ESG, Innovation, Digitalization and Government Incentives in Malaysian SMEs: A Financial Performance Framework

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DOI: https://doi.org/10.47772/IJRISS.2026.101000522

Received: 22 October 2026; Accepted: 27 October 2026; Published: 06 November 2026

ABSTRACT

Small and medium-sized enterprises (SMEs) face increasing expectations to strengthen sustainability practices, develop innovation capability, and adopt digital technologies, yet the financial returns from these efforts are not necessarily immediate or uniform. This conceptual paper examines how environmental, social, and governance (ESG) implementation, innovation capability, and digitalization adoption may relate to the financial performance of Malaysian SMEs, and proposes government incentives as a moderator of each relationship. The paper critically synthesises relevant theoretical perspectives and empirical studies rather than reporting a new empirical test. The resource-based view (RBV) provides the central explanation for why firm-level practices and capabilities may contribute to performance when they are effectively deployed. Institutional theory explains how external pressures and public support shape firms' responses, while the technology–organisation–environment (TOE) framework specifically contextualises digitalization adoption. The review highlights three issues: the costs and benefits of ESG implementation may vary across firms; innovation capability creates value only when ideas and investments are converted into market or operational outcomes; and digitalization may generate costs as well as efficiency gains. Evidence on government support also suggests that availability of incentives does not, by itself, establish that support strengthens the financial returns from these activities. The paper therefore proposes six propositions covering the three predictor–performance relationships and three corresponding moderation effects. Its contribution is to frame government incentives as a boundary condition rather than presume a uniformly beneficial direct effect. The framework provides a basis for empirical testing among Malaysian SMEs and may help researchers and policymakers distinguish support for adoption from support that enables firms to translate practices and capabilities into financial outcomes.

Keywords: Malaysian SMEs; ESG Implementation; Innovation Capability; Digitalization Adoption; Government Incentives.

INTRODUCTION

Small and medium-sized enterprises (SMEs) are important contributors to economic activity, employment, and business dynamism. However, they often operate with tighter financial, managerial, and technical resources than larger firms. These constraints can make it difficult to invest in longer-term organisational changes while meeting immediate operating needs (Ramdan et al., 2022). Three areas increasingly relevant to SME development are environmental, social, and governance (ESG) implementation, innovation capability, and digitalization adoption. Each can require investment, learning, organisational commitment, and changes to established routines; none should therefore be assumed to produce immediate financial gains.

The financial relevance of these activities remains an important question. ESG practices may support efficiency, legitimacy, customer confidence, or supply-chain participation, but can also create compliance and implementation costs. Innovation capability can enable new products, processes, and business models, although investment does not guarantee successful commercialisation. Digital technologies can improve coordination and market access, yet their benefits depend on effective implementation and may be offset by training, integration,

cybersecurity, and maintenance costs (Chen et al., 2024; Eller et al., 2020; Kraus et al., 2022). Such variation matters especially for SMEs, where the opportunity cost of allocating scarce resources can be substantial.

A second issue concerns the role of government incentives. Public support may provide funding, technical assistance, training, or access to programmes that lower the costs and risks of organisational investment. However, programme availability or participation does not automatically demonstrate that incentives strengthen the relationship between a firm's practices or capabilities and its financial outcomes. Malaysian research has considered government support in relation to digital adoption and entrepreneurship performance (Misron et al., 2025), and other studies have examined support as a condition influencing technology adoption or innovation outcomes (Tang et al., 2024; Otache & Usang, 2022). These studies provide a rationale for examining government support, but do not collectively settle whether incentives strengthen the financial returns associated with ESG implementation, innovation capability, and digitalization adoption in a single Malaysian SME framework.

This paper addresses that unresolved issue by considering the three firm-level predictors in one conceptual model. ESG implementation is treated as a higher-order construct comprising environmental, social, and governance practices; these dimensions are not specified as separate structural predictors. Innovation capability and digitalization adoption remain distinct constructs, and no causal ordering or interaction among the three predictors is assumed. The central research question is: how are ESG implementation, innovation capability, and digitalization adoption associated with Malaysian SME financial performance, and do government incentives condition these relationships?

