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Optimizing Japanese Entrepreneurship for Startup Growth and Sustainability in ASEAN Lower-Middle-Income Economies

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ABSTRACT

This study investigates how Japanese entrepreneurship contributes to the strengthening of startup ecosystems in lower-middle-income ASEAN economies. Even with the dynamic expansion of these economies, they continue to grapple with historic challenges such as the Middle-Income Trap, institutional weaknesses, and limited access to capital. Japanese firms contribute to the enhancement of the scalability and competitiveness of ASEAN startups by implementing production management strategies—including lean concepts, digitalization, and cross-cultural collaboration. Through a qualitative examination of Japanese-ASEAN partnerships, the study identifies key success factors as technology transfer, structured business processes, and adaptation to markets. While Japanese investment and management expertise increase the effectiveness of operations, cultural disparities and regulatory mismatches remain significant obstacles to seamless collaboration. To address the challenges, the study proposes integrative solutions for conciliating Japanese models of production with ASEAN business culture with a view to enabling sustainable entrepreneurial growth. Applying the Grounded Theory Method, the research adds theory to international entrepreneurship and production management literature while also offering practitioner implications. By optimizing Japanese investment trends and institutional alignment, the study offers policymakers, investors, and entrepreneurs' actionable recommendations to strengthen ASEAN startup ecosystems. Enhancing Japanese-ASEAN economic collaboration is imperative to foster innovation and long-term economic development in the region.

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1. Introduction

The ASEAN region, characterized by its rapid economic development and adoption of digital transformation, has emerged as a hotspot for entrepreneurial activity [1]. These economies, predominantly in the middle-income bracket, face persistent challenges associated with the Middle-Income Trap (MIT). The MIT is a phenomenon whereby nations struggle to innovate from one- to three-income status, but it requires innovative solutions that foster long-term economic growth and technological evolution [1]. Despite recurring GDP growth, the majority of ASEAN countries continue to experience structural weaknesses, including limited technological capabilities, thin financial markets, and institutional inefficiencies that hinder long-term economic growth [2]. Japanese entrepreneurship has played a key role in closing these gaps by leveraging its expertise in technology transfer, efficiency in resource utilization, and strategic partnerships. Recent statistics indicate that

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Japanese investments in ASEAN startups have grown by 75%, contributing greatly to sectors like fintech, healthcare, and clean energy [3]. These investments are a strategic move away from traditional Foreign Direct Investment (FDI) towards innovation-driven partnerships aimed at building up local startup ecosystems. Japanese firms, with structurally organized production management and quality control, introduce operational efficiencies that allow startups to expand and enhance competitiveness in the market [4].

Even with all this, enormous gaps still remain in the understanding of how the strategies of Japanese production and management can be effectively transferred to the particular economic and cultural conditions of ASEAN Lower-Middle-Income Economies (LMIEs) [5]. A few principal research issues arise as follows. To begin with, ASEAN Startups must be dealt with scalable business models. While Japanese corporations have gained much experience with production efficiency, little is known about how these models perform in ASEAN LMIEs, as business environments differ due to regulatory, infrastructural, and financial impediments [6]. Secondly, institutional and cultural barriers should be examined. Cross-border partnerships often encounter challenges in aligning managerial philosophies, regulatory compliance, and operational strategies. Japanese firms emphasize structured long-term planning, whereas ASEAN startups tend to adopt more flexible, risk-tolerant approaches [7]. To what extent cultural and institutional adjustment contributes to Japanese-ASEAN entrepreneurial partnerships' success remains a question that has been understudied [5], [6].

This study enhances current literature through integrating a production management perspective into Japanese-ASEAN entrepreneurial alliances. It explores how lean strategies, digitalization, and cross-cultural management enable startup scalability, productivity of resources, and long-term viability. Through integrating production strategies and entrepreneurship, the study offers an enhanced comprehension of overcoming growth limitations in ASEAN lower-middle-income economies. Theoretically, it addresses a gap in existing literature, which predominantly focuses on high-income economies, by demonstrating how production management strategies can be adapted to resource-constrained environments. Practically, it offers policy recommendations to optimize Japanese investments in ASEAN startups, ensuring sustainable economic impact. While Japanese enterprises have historically contributed to industrial development in the region, challenges remain in aligning investment strategies with local business conditions.

By analyzing successful case studies, the study identifies key factors for effective partnerships, helping policymakers refine regulatory frameworks and improve institutional environments. Beyond policy, it provides entrepreneurial management advice to investors and entrepreneurs on enhancing operation efficiency, tapping cross-cultural collaboration, and adopting digital technology. With evolving startup environments, these results offer actionable steps to address technology and market challenges to ensure Japanese-ASEAN partnerships catalyze economic growth while being sensitive to evolving business contexts.

This *study is guided by the following research questions (RQs)*:

RQ1: What are the key strategies for fostering effective collaboration between Japanese and lower-middle-income ASEAN startup ecosystems,

RQ2: How do these strategies— especially including production management practices such as lean methodologies and digital transformation— enhance startup growth, scalability, and long-term sustainability?

By examining the RQs, this study aims to develop a comprehensive framework for sustainable ASEAN startup ecosystems, providing theoretical insights and practical recommendations for entrepreneurs, policymakers, and investors.

