jeopardize the outcome receive diminished focus.

The primary elements that favorably impact the financial health of production SMEs are innovation and an attitude of entrepreneurship. Creativity is the most frequently referenced element concerning organizations enhancing their financial success. Business paradigm innovation and open creativity are pertinent forms of organizational transformation. A novel company concept pertains to the economic success of SMEs in the production sectors of Afghanistan and Southern Asia. Product and managerial creativity are crucial elements for enhancing financial success. A progressive attitude among managers and environmentally sustainable organizational creativity benefit economic growth.

A key determinant for enhancing the financial results of Asian production SMEs is their entrepreneurial spirit. The entrepreneurial mindset represents a comprehensive strategic approach to manufacturing. The research on Entrepreneurial Orientation (EO) posits that the five elements of EO—innovativeness, being proactive, risk-taking, independence, and competing aggressiveness—when adeptly utilized in dynamic institutional and surroundings, lead to improved business performance. When a business has effectively embraced an entrepreneurial approach, providing the necessary amenities to establish and sustain a supportive learning environment is essential. Organizational learning mediates the connection between entrepreneurial attitude and some financial success measures. Absorptive capability facilitates this interaction. The ability to absorb is a mediating variable in the efficacy of entrepreneurial attitude and enhanced financial success.

The primary external element that favorably influences the economy is governmental backing. Although governmental assistance is a crucial element in attaining favorable financial outcomes, the impact of such support differs according to the subsidy category. To a lesser degree, the publications examined and investigated aspects associated with social and environmental outcomes. The significance of adopting lean principles is noteworthy. Lean manufacturing and environmentally friendly production are founded on a concept of perpetual waste reduction, emphasizing consumer and environmental considerations: an integrated lean green manufacturing system advantages enterprises, consumers, and the ecosystem.

In conclusion, creativity, an entrepreneurial mindset, and regulatory backing are critical economic engines for Asian production SMEs, but lean manufacturing significantly influences ecological and social efficiency.

Discussion

This study issue has been gaining prominence in recent years, mainly due to the critical roles that Asian SMEs play in boosting the economy and attaining SDG. This research delineates the internal and external elements that affect monetary, social, and ecological performance.

SME companies in Asia must invest in creativity, namely green organizational creativity and open creativity, while enhancing the inventive abilities of their management to improve their financial results. These SMEs must invest in an entrepreneurial mindset to enhance instructional capacity for absorption, market orientation, and collective competency. Creativity and an entrepreneurial mindset are essential internal variables for attaining enhanced financial success. A significant aspect directly impacting the economic success of Asian SMEs is governmental backing. Government assistance is vital for SMEs, as they have become more vulnerable than prominent corporations. SMEs require incentives and targeted initiatives to facilitate access to finance, such as favorable tax conditions, as well as to enhance their methods of leadership and workforce capabilities—certain internal variables mentioned before need governmental assistance for execution.

Intrinsic and external elements positively impact the performance of the environment and society. Lean green production processes have been recognized as a factor that positively impacts ecological and social effectiveness, rendering it a significant investment for enterprises. Green information technology and mitigating greenhouse gas pollution correlate favorably with enhanced environmental and social efficiency. Such techniques directly influence ecological efficiency as they are implemented in the industrial process. Outside social and commercial constraints compel enterprises to embrace more sustainable practices, enhancing environmental and social efficiency. This circumstance necessitates an external fit. Like financial success, SMEs need legislative incentives and support to transition towards more ethically and ecologically responsible activities.

Conclusion

Two distinct Asian locations spearhead research on sustainable growth in SMEs: South-Eastern Asia and Southern Asia. There exists an opportunity for research on how various Asian areas are addressing SDG. Considering that Asia's diverse state regulations influence company sustainability, this is a compelling subject for further study.

Studies on sustainable growth for industrial SMEs in Asia need more theoretical advancement to construct concepts in a methodologically sound approach. Considering the government's influence in promoting environmentally friendly programs in Asia, alongside the significance of innovation and entrepreneurship in facilitating deals within SMEs, concepts such as institutional Theory, Ecological Modernity, Social Networks, and organizational learning can assist investigators in developing and examining novel concepts. Quantitative techniques utilizing analytical estimation, programming in mathematics, and models could enhance this research domain, as they effectively encapsulate the intricacies of the triple bottom line viewpoint, specifically the integration and trade-offs among financial, ecological, and social achievement metrics.

A limited number of publications exist about sustainable growth for industrial SMEs in Asia that examine sustainability success; most of these research studies emphasize the financial results above sustainability

results. Applying quantitative analysis models with operations analysis might facilitate the comprehensive integration of economic, ecological, and societal performance.

Lean production systems assist industrial SMEs in Asia enhance their environmental and social performances. There is potential for exploring further sustainable operations administration methods that improve organizations' sustainability. Investigating aspects that concurrently enhance environmental success and the economy would be advantageous. Research indicates green organizational creativity and technology can improve ecological success and financial results.

This research enhances the discourse on SDG growth for Asian production SMEs by outlining the aspects that might affect their social, ecological, and economic success. Innovation and entrepreneurial attitude, government regulation and assistance, and efficient production methods are significant elements that propel manufacturing SMEs in Asia towards enhanced economic and social efficiency.

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