The paper makes two contributions. First, it brings three distinct organisational responses into a common financial-performance framework while retaining their conceptual differences, reflecting emerging discussions of how sustainability, innovation, and digitalization intersect in SMEs (Avelar et al., 2024; Philbin et al., 2022). Second, it positions government incentives as a potential boundary condition: incentives may help SMEs convert practices and capabilities into financial outcomes, but this moderating role requires empirical testing. The paper proceeds with its conceptual review approach, theoretical foundation, literature synthesis and propositions, proposed framework, implications, limitations, and conclusion.

CONCEPTUAL REVIEW APPROACH

This conceptual paper develops a framework through a critical synthesis of the theories and empirical studies cited in the manuscript. The review is organised around the dependent construct—SME financial performance—the three proposed predictors, and the moderating role of government incentives. Studies are considered in relation to their constructs, contexts, and outcome measures. In particular, evidence on ESG disclosure or firm valuation is not treated as equivalent to evidence on operational ESG implementation and SME financial outcomes; similarly, evidence that government support influences technology adoption is not treated as direct proof that support moderates adoption–performance relationships.

The approach is theory-informed rather than a systematic review: no database search protocol, screening flow, or exhaustive inclusion criteria are claimed. Its purpose is to clarify the logic of the proposed model and identify propositions suitable for empirical testing. As a conceptual paper, it does not estimate effects or claim that any of the proposed relationships has been established for Malaysian SMEs.

THEORETICAL FOUNDATION

This study addresses this theoretical void by exploring why SMEs implement ESG practices, invest in innovation capability, and employ digital technology, and if these organisational efforts influence their Financial Performance.

Resource-Based View (RBV)

The primary theory used to investigate the financial value of firm resources and capabilities is the Resource-Based View (RBV). Barney (1991) suggests that resources that are valuable, rare, imperfectly imitable, and

without strategically equivalent substitutes are key to long-term competitive advantage. In this view, firms can leverage their organisational capabilities to generate performance by applying their assets in a way that creates economic value. The notion is particularly relevant to SMEs given their scarcity of resources, which makes acquiring, developing, and allocating organisational resources vital to performance (Abid et al., 2024). More recent Malaysian SME literature demonstrates the usefulness of the resource-based approach by showing that certain organizational resources and capabilities play a more significant role in generating financial, environmental, and social performance than others (Yadegaridehkordi et al., 2023).

Institutional Theory

A different but complementary approach is offered by Institutional Theory. The key idea here is that organisations are not acting purely strategically according to their own economic value but also due to external regulatory, normative and competitive pressures within their institutional environment (DiMaggio & Powell, 1983). For SMEs, such pressures may be represented by governmental policies, industry expectations, financing needs, customers, supply-chain partners, and general sustainability expectations. In the same way, research shows that while there are quick evolutions in environmental regulations, external sustainability expectations continue to be important in relation to SMEs' sustainability strategies, and sometimes it is necessary for companies to invest scarce organisational resources to respond to those external expectations (Madrid-Guijarro & Duréndez, 2024). Further research on Malaysian SMEs has shown that Institutional Theory combined with RBV in studying sustainability performance can be meaningful, as internal organisational factors and external pressures can affect SME performance differently (Yadegaridehkordi et al., 2023).

Technology-Organisation-Environment (TOE)

Finally, the Technology-Organisation-Environment (TOE) framework provides another angle for understanding technology adoption, focusing on how technology adoption depends on technological, organisational, and environmental conditions (Tornatzky & Fleischer, 1990). This is particularly true for Digitalization Adoption because technology adoption cannot be determined based solely on access to technology resources. Other organisational factors, such as organisational capability and external environment, affect the ability of firms to adopt and use digital technologies. TOE contributes to better understanding the contextual conditions for technology adoption but cannot say anything about whether more Digitalization Adoption is linked to a better Financial Performance. This is why RBV complements TOE in focusing not only on the conditions for adoption but also on the potential value of the resources and capabilities adopted.