2. Literature Review

2.1 The Middle-Income Trap and Structural Barriers in ASEAN LMIEs

Since the 1960s, ASEAN economies have transitioned from primary industries focused on agriculture and raw material extraction to secondary sectors such as manufacturing and tertiary sectors like services, reflecting industrialization paths seen in Japan, South Korea, and Taiwan [7]. This structural shift has been a catalyst for attracting multinational corporations seeking cost-efficient production bases and expanding markets, thereby increasing FDI inflows to the region [8]. Key industries driving this growth include electronics manufacturing in Malaysia, automotive production in Thailand, and business process outsourcing services in the Philippines. Despite substantial economic progress over the past three decades, many ASEAN economies remain constrained by underdevelopment and income inequality [8], [9]. Gross National Income (GNI) per capita disparities are pronounced, with Malaysia and Thailand achieving higher-middle-income status with GNI per capita

between 7,000 and 11,000 USD, while Indonesia and the Philippines lag behind at approximately 4,000 USD, struggling to escape the lower-middle-income bracket [9]. Table 1 represents the trend of GNI per capita in Asia and the Pacific from 1990 to 2023 excerpted from the [2].

The MIT, first conceptualized by Gill and Kharas [1], poses a significant hurdle for economies attempting to transition from middle-income to high-income status. Key challenges include stagnating productivity, insufficient investment in advanced technology, weak institutional frameworks, and a reliance on low-cost labor rather than innovation-driven growth. ASEAN economies can be categorized into "lower-middle-income" nations, including Cambodia, Laos, and Myanmar, and "higher-middle-income" nations, such as Malaysia, Thailand, and Vietnam, each of which has its own specific development challenges [10]. Structural barriers contribute to the problem. Weak regulatory frameworks, high-level bureaucratic processes, and poor enforcement of investment policies create an uncertain business climate [6]. Financial challenges continue as a major factor since most startups in LMIEs are unable to finance themselves on the basis of underdeveloped financial systems and lack of investors' confidence [11]. Having inadequate funding, startups can't invest in technology infrastructure or expand beyond domestic markets. Policy interventions and strategic partnerships such as those from Japanese investments become increasingly important to new ventures in riding these challenges and maintaining good startup ecosystems. Hara [12] emphasized that the solution to the MIT entails a shift from efficiency-driven and factor-driven growth models to innovation-driven methods. This means improving R&D capabilities, encouraging entrepreneurship ecosystems, and dismantling systemic barriers such as corruption and weak education systems. For ASEAN, becoming a high-income economy will rely on leveraging digital transformation, regional integration under agreements such as the Regional Comprehensive Economic Partnership and establishing policies favoring industrial diversification as well as social equity.

2.2 Production Management for Startups

Production management is central to optimizing operational efficiency in constrained resource environments such as ASEAN LMIEs. Traditional paradigms such as Lean Manufacturing [13] and Total Quality Management [14] emphasize waste minimization, efficiency maximization, and ongoing process improvement. These procedures have been widely applied in mass-scale manufacturing but are now more relevant to startups, in which effectiveness in using available resources is critical to survival and growth. Agile methodologies [15] provide an appropriate theoretical backbone for production management within startup ecosystems. Compared to traditional manufacturing strategies, agile methodologies focus on flexibility, rapid iteration, and responsiveness towards market change, and hence are well-suited for high-uncertainty emerging markets. Convergence of digital technologies, such as AI-driven analytics and cloud-based supply chain management, has further enlarged the function of production management so that companies can optimize processes and be more productive [16]. However, application of such advanced techniques remains limited in LMIEs due

Table 1. Trend of GNI per capita (Atlas Method, current US$) from 1990 to 2023

Region/Year	1990	2000	2012	2018	2021	2023
East Asia and the Pacific	2,801	3,870	9,126	11,097	12,841	13,712
Japan	28,390	36,810	50,060	41,800	43,670	39,030
Republic of Korea	6,450	11,030	25,650	32,740	35,180	35,490
China	330	940	5,910	9,540	11,950	13,400
Singapore	11,450	23,680	51,710	56,550	64,970	70,590
Thailand	1,520	1,980	5,420	6,450	7,100	7,180
Malaysia	2,470	3,490	9,980	10,360	10,740	11,970
Indonesia	560	570	3,550	3,850	4,170	4,870
Philippines	830	1,180	2,840	3,640	3,550	4,230
Vietnam	130	380	1,980	3,060	3,590	4,180
Lao PDR	190	280	1,360	2,470	2,510	2,120
World	4,286	5,506	10,468	11,103	12,129	13,211

Source: World Development Indicators 2024 [9]

to cost restraints and lack of specialized expertise. Knowing how Japanese companies incorporate these methods into their ASEAN partnerships offers positive feedback on how startups can improve production efficiency in spite of systemic limitations.

