

Startup Sustainability as A Governance Outcome: Funding Dynamics, ESG Legitimacy, and Institutional Amplification in Emerging Asia

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Abstract

This study examines startup sustainability in Emerging Asia from an ecosystem-level perspective, with particular attention to Southeast Asia. Rather than relying on firm-level explanations, it investigates how funding dynamics, survival constraints, ESG orientation, and institutional quality jointly shape startup outcomes. Using secondary ecosystem-level indicators and benchmark data across Southeast Asian economies and selected Emerging Asian comparators, the study applies a descriptive-comparative and benchmark-based analytical approach to identify systemic patterns in startup sustainability. The analysis reveals four main findings. First, startup funding has remained under prolonged contraction since the 2021 peak, accompanied by heightened volatility and a pronounced shift toward later-stage capital allocation. In the first half of 2025, total equity investment in Southeast Asia fell to USD 1.85 billion, intensifying early-stage financing constraints. Second, survival benchmarks indicate structural fragility: approximately 72% of startups survive beyond one year, but survival declines to around 55% by the third year and to roughly 20–30% by the fifth year, with the greatest failure risk concentrated at pre-seed and seed stages. Third, ESG-oriented startups account for about one-quarter of ecosystem activity on average, although with substantial cross-ecosystem variation. Their apparent survival advantage is best interpreted as a legitimacy-stabilization effect rather than direct performance enhancement. Fourth, this ESG-related advantage is conditional on institutional quality: stronger governance environments enhance the credibility and effectiveness of ESG signals, whereas weaker institutional contexts reduce their survival relevance. Overall, startup sustainability in Emerging Asia is best understood as a systemic governance outcome shaped by the interaction of capital allocation, legitimacy mechanisms, and institutional capacity.

Keywords: Startup Sustainability, Entrepreneurial Ecosystems, ESG Orientation, Institutional Quality, Emerging Asia

Introduction

Over the past decade, startups have been widely promoted as engines of innovation, employment generation, and economic upgrading across Emerging Asia. Governments, investors, and international organizations have invested heavily in entrepreneurial ecosystem development, often emphasizing startup formation, funding volumes, and highly visible success stories (Vandenberg et al., 2021; Leung & You, 2023). Yet the longer-term sustainability of startups remains highly uncertain. Across many Emerging Asian economies, high failure rates, volatile funding cycles, and uneven ecosystem development continue to

raise fundamental questions about how startup success and failure should be interpreted (Tran et al., 2021; Nguyen, 2022).

Most existing studies explain startup outcomes primarily through firm-level factors, including founder characteristics, innovation capability, strategy, and resource management. These explanations remain important, but they are less sufficient in settings where startups operate under strong systemic constraints. In Emerging Asia, entrepreneurs often confront prolonged funding contractions, pronounced late-stage capital bias, regulatory fragmentation, and uneven institutional quality (Zhao et al., 2021; Ungerer & Pietsch, 2025). Under such conditions, even capable and well-managed startups may fail not because of entrepreneurial weakness, but because the surrounding ecosystem narrows their chances of survival (Narayan et al., 2025).

Developments in Southeast Asia illustrate this problem clearly. After venture funding peaked in 2021, investment declined sharply and remained unstable through 2024-2025, while capital became more selective and increasingly concentrated in later-stage ventures (Ekawati et al., 2025; Roy & Vasa, 2025). Early-stage startups, by contrast, faced severe financing shortages and stronger selection pressure. At the same time, ecosystem-level survival benchmarks suggest that a substantial proportion of startups do not remain viable beyond the first three to five years, pointing to the structural vulnerability of entrepreneurial sustainability in the region (Khoury et al., 2021; Tran & Le, 2024).

Alongside these shifts, environmental, social, and governance (ESG) considerations have gained prominence in entrepreneurial finance and public policy discourse. Across Asia, ESG principles are increasingly framed as mechanisms for strengthening trust, encouraging long-term orientation, and supporting responsible value creation (Biswas & Dygas, 2025; Hermawan et al., 2025). ESG-oriented startups are often described as more resilient, credible, or future-ready. Even so, empirical evidence on whether ESG orientation improves startup survival, especially in emerging economies, remains limited and inconclusive (Saleem et al., 2023). A further limitation is that much of the existing literature treats ESG as a direct performance driver, giving less attention to its potential role as a legitimacy and risk-governance mechanism whose effects may depend on institutional conditions.

Against this backdrop, this study argues that startup sustainability in Emerging Asia is best understood as a systemic governance outcome produced by the interaction of four ecosystem-level forces: funding structure, survival constraints, ESG orientation, and institutional quality. Rather than asking whether ESG works in isolation, the study examines when and under what conditions ESG-related legitimacy contributes to survival stability. This shift moves the analytical focus away from individual startups and toward the ecosystems in which they are embedded (Vandenberg et al., 2021; Nguyen, 2022).

To address this problem, the study adopts an ecosystem-level analytical framework and poses four research questions:

1. How have funding dynamics in Southeast Asia evolved in recent years, and how do these changes shape early-stage survival constraints?
2. What do ecosystem-level survival and failure benchmarks reveal about the structural sustainability of startups in Emerging Asia?
3. How prevalent are ESG-oriented startups across ecosystems, and what role does ESG orientation play as a legitimacy signal under capital scarcity?
4. How does institutional quality amplify or weaken the effectiveness of ESG orientation in shaping startup survival outcomes?

This study makes three contributions. First, it extends entrepreneurial ecosystem research by reframing startup sustainability as an interaction-driven governance outcome rather than a purely firm-level achievement (Tran et al., 2021; Narayan et al., 2025). Second,

it provides ecosystem-level empirical benchmarks on funding conditions, survival patterns, and ESG orientation in Emerging Asia (Ekawati et al., 2025; Hermawan et al., 2025). Third, it develops and supports the concept of institutional amplification by showing that ESG-related survival advantages depend not simply on ESG adoption, but on the governance capacity of the surrounding institutional environment (Biswas & Dygaa, 2025; Saleem et al., 2023).

The remainder of the paper is organized as follows. Section 2 reviews the relevant literature and develops the conceptual framework. Section 3 explains the data sources and research design. Section 4 presents the empirical findings. Section 5 discusses the theoretical and policy implications. Section 6 concludes with the main findings, limitations, and directions for future research.

Literature Review and Conceptual Framework

This section develops the conceptual foundation of the study by integrating four strands of literature: entrepreneurial ecosystems and startup survival, funding dynamics and capital selectivity, ESG orientation as a legitimacy and risk-governance signal, and institutional quality as an amplification mechanism. Taken together, these literatures support an integrated framework in which startup sustainability is understood not simply as a firm-level achievement, but as an outcome shaped by interacting system conditions (Tran et al., 2021; Narayan et al., 2025).

Startup Survival and the Limits of Firm-Level Explanations

Research on startup survival has traditionally emphasized firm-level determinants, such as founder characteristics, innovation capability, strategic orientation, and resource management. This body of work has yielded important insights into why some ventures outperform others. Even so, evidence from emerging and volatile markets increasingly suggests that firm-level explanations alone cannot fully account for observed survival and failure patterns (Zhao et al., 2021; Nguyen, 2022).

In many emerging economies, startups operate under conditions of capital scarcity, regulatory uncertainty, weak enforcement, and uneven market depth. In such settings, outcomes often reflect structural constraints as much as entrepreneurial capability. Early-stage failure, therefore, should not be interpreted solely as evidence of managerial weakness. It may also indicate broader limits embedded in the surrounding entrepreneurial environment, including financing access, legitimacy thresholds, and governance capacity (Vandenberg et al., 2021; Ungerer & Pietsch, 2025).

This perspective supports a shift from micro-level hazard explanations toward a broader view in which startup survival is shaped by systemic selection processes. From this standpoint, failure is not merely an individual firm outcome, but part of a wider pattern structured by the rules, incentives, and constraints of the ecosystem itself (Tran et al., 2021).

Funding Dynamics and Capital Selectivity in Entrepreneurial Ecosystems

Venture funding plays a central role in shaping startup trajectories. Beyond supplying financial resources, funding structures also function as selection mechanisms that determine which ventures obtain legitimacy, visibility, and access to growth opportunities. Prior research shows that funding cycles influence not only investment volume, but also the composition of ventures that survive and scale (Bessière et al., 2020; Mašek & Plaček, 2024).

During periods of capital expansion, early-stage ventures typically benefit from greater tolerance for experimentation and uncertainty. During downturns, by contrast, investors become more selective, place greater weight on proven models, and shift capital toward later-stage firms. This dynamic places disproportionate pressure on pre-seed and seed-stage startups, which face the highest uncertainty and possess the weakest legitimacy signals (Zhao et al., 2021; Ungerer & Pietsch, 2025).

In emerging ecosystems, prolonged funding contractions may therefore create pipeline bottlenecks, weaken ecosystem renewal, and intensify early-stage attrition. Funding dynamics should thus be conceptualized not only as a market condition, but also as a governance mechanism that shapes selection pressure and survival probabilities across the system (Narayan et al., 2025).

ESG Orientation as a Legitimacy and Risk-Governance Signal

Environmental, social, and governance (ESG) orientation has become increasingly prominent in entrepreneurial finance and policy debates. Although some studies present ESG adoption as a driver of superior organizational performance, a growing body of research emphasizes its signaling and governance functions instead (Chan, 2026; Schmelter & Strese, 2024).

From a legitimacy perspective, ESG orientation can reduce information asymmetry between startups and external stakeholders by signaling responsible conduct, long-term orientation, and greater sensitivity to risk. Under uncertain conditions, such signals may stabilize stakeholder expectations and lower perceived downside risk. For startups that lack long performance histories, ESG orientation may therefore operate less as a direct productivity enhancer and more as a mechanism of legitimacy formation and risk governance (Koenigsmarck et al., 2026; Deng et al., 2025).

At the same time, ESG signals are not inherently credible. Without verification, enforcement, or shared interpretive norms, such signals may remain symbolic rather than consequential. This raises a central analytical question: under what conditions does ESG orientation translate into meaningful survival advantages, especially in emerging ecosystems marked by heterogeneous institutional quality (Bai et al., 2025)?

Institutional Quality and the Amplification Logic

Institutional quality, including regulatory clarity, enforcement capacity, transparency, and stakeholder trust, plays a decisive role in shaping how signals and resources are interpreted within entrepreneurial ecosystems. Strong institutions enhance signal credibility, reduce transaction costs, and improve coordination among market participants. Weak institutions, by contrast, heighten uncertainty and reduce the effectiveness of market and governance signals (Kim et al., 2024; Shi & Mai, 2025).

The concept of institutional amplification captures this moderating logic. Rather than acting only as an independent predictor of startup outcomes, institutional quality may strengthen or weaken the effectiveness of other mechanisms, especially funding selectivity and ESG legitimacy. In higher-quality institutional environments, ESG signals are more likely to be verified, trusted, and translated into stakeholder support. In weaker institutional settings, the same signals may be discounted, ignored, or treated as symbolic claims with limited practical value (Li et al., 2026; Fodouop Kouam, 2025).

This perspective implies that ESG orientation cannot be evaluated meaningfully apart from the institutional context in which it is embedded. Its relevance to startup survival depends critically on the governance capacity of the wider ecosystem (Yang et al., 2025).

Integrated Conceptual Framework

Bringing these strands together as shown in Figure 1, this study proposes an integrated framework in which startup sustainability emerges from the interaction of four components:

1. Funding structure, which shapes resource allocation and selection pressure.
2. Survival constraints, reflected in early-stage attrition and longer-term failure benchmarks.
3. ESG orientation, which functions as a legitimacy and risk-governance signal.
4. Institutional quality, which amplifies or attenuates the effectiveness of ESG and funding-related mechanisms.

Within this framework, startup survival is not explained by ESG adoption alone, nor by funding access in isolation. Rather, sustainability is produced through interaction effects across the ecosystem. Funding scarcity raises legitimacy thresholds; ESG orientation helps stabilize stakeholder perceptions under uncertainty; and institutional quality determines whether such stabilization can be translated into meaningful survival advantages (Chan, 2026; Li et al., 2026).

The framework therefore positions startup sustainability as a systemic governance outcome emerging from the combined operation of capital allocation, legitimacy formation, and institutional capacity.

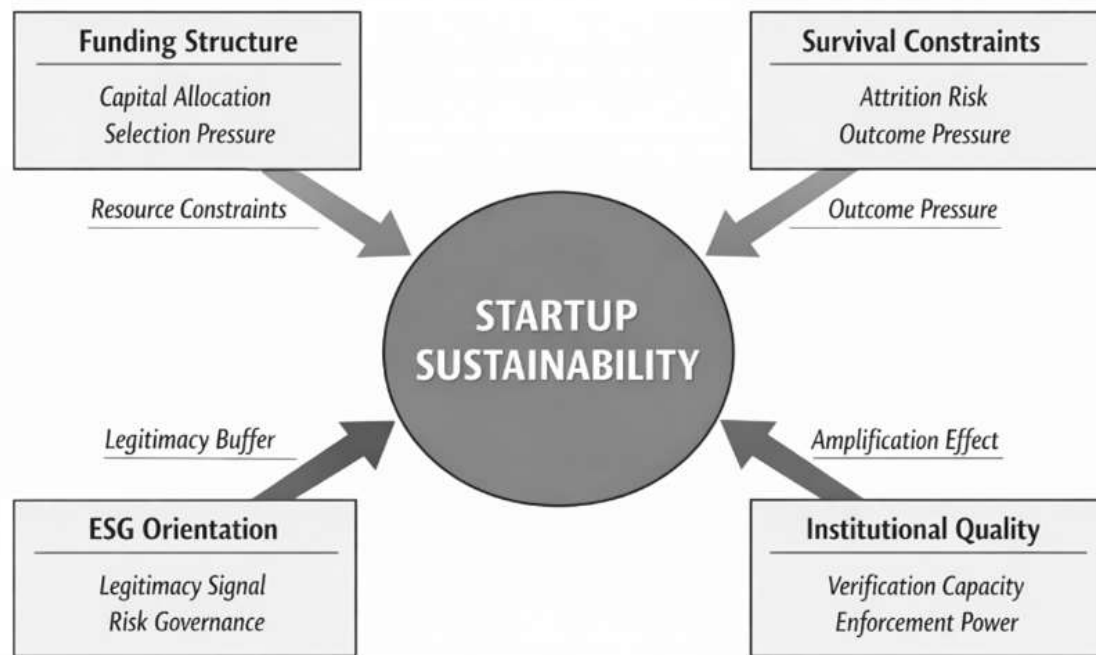


Figure 1: Integrated Conceptual Framework

Research Propositions (RP)

Guided by the integrated conceptual framework, the study advances the following ecosystem-level research propositions:

RP1: In Emerging Asian startup ecosystems, funding contraction and late-stage capital bias intensify resource constraints and increase outcome pressure on early-stage ventures, thereby weakening startup sustainability (Zhao et al., 2021; Narayan et al., 2025).

RP2: ESG orientation contributes to startup sustainability not primarily through direct performance enhancement, but through legitimacy stabilization and risk-governance buffering under conditions of funding selectivity and survival pressure (Koenigsmarck et al., 2026; Deng et al., 2025).

RP3: Institutional quality amplifies the sustainability relevance of ESG orientation, such that ESG-related legitimacy and buffering effects are stronger in ecosystems with higher verification capacity, enforcement strength, and stakeholder trust (Kim et al., 2024; Shi & Mai, 2025).

These propositions guide the empirical design and structure the analysis presented in Sections 3 and 4.

In summary, this section establishes the theoretical basis for interpreting startup sustainability as an ecosystem-level outcome shaped by the interaction of funding structure, survival constraints, ESG orientation, and institutional quality. The next section explains the data sources, variable construction, and research design used to operationalize this framework.

Data and Research Design

This section explains the data sources, unit of analysis, variable construction, and analytical strategy used to examine startup sustainability in Emerging Asia. The research design is intentionally ecosystem-level, descriptive-comparative, and benchmark-based. It is aligned with the study's objective of identifying systemic interaction patterns across entrepreneurial environments rather than estimating firm-level causal effects or hazard models (Bessière et al., 2020; Narayan et al., 2025).

Unit of Analysis and Analytical Scope

The primary unit of analysis in this study is the startup ecosystem, defined at the country or regional level. An ecosystem is understood as the configuration of startups, investors, support organizations, institutions, and governance arrangements operating within a national or sub-regional context (Vandenberg et al., 2021).

Accordingly, the study does not follow individual firms over time. Instead, it examines ecosystem-level structural indicators, including total funding volumes, deal activity, survival benchmarks, ESG-oriented startup shares, and institutional quality indices. This level of analysis is appropriate for the present research because the study is concerned with systemic constraints, governance capacity, and cross-ecosystem heterogeneity, all of which are difficult to capture adequately through firm-level designs in emerging markets (Tran et al., 2021; Zhao et al., 2021).

The geographical scope covers Emerging Asia, with particular emphasis on Southeast Asia, including Thailand, Singapore, Indonesia, Vietnam, Malaysia, and the Philippines, alongside selected broader Emerging Asian benchmarks used for comparative interpretation (Hermawan et al., 2025).

Data Sources and Selection Criteria

The study relies on secondary data compiled from multiple publicly available and policy-relevant sources. These include startup ecosystem databases and rankings for startup counts and comparative ecosystem benchmarks, venture funding reports for funding volumes and deal activity, national innovation and entrepreneurship agencies for country-specific ecosystem indicators, and governance-related composite indices for institutional quality (Bessière et al., 2020; Vandenberg et al., 2021; Nguyen, 2022).

To be included in the analysis, a source had to satisfy three conditions. First, it had to report indicators at an ecosystem-comparable level rather than only at the individual-firm level. Second, it had to provide information directly relevant to at least one of the four analytical components of the framework: funding structure, survival constraints, ESG orientation, or institutional quality. Third, it had to offer sufficient definitional clarity to permit cross-source comparison or harmonization. Additional context on regional investment trends was drawn from policy and industry reports that provide macro-level benchmarks for interpreting funding shifts across ecosystems (Narayan et al., 2025).

Startup survival benchmarks were compiled from ecosystem-level reports that provide indicative failure and survival patterns across different time horizons, while institutional quality indicators were drawn from widely used governance and regulatory-quality composites normalized for cross-country comparison (Zhao et al., 2021; Nguyen, 2022). ESG-oriented startup activity was identified using regional classifications that explicitly

recognize environmental, social, or governance-related value propositions within entrepreneurial ecosystems (Hermawan et al., 2025).

Because reporting conventions differ across sources, the study uses a harmonization procedure rather than simple aggregation. Where conceptually similar indicators were reported with different labels, values were aligned to the nearest ecosystem-level equivalent. When reporting periods differed, the most comparable period available was used for descriptive interpretation. The resulting dataset is therefore designed for cross-ecosystem comparison and benchmark-based analysis rather than pooled causal estimation.

Variable Construction and Definitions

The main variables are defined as follows. Startup count refers to the total number of active startups identified within an ecosystem for a given period. Total funding (USD billion) refers to aggregate annual venture equity investment deployed within an ecosystem, expressed in constant U.S. dollars where reported or converted for comparability. Deal count captures the number of equity financing rounds recorded within the ecosystem. Funding stage shares indicate the proportional distribution of funding across seed, early, and late stages (Bessière et al., 2020).

Survival benchmarks refer to ecosystem-level estimates or indicative ranges of startup survival at one-, three-, and five-year horizons, compiled from multiple regional and comparative reports (Zhao et al., 2021). ESG-oriented startup share measures the proportion of startups whose primary value proposition explicitly addresses environmental, social, or governance objectives, based on the classification logic used by the relevant source or regional reporting framework (Hermawan et al., 2025). Institutional quality is represented by a composite indicator reflecting regulatory quality, governance effectiveness, and enforcement capacity, normalized to a zero-to-one scale for cross-ecosystem comparison (Nguyen, 2022).

These variables are used descriptively and comparatively to identify central tendencies, dispersion, and directional interaction patterns across ecosystems. They are not used to estimate causal coefficients or firm-level treatment effects.

Analytical Strategy

The analytical strategy proceeds in four steps. First, descriptive comparison is used to document ecosystem heterogeneity in funding scale, survival patterns, ESG orientation, and institutional quality. Second, funding dynamics are examined across time and across financing stages in order to identify structural shifts in capital allocation, especially the degree of early-stage constraint and late-stage concentration (Bessière et al., 2020; Mašek & Plaček, 2024).

Third, survival and failure benchmarks are analyzed to establish baseline sustainability constraints and stage-dependent attrition patterns across ecosystems (Zhao et al., 2021). Fourth, stratified comparison is used to assess how ESG orientation and institutional quality jointly relate to survival stability. Rather than estimating regression coefficients, the analysis focuses on benchmark contrasts, proportional differences, and directional patterns that are consistent with the conceptual framework advanced in Section 2 (Narayan et al., 2025).

This analytical design is appropriate for two reasons. It matches the ecosystem-level unit of analysis, and it reflects the practical data constraints that characterize secondary research on entrepreneurial environments in emerging economies. The purpose of the analysis is therefore explanatory in a comparative and interpretive sense, not inferential in a firm-level statistical sense.

Methodological Considerations and Limitations

Several methodological considerations should be acknowledged. First, the use of ecosystem-level aggregates does not permit firm-level causal inference, hazard estimation, or direct testing of micro-level mechanisms. Second, the survival benchmarks reported in the

study represent indicative structural ranges compiled from multiple sources and should therefore be interpreted as comparative ecosystem patterns rather than precise actuarial probabilities (Zhao et al., 2021).

Third, startup counts, funding totals, and ESG classifications may vary somewhat across sources because of definitional differences, reporting thresholds, and update cycles (Hermawan et al., 2025). The harmonization process reduces, but does not eliminate, these differences. For this reason, the study emphasizes pattern consistency, benchmark contrast, and interaction logic rather than fine-grained numerical precision. These limitations are inherent to secondary ecosystem research, but they do not undermine the study's central objective, which is to identify comparative patterns and governance-relevant interactions rather than generate point prediction.

Alignment with Research Propositions

The data and research design are directly aligned with the propositions developed in Section 2. The funding indicators speak to Proposition 1 by showing whether contraction and late-stage capital bias intensify early-stage constraints. The ESG-oriented startup share and survival benchmarks inform Proposition 2 by allowing comparison of whether ESG orientation is associated with a proportional survival advantage. Institutional quality indicators, interpreted alongside ESG-related patterns, inform Proposition 3 by clarifying whether stronger governance environments amplify the survival relevance of ESG orientation.

By structuring the analysis around ecosystem-level indicators and interaction logic, the study maintains internal consistency between theory, evidence, and interpretation (Tran et al., 2021; Narayan et al., 2025).

In sum, this section establishes a transparent and appropriate research design for examining startup sustainability as a systemic, governance-driven phenomenon. The next section presents the empirical results.

Results

Descriptive Statistics for the Ecosystem-Level Sample

This study uses secondary ecosystem-level data to capture startup activity across Emerging Asia, with particular attention to Southeast Asia. The unit of analysis is the startup ecosystem at the country or regional level rather than the individual firm. All descriptive statistics therefore represent aggregated structural conditions, including ecosystem scale, funding intensity, stage-level capital composition, survival benchmarks, ESG orientation, and institutional context.

The dataset comprises country-year and region-period observations from major Southeast Asian economies, including Thailand, Singapore, Indonesia, Vietnam, and Malaysia, together with regional aggregates. This structure provides a balanced ecosystem-level sample suitable for comparative and institutional analysis.

Table 1 reports the descriptive statistics for the main variables used in the study. The results indicate substantial heterogeneity across ecosystems in both scale and maturity. Startup counts range from fewer than 500 to more than 5,000 active ventures, while annual venture funding also shows wide dispersion, pointing to strong concentration of capital across a relatively small number of ecosystems.

The stage composition of funding is similarly uneven. Seed-stage funding accounts for roughly one-fifth of total capital on average, whereas late-stage funding represents nearly half of all funding. This pattern suggests a structurally imbalanced investment profile in which later-stage ventures attract a disproportionate share of available capital, potentially constraining ecosystem renewal at earlier stages.

The survival indicators reinforce this interpretation. Mean three-year survival is approximately 55%, while the estimated five-year failure rate exceeds 78% (Table 1).

These values suggest that startup fragility is not limited to isolated firms but reflects broader structural pressures operating across ecosystems. ESG-oriented startups account for about one-quarter of ecosystem activity on average, although the large dispersion indicates uneven diffusion of sustainability-oriented entrepreneurship. Institutional quality also varies markedly across the sample, underscoring the relevance of governance conditions for interpreting ecosystem differences.

To anchor these ecosystem-level patterns in observed regional context, Table 2 presents descriptive indicators for Thailand and Southeast Asia. Thailand's estimated startup base and three-year survival benchmark are broadly consistent with the sample averages reported in Table 1, lending external plausibility to the descriptive baseline. At the same time, Thailand's funding level and regional ranking place it within an intermediate-maturity position in Southeast Asia, while regional investment trends show strong concentration in digitally intensive and AI-related sectors.

Taken together, Tables 1 and 2 establish the structural baseline for the analysis. They show that startup ecosystems in Emerging Asia differ not only in scale, but also in capital structure, sustainability orientation, and governance context. These differences provide the descriptive foundation for the funding, survival, ESG, and institutional analyses that follow.

Table 1: Descriptive Statistics of The Ecosystem-Level Startup Sample

Variable	Definition	Mean	Std. Dev.	Min	Max
Startup count	Number of active startups in the ecosystem	1,820	1,240	420	5,300
Total funding (USD billion)	Annual venture funding volume	1.92	1.15	0.38	5.10
Deal count	Number of equity financing rounds	238	96	72	510
Seed-stage funding share (%)	Share of total funding allocated to seed-stage ventures	21.4	9.6	8.2	44.5
Late-stage funding share (%)	Share of total funding allocated to late-stage ventures	46.8	13.2	22.4	71.3
3-year survival rate (%)	Estimated startup survival rate after three years	54.7	7.9	38.5	68.4
5-year failure rate (%)	Estimated startup failure rate after five years	78.3	6.5	65.0	90.0
ESG-oriented startup share (%)	Share of startups classified as ESG-oriented	24.6	10.3	9.1	48.7
Institutional quality index	Composite governance score, normalized from 0 to 1	0.61	0.18	0.32	0.89

Note: All values represent ecosystem-level aggregates across Emerging Asian economies. Funding figures are reported in constant U.S. dollars. The institutional quality index is normalized on a 0-1 scale.

Table 2: Contextual Descriptive Indicators for Thailand and Southeast Asia

Indicator	Description / Metric	Value	Source / Note
Thailand total startups (2024)	Active startups in the Thai ecosystem	Approx. 2,100 firms	National Innovation Agency (2024)
Startup growth (2021–2024)	Cumulative growth	+3.3%	NIA ecosystem data
Startup survival rate (Bangkok)	Startups operating after three years	Approx. 55%	Bangkok startup statistics
Thailand private funding (2024)	Estimated private funding volume	> USD 500 million	Abovea Thailand report
Global ecosystem rank (2025)	Global position	#54	StartupBlink Global Index
Southeast Asia ecosystem rank (2025)	Thailand's regional position	#4	StartupBlink SEA
Southeast Asia digital economy funding (2024–2025)	Private investment volume	Approx. USD 7.7 billion	Google–Temasek–Bain; Reuters
AI investment share	Share of digital VC allocated to AI	Approx. 32%	Reuters

Note: These indicators are presented to contextualize the ecosystem-level sample using externally reported descriptive benchmarks for Thailand and Southeast Asia.

Funding Dynamics in Southeast Asia

This subsection examines funding dynamics in the Southeast Asian startup ecosystem, focusing on aggregate funding volume, deal activity, and stage-level capital allocation. Using ecosystem-level secondary data, the analysis identifies a pronounced contraction in venture financing during 2024–2025, accompanied by heightened short-term volatility.

Table 3 summarizes the key funding indicators for 2025. In the first half of 2025, total equity investment across Southeast Asia fell to approximately USD 1.85 billion across 229 deals, representing a year-on-year decline of about 20.7% relative to the same period in 2024. This was the weakest first-half fundraising performance in more than six years.

Viewed over a longer horizon, Table 3a shows that this decline is not an isolated fluctuation but part of a broader post-2021 downturn. Total equity funding dropped sharply from the 2021 peak and remained weak through 2024, with H1 2025 indicating further deterioration. The evidence therefore points to a sustained structural adjustment rather than a short-lived cyclical correction.

The composition of funding also changed materially. As Tables 3 and 3c indicate, capital became increasingly concentrated in later-stage ventures, while seed and early-stage funding contracted sharply. The decline was especially severe at the seed stage, whereas later-stage totals were supported by a limited number of large transactions. This stage-level asymmetry is consistent with stronger investor risk aversion and a greater emphasis on capital efficiency, validation, and proven business models.

Short-term movements further reveal instability rather than recovery. Table 3b shows sharp month-to-month and quarter-to-quarter variation, including a severe downturn in August 2025 followed by a rebound in September that appears to have been driven by a small number of selective deals rather than a broad improvement in market conditions.

Three patterns are especially clear from Tables 3–3c. First, the magnitude and persistence of the decline point to a structural funding downturn. Second, capital reallocation toward later-stage ventures has intensified stage-level polarization, making early-stage entry and survival more difficult. Third, the volatility of recent funding flows suggests that aggregate investment levels are increasingly dependent on episodic deal concentration.

Taken together, the evidence indicates that funding scarcity, volatility, and stage polarization have become defining features of the Southeast Asian startup environment. These conditions form the empirical basis for the survival patterns examined in Section 4.3.

Table 3: Funding Dynamics in Southeast Asia (2025)

Metric (Period)	Value	Interpretation	Source / Note
Total funding (H1 2025)	USD 1.85 billion	Lowest first-half funding since 2019	DealStreetAsia
Deal count (H1 2025)	229 deals	Weak overall investment activity	DealStreetAsia
Year-on-year funding change (H1 2025)	-20.7%	Significant contraction relative to H1 2024	DealStreetAsia
Seed-and early-stage funding	Sharp decline	Severe weakening of early-stage capital availability	Funding trend synthesis
Late-stage funding	Relative increase	Capital allocation shifted toward more mature ventures	Funding trend synthesis
Funding (August 2025)	Approx. USD 84 million	Severe monthly contraction	Regional funding analysis
Funding (September 2025)	Approx. USD 547 million	Rebound driven by a small number of large deals	DealStreetAsia
Deal count (September 2025)	37 deals	Weak monthly deal activity despite funding rebound	DealStreetAsia

Note: This table summarizes selected 2025 funding indicators used to illustrate contraction, volatility, and stage-level capital polarization in Southeast Asia. Because the indicators are compiled from multiple secondary sources, the final column reports the most relevant source or interpretive note for each entry.

Table 4: Startup Funding Trends in Southeast Asia (2021-2025)

Year / Period	Total Equity Funding (USD)	Deal Count	Key Trend
2021	Approx. 23.4 billion	n/a	Funding peak prior to the regional downturn
2023	Approx. 7.86 billion (est.)	n/a	Sharp contraction from the 2021 peak
2024	4.56 billion	633	Weakest annual performance in recent years
H1 2025	1.85 billion	229	Lowest first-half funding level in more than six years
2025 (digital economy, rolling 12-month context)	7.7 billion	n/a	Indicates capital specialization beyond conventional startup equity flows

Note: The digital economy investment figure is not strictly comparable to startup equity funding. It is included only as contextual evidence of broader capital reallocation in the regional innovation economy.

Table 5: Quarterly and Monthly Funding Volatility in Southeast Asia (2024-2025)

Period	Funding (USD)	Deal Count	Interpretation
Q4 2024	Approx. 1.2 billion	116	Temporary rebound driven by a limited number of large deals
Q1 2025	Approx. 555 million	113	Year-on-year funding declined sharply
Q3 2025	n/a	112	Weak quarterly deal volume relative to prior years
August 2025	Approx. 84 million	n/a	Severe monthly funding contraction
September 2025	Approx. 547 million	37	Funding rebound without broad deal recovery

Note: Monthly and quarterly figures are presented descriptively to illustrate short-term volatility rather than to imply a continuous recovery pattern.

Table 6: Stage-Level Funding Comparison in Southeast Asia Tech (9M 2024 vs. 9M 2025)

Stage	Rounds (9M 2024)	Funding 2024 (USD)	Rounds (9M 2025)	Funding 2025 (USD)	Interpretation
Seed	168	340 million	64	92 million	Severe contraction in early-stage activity
Early stage	89	1.10 billion	48	547 million	Selective decline in mid-pipeline financing
Late stage	9	471 million	7	670 million	Capital concentration in a small number of mature ventures
Total	n/a	Approx. 1.4 billion	n/a	Approx. 1.4 billion	Aggregate funding sustained by large late-stage rounds

Note: “9M” refers to the first nine months of each year. The stable aggregate total masks a substantial reallocation of capital away from seed and early-stage ventures toward late-stage deals.

Startup Survival and Failure Benchmarks

This subsection reports ecosystem-level benchmark evidence on startup survival and failure in Emerging Asia. The purpose is not to estimate firm-level hazard rates, but to establish baseline survival conditions that contextualize the ESG and institutional interpretations developed in subsequent subsections. In ecosystem analysis, survival rates are best treated as structural properties of the environment, reflecting capital availability, market depth, policy clarity, and legitimacy infrastructure rather than managerial capability alone.

Across Southeast Asian ecosystems, benchmark evidence converges around a three-year survival rate in the mid-50% range. As summarized in Table 4, approximately 72% of startups remain active after one year, but survival declines substantially by year three. Longer-horizon evidence indicates that failure rates commonly reach 70-90% by year five, pointing to persistent fragility in medium- and long-term startup sustainability.

This pattern is consistent with comparative evidence showing that, even in relatively advanced ecosystems, exit risk is concentrated in the early years of operation and moderates only after ventures pass the initial validation and scaling phases. Against this broader benchmark, a three-year survival rate of roughly 55% signals a demanding survival environment characterized by strong early-stage selection pressure.

Failure risk is also clearly stage-dependent. Table 4 indicates that vulnerability is greatest at the pre-seed and seed stages, where ventures face limited cash buffers, incomplete

product-market fit, and weaker legitimacy. Late-stage ventures face lower failure risk because they benefit from stronger validation, more stable funding access, and greater institutional recognition. This stage gradient aligns closely with the funding patterns documented in Section 4.2, where early-stage capital contracted more severely than later-stage funding.

Three findings follow. First, early attrition is the dominant selection mechanism, with the steepest decline occurring between founding and year three. Second, long-run sustainability remains weak across many ecosystems, even where short-term continuity appears relatively high. Third, stage dependency is systematic rather than incidental: survivability improves as ventures accumulate legitimacy, funding stability, and institutional embeddedness.

Figure 1 summarizes this benchmark trajectory visually. Survival falls from approximately 72% at year one to around 55% by year three and to roughly 20-30% by year five, with the steepest attrition occurring in the early years of operation.

Table 7 and Figure 1 therefore underscore the structural fragility of startup sustainability in Emerging Asia. While short-term continuity is not negligible, medium- and long-term survival remains constrained by ecosystem-level conditions, especially funding structure, legitimacy infrastructure, and institutional quality.

Table 7: Startup Survival and Failure Benchmarks in Emerging Asia (Ecosystem-Level)

Indicator	Benchmark Value	Interpretation
1-year survival rate	Approx. 72%	High experimentation with moderate short-term continuity
3-year survival rate	Approx. 55%	Substantial early attrition during validation and early scaling
5-year failure rate	Approx. 70-90%	Long-run startup sustainability remains structurally weak
Highest failure stage	Pre-seed and seed	Failure risk is concentrated where capital shortage and legitimacy deficits are greatest
Lowest failure stage	Late stage	Stronger validation, funding stability, and institutional recognition reduce failure risk
Dominant exit mode	Business closure	Closures exceed acquisitions across many ecosystems

Note: Values represent ecosystem-level benchmarks compiled from multiple regional and comparative sources. They are reported as descriptive structural patterns and should not be interpreted as firm-level survival probabilities, hazard estimates, or causal effects.

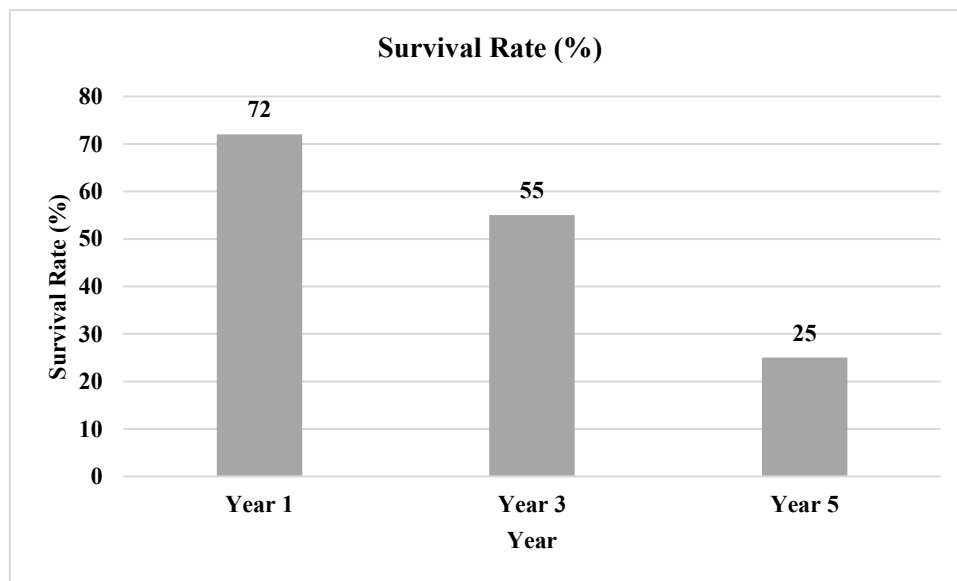


Figure 1: Benchmark Startup Survival Trajectory in Emerging Asia

ESG Orientation and Legitimacy Benchmarks

This subsection documents ecosystem-level benchmarks for ESG-oriented startup presence and interprets ESG orientation as a legitimacy and risk-governance signal rather than a direct productivity driver. The objective is descriptive: to establish how widely ESG-oriented ventures are represented across Emerging Asian ecosystems and why this representation matters under conditions of funding scarcity and elevated failure risk.

At the ecosystem level, ESG orientation functions as a credibility-bearing signal that can reduce information asymmetry for investors, partners, and regulators, especially when financing becomes selective. Evidence from emerging-market finance suggests that ESG-related disclosure and external validation may improve legitimacy under institutional complexity. In this context, ESG is better understood as a mechanism for stabilizing stakeholder expectations than as a guarantee of superior productivity.

Table 5 reports the descriptive benchmark for ESG-oriented startup presence across the ecosystem sample. On average, about 24.6% of startups are classified as ESG-oriented, although dispersion across ecosystems is substantial. This variation indicates that sustainability-oriented entrepreneurship is present at meaningful scale, but remains unevenly distributed across entrepreneurial environments.

Three implications follow from Table 5. First, ESG diffusion is material but heterogeneous, suggesting that sustainability-oriented entrepreneurship depends heavily on ecosystem-specific institutional readiness, stakeholder demand, and market depth. Second, ESG orientation can be read as a proxy for legitimacy infrastructure at the ecosystem level, reflecting the presence of ventures aligned with recognizable sustainability norms and reporting expectations. Third, ESG salience is likely to increase under funding contraction. When capital becomes scarce and selection tightens, credible signals become more valuable, making ESG orientation relevant not as virtue alone but as a risk-governance attribute.

Table 5a summarizes this interpretive logic. Under capital scarcity, ESG can function as a screening and credibility signal. Under high early-stage attrition, it may help stabilize stakeholder support. Under stronger institutional conditions, its credibility is more easily verified; under weaker conditions, symbolic adoption becomes more likely.

Taken together, Tables 5 and 5a show that ESG-oriented entrepreneurship in Emerging Asia is neither marginal nor uniform. It is an ecosystem-level compositional feature whose relevance becomes more pronounced under funding stress and survival pressure. This descriptive baseline prepares the ground for the institutional comparison in Section 4.5.

Table 8: ESG Orientation in The Ecosystem Sample (Descriptive Benchmark)

Indicator	Definition	Mean	Std. Dev.	Min	Max
ESG-oriented startup share (%)	Share of startups classified as ESG-oriented within the ecosystem	24.6	10.3	9.1	48.7

Note: Values represent ecosystem-level aggregates across Emerging Asian economies. ESG orientation is treated as a compositional characteristic of the entrepreneurial base rather than as a direct performance metric.

Table 9: Interpretive Logic Map for ESG Orientation (Descriptive, Ecosystem-Level)

Ecosystem Condition	Why ESG Orientation Matters	Expected Descriptive Manifestation
Capital scarcity / funding contraction	ESG functions as a screening and credibility signal under tighter financing conditions	Capital is more likely to concentrate around ventures with externally recognizable and credible narratives
High early-stage attrition	ESG functions as a legitimacy-stabilizing and risk-governance mechanism	ESG-oriented ventures are more likely to retain relatively stable stakeholder support under uncertainty
Stronger institutional environments	ESG signals are more verifiable, enforceable, and credible	A larger observable legitimacy-related premium is expected
Weaker institutional environments	ESG orientation is more vulnerable to symbolic adoption	Descriptive differences are smaller, weaker, or less consistent

Note: This table provides an interpretive scaffold for the analysis in Section 4.5. It summarizes the expected directional logic of ESG relevance at the ecosystem level and does not imply causal inference.

ESG Orientation and Institutional Amplification Effects

This subsection examines whether the descriptive ESG-related survival advantage observed at the ecosystem level is conditional on institutional quality. Rather than treating ESG orientation as a universal performance lever, the analysis interprets ESG as a legitimacy and risk-governance signal whose effectiveness depends on the ecosystem's capacity to verify claims, enforce rules, and sustain stakeholder trust.

Two strands of evidence motivate this interaction logic. One emphasizes that ESG-related actions and disclosure can reduce information asymmetry and strengthen legitimacy in institutionally complex environments. The other suggests that sustainability-oriented signals are more valuable when ventures face elevated uncertainty and when external stakeholders seek cues of lower downside risk. These strands together support the view that ESG may operate as a stabilizing mechanism, but only where the surrounding governance environment makes such signals credible.

Benchmark Pattern: ESG as a Stabilizing Rather than Transformative Mechanism

At the ecosystem level, ESG-oriented ventures account for a larger proportional share of estimated survival than non-ESG ventures. As shown in Table 6, ESG-oriented startups

represent approximately 55% of the estimated survival share, compared with about 45% for non-ESG startups.

This difference should be interpreted cautiously. It indicates a descriptive survival advantage consistent with legitimacy stabilization, not a transformative productivity effect. Table 10 does not report firm-level hazard estimates or causal effects. Rather, it captures a proportional ecosystem-level pattern suggesting that ESG-oriented ventures may experience less legitimacy volatility under conditions of ecosystem stress.

Institutional Amplification: Why ESG Has Greater Survival Relevance in Stronger Governance Contexts

The ESG-related survival advantage appears stronger in higher-quality institutional environments, where ESG claims are more likely to be verified through clearer rules, enforcement capacity, reporting norms, and stakeholder trust. In such settings, ESG orientation functions as a credible signal that can stabilize expectations and reduce perceived risk.

In weaker institutional contexts, the same signal may carry much less weight. Limited verification capacity and weaker enforcement reduce credibility, increasing the likelihood that ESG claims are treated as symbolic rather than consequential. Table 7 summarizes this directional pattern through a stratified ecosystem-level comparison: stronger institutional quality is associated with a stronger ESG-related survival advantage, whereas lower-quality environments exhibit weaker or more marginal differences.

Taken together, Tables 6 and 7 suggest that ESG orientation is associated with a proportional survival advantage at the ecosystem level, but that this advantage is context-dependent. Its descriptive relevance is greatest where institutional quality enhances verification and trust, and weakest where governance capacity is limited.

This pattern supports an institutional amplification interpretation. Institutional quality does not simply coexist with ESG orientation; it strengthens or attenuates the survival relevance of ESG-related legitimacy. The next subsection integrates funding structure, survival constraints, ESG orientation, and institutional quality to explain how these dimensions jointly shape ecosystem-level outcomes.

Table 10: ESG Vs. Non-ESG Survival Proportion (Ecosystem-Level Descriptive Benchmark)

Category	Proportional Share of Estimated Survival	Interpretation
ESG-oriented startups	Approx. 55%	Descriptive survival advantage consistent with legitimacy-stabilization and risk-governance effects
Non-ESG startups	Approx. 45%	Baseline survival shares under broader ecosystem pressures

Note: This table reports an ecosystem-level descriptive benchmark. The figures should be interpreted as proportional descriptive patterns rather than as firm-level survival probabilities, hazard estimates, or causal effects.

Table 11: Institutional Amplification Pattern (Stratified Descriptive Interpretation)

Institutional Quality Tier	ESG-Related Survival Advantage	Interpretation
High institutional quality	Stronger	ESG claims are more credible and verifiable, producing a larger legitimacy-related survival advantage
Medium institutional quality	Moderate	Partial verification capacity allows ESG orientation to stabilize risk, but less consistently
Low institutional quality	Weak or marginal	Limited enforcement and lower stakeholder trust reduce signal credibility, making ESG orientation more vulnerable to symbolic interpretation

Note: This table summarizes the expected and observed directional pattern of institutional amplification at the ecosystem level. It is intended as a stratified descriptive interpretation and does not imply causal estimation. If tier-specific quantitative benchmarks become available, the qualitative entries may be replaced with numeric proportions and dispersion measures.

Integrated Heterogeneity and Systemic Interaction Effects

This subsection synthesizes the empirical patterns reported in Sections 4.2-4.5 and examines how funding structure, survival constraints, ESG orientation, and institutional quality jointly shape startup outcomes in Emerging Asia. Rather than treating these dimensions as independent drivers, the analysis interprets startup sustainability as the product of interaction effects operating across the ecosystem.

Four stylized findings emerge from the preceding results. First, startup funding in Southeast Asia has entered a prolonged contraction marked by capital scarcity, heightened selectivity, and a pronounced late-stage bias. Second, survival remains structurally fragile, with severe early-stage attrition and weak medium- to long-term continuity. Third, ESG orientation is present at meaningful but uneven scale and operates primarily as a legitimacy and risk-governance signal rather than as a direct performance enhancer. Fourth, the effectiveness of ESG orientation is conditional on institutional quality, with stronger governance environments amplifying its survival relevance.

Taken together, these findings indicate that startup outcomes in Emerging Asia cannot be explained by any single factor. Observed ecosystem heterogeneity reflects the interaction of resource constraints, legitimacy mechanisms, and governance capacity rather than isolated entrepreneurial differences.

Interaction between Funding Structure and Survival Constraints

The contraction and reallocation of capital toward later-stage ventures intensify survival pressure at the pre-seed and seed stages. Sections 4.2 and 4.3 show that early-stage startups face both reduced funding availability and the highest failure risk. This combination creates a selection bottleneck in which survival increasingly depends on whether ventures can cross legitimacy and credibility thresholds under constrained capital conditions. Funding structure therefore acts as a system-level filtering mechanism.

ESG Orientation as a Conditional Buffer under Capital Scarcity

Within this constrained environment, ESG orientation does not offset capital scarcity directly. Its role is more limited but still meaningful: it can moderate legitimacy volatility by stabilizing stakeholder expectations when investors become more selective. As shown in Section 4.5, ESG-oriented startups exhibit a descriptive survival advantage consistent with such a buffering mechanism. Yet this effect remains conditional. Without credible verification and enforcement, ESG signals are more likely to become symbolic and lose stabilizing force.

4.6.3 Institutional Quality as a Systemic Multiplier

Institutional quality emerges as the broader multiplier that determines whether funding selectivity and ESG legitimacy can be translated into survival stability. In higher-quality governance environments, regulatory clarity, enforcement capacity, and stakeholder trust increase the credibility of ESG signals and improve the efficiency of capital allocation. In weaker institutional contexts, funding scarcity and high failure risk dominate more fully, leaving ESG orientation with only limited descriptive survival relevance. This amplification logic helps explain why similar levels of entrepreneurial effort or ESG adoption can produce different outcomes across ecosystems.

Table 12 consolidates this integrated interaction logic by summarizing the role of each dimension and its system-level effect.

The combined evidence from Sections 4.2-4.5 shows that startup sustainability in Emerging Asia is shaped by systemic interaction effects rather than isolated drivers. Funding contraction raises early-stage selection pressure; survival remains structurally fragile; ESG orientation provides legitimacy-based risk stabilization; and institutional quality amplifies or attenuates the effectiveness of that signal. Startup heterogeneity therefore reflects differences in ecosystem governance capacity as much as, and often more than, differences in entrepreneurial capability alone.

Taken together, Tables 1-8 and Figure 1 directly address the four research questions posed in Section 1. The evidence shows that recent funding contraction and late-stage capital concentration intensify early-stage survival constraints (RQ1); ecosystem-level survival benchmarks confirm the structural fragility of startup sustainability in Emerging Asia (RQ2); ESG-oriented startups are present at meaningful but uneven scale and appear to exhibit a descriptive legitimacy-related survival advantage under capital scarcity (RQ3); and this advantage is stronger in higher-quality institutional environments, consistent with an institutional amplification logic (RQ4).

Section 5 builds on these integrated results to discuss the theoretical and policy implications for entrepreneurial ecosystem research, as well as the practical implications for policymakers, investors, and ecosystem builders seeking to improve startup sustainability under conditions of capital scarcity and institutional heterogeneity.

Table 12: Integrated Interaction Logic of Startup Sustainability (Ecosystem-Level)

Dimension	Role in the System	Interaction Effect
Funding structure	Shapes resource allocation and selection pressure	Capital scarcity raises legitimacy thresholds and intensifies early-stage exclusion
Survival constraints	Reflects structural outcome pressure within the ecosystem	Early-stage attrition magnifies selection effects and narrows the pathway to scale
ESG orientation	Functions as a legitimacy and risk-governance signal	Stabilizes stakeholder expectations under funding selectivity and uncertainty
Institutional quality	Enables verification, enforcement, and stakeholder trust	Amplifies or attenuates the survival relevance of ESG orientation

Note: This table synthesizes the ecosystem-level interaction logic developed across Sections 4.2-4.5. It is intended as an interpretive summary of the study's descriptive findings and does not imply causal estimation.

Discussion

This study examined startup sustainability in Emerging Asia by moving beyond firm-level explanations and focusing instead on ecosystem-level interactions among funding dynamics, survival constraints, ESG orientation, and institutional quality. The results suggest that startup outcomes in the region are shaped less by entrepreneurial capability in isolation than by the conditions under which ventures seek financing, build legitimacy, and operate within uneven governance environments (Tran et al., 2021; Narayan et al., 2025).

Reframing Startup Sustainability as a Systemic Outcome

A central implication of the findings is that startup sustainability in Emerging Asia should be understood as structurally conditioned rather than purely venture-specific. The combined evidence on prolonged funding contraction, late-stage capital concentration, and high early-stage attrition indicates that survival is heavily influenced by how entrepreneurial ecosystems allocate resources, recognize legitimacy, and sustain institutional support (Vandenberg et al., 2021; Zhao et al., 2021).

This interpretation challenges strands of the entrepreneurship literature that implicitly treat failure primarily as the result of managerial weakness, poor strategy, or inadequate innovation. In many Emerging Asian contexts, even capable startups confront structural constraints, including capital scarcity, demanding legitimacy thresholds, and fragmented institutional support. Under such conditions, failure may reflect ecosystem configuration as much as firm-level deficiency (Nguyen, 2022).

Funding Structure as a Selection Mechanism

The findings also highlight the importance of funding structure as a selection mechanism. The shift of capital toward later-stage ventures during the regional downturn does more than reflect changing investor preferences. It reshapes the entrepreneurial pipeline by narrowing access to finance for startups at the stages where uncertainty is highest and legitimacy is least established (Bessière et al., 2020; Mašek & Plaček, 2024).

This has a broader theoretical implication: funding cycles should not be viewed only as financial trends, but as system-level mechanisms that shape which ventures are able to remain visible, credible, and fundable. In that sense, capital allocation becomes part of the

governance architecture of the ecosystem, filtering entry, progression, and survival across stages (Shuwaikh et al., 2025).

ESG Orientation as Legitimacy-Based Risk Governance

A further insight concerns the role of ESG orientation. The results suggest that ESG-oriented startups display a descriptive survival advantage, but that this advantage is better understood as stabilizing rather than transformative. ESG orientation does not remove structural financing constraints or ensure superior growth performance. Its contribution appears to lie in reducing uncertainty for external stakeholders under conditions of heightened selectivity and risk (Chan, 2026; Schmelter & Strese, 2024).

This interpretation supports a growing literature that treats ESG less as a direct performance enhancer and more as a signaling and governance device, especially in environments marked by information asymmetry and institutional complexity (Koenigsmarck et al., 2026; Deng et al., 2025). In the present study, ESG is therefore best interpreted as a legitimacy-bearing mechanism whose value becomes more visible when survival is difficult and capital is selective.

Institutional Quality as an Amplification Mechanism

Among the most important implications of the study is the role of institutional quality as an amplification mechanism. The relevance of ESG orientation is not constant across ecosystems. It is stronger in environments where regulatory clarity, enforcement capacity, and stakeholder trust make ESG claims more credible and more easily verified. Where such conditions are absent, ESG signals are more likely to remain symbolic and less likely to translate into survival stability (Kim et al., 2024; Shi & Mai, 2025).

This suggests that institutions should not be treated as passive background conditions. They actively shape how market signals are interpreted and whether governance-related attributes acquire practical value. Startup sustainability therefore depends not only on what ventures signal, but also on whether the surrounding ecosystem can recognize, verify, and reward those signals (Li et al., 2026).

Theoretical Implications

The study contributes to entrepreneurial ecosystem theory in three respects. First, it strengthens the case for an ecosystem-level perspective that emphasizes interaction effects rather than isolated determinants. Second, it repositions ESG orientation from a narrowly performance-centered construct to a legitimacy-based governance mechanism whose relevance depends on institutional context. Third, it brings funding dynamics more directly into discussions of entrepreneurial sustainability by showing that capital allocation patterns help shape long-run ecosystem resilience (Hermawan et al., 2025; Roy & Vasa, 2025).

Taken together, these contributions suggest that future scholarship should pay greater attention to how entrepreneurial outcomes are structured by the interaction of capital availability, legitimacy formation, and institutional capacity rather than by venture attributes alone.

Practical and Policy Implications

The findings also carry practical implications. From a policy perspective, the results caution against startup development strategies that rely too heavily on firm-level promotion while neglecting the wider system conditions that shape survival. Improving startup sustainability requires stronger early-stage financing channels, more coherent regulatory environments, and institutional arrangements that make sustainability-related signals credible and usable (Narayan et al., 2025; Ungerer & Pietsch, 2025).

For investors, the results suggest that ESG orientation may serve as a useful risk-screening device, but only when it is embedded in an environment where disclosure, verification, and stakeholder trust are sufficiently developed. For ecosystem builders, the findings point to the importance of governance infrastructure, including certification

mechanisms, data transparency, and regulatory consistency, as part of the foundation for more sustainable entrepreneurial development (Ekawati et al., 2025).

Limitations and Directions for Future Research

This study relies on secondary ecosystem-level data and descriptive benchmark indicators. That design is appropriate for the study's purpose, but it does not support firm-level causal inference, hazard estimation, or direct testing of micro-level mechanisms. The findings should therefore be interpreted as comparative ecosystem patterns rather than precise estimates of venture-level effects.

Future research could extend this framework by linking ecosystem-level indicators with longitudinal firm-level data in order to test these interaction mechanisms more formally. Comparative work beyond Emerging Asia would also be valuable for assessing the wider applicability of the institutional amplification logic identified here (Hermawan et al., 2025).

Concluding Reflection

Overall, the discussion reinforces the central claim of the study: startup sustainability in Emerging Asia is shaped by the interplay of funding structure, legitimacy mechanisms, and institutional capacity. Recognizing this broader configuration is essential both for advancing entrepreneurial ecosystem theory and for designing more effective interventions to support startup survival under conditions of capital scarcity and institutional heterogeneity.

Conclusion

This study examined startup sustainability in Emerging Asia from an ecosystem-level perspective, with particular attention to the interaction among funding dynamics, survival constraints, ESG orientation, and institutional quality. Rather than treating startup success or failure as a purely firm-level phenomenon, the analysis showed that sustainability is shaped by the broader conditions under which ventures seek capital, establish legitimacy, and operate within uneven institutional environments.

Summary of Key Findings

Four main findings emerge from the analysis. First, startup funding in Southeast Asia has remained under prolonged contraction, characterized by declining aggregate investment, heightened volatility, and stronger concentration in later-stage deals. This pattern has intensified early-stage selection pressure and narrowed the pathway to scale.

Second, startup survival remains structurally fragile across Emerging Asian ecosystems. The benchmark evidence indicates substantial early attrition, with survival dropping sharply after the first years of operation and long-run continuity remaining weak. Failure risk is concentrated especially at the pre-seed and seed stages.

Third, ESG orientation is present at meaningful but uneven scale across ecosystems. The findings suggest that ESG-oriented startups exhibit a descriptive survival advantage, but that this advantage is better interpreted as stabilizing rather than transformative. ESG appears to matter primarily as a legitimacy and risk-governance signal under conditions of uncertainty and selective funding.

Fourth, institutional quality amplifies the relevance of ESG orientation. In stronger governance environments, ESG signals are more credible, verifiable, and therefore more likely to be associated with survival stability. In weaker institutional settings, the same signals are more easily reduced to symbolic claims with limited practical effect.

Contributions

This study contributes in three respects. Conceptually, it advances entrepreneurial ecosystem research by showing that startup sustainability is better understood as the product

of interaction effects than as the result of isolated venture-level attributes. Empirically, it provides ecosystem-level benchmarks on funding conditions, survival patterns, ESG orientation, and institutional quality in Emerging Asia. Theoretically, it reframes ESG orientation from a narrowly performance-centered construct to a legitimacy-based governance mechanism whose relevance depends on institutional context.

Implications

The findings carry several implications. For policymakers, efforts to increase startup formation or promote ESG adoption alone are unlikely to improve survival unless they are matched by stronger early-stage financing channels and more credible institutional support. For investors, ESG orientation may serve as a useful risk-screening signal, but its value depends heavily on the surrounding governance environment. For ecosystem builders, the results highlight the importance of transparency, verification, certification, and regulatory coherence as part of the infrastructure required for more sustainable entrepreneurial development.

Limitations and Future Research

This study relies on secondary, ecosystem-level benchmark data and does not estimate firm-level causal effects. The findings should therefore be interpreted as comparative structural patterns rather than precise venture-level estimates. Future research could extend this framework by combining ecosystem indicators with longitudinal firm-level data to test these interaction mechanisms more formally. Comparative studies beyond Emerging Asia would also help assess the broader applicability of the institutional amplification logic identified here.

Concluding Remarks

Startup sustainability in Emerging Asia is shaped not only by entrepreneurial effort, but by the interaction of capital allocation, legitimacy formation, and institutional capacity. ESG orientation contributes to survival not as a universal remedy, but as a context-dependent stabilizing mechanism whose relevance depends on whether ecosystems can verify and reward credible signals. Understanding sustainability in this broader systemic sense is essential for both theory development and the design of more resilient entrepreneurial ecosystems.

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