Integrating the Theories

RBV explains how internally controlled resources and capabilities may create financial value, but an RBV-only explanation is incomplete for the proposed framework. It does not fully explain why Digitalization Adoption depends on technological, organisational and environmental conditions, or why the financial relevance of ESG Implementation, Innovation Capability and Digitalization Adoption may vary with external support. TOE addresses the first limitation by explaining the context surrounding technology adoption, while Institutional Theory addresses the second by explaining how government policies, incentives and wider institutional pressures shape organisational responses. Their integration therefore reveals that SME Financial Performance may depend not only on the resources and capabilities a firm possesses, but also on the conditions under which those resources are adopted, applied and supported. The three theories are used as complementary perspectives; the framework does not treat ESG Implementation, Innovation Capability and Digitalization Adoption as a single capability or claim to test every proposition of each theory. The theoretical proposition is that the financial relevance of each firm-level construct may depend partly on the external support available to the firm.

LITERATURE REVIEW AND PROPOSED RELATIONSHIPS

Financial Performance of SMEs

In SME research, objective accounting information can be used to assess financial performance or perceptual measures based on knowledgeable organisational respondents. Objective accounting information such as return

on assets and return on equity are traditional measures of financial performance. There are limitations associated with the use of accounting-based measures in SME research because accounting information for small firms may not be publicly available and there may be reluctance to disclose confidential financial information. In such cases, perceptual measures can offer an effective way to obtain financial performance data from respondents who know enough about their firms' financial performance (Dess & Robinson, 1984; Richard et al., 2009).

In the proposed empirical model, Financial Performance will be measured through respondents' perceptions of revenue growth, profitability, cash flow, and market share. These four dimensions reflect various aspects of SME financial performance. Revenue growth represents the firm's capacity to grow business activity, profitability is the firm's capacity to earn profits from business activities, cash flow is the firm's capacity to sustain financial liquidity through business activities, and market share is an indicator of the firm's relative position in the marketplace.

ESG Implementation and Financial Performance

ESG Implementation represents the degree to which ESG factors are applied in organisations. The focus on ESG issues was mainly related to larger and listed companies; however, as sustainability issues move upstream into the supply chain, downstream to suppliers and customers, across financing structures and investors, in response to government programmes, and to overall market demands, the focus on ESG extends beyond large companies to include SMEs. There are emerging studies focused on the implications of sustainability in SMEs. But recent research on SMEs indicates that there are fundamental differences between SMEs and larger firms that suggest findings from larger companies cannot be generalised to smaller companies (Garrido-Ruso et al., 2024).

ESG implementation must be distinguished from sustainability reporting. Reporting is a formal process involving the communication of sustainability-related information, while implementation is concerned with activities undertaken within an organisation. SMEs may engage in environmental, social, and governance practices irrespective of whether they are required to report sustainability-related information at the level of listed companies. This point is critical for the Malaysian situation given the emphasis of recent policies on encouraging MSMEs to improve and monitor their ESG practices without suggesting that these firms are expected to be covered by the sustainability reporting framework as applicable to listed companies.

Higher levels of ESG implementation do not necessarily result in higher Financial Performance. In an earlier study by Garrido-Ruso et al. (2024) based on 538 Spanish SMEs, the overall ESG measure was not significantly related to performance in their main analysis, but findings varied among individual ESG dimensions and groups of firm sizes. More recent research from Malaysia also suggests that SMEs have begun to encounter questions about whether their ESG-related strategies have any real benefits for the organisation and its performance (Ooi, 2026). Therefore, it is important that the financial relevance of ESG Implementation is tested.

A further distinction must be made between implementation and signals regarding implementation. Momtaz and Parra (2025) analysed ESG disclosure signals and certification amongst unlisted Spanish SMEs. They found a positive link to net income. While this indicates that credible sustainability information can be financially material, it does not show that the operational ESG Implementation construct used in this study is related to all four financial outcomes. Rahat and Nguyen (2024) found a positive relationship between ESG profiles and firm valuation in emerging markets. The valuation metrics they use are focused on larger, non-financial firms. They are best regarded as background on market signalling rather than directly relevant to Malaysian SME profitability or cash flow.