2.3 Japanese Entrepreneurial Strategies and Their Impact on ASEAN Startups

Japanese investments in ASEAN have evolved from the traditional mode of FDI to technology-oriented collaborations with a focus on technology transfer, capacity development, and market creation. In contrast to Western venture capital approaches with an objective of immediate returns, Japanese entrepreneurial styles target long-term engagement, systematic guidance, and embedding within industrial milieux [17]. Several initiatives demonstrate Japan's efforts to promote startup growth in ASEAN. JETRO J-Bridge program, for instance, connects Japanese firms with ASEAN startups to facilitate market entry, technology transfer, and knowledge-sharing [17]. Similarly, the Japan International Cooperation Agency (JICA) created the NINJA (Next Innovation with Japan) program, which provides funding, mentorship, and business development support to startups from emerging markets [4]. These initiatives demonstrate how Japanese businesses leverage their experience of lean manufacturing, supply chain management, and digital innovation to initiate startup scalability in ASEAN LMIEs. However, despite these efforts, issues remain. A majority of ASEAN startups struggle to marry their nimble, reactive business models with the systematized, long-term planning approach adopted by Japanese businesses. This asynchronism has a tendency to generate inefficiencies as well as decision-making issues. Further, variations in regulation environments within ASEAN countries introduce additional complexities and require an evaluation of the factors that make great Japanese-ASEAN collaborations.

2.4 Digital Transformation and its Integration with Production Management in LMIEs

The incorporation of digital technologies into production management has revolutionized business operations across sectors, but most LMIE startups are lagging behind in embracing these innovations because they cannot afford the costs and lack the necessary skills. Digital transformation—integrating technologies like the Internet of Things, artificial intelligence (AI), and blockchain—increases efficiency, maximizes resource use, and decreases the risks of operation [16]. Japanese firms have played a critical role in enabling digital transformation in ASEAN startups. Initiatives such as the Global Acceleration Hub and Japan-ASEAN Co-Creation Fast Track Initiative provide technical expertise and funding to facilitate digital adoption in LMIEs [17]. For instance, Mitsubishi's collaboration with Gojek in Vietnam has introduced AI-powered logistics solutions, significantly improving operational efficiency and market responsiveness [4]. Yet, even with such alliances, digital transformation is lopsidedly dispersed, with most LMIEs devoid of the infrastructure or regulatory environments to enable widespread embrace.

2.5 Startup Performance and Sustainability

The existing body of research contributes both empirically and conceptually to understanding the drivers of startup performance and sustainability in emerging economies. These factors enhance the understanding of how some countries' startups deal with operational and institutional hurdles as well as how external partnerships, digital platforms, and human capital influence their growth trajectories. In India, Aidin et al. [18] examined the performance of Kerala startups and concluded that intangibles such as human capital and marketing efforts are more instrumental to achieving early success than entrepreneurial orientation. This indicates the need for capacity-building and strategic alignment, which resonate in the ASEAN LMIE context. At the macro level, Singh and Ashraf [19] analyzed the entrepreneurship ecosystem evolution and its correlation with per capita GDP across 34 countries and demonstrated a strong correlation. These results underscore the importance of institutional coherence and policy alignment focused on innovation-driven growth, which are critical for the Southeast Asian startup ecosystems. With regard to Japan, Xu [20] used machine learning to analyze SME bankruptcy and uncovered strategically resource-based factors leading to business survivability. These findings back up the claim that Japanese companies' step-by-step business methods can boost the durability of their overseas operations. Fukugawa [21] brought in a people-focused view showing how Japanese incubators tap into diverse talent nearby universities, and key partnerships to help new businesses thrive. These approaches are now spreading to ASEAN startup scenes through mentoring and growth programs., Hadizadeh et al. [22] highlighted how online platforms empower eco-friendly startups arguing that these platforms don't just help

businesses grow but also drive environmental and social progress. This aligns with Japan and ASEAN's joint efforts on digital upgrades and inclusive innovation. Finally, recent cross-country empirical studies further highlight the macroeconomic importance of entrepreneurial ecosystem quality. Content et al. [23] provided robust evidence from European regions showing that ecosystem maturity and entrepreneurial activity are key drivers of regional economic growth. In a similar vein, Graić et al. [24] further showed that strong entrepreneurial fundamentals positively affect country-level post-crisis economic recovery. These findings strengthen the broader relevance of ecosystem conditions for national development and complement the ASEAN LMIE context examined in this study. These new studies broaden our understanding by showcasing how local factors, management styles, and tech advances all play a part in helping startups grow in emerging markets. Yet, nonetheless, there are limited studies focusing on how these lessons apply to cross-border collaborations, especially concerning production management approaches and institutional adaptation—shortcomings this research aims to fill.

2.6 Institutional and Cultural Barriers in Cross-Border Startup Collaborations

Institutional and cultural factors present significant challenges in Japanese-ASEAN startup collaborations. Weak governance, complex bureaucratic procedures, and inconsistent enforcement of investment regulations create an uncertain business environment, increasing transaction costs and discouraging long-term investments [6]. Many LMIEs also lack sufficient policy frameworks to support digital entrepreneurship, further limiting startup scalability [2]. Cultural barriers add another layer of complexity. Hofstede's cultural dimensions theory highlights fundamental differences between Japanese and ASEAN business cultures, particularly in hierarchical structures, decision-making processes, and risk tolerance [5]. Japanese firms typically favor long-term strategic planning and formalized processes, whereas ASEAN startups adopt a more flexible, risk-taking approach to business operations. Misalignments in work culture, leadership styles, and negotiation strategies can lead to inefficiencies, making it essential for both parties to develop adaptive collaboration models. Successful case studies illustrate how effective cross-cultural management can enhance partnerships. The Lao-Japan Innovation (LJI) program, for example, facilitates entrepreneurship training while addressing cultural adaptation challenges, ensuring that Japanese mentorship frameworks align with local startup needs [25]. Understanding how cultural adaptation influences collaboration success is crucial for optimizing Japanese-ASEAN startup partnerships.

2.7 Addressing Study Gaps: Toward an Optimized Model for Japanese-ASEAN Startup Partnerships

While there has been more recent work on better comprehending startup performance and viability in emerging markets, there remain apparent gaps in how entrepreneurial practices relate to production management processes in LMIE startup contexts. Existing work continues to center heavily on production management systems that have been developed from high-income contexts, leaving a shortage of evidence regarding how well those systems transfer to resource-constrained ASEAN contexts. Furthermore, Japanese-ASEAN economic cooperation research has focused intensely on foreign direct investment and industrial linkages at a large scale, offering little evidence on innovation-led linkages and startup economies [26]. This study aims to fill these gaps by exploring the intersectionality of production management, digitalization, and cross-border entrepreneurial strategy. Through a review of the significance of lean methodologies, technology deployment, and institutional responsiveness, this research develops an overarching framework for improving Japanese-ASEAN startup partnerships. Increased knowledge of these drivers contributes to the pool of academic literature and translates into sound policymaking, yielding useful insights for entrepreneurs, investors, and government policymakers to drive sustainable economic growth in ASEAN LMIEs.

3. Proposed Theoretical Framework

This study proposes a framework for fostering effective collaboration between Japanese firms and ASEAN startups in LMIEs, integrating key collaboration strategies with production management practices to enhance startup growth, scalability, and long-term sustainability. Meaningful partnerships extend beyond financial investments to include structured mentorship programs, technology-sharing agreements, and co-development initiatives [17]. Japanese enterprises emphasize long-term strategic alliances, transferring specialized knowledge and managerial expertise that strengthen ASEAN startups' competitiveness in both

regional and global markets [27]. The incorporation of lean methodologies, total quality management, and digital transformation strategies into these partnerships further enhances operational efficiency by optimizing production processes, reducing costs, and improving product or service quality [13], [14]. However, the extent to which startups can leverage these production management strategies depends on their access to financial investments, infrastructure support, and supply chain integration, all of which play a critical role in determining their ability to scale [2].

Collaboration effectiveness is further shaped by cultural and institutional adaptability. Differences in business culture, decision-making processes, and regulatory environments often create misalignment between Japanese firms and ASEAN startups [5]. Japanese business models are generally compatible with long-term strategic planning and hierarchical decision-making, whereas ASEAN startups prioritize adaptability and rapid iteration based on market forces. Effective alliances must possess a high degree of cultural accommodation to position business practices to adjust to local market conditions without losing the privileged position of Japanese expertise [6]. Institutional determinants such as regulatory clarity, investment attraction, and intellectual property rights equally play a decisive role in shaping cross-border collaborations' success [28]. Consistency of policy enforcement and governance frameworks differs, and such inconsistency causes investors to become uncertain, necessitating adaptive mechanisms to deal with such issues [4].

The presence of collaboration intensity, production management, and institutional environments together is the one that determines Japanese-ASEAN startup partnership long-run sustainability. Intensive collaborative networks enable the exchange of knowledge, investment, and process optimization, leading to the foundation of high-speed growth among startups. Combined with lean production practices and digitalization, such collaborations enable startups to achieve greater market responsiveness, lower costs, and enhanced competitiveness [16]. By incorporating the management of production into collaborative structures, Japanese-ASEAN alliances enable the establishment of sustainable business models resistant to market shocks. The synergy between these elements ensures that startup ecosystems not only endure in the short term but also contribute to aggregate economic growth by fostering innovation-driven development in LMIEs [1]. The strategy emphasizes the importance of integrating collaboration approaches with the maximization of production, demonstrating that Japanese expertise in lean practices and digital innovation can be a driver for ASEAN startup success.

As seen in Figure 1, the present research conceptually proposes a framework for successful collaboration between Japanese firms and ASEAN startups in LMIEs, focusing on synergizing collaboration ap-

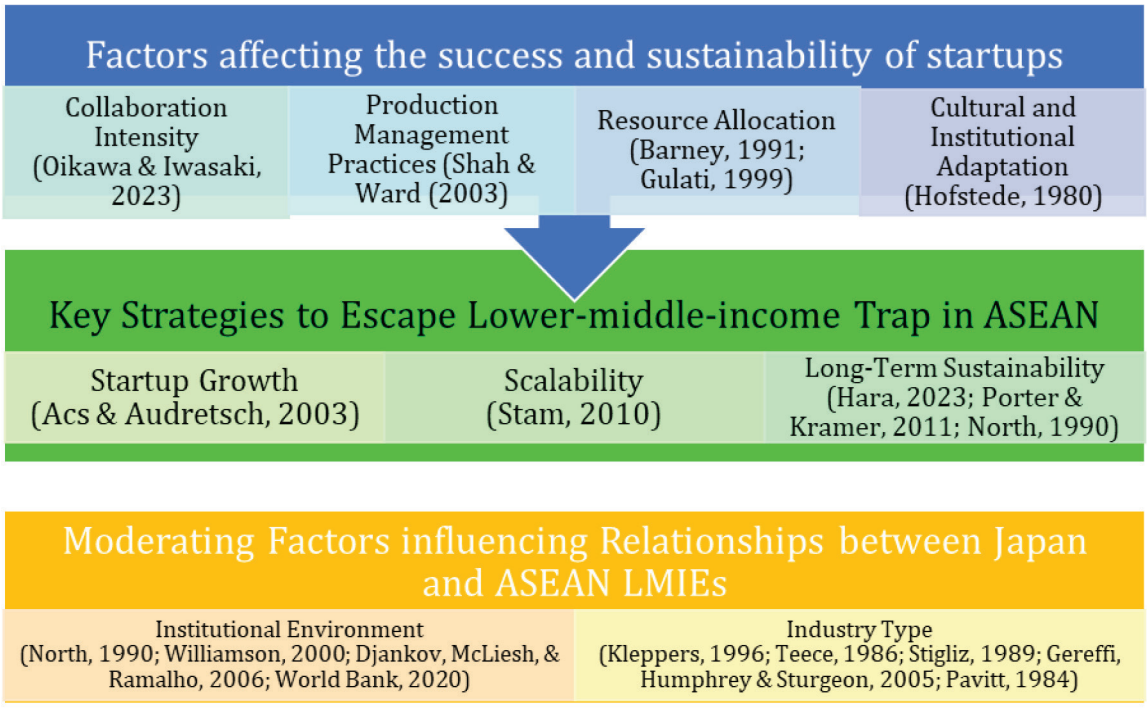

Figure 1. A Proposed Framework for effective collaboration between Japanese and ASEAN LMIEs

proaches and production management techniques to drive startup growth, scalability, and sustainability. Four independent drivers drive the outcomes: intensity of collaboration (investment, joint ventures, mentorship), production management practices (lean strategies, total quality management, digital innovations), resource deployment (financial investment, infrastructure, technical skills), and cultural/institutional adaptation (coordinating regulatory and business subtleties). These drive three dependent outcomes: startup growth, scalability, and long-term sustainability. Moderators such as type of industry and institutional setting condition the effectiveness of collaboration. By linking Japanese capability with local market demand, this model shows that by uniting collaboration with effective manufacturing practices, it is possible to transcend operational inefficiencies, market barriers, and capital constraints to achieve higher startup success and sustainability in LMIEs.

4. Methodology

4.1 Research Design

This study adopts a qualitative methodology to explore key strategies to build effective collaboration between Japanese firms and startup ecosystems in ASEAN LMIEs. It focuses on how production management practices, particularly lean principles and digitalization, can contribute to startup development, scalability, and long-term sustainability. To achieve the research objectives, a multiple case study method is employed to investigate actual cases of Japanese-ASEAN startup collaboration, enabling an in-depth exploration of the mechanisms that support effective collaboration. A convergent parallel design integrates document analysis and case study research, offering a multi-dimensional view of collaboration dynamics. The research is guided by the Grounded Theory (GT) approach [30], which supports inductive theory generation based on systematically coded data. GT accommodates the emergence of themes and categories from empirical data rather than imposing a priori hypotheses, thus being well-suited to the exploratory nature of this study.

4.2 Data Collection

The study employs two primary sources of data: the process started with a document analysis, which involved a systematic review of industry reports, government white papers, and policy reports on Japanese-ASEAN startup collaboration. The major sources include JETRO reports [3], JICA reports [17], [27], METI reports, ASEAN economic communities, the World Bank [9], and UNCTAD reports [8]. The sources provide institutional facts on trends in production management, startup support mechanisms, and investment. Second, ten in-depth case studies were built from secondary sources reporting on interactions between Japanese firms and ASEAN startups. The cases span a range of industries, including fintech, manufacturing, agritech, and digital services. All the case studies examine critical factors such as investment structure, technology transfer, engagement of mentors, integration of operations, and adaptation in regulations. To validate, the primary sources were complemented with secondary scholarly literature, media reports, and previous expert interviews. Triangulation of data types was used to enhance reliability and provide a well-rounded empirical base.

4.3 Sampling Strategy

A purposive sampling method [29] was employed in the selection of documents and case studies for the study. The following were the criteria for the selection:

- Japanese firms must have current investment or operational partnership with startups in ASEAN LMIEs;
- The ASEAN startups must be involved in Japanese-led mentorship, production collaboration, or technology-sharing schemes;
- Partnerships must have been in place for a minimum of three years, to facilitate an assessment of long-term sustainability;
- A combination of more and less successful partnerships was selected to enable the drawing of comparative lessons.

The final sample consists of cases from Vietnam, Indonesia, the Philippines, Thailand, and Cambodia, offering geographic and industrial diversity across the ASEAN LMIE context.

4.4 Data Analysis

This study employs the GT method to analyze and interpret data collected [30]. The recursive nature of GT allows for a fluid, open-ended process in which data collection and coding evolve concurrently [31]. The aim is to generate theory that is embedded in the empirical realities of Japanese-ASEAN startup collaboration. Analysis was made using Saldaña's [32]

three-step coding process: during the coding process, open coding was utilized in order to identify recurring themes related to collaboration tactics, production management, institutional adjustment, and startup success. Axial coding subsequently provided conceptual connections between these categories with particular emphasis on collaboration intensity and the effects of production practices on startup development and scalability. Finally, selective coding condensed the most salient themes into an anticipatory conceptual model that emulates good partnership mechanisms between Japanese firms and ASEAN startups. Data was examined using ATLAS.ti (version 24), facilitating systematic coding, memoing, co-occurrence analysis, and the generation of visual code networks. These functions supported the traceability and replicability of theme development, following grounded theory practice. This rigorous methodology ensures that the resultant framework is not only conceptually sound but also empirically grounded on actual collaboration dynamics in ASEAN LMIEs.

5. Study Results

To answer the Research Question 1 (RQ1) 24 literature items—12 for document analysis and 12 for case studies were analyzed. The review covered Japan-ASEAN relations, startup trends, culture, policy recommendations, historical developments, and current business environments. Key factors driving entrepreneurial performance in Southeast Asia include the ASEAN Guidelines and the NINJA Strategy [27], [33]. Japan's evolving startup ecosystem fosters mutual growth with developing countries [34], [35]. Organizations such as JICA, METI, JETRO, and ERIA play crucial roles in developing startup ecosystems [3], [4]. Countries, particularly the Philippines, Cambodia, and Indonesia, have enhanced their ecosystems [36], [37]. However, challenges such as informality, tax systems, limited financial access, and labor skill gaps affect startup success, particularly in Lao PDR and Myanmar [37]. Vietnam and Myanmar show strong potential for expansion [38]-[40]. Findings are summarized in Figure 2.

Institutional failures (Gr=21) are a major barrier to Japan-ASEAN startup collaboration due to weak governance and inefficient institutions. Market failures (Gr=21) further impede growth by limiting access and creating ineffective innovation ecosystems. Business environment (Gr=11) is challenged by regulatory complexity and infrastructure gaps, complicating expansion. Market conditions (Gr=8), such as competition and demand variability, restrict market entry. Economic development (Gr=7) influences partnership effectiveness through broader macroeconomic factors. Long-term planning (Gr=6) is essential for sustained collaboration, while financial access (Gr=3) remains a constraint impacting innovation and growth. The analysis highlights that institutional and market failures, along with challenges in the business environment, are the most significant obstacles to Japan-ASEAN startup collaboration. To foster innovation and sustainable growth, it is essential to address these issues through improved governance, enhanced market access, and supportive business conditions. Furthermore, a review of 12 additional selected literature sources based on document analysis provides deep contextual insights into specific instances of collaboration between startups in ASEAN LMIEs and Japanese enterprises, revealing six key developments as follows. Fiercely, innovation-supporting ecosystem aid has been a consistent focus of Japanese institutions such as JETRO and JICA to foster international

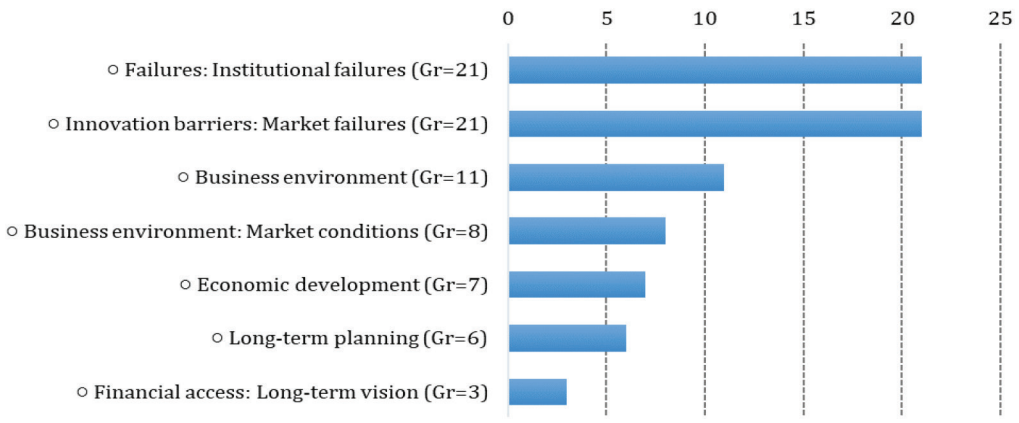

Figure 2. ATLAS.ti Outputs through Document Analysis

development for Japanese startups via such platforms as the Global Acceleration Hub and J-Bridge. These efforts offer financial and advisory support to boost cross-border entrepreneurial activity [3]. Second, sector growth exists in ASEAN LMIEs, particularly Vietnam and Myanmar, with fintech, health, and digital sectors growing rapidly. Some examples are Mitsubishi collaborating with Gojek in Vietnam and supporting the fintech community in Myanmar through Phandeeyar's accelerator program [41], [42]. Third, regional connectivity has been enabled through JICA-led efforts in the Mekong nations, enabling infrastructure development and startup facilitation in Cambodia and Laos. Japanese business is increasingly penetrating agri-food and technology sectors in the two countries [17], [38]. Fourth, cultural and business alliance programs—like the LJI SUSU forums between Japan and Laos—highlight the significance of relationship-building to drive collaboration past cultural and regulatory challenges, ultimately to facilitate cooperation initiatives [25]. Fifth, financial innovation is continuing with Japanese involvement in microfinance and mobile payment facilities, which can be seen in AEON's business in Cambodia and Rakuten Viber's operations in the Philippines [43], [44]. Lastly, strategic flexibility is exemplified in Japanese investments in Indonesia where Tokopedia's search into SPAC mergers and IPOs is an adaptable mode of investment that facilitates expansion as well as exit opportunities for startups [45], [46].

To provide answer to Research Question 2 (RQ2) 12 more literature items were analyzed. The literature highlights four points; (1) the interplay between firm-level upgrading, (2) technological innovation, (3) lean production strategies, and (4) startup ecosystem development, and ASEAN-Japan economic partnerships. Developing-country firms face challenges in achieving upgrading, relying on technology adoption, quality improvements, and market integration for growth, while large firms leverage specialized assets and R&D strategies to commercialize innovation [11], [47]. Lean production emerges as a key driver of efficiency, waste reduction, and customer value creation, with methodologies such as Just-in-Time, Total Quality Management (TQM), and Six Sigma improving performance across industries. Beyond manufacturing, lean principles influence service industries and supply chain resilience, requiring contextual adaptations based on workforce structure, plant size, and industry needs [13], [48]-[50]. Japanese initiatives like Next Innovation with Japan (NINJA) and ASEAN startup policies foster mentorship, knowledge-sharing, and financial support, strengthening innovation and long-term ecosystem growth [3], [4], [27]. Policy frameworks emphasize trade integration, regulatory transparency, and digital transformation as essential for ASEAN-Japan economic ties, particularly through supply chain resilience initiatives, blockchain adoption, and fast-track trading schemes [33]. The literature underscores the role of institutional frameworks, production management, and startup incubation in shaping business competitiveness, positioning Japanese expertise as a critical enabler of scalability, sustainability, and economic resilience in

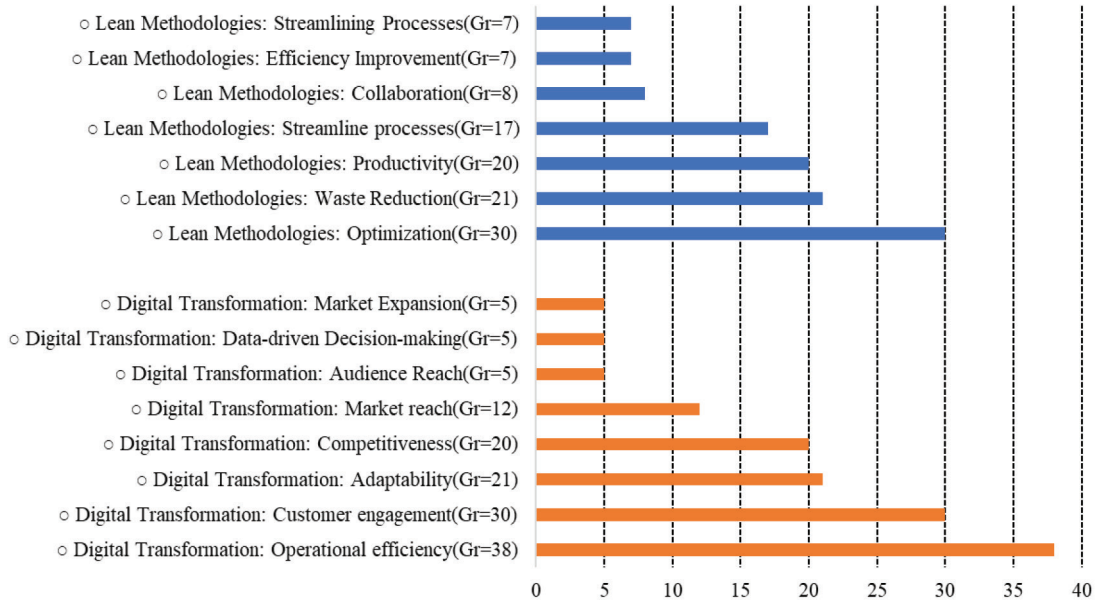

Figure 3. ATLAS.ti Outputs through Document Analysis

ASEAN LMIEs [33], [51]. Future research should explore sector-specific strategies and institutional adaptations to optimize cross-border collaborations [3], [16]. Findings are summarized in Figure 3.

Figure 3 highlights the impact of Lean Methodologies and Digital Transformation on efficiency, productivity, and market competitiveness in Japanese-ASEAN startup collaborations. In Lean Methodologies, Optimization (Gr=30) emerges as the most significant factor, followed by Waste Reduction (Gr=21) and Productivity (Gr=20), emphasizing the importance of refining operations and eliminating inefficiencies. Streamline Processes (Gr=17), Collaboration (Gr=8), and Efficiency Improvement (Gr=7) further support the role of lean strategies in enhancing internal workflows and resource management. Meanwhile, Digital Transformation, in contrast, prioritizes Operational Efficiency (Gr=38) and Customer Engagement (Gr=30) as key drivers of business success, with Adaptability (Gr=21), Competitiveness (Gr=20), and Market Reach (Gr=12) playing crucial supporting roles. Audience Reach (Gr=5), Data-driven Decision-making (Gr=5), and Market Expansion (Gr=5) appear less emphasized, indicating a stronger focus on internal digital capabilities over external growth strategies. These findings suggest that Lean Methodologies primarily enhance efficiency and internal processes, while Digital Transformation strengthens market responsiveness and scalability. Together, these strategies contribute to long-term sustainability and growth in cross-border startup ecosystems.

6. Discussions

6.1 Interpretation of the Study Findings and Proposed Frameworks

The study highlights the crucial role of Japanese entrepreneurship in the development of ASEAN lower-middle-income economies' startup ecosystems. Japanese firms enhance the scalability, efficiency, and competitiveness of ASEAN startups through their adoption of lean practices, digitalization, and formal business processes. However, cultural alignment challenges, regulation barriers, and differences in managerial styles continue to constrain the effectiveness of these partnerships [17]. Concrete cases reinforce these themes. For instance, Mitsubishi's investment in Gojek illustrates how Japanese capital and strategic involvement can support rapid scaling in the Indonesian platform economy [41]. Similarly, AEON Microfinance in Cambodia applies Japanese-style TQM to improve service reliability in the microfinance sector, showing how production management practices can be adapted beyond manufacturing [43]. Phandeeyar, a Myanmar technology accelerator, was supported by Japan-backed capacity-building programs that enabled the implementation of localized technology finance solutions—demonstrating the technology transfer function in boosting startups [42]. Even in such successful cases, though, there are cultural barriers. Rakuten Viber's Philippine business, for example, faced opposition to synergizing Japanese hierarchical patterns of communication with the less formalized and more agile regional startup ecosystem. Likewise, Tokopedia's entry into SPAC mergers and IPO alternatives, backed by Japanese investors, indicates the role of strategic flexibility in investment structures to harmonize ASEAN startups' exit expectations and growth trajectories [45], [46]. Whereas Japanese production practices powerfully supplement the maximization of resources and the reliability of operations, their rigidity may clash with the entrepreneurial flexibility of ASEAN startups. To address this, flexible hybrid approaches that harmonize Japanese efficiency with regional marketplace dynamics must be available. Institutional arrangements must also be strengthened through policy coordination, capacity-building programs, and targeted investment incentives. Greater freedom in investment terms and better regulatory harmonization can ensure long-term, synergetic outcomes in Japanese-ASEAN startup ventures.

6.2 Theoretical Contribution

This study contributes to the emerging literature on international production management and international entrepreneurship through the provision of a grounded model describing how Japanese firms engage with lower-middle-income ASEAN startup ecosystems. While previous research has discussed startup ecosystems and lean practices primarily in high-income or home settings (e.g., [47], [52]) this study extends these results to cross-border, resource-constrained settings with greater institutional and cultural differences. By incorporating concepts of production management like lean strategies, digitalization, and total quality management into global startup collaboration studies, this article bridges two earlier separated literature streams. It meets calls for more research into how international collaborations counteract institutional weaknesses and market turbulence in LMIEs [6], [7], [17]. The following framework also enriches ecosystem theory by not just the

presence of capital or infrastructure, but also the dynamics through which knowledge transfer, managerial compatibility, and production logic enable or constrain startup growth. The present research thus further sharpens comprehension of how foreign production skills converge with local entrepreneurial processes, with a contextualized conceptualization of startup ecosystem creation in global-local boundaries.

6.3 Study Limitations

This study primarily relies on document analysis and secondary data, limiting its ability to capture real-time perspectives from Japanese investors and ASEAN startup founders. The absence of primary data sources, such as expert interviews or survey responses, may affect the depth of insight into firm-level decision-making and operational strategies. Second, the study is based on individual case studies and not quantitative, overall analysis, which means its results are specific to the context and not generally applicable. Upcoming studies must incorporate primary qualitative data, sectoral analysis, and longitudinal analysis to measure the long-term impact of Japanese-ASEAN cooperation in startup environments.

7. Conclusion

Developing a link between Japanese entrepreneurship and ASEAN startup ecosystems requires a sensitive approach combining formalized efficiency with marketplace adaptability. While Japanese investment and management styles significantly improve operational stability, cultural adaptation issues, institutional barriers, and regulatory inefficiencies must be addressed. By means of reducing investment strategies to streamline them, building institutional adaptation, and encouraging hybrid business models, the stakeholders can develop a resilient and sustainable entrepreneurial ecosystem. Subsequent policy initiatives need to be directed towards harmonization of laws, capacity building, and facilitation of digital infrastructure to benefit Japanese-ASEAN relations ultimately and propel the region into economic development and innovation-driven growth.

The study offers policy-specific suggestions to policymakers, investors, and entrepreneurs within the context of Japanese-ASEAN startup engagement. Incentives such as tax concessions on co-investments, regulatory convergence, and streamlined administrative processes should be implemented by ASEAN governments to solicit additional Japanese investments. These actions can assist in reducing entry points and enhancing investor confidence. From a research point of view, future studies should investigate sector-specific applications of collaboration strategies. For example, lean production is likely to be more useful for manufacturing, while digital transformation is likely to have broader impacts in fintech and service startups. Improved knowledge about industry-specific dynamics will form the basis of expert policy and partnership models. For ASEAN startups, concrete measures include entering pilot collaborations with Japanese firms supported by government or incubator-arranged training sessions on lean management and quality management, respectively. Such schemes can facilitate knowledge transfer, increase readiness in operations, and foster trust-based affiliations. A concerted focus on incentives, sector-specific intelligence, and managerial capacity building will enhance the resilience and longevity of Japanese-ASEAN startup collaborations and facilitate the building of resilient, innovation-led ecosystems in LMIE environments.

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