EVOLVING TOWARD IMPACT: A THEMATIC SYNTHESIS AND CONCEPTUAL MODEL OF SUSTAINABILITY MATURITY IN BUSINESS

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Abstract
Purpose: This study examines the changes in sustainability as a compliance-based corporate social responsibility (CSR) activity to a strategic, impact-focused strength. It aims to synthesise two decades of literature (2006-2026) on sustainability and business-impact maturity, integrating fragmented research across CSR, ESG, and digital transformation into a cohesive conceptual framework.
Design/methodology/approach: A qualitative thematic review of forty peer-reviewed Scopus-indexed articles was conducted using Braun and Clarke's (2006) six-phase approach. R Studio was employed for co-occurrence mapping and thematic visualisation to identify key research clusters and maturity patterns, integrating insights from institutional, stakeholder, and dynamic capability theories to conceptualise sustainability maturity progression.
Findings: The review identifies four dominant themes shaping sustainability maturity: (1) technology-enabled business transformation, (2) policy, governance, and institutional alignment, (3) sustainability performance measurement and reporting, and (4) strategic integration and CSR. Together, these themes indicate a shift from operational enablers toward strategic integration and business impact. Building on these insights, the study proposes the Institutional–Stakeholder–Innovation Maturity Model (ISIMM), which frames sustainability maturity as a recursive process of sensing, seizing, and transforming capabilities.
Originality/value: The study presents a new integrative paradigm (ISIMM) where the conceptual models of maturity are connected to actual business outcomes. It contributes to the overall knowledge of the ways organisations can transition to the data-driven and impact-oriented approaches to sustainability, including a diagnostic framework and roadmap on how organisations can become more sustainable.
Practical implications: The findings offer actionable insights for business leaders, policymakers, and sustainability officers by linking sustainability initiatives to measurable performance outcomes and strategic competitiveness.
Future research directions: It is suggested to further empirically prove the ISIMM model in the industry and at the institutional level, with a specific focus on digital sustainability measures, ESG innovation, and longitudinal maturity.
Keywords:
Sustainability maturity, ESG, CSR, thematic analysis, business impact

Introduction

The debate on sustainability has fundamentally changed in the last 20 years, from what was initially a peripheral corporate social responsibility (CSR) requirement into an inseparable part of strategic and financial decision-making. The linkage between sustainability and compliance and reputation management (as outlined in early research in the mid-2000s) has placed sustainability more as a reaction to pressure by stakeholders (Jenkins and Yakovleva, 2006). When the concept of environmental, social, and governance (ESG) expectations emerged, companies started to integrate the principles of sustainability into their value-generating activity and changed the focus of discussion on the ethical obligation of companies and their capacity to act internally. This shift is where sustainability maturity comes onto the scene, which is a construct that determines the extent to which sustainability is real throughout organisational structures, operations, and strategic intent.

The period between 2006 and 2025 witnessed an increase in the scope and sophistication of scholarship on sustainability maturity. In the early models, the specific CSR practices and sustainable operations are considered in the context of a specific sector (Babin and Nicholson, 2011), whereas the recent ones concentrate on data-driven sustainability, ESG measurement, and digital transformation (Kohler et al., 2026; Wang et al., 2025). The development of the field is reflective of the wider world's achievements, including the emergence of the Sustainable Development Goals (2015) and the spread of ESG disclosure models by

the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the International Sustainability Standards Board (ISSB). This has led to sustainability maturity being used as a prism through which companies evaluate not just vironmental and social performance but business impact, the practical and intangible results of sustainable strategic alignment.

Theoretically, the development of sustainability maturity is based on the various paradigms. The institutional theory describes the process of influence on organisational behaviour and adoption of sustainability by external pressures such as policy, regulation and societal norms. The stakeholder theory highlights the importance of having congruence between the business impact and the expectations of the stakeholders. In the meantime, the theory of dynamic capability highlights the capacity of firms to redesign processes, combine knowledge, and innovate to be competitively sustainable. These views combined shed light on sustainability maturity being both a process and a product, a process of integration between systems and a quantifiable product manifested in better performance and resilience.

The increasing emphasis on the maturity of business impacts goes beyond the reporting to a measurable outcome in terms of value creation. According to the research conducted over the past ten years, companies that have developed a mature sustainability framework are more likely to have a high level of innovation power, financial resilience, and risk-handling (Peng et al., 2025; Nimer et al., 2025). Nevertheless, even with the theoretical advances, it is clear that the lack of integrative models that relate the levels of sustainability maturity with measurable business performance exists. Most of the models are still amorphous, either emphasising environmental performance, CSR programs, or ESG reporting without clarifying how digital transformation, policy alignment, performance evaluation, and strategic integration interrelate.

In response to this gap, the current study will perform a thematic review of 40 peer-reviewed articles published between 2006 and 2026 and obtained through the Scopus database. According to a qualitative synthesis approach, the research establishes four prevailing themes that reflect the multidimensional nature of the business-impact maturity: (1) technology-enabled business transformation, (2) policy, governance and institutional alignment, (3) measurement and reporting of sustainability performance and (4) strategic integration and corporate social responsibility. Collectively, these themes indicate a development of technological enablers to strategic maturity that indicates the manner in which firms operationalise sustainability via data, policy, performance, and purpose.

This study has three important contributions to make. To begin with, it gives a longitudinal synthesis of sustainability maturity research, which traces its development over two decades. Second, it combines disjointed views of CSR, ESG, and digital transformation into a unified system that connects the sustainability maturity and business impact. Third, it determines conceptual and empirical gaps, which provide future directions of research on digital sustainability, maturity measurement, and impact assessment. In so doing, it is hoped that the present paper will add to the existing literature aimed at knowing how organisations can move beyond compliance-oriented sustainability to impact-oriented strategic maturity.

Finally, the concept of sustainability maturity is not just an academic pursuit but a practice that is a necessity. With increasing regulatory, technological, and ethical pressures on businesses, maturity models represent a guide to navigate through the complexity, bring strategy in line with purpose and attain quantifiable results.

Although the sustainability maturity discourse has become global, it is especially relevant within the sphere of Asia, where small and medium enterprises (SMEs), family business and entrepreneurial firms prevail in the economy. The institutional environments of Asian economies are distinctive, with the elevated pace of industrialisation, heterogeneity of regulations, digital leapfrog, and growing ESG expectations of international markets. In the case of the small and medium businesses in Asia, sustainability maturity is not simply a compliance factor but a strategic process through which legitimacy, innovation and resiliency are secured in the long run. This study presents a conceptual prism that can be used to great effect in the Asian entrepreneurial ecosystems, where companies currently have to manage both institutional complexities, the expectations of stakeholders and the need to grow competitively.

The following section describes the methodology embraced in conducting this thematic review, and the following section is the synthesis of the four dominant thematic areas that reflect the dynamic nature of sustainability and business-impact maturity.

Materials and Methods

The current research paper takes a thematic review design of qualitative nature to unify two decades of literature (2006-2025) on sustainability and business impact maturity. This review focuses on conceptual richness and interpretive insight regarding the development of sustainability maturity in contexts and sectors, unlike bibliometric analyses that operate by counting citation patterns. It was done to find and combine trends in previous studies on corporate sustainability, ESG reporting, and digital transformation and organisational maturity. The

paradigm adopted in the research was based on interpretivism, which did not entail any measurement but conceptual exploration and the development of theories (Braun & Clarke, 2006; Thomas and Harden, 2008).

The data that was used to create this review were found in the Scopus database, which is one of the largest sources of peer-reviewed research in the field of management, business, sustainability, and environmental disciplines. The search strategy employed the keywords "sustainability maturity," "business impact," "ESG performance," "CSR," and "sustainable transformation." The thematic analysis followed Braun and Clarke's (2006) six-phase approach, implemented and visualised using *R Studio* (version 4.3.1) for qualitative text mining and theme mapping (Table 1).

Manual thematic interpretation followed by computational mapping using R enhanced the conceptual validity and the depth of the analysis, as it would be expected of a qualitative data integration best practice (Braun and Clarke, 2006; Thomas and Harden, 2008). In order to achieve methodological credibility, various validation mechanisms were used in the analysis. Triangulation was cross-referencing themes with the theoretical foundations and different industries and geographies that are represented in the literature (Lozano, 2015; Dyllick and Muff, 2016). The research did not need any ethical clearance because the secondary and published data were used. Nevertheless, the studies were conducted in line with high academic integrity, such as citation, clear synthesis, and credit of the intellectual input (Erratum, 2023).

Table 1. Qualitative Text Mining and Theme Mapping

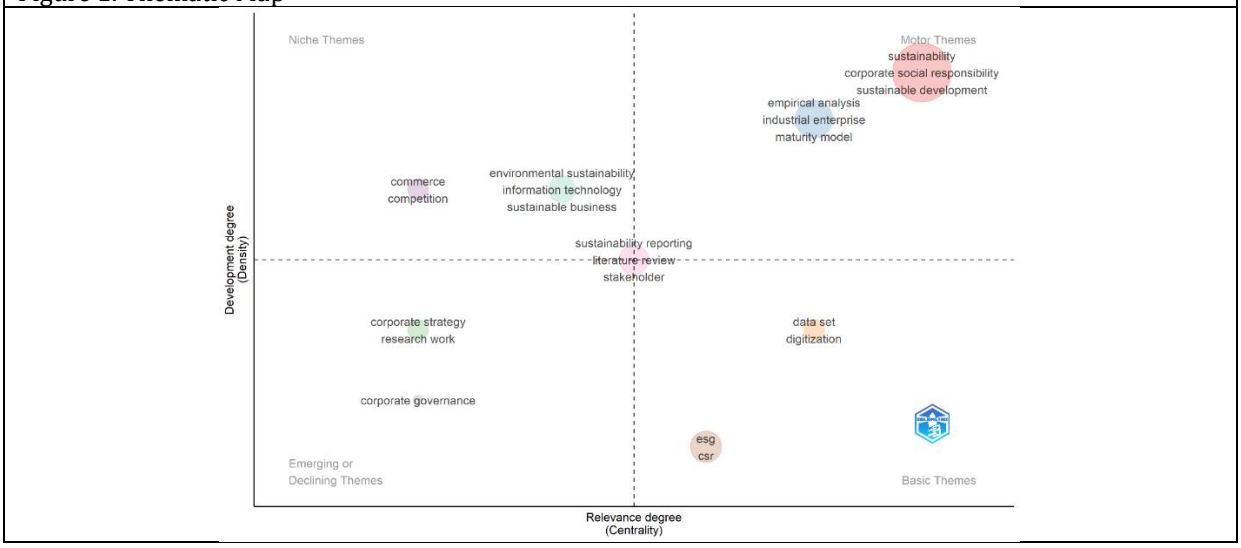
Data Familiarization	Full-text readings and mining to capture preliminary insights.
Initial Coding	Generation of open codes using R's text-mining capabilities to detect frequently co-occurring sustainability and innovation terms (e.g., "maturity," "transparency," "stakeholder," "digitalisation").
Theme Identification	Clustering of codes using semantic similarity metrics
Review and Refinement	Iterative validation of themes through comparison across theoretical frameworks and literature sources
Defining Themes	Conceptual articulation of four core dimensions
Framework Construction	Integration of themes into a layered maturity model that represents an evolutionary process of sustainability capability development

Source: Literature-Based and R Studio

Thematic Findings and Discussion

The four themes identified in this study link to one another, describing how corporate sustainability maturity has evolved: (1) Technology-Enabled Business Transformation, (2) Policy, Governance, and Institutional Alignment, (3) Measurement and Reporting of Sustainability Performance, and (4) Strategic Integration and Corporate Social Responsibility (CSR). These themes, identified in the four quadrants of the thematic map (Figure 1) of the theme *Basic, Niche, Emerging/Declining, and Motor themes*, develop the development of operational enablers to the strategic integration in the sustainability maturity continuum (Braun and Clarke, 2006; Thomas and Harden, 2008).

Figure 1. Thematic Map



Source: Authors' Contribution using Literature (SCOPUS Database)

Theme 1: Technology-Enabled Business Transformation

Mapped Quadrants: *Basic Themes* and *Niche Themes*

Digital transformation is the initial phase of the sustainability maturity pathway, which forms the basis of providing the infrastructure of transparency and data-based decision-making, as well as performance integration. The previous forms of CSR reporting are mostly narrative and qualitative (Jenkins and Yakovleva, 2006), although the spread of digital technologies has changed the processes into real-time and analytics-driven systems. The implementation of artificial intelligence (AI), blockchain, Internet of Things (IoT), and cloud computing tools has allowed companies to put sustainability into practice by automating their monitoring, predicting, and enhanced environmental, social, and governance (ESG) analytics (Wang et al., 2025; Zabukovšek et al., 2023). These technologies make sustainability disclosures comparably more verifiable and timely (Kohler et al., 2026) and increase the accountability throughout supply chains (Werner-Lewandowska and Golinska-Dawson, 2021). On the thematic map, "Data set" and "Digitization" take place in the *Basic Themes* quadrant, which covers the key enablers to sustainability measuring, and "Information Technology" and "Environmental Sustainability" are found in the *Niche Themes* quadrant, which introduces the narrower research topics, including Green IT and sustainable information systems (Babin and Nicholson, 2011; Viaro and Roehe Vaccaro, 2013). In general, technology is the driving power and the medium of sustainability change, which is the transformation of the firms that have not been united in their CSR actions, but have been transformed into dynamic and intelligence-driven sustainability governance.

Theme 2: Policy, Governance, and Institutional Alignment

Mapped Quadrant: *Emerging or Declining Themes*

The second thematic layer focuses on how policy frameworks, structures of governance, and institutional pressures are central in influencing corporate sustainability behaviour. The institutional theory states that the coercive, normative and mimetic isomorphic pressures are the driving forces of organisational responses to sustainability (DiMaggio and Powell, 1983). Instead, governments, regulators and international organisations have instilled sustainability standards into formal policy and reporting standards, e.g., Global Reporting Initiative (GRI), UN Global Compact and Task Force on Climate-related Financial Disclosures (TCFD), and thus pressured firms towards institutionalising sustainability in their corporate governance (Eccles and Krzus, 2018; Jenkins and Yakovleva, 2006).

As empirical research shows, policy alignment improves environmental performance and strategic planning in the long-term of the firms (Peng et al., 2025; Dang et al., 2025). Likewise, effective corporate governance systems such as board-level sustainability committees and ESG oversight systems enhance accountability and enable the incorporation of sustainability goals in the regular business operations (Aleksin and Dyba, 2024; Nimer et al., 2025). "Corporate Governance" and "Corporate Strategy" are located in the *Emerging or Declining Themes* quadrant, meaning that these notions are fundamental in nature, but the current research is shifting away from the discussion of the concept to its concrete implementation (Nikolaev et al., 2017; Teece et al., 1997). This theme, in turn, is the institutionalisation phase, when the external policy requirements interact with internal governance systems to advance the consistent and plausible sustainability performance.

Theme 3: Measurement and Reporting of Sustainability Performance

Mapped Quadrants: *Central Cluster* and *Basic Themes*

The third theme emphasises measurement and reporting as the evaluative main substance of sustainability maturity. Measuring ESG performance enables companies to shift to strategic sustainability management and enhance credibility and trust in stakeholders (Nimer et al., 2025; Hluszko et al., 2024). The expansion of reporting frameworks across the world (GRI, SASB, and Integrated Reporting) succeeded in becoming standardised in the disclosure practices, but the variance in the methodologies remains a challenge to the data comparison and benchmarking across firms (Kohler et al., 2026). The recent researches associate technological innovation with better ESG measurement accuracy and timeliness. As an example, online dashboards and open-data platforms can increase the accuracy in carbon reporting and performance analytics (Wang et al., 2025; Ning et al., 2021). The concepts of "Sustainability Reporting" and "Stakeholder" are in the middle of the thematic map that implies their mediation between technological background and strategic results (Freeman, 1984; Tăchiciu et al., 2020). The measurement process is anchored on constructs like the data set and the ESG, which are supported by constructs like the Data set and the DSS that are located in the quadrants of the *Basic Themes*.

This theme is the diagnostic stage of sustainability maturity when organisations apply performance measures not just to disclose but as one of the strategic intelligence tools to make decisions, innovate, and manage risks in the long term (Wu et al., 2025). Measurement, then, is the verifiable connection between the rhetoric and reality of sustainability and the corporate reality.

Theme 4: Strategic Integration and Corporate Social Responsibility

Mapped Quadrant: *Motor Themes*

The fourth and final theme is the strategic implementation of sustainability as the business model, in which the CSR turns into the strategic source of competitive advantage (Dyllick and Muff, 2016; Witek-Crabb, 2019). In this stage of maturity, companies set ESG goals in line with organisational strategy, innovation, and stakeholder engagement (Glaveli et al., 2023; Kargbo et al., 2025).

Studies prove that established companies incorporate the concept of sustainability into the corporate culture, product development, investment processes, and leadership frameworks (Nimer et al., 2025; Mazhar et al., 2024). Businesses and companies with firm governance cultures are more consistent in meeting sustainability goals as a result of consistency between organisational social creation and the social value that is created (Nimer et al., 2025). The Thematic map shows that in the quadrant of *Motor Themes*, "Sustainability", "Corporate Social Responsibility" and "Maturity Model" are highly central and dense as the most motivating research cluster of the field (Lozano, 2015; Meza-Ruiz et al., 2017). This phase is the pinnacle of sustainability maturity, which is indicated by the purpose-oriented leadership, integration across functions, and being innovative. In this case, sustainability is not a compliance activity but a strategic identity, which adds to the resilience of business and society in the long run (MacKie, 2023; Aytekki, 2021)

These four themes are an evolutionary path of potentially technology-enabling strategic integration, demonstrating how sustainability transforms into a strategic and cultural ethos in an organisation (Meza-Ruiz et al., 2017; Yatskovskaya et al., 2018). This development supports the evolving aspect of corporate sustainability maturity, in which information, administration, and plan all come together to generate lasting business and social influence.

This stage of strategic maturity is especially relevant to the realm of SMEs and family-owned businesses, which make up the majority of the foundation of most of the Asian economies. As opposed to large multinational companies, entrepreneurial and family businesses tend to lean on embedded values, long-term orientation, and proximity between stakeholders in order to make sustainability part of strategy. Consequently, leadership commitment and incremental innovation often become the two main sources of sustainability maturity in these firms instead of being formalised; hence, the strategic component of CSR integration is an important channel of sustainable entrepreneurial development in Asia.

Continuing on the thematic synthesis of a collection of 40 peer-reviewed papers released between 2006 and 2025, the subsequent section of this paper suggests the Integrated Sustainability Impact Maturity Model (ISIMM) conceptual framework, which describes the process of change that the organisation undergoes between a primitive level of awareness of its sustainability-related issues and a comprehensive and strategic, measurable impact.

Conceptual Framework: The Institutional–Stakeholder-Innovation Maturity Model (ISIMM)

The thematic findings are synthesised into a conceptual model, the Institutional-Stakeholder-Innovation Maturity Model (ISIMM), which is a dynamic account of how organisations develop to greater degrees of sustainability maturity. The ISIMM paradigm is based on three significant theoretical approaches, i.e. institutional theory (DiMaggio and Powell, 1983), stakeholder theory (Freeman, 1984), and dynamic capability theory (Teece et al., 1997). Together, these views describe the organisational forces, relationships between stakeholders, and capacity to adapt that form the basis of sustainability maturity evolution.

Institutional Theory: According to institutional theory, organisations are seen to adapt to external forces, namely, coercive (regulatory), normative (professional) and mimetic (competitive imitation), in a bid to stay legit in their institutional settings (DiMaggio and Powell, 1983). The sustainability context implies that firms are subject to institutional pressures, which compel them to embrace ESG standards, non-financial reporting systems, and governance procedures that would meet the expectations of society (Eccles and Krzus, 2018; Dang et al., 2025). Responsiveness to regulatory systems like the Corporate Sustainability Reporting Directive (CSRD) or Global Reporting Initiative (GRI) enhances external legitimacy as well as leading to internalisation of sustainable practices (Glaveli et al., 2023).

Stakeholder Theory: The institutional perspective is supplemented by the stakeholder theory (Freeman, 1984) that focuses on accountability, transparency, and inclusivity in corporate decision-making. Organisations are considered as interdependent systems that have to strike a balance between the interests of shareholders, employees, customers, regulators, and communities to maintain the creation of long-term values (Lozano, 2015; Kargbo et al., 2025). The stakeholder lens justifies the reasons why established companies implement sustainability into the system of governance, corporate culture, and strategic communication - turning stakeholder dialogue into a strategic asset that builds trust and reputation (Aytekin, 2021; Hluszko et al., 2024).

Dynamic Capability Theory: The dynamic capability theory (Teece et al., 1997) is an extension of the institutional-stakeholder logic, which explains how organisations attain sustained renewal due to sensing, seizing and transforming opportunities within turbulent environments. In this regard,

sustainability maturity is the power to combine technological innovation, the rules and regulations, and the understanding of the stakeholders into adaptive strategies (Dyllick and Muff, 2016; Mazhar et al., 2024). Companies that are more mature with dynamic capability have the advantage of being more agile in aligning the digital transformation to environmental and social goals (Zabukovšek et al., 2023; Wang et al., 2025).

The intersection of the institutional, stakeholder and dynamic capability perspectives implies that the sustainability maturity is an iterative process that is dynamic and not a fixed state. Organisations adapt and reconfigure in ways that are based on learning, adaptation, and reconfiguration in response to the changes in stakeholder expectations, policy environments, and technological innovations (Meza-Ruiz et al., 2017; Yatskovskaya et al., 2018).

Description of the ISIMM Model

This process is presented as a four-layer progression in the ISIMM model, where each layer enhances the sustainability potential of an organisation, which strengthens the compliance and innovation (Table 2). The former layer encompasses the technological and operational prerequisites of sustainability, in which data-driven reporting and tracking are based on digital systems (Werner-Lewandowska and Golinska-Dawson, 2021). The second tier is the organisational commitment that entails an institutionalisation process of sustainability wherein institutions institutionalise sustainability in the form of governance and policy structures to attain compliance and legitimacy (Aleksin and Dyba, 2024; Glaveli et al., 2023). The third tier focuses on stakeholder integration, which enhances accountability and transparency in the form of measuring performance and reporting publicly (Hluszko et al., 2024; Tăchiciu et al., 2020). Lastly, the fourth layer is strategic maturity, the point of sustainability turning into a part of the culture and strategic identity, leading to innovation, competitiveness, and long-term viability (Lozano, 2015; Dyllick and Muff, 2016; MacKie, 2023).

Table 2. ISIMM model- four-layer progression-Integration with Themes

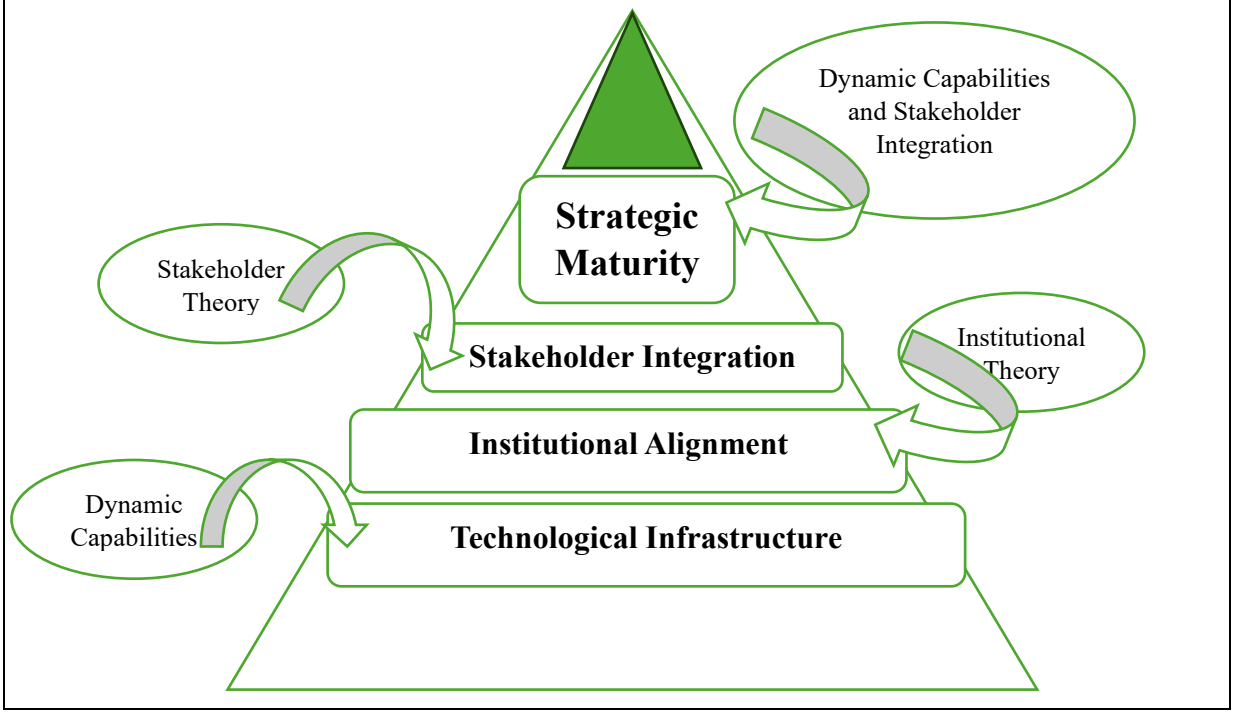
ISIMM Layer	Corresponding Theme	Core Capabilities	Key Theoretical Anchors	Outcome Orientation	Literature support
Layer 1: Technological Infrastructure	Technology-Enabled Business Transformation	Digitalisation, Data Management, Green IT	Dynamic Capabilities (Teece, Pisano, & Shuen, 1997)	Operational enablement and data transparency	Zabukovšek, Tominc, & Bobek (2023); Viaro & Roehe Vaccaro (2013); Finnerty et al. (2017); Wang et al. (2025)
Layer 2: Institutional Alignment	Policy, Governance, and Institutional Alignment	Policy compliance, ESG governance, legitimacy seeking	Institutional Theory (DiMaggio & Powell, 1983)	Regulatory legitimacy and external accountability	Glaveli et al. (2023); Dang, Gao, & Yu (2025); Tăchiciu et al. (2020); Aleksin & Dyba (2024)
Layer 3: Stakeholder Integration	Measurement and Reporting of Sustainability Performance	Stakeholder engagement, ESG measurement, disclosure systems	Stakeholder Theory (Freeman, 1984)	Stakeholder trust and reporting credibility	Jenkins & Yakovleva (2006); De Chiara & Russo Spena (2011); Hluszko et al. (2024); Damaceno et al. (2025)
Layer 4: Strategic Maturity	Strategic Integration and CSR	Innovation, leadership, and strategic coherence	Dynamic Capabilities and Stakeholder Integration (Teece et al., 1997; Freeman, 1984)	Competitive advantage and sustainable value creation	Dyllick & Muff (2016); Kargbo, Terrence, & Palmer (2025); Mazhar et al. (2024); Hansen & Xie (2025)

Source: Authors' Analysis

The ISIMM framework is most effectively applicable to an entrepreneurial and SME-driven environment that is common in Asia. Most Asian companies are in institutional complexity, inconsistent enforcement of regulations and fast digitalisation, and are forced to develop adaptive and capabilities-based sustainability paths. ISIMM provides a flexible maturity roadmap to enable SMEs and start-ups to advance in small steps: beginning with enablers of a digital and functioning framework, through

institutional alignment and strategic integration. The model is particularly applicable to resource-bound but growth-focused family-owned and emerging businesses because for them, sustainability adoption does not entail a lot of formalising. In this way, ISIMM offers a viable conceptual framework of the sustainability-oriented entrepreneurship and strategic renewal in the developing Asian economies.

Figure 2. The Integrated Sustainability and Innovation Maturity Model (ISIMM)



Source: Authors' Analysis

The theoretically presented concept of the Integrated Sustainability and Innovation Maturity Model (ISIMM) (Figure 2) is the conceptualised model that represents the dynamism and cyclical aspect of the sustainability development in the organisation as a four-layered structure. The least distant layer is *Technological Infrastructure*, which secured the model through allowing digitalisation, data transparency, and operational efficiency, which is the cornerstone on which higher sustainability capabilities that are higher are constructed. The second layer, which is the *Institutional Alignment,* is an adaptive reaction by the organisation to the institutional regulatory, policy and governance forces, which stabilise the institutional legitimacy and allegiance. The third tier, *Stakeholder Integration*, lays stress on the need to implement engagement, transparency, and accountability by implementing effective ESG measurement and reporting policies. Lastly, *Strategic Maturity* is the last layer and that summarises sustainability as an innovation driver, strategic coherence and long-term value creation. The mutual feedback between these layers denotes that sustainability maturity is not a linear process but a recursive, situation-specific, and adaptive system, in a continuous sense of evolving to environmental turbulence, institutional requirements and stakeholder expectations.

Interpretation/Mechanism of the Model

The ISIMM mechanism defines sustainability maturity, conceptualises sustainability as a dynamic, capability-building process, which is motivated by three recursive and interdependent processes of sensing, seizing and transforming. During the *sensing* stage, the organisations detect and make sense of external pressures, technology opportunities, and the demands of stakeholders that define sustainability imperatives (DiMaggio and Powell, 1983; Freeman, 1984). The *seizing* phase refers to the process of making an action out of these insights, i.e., establishing governance mechanisms, ESG reporting procedures, and joint ventures that embed sustainability practices (Eccles and Krzus, 2018; Jenkins and Yakovleva, 2006)

Lastly, the *transforming* stage inculcates sustainability within the strategic orientation of the firm, organisational culture, and innovative architecture that creates resilience and sustainability in the competitiveness (Teece, Pisano, and Shuen, 1997; Dyllick and Muff, 2016). These are cyclical and adaptive feedback processes, which constantly redefine the levels of sustainability maturity as organisations adjust to the changing institutional pressures and the needs of stakeholders. To this effect, the ISIMM framework enhances a dynamic concept of sustainability evolution, exemplifying how

companies evolve to a behaviour of compliance-oriented responses to strategic sustainability leadership.

Implications

The ISIMM model makes a contribution to the theory by linking institutional conformity to stakeholder accountability as well as dynamic adaptation in an integrated theory of sustainability maturity. Theoretically, it addresses how this process works: how compliance can be externally motivated to innovation internally. At the management level, the model serves as a diagnostic instrument to determine the location of an organisation in the maturity spectrum and pinpoint the specific investments in capabilities to take the organisation to the next developmental stage (Meza-Ruiz et al., 2017; Wu et al., 2025). By so doing, ISIMM is consistent with the recent calls for a systemic conceptualisation of sustainability transformation, which connects technological infrastructure, institutional alignment, stakeholder accountability, and strategic agility in a logical path of organisational development (Lozano, 2015; Dyllick and Muff, 2016).

As a policy framework, the ISIMM framework can be of great assistance to institutions that promote entrepreneurship and SME development in Asia. The model can be used by policymakers and industry organisations to implement sustainability interventions in stages and in line with the level of maturity of firms instead of subjecting them to similar compliance requirements. This is especially applicable in the emerging economies in Asia, where SMEs usually do not have resources and yet show great potential for innovations. Policymakers can speed up sustainable entrepreneurial growth by increasing the digital infrastructure support, governance guidance and incentives to report sustainability in the context of maturity stages to increase institutional legitimacy

Cluster Analysis

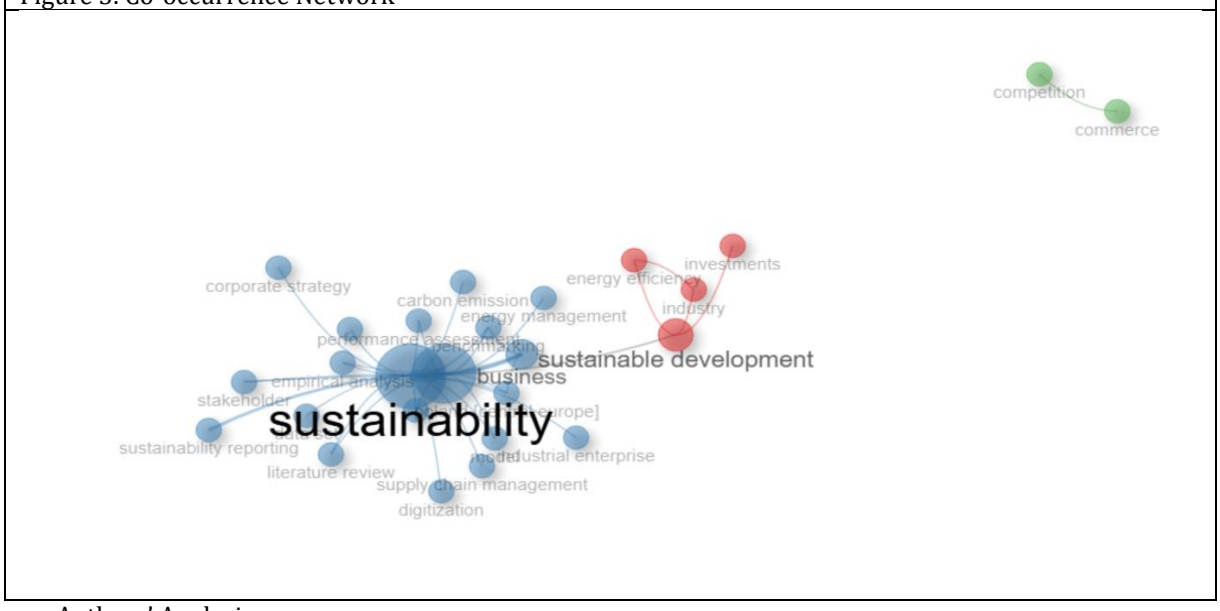
The co-occurrence network (Figure 3) offers a theoretical confirmation of the thematic organisation behind the ISIMM framework to show how the sustainability research area is around interrelated yet distinct conceptual cores.

The *central blue cluster* indicates the prevailing research interest in *sustainability* and *business* that is associated with the Technological Infrastructure and Institutional Alignment layers of ISIMM. The presence of such core concepts as the empirical analysis, stakeholder, sustainability reporting, carbon emission, and energy management reflect the high level of the focus on the operational enablement, governance, and accountability, which is consistent with the initial phases of the sustainability capability building under the influence of the institutional theory and stakeholder theory (DiMaggio and Powell, 1983; Freeman, 1984).

The *red cluster* focuses on *financial* and *strategic facets of sustainability* and is based on *sustainable development*, *investments*, *energy efficiency*, and *industry*. This aligns with the Strategic Maturity layer, where sustainability is integrated into innovation and competitive position, in line with the dynamic capability theory (Teece, Pisano, and Shuen, 1997).

Finally, the *green cluster*, including *competition* and *commerce*, explains a niche research stream, which has a high thematic density, but does not receive much inclusion in the mainstream sustainability discourse. This points to the developing interest in the market processes of sustainable enterprise, which is related to the adaptive learning loop of ISIMM, as well as the recursive development of competitive advantage.

Figure 3. Co-occurrence Network



Source: Authors' Analysis

The cluster analysis indicates that there is a flow between the underlying enablers (technological and data-driven strategies) to institutional integration (policy, governance, and reporting) to strategic embedding (investment-driven innovation and transformation). The minimal distance between the nodes as well as the intensity of the interconnections between sustainability and business, stakeholder and sustainable development prove that sustainability research maturity (and, by means, organisational practice) is defined by the growing interconnectedness between operational efficiency, institutional, and strategic renewal. This is a reflection of the conceptualised sustainability maturity of the ISIMM model, which is a dynamic, recursive, and adaptive process that is constantly recast through the feedback loops connecting institutional pressures, stakeholder expectations, and organisational capabilities.

Conclusion, Future Directions and Industry Contributions

The results confirm that sustainability maturity is developed in the dynamic interaction of technological, institutional, stakeholder, and strategic aspects, applied to the conceptualisation of the Institutional-Stakeholder-Innovation Maturity Model (ISIMM). The model shows the way organisations move to a phase of strategic maturity where sustainability is integrated as an innovation source and a long-term competitive advantage. This development is supported by the cluster analysis that the operational themes of reporting, governance and stakeholder engagement are closely aligned to the strategic themes of investment, innovation and sustainable development, and that measurement and transparency are the vehicles between operational compliance and strategic change.

Future studies should be used to *empirically validate* the ISIMM framework in other industries and institutional settings using longitudinal and mixed-method studies. The manner in which digital transformation and data transparency hasten the workflow across the layers of ISIMM requires study, as do the micro-mechanisms of capability building (examples include leadership behaviour, organisational learning, and cross-functional collaboration) that help firms to sense, seize, and transform the opportunities of sustainability. Moreover, researchers need to examine the impact of green finance and ESG-related investments on the level of strategic maturity and evaluate how financial processes can convert sustainability intention into practice results. These studies will enhance the knowledge of the feedback loops of institutional pressures and expectations by the stakeholders and organisational adaptation mechanisms that lead to the evolution of sustainability.

As to *industry,* the ISIMM framework is a viable roadmap for gauging and enhancing sustainability maturity. It assists the organisations to detect the capability gaps in technology, governance and strategy and make investments that increase both compliance and competitiveness. The model allows firms to develop integrated reporting systems, align the sustainability KPIs and business performance, and enhance the trust of the stakeholders due to the transparency of governance. The framework further assists investors, policymakers and regulators in understanding the sequence of the corporate sustainability practices and the support required at each stage of maturity, whether it is technological, financial or institutional. After all, the ISIMM model serves as a strategic perspective in changing sustainability as a regulatory obligation towards a value-generating, dynamic, and forward-thinking capability to innovate, build resilience, and change the indicators of society.

This work provides a very relevant maturity-based view that is quite relevant to Asian entrepreneurial systems, and it connects the sustainability strategy to the reality of SMEs, family businesses, and emerging economies that want to grow in an impact-driven manner.

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