The studies provide evidence for a nuanced viewpoint and not a blanket financial promise. Not all ESG practices will lead to better cost management, customer trust or resilience. Conversely, there may be financial stresses on margins and cash flow. Finally, there are differences between studies as to what measures they use, such as operational practices, disclosures, strategies, ESG ratings, net income, valuation and firm performance. Differences between measures need to be taken into account because what appears positive in relation to one measure does not necessarily confirm a relationship with another measure. What remains undetermined for this study is whether the combination of Environmental, Social and Governance Implementation is positively related to the specified Financial Performance outcomes for Malaysian SMEs.

There are indications from literature review presented in the previous section that there might be an association between ESG practices and financial performance of SMEs. Sustainability practices have been linked to positive financial outcomes, however recent findings suggest that these effects are not automatic and are not consistent across all firms. Different factors such as differences in firm size, resources, the specific dimensions of ESG examined and how the performance is measured could lead to different results (Momtaz & Parra, 2025; Adenutsi et al., 2025; Chen et al., 2026). In light of these contradictory findings, it would be worthwhile to investigate the relationship in the context of Malaysian SMEs as opposed to expecting a direct link between ESG Implementation and better Financial Performance.

As a result, the following proposition is formulated at the higher-order level. This means that the paper does not propose separate propositions for the Environmental, Social and Governance dimensions; instead, it proposes a relationship between overall ESG Implementation and Financial Performance.

P1: ESG Implementation has a positive relationship with the Financial Performance of SMEs in Malaysia.

Innovation Capability and Financial Performance

Innovation Capability is defined as the organisation's ability to create, develop and apply new or better ideas, products, processes, and practices. It implies something other than people performing innovation activities in an organisation or launching a new product. The difference is important because the innovation outcome tells what the organisation has done, while Innovation Capability refers to the ability to perform and maintain innovation activity over time in an organisation (Saunila, 2020).

Innovation Capability is the ability of a firm to develop new or improve existing products, processes, and business practices. Firms with stronger Innovation Capability have been shown to outperform others due to this advantage. It may be argued that SMEs need strong Innovation Capability even more since they tend to excel by being flexible, responsive, and able to seize opportunities compared to larger firms, who typically have more resources at their disposal. There are many potential mechanisms by which Innovation Capability may affect Financial Performance. These include generating additional revenues via improved products and services, creating greater operational efficiencies, reducing costs, and being more responsive to markets. In this case, from the RBV viewpoint, such effects suggest that firms' distinctive capabilities can assist in improving performance by enabling them to make efficient use of their resources in a way that is economically valuable. The mere presence of these mechanisms does not prove that a stronger Innovation Capability will always be correlated with stronger Financial Performance.

From the literature review above, it can be concluded that Innovation Capability is an organisational capability that may be relevant to SME Financial Performance. Based on the Resource-Based View (RBV), it could be argued that the firm has the potential to create and use internal knowledge, routines and innovation processes that could yield economic value. Firms that are better endowed with Innovation Capability may have better performance. Innovation can be costly and can yield different results based on the type of innovation, the condition of the organisation and the time horizon (Arshad et al., 2023; Quintero-Sepúlveda et al., 2025; Osiyevskyy et al., 2026).

Thus, from a theoretical viewpoint, and based on prior research reviewed, there are sufficient reasons to expect Innovation Capability to be positively linked to Financial Performance. It reflects an organisational capability whereby companies can build and introduce new or enhanced products, processes, and practices that may lead to economic value creation. It may help SMEs achieve greater revenues and market share by improving their product offering, while improving their internal processes and organisational capabilities can help them become more efficient and profitable.

Accordingly, the following is the proposition of the relationship:

P2: Innovation Capability has a positive relationship with the Financial Performance of SMEs in Malaysia.

Digitalization Adoption and Financial Performance

Digitalization Adoption relates to the adoption and use of digital technologies in organisational activities and business processes. It extends beyond the acquisition of individual technologies because the presence of digital tools alone does not indicate that they have been meaningfully incorporated into how a firm operates. In addition to acquiring new technology, it also implies changes in organisational processes, information flows, customer interactions, and ways of creating and delivering value (Verhoef et al., 2021; Kraus et al., 2022).

There are several reasons why Digitalization Adoption may have financial relevance for SMEs. Adopting digital technologies could help to lower costs of transactions and coordination, process information more efficiently, automate repetitive tasks, as well as improve communication with customers and suppliers. Using digital channels may enable firms to expand their markets and offer new channels to deliver products and services. This implies that Digitalization Adoption has the potential to influence revenue growth, profitability, cash flow management, and market position if digital technologies are effectively adopted in business operations (Eller et al., 2020; Matarazzo et al., 2021).

There are also some negative relationships between Digitalization Adoption and performance. These include the costs of acquiring, implementing, training, maintaining, securing, and adjusting organisations to digital technologies. These costs may outweigh the benefits if the wrong technologies are poorly implemented. For example, Chen et al. (2024) using a sample of 352 SMEs, found an inverted U-shaped relationship between digitalisation and SME performance. The result seems to imply that digitalisation could benefit SMEs at first but then reach a stage where increasing digitalisation might result in diminishing returns due to the complexity and cost of digitalisation investments. The evidence on this digitalisation paradox contradicts the expectation that higher levels of digitalisation will lead to higher performance.

There is sufficient reason to believe that a positive relationship between Digitalisation Adoption and SME performance exists. But the evidence is not necessarily a simple technology-performance story. It does show mixed results including both a positive relationship and evidence of diminishing returns, costs of implementation, variations in the degree of technology used, and substantial heterogeneity in the level of SME digitalisation (Eller et al., 2020; Chen et al., 2024; OECD, 2024; Subramaniam & Teh, 2026). The body of literature reveals the importance of specific types of digital technologies to SME performance in the case of Malaysia. Much less is known about the effects of higher levels of overall firm-level Digitalization Adoption on Financial Performance as measured by revenue growth, profitability, cash flow, and market share. Few studies have considered this question alongside ESG Implementation and Innovation Capability as separate influences on the same measure of Financial Performance. This leaves a specific empirical gap concerning whether Digitalization Adoption is positively related to the Financial Performance of Malaysian SMEs within the model examined in the present study.

While TOE explains the condition associated with the Digitalization Adoption, it does not explain the relevance of the Digitalization Adoption to Financial Performance. From the perspective of financial performance, the Resource-Based View (RBV) appears to offer an explanatory model where digital technologies are considered relevant when they can be embedded within the business processes and effectively used by organisations. Eller et al. (2020) found a positive relationship between digitalisation and the Financial Performance of SMEs. Similar results have been reported by other Malaysian studies indicating the relevance of certain types of digital technology adoption such as e-commerce and cloud computing to their financial performance (Chiew et al., 2025; Subramaniam & Teh, 2026).

Finally, there is a lack of research that positions Digitalization Adoption within the wider SME performance literature. Research on digitalisation, ESG, and innovation has tended to focus on different strands of empirical literature, although they might all have relevance to firm performance. The consideration of Digitalization Adoption in relation to both ESG Implementation and Innovation Capability allows for the examination of their respective relationships with the same Financial Performance outcome within one model. This does not imply an interaction, mediation, or interdependence among the three predictors. Instead, they are conceptually distinct constructs that are considered simultaneously to examine their respective relationships with Financial Performance. Thus, the outstanding question for the current study is whether broader Digitalization Adoption is

positively related to the Financial Performance of Malaysian SMEs, when examined within this multi-predictor model.

These studies offer theoretical and empirical support for a positive relationship between Digitalization Adoption and Financial Performance. The TOE model emphasises the importance of technological, organisational and environmental factors, which encourage or inhibit the effectiveness of applying digital technologies. According to the RBV viewpoint, it is possible to increase company performance by effectively integrating digital technologies into the organisation process and using them to create economic value. This may be done through improved efficiency, information processing, customer access, transaction management, and market reach of SMEs (Eller et al., 2020; Matarazzo et al., 2021; Low et al., 2022).

Research findings regarding the significance of digitalisation to performance are inconclusive but mostly indicate its significance. This significance has been noted in the context of Malaysian SMEs. Various studies differ in terms of the type of technology considered, degree of digitalisation, organisational constraints, cost of implementing digital technologies, and performance measures. There are also indications of non-linearity, implying that increasing levels of digitalisation did not necessarily result in the same amount of improvement in performance (Chen et al., 2024). For the Malaysian context, the studies highlight the significance of adopting digital technologies but vary in terms of the type of technology adopted and performance outcomes (Low et al., 2022; Subramaniam & Teh, 2026). These findings provide a foundation for considering whether there is a positive relationship between overall firm-level Digitalization Adoption and Financial Performance in the Malaysian SME context.

P3: Digitalization Adoption has a positive relationship with the Financial Performance of SMEs in Malaysia.

Government Incentives as a Moderator

The main contribution of this paper is to examine the role of Government Incentives as a moderator (instead of a direct predictor) of Financial Performance. Therefore, this paper examines whether there is a difference in the relationship between ESG Implementation, Innovation Capability, and Digitalization Adoption and Financial Performance depending on the level of Government Incentives received by SMEs. Thus, the focus here is not on showing that the provision of government incentives will necessarily lead to better Financial Performance among SMEs. Having external support available is different from effectively using it and achieving similar results in different firms.

Government Incentives refer to financial and non-financial forms of public support that help firms invest in, develop, or adopt business practices that may otherwise be constrained by limited resources. Financial incentives include grants, subsidies, concessional financing, and tax relief; non-financial incentives include training, technical advice, shared facilities, and implementation assistance. These categories should not automatically be combined as interchangeable indicators because they address different constraints. Financial incentives may directly ease capital and cash-flow constraints, whereas non-financial incentives may build knowledge, skills, and implementation capacity (Chundakkadan & Sasidharan, 2020; Jayeola et al., 2022).

Within the proposed framework, Government Incentives are retained as an umbrella construct covering financial and non-financial public support. They are not specified as a direct predictor of Financial Performance. Instead, Government Incentives are proposed as a boundary condition that may strengthen or weaken the respective relationships between ESG Implementation, Innovation Capability, and Digitalization Adoption and Financial Performance. This specification avoids assuming that government support is uniformly beneficial or that its availability automatically produces stronger financial outcomes.

For empirical testing, the preferred approach is to measure financial and non-financial incentives separately and estimate their moderating effects on the three proposed relationships. This would allow researchers to determine whether different forms of support address different constraints and produce different conditional effects. If theoretical or sample-size considerations require a single overall Government Incentives construct, the aggregation should be justified and its multidimensional nature acknowledged. Researchers should also

distinguish programme awareness, eligibility, application, approval, actual receipt and utilisation because these represent different levels of exposure and should not be treated as equivalent.

This is why the context of Malaysia offers a suitable opportunity to consider whether there could be boundary conditions on the use of Government Incentives, without being forced to assume that the Government Incentives would necessarily improve Financial Performance. Therefore, the main issue to answer in the context of Malaysia is whether having more or less Government Incentives would influence the specific relationships between ESG Implementation, Innovation Capability, and Digitalization Adoption and Financial Performance.

Government Incentives and the ESG Implementation Financial Performance Relationship

External financial or capability-building support could be important for the relationship between ESG Implementation and Financial Performance. But this is not necessarily true for all SMEs. Implementing ESG practices may require additional costs, technical know-how, certification, organisational change and management skills that SMEs may struggle to meet from internal resources alone. Public financial and non-financial support could help remove some of these obstacles to implementing ESG practices by reducing the cost and perceived risk of investing in sustainability, and improving SMEs' access to knowledge and capabilities related to sustainability (OECD, 2026).

This would justify consideration of Government Incentives as a boundary condition of the relationship between ESG Implementation and Financial Performance. External financial or capability-building support may reduce the resource constraints facing SMEs in relation to effective implementation of ESG practices from an RBV viewpoint. Complementary views on why this might be so can also be drawn from Institutional Theory, where government incentives constitute a part of the institutional field encouraging and supporting certain types of organisational practice. The implication here is that it is not so much the incentive itself that generates Financial Performance, but rather that there may be differences in the financial benefit that a firm obtains from its ESG Implementation depending on the amount of external support provided to it.

The evidence appears to suggest that there is a clear, yet unresolved moderating proposition. International direct evidence shows that government support could moderate the ESG performance/value relationship, with different types of support and context leading to differential magnitudes and directions of moderation (Zhu et al., 2025; Tang et al., 2025). SME evidence indicates how institutional factors can modify the financial impact of sustainability-related actions (Momtaz & Parra, 2025). Yet, there is scant evidence testing if Government Incentives moderate the relationship between overall ESG Implementation and Financial Performance amongst Malaysian SMEs. The review evidence provides the basis for proposing a moderating effect of Government Incentives on the ESG Implementation Financial Performance relationship.

Government Incentives and the Innovation Capability Financial Performance Relationship

The Financial benefits associated with Innovation Capability could also be influenced by the level of support received by SMEs from external sources. Developing Innovation Capability requires investments in research and development, technology, skilled workers, training, experiments, and commercialisation, all of which can be challenging for SMEs due to limited financial and management resources. However, these requirements may prove to be particularly challenging for SMEs since they tend to have less financial and managerial resources compared to large companies. Therefore, Government Incentives may help relieve some of the resource burdens associated with innovation and provide the necessary conditions for SMEs to benefit from their Innovation Capability (Chundakkadan & Sasidharan, 2020; Otache & Usang, 2022).

A few direct studies provide empirical support for the feasibility of this propositions. Otache and Usang (2022) reported positive associations between Innovation Capability and SME performance using survey data from 234 SMEs in Nigeria and PLS-SEM, and found that the association between Innovation Capability and performance was positively moderated by Government Support. They concluded that the value of Innovation Capability for performance becomes more relevant in situations where there is high support from the Government. The paper is of particular interest to this research as it does include both Innovation Capability and Government Support in its moderation model. Yet, the research was undertaken during an economic crisis in Nigeria and considers

overall SME performance compared to the specific Financial Performance areas used in the current study. The research provides clear theoretical and empirical support for moderation. That said, it does not clarify if the same relationship exists for Malaysian SMEs operating under more general circumstances.

Overall, there is sufficient literature to justify the posited moderating relationship, although it remains imperfect. Direct evidence based on SMEs indicates that Government Support can reinforce the relationship between Innovation Capability and performance. Related studies indicate that public support can enable innovation activities and affect the transformation of innovation investment into performance (Chundakkadan & Sasidharan, 2020; Guo et al., 2020; Otache & Usang, 2022). Malaysian research confirms the role of Government Support in enabling innovation activities, but relatively few studies specifically examine how Government Incentives can affect the relationship between Innovation Capability and Financial Performance among Malaysian SMEs (Hanifah et al., 2020; Ngisau & Ibrahim, 2020). This gap in knowledge serves as the foundation for proposing the role of Government Incentives as a moderator of the relationship between Innovation Capability and Financial Performance in this study.

Government Incentives and the Digitalization Adoption Financial Performance Relationship

The financial relevance of Digitalization Adoption might be related to the external support available to SMEs. However, these digital technologies may also entail costs to the adopting firms, such as technology, employee training, system integration, cybersecurity, and organisational adjustment. The factors can represent significant barriers to digitalisation adoption and utilisation among smaller firms with limited financial and technological resources. Therefore, Government Incentives could reduce some of these barriers by enabling the provision of financing, infrastructure, knowledge, and technical support.

The conceptualised moderating effect of Government Incentives is well aligned with the TOE theory. The TOE approach acknowledges that organisational technology adoption takes place in an external environmental setting comprising government policies and other institutional elements (Tornatzky & Fleischer, 1990). Thus, Government Incentives may constitute an external factor that enables firms' adoption and utilisation of digital technologies. An RBV lens can be used to interpret the nature of this interaction; it is likely that the Government Incentives would help supplement the internal resources available to the firm because SMEs do not have adequate capital, knowledge, or technological resources to realise the benefits from their digital investments. The Institutional Theory offers further explanations of how government programmes and policy support affect the external environment in which firms carry out digitalisation. Based on the above discussion, it is plausible to expect that the financial relevance of Digitalization Adoption varies with the level of Government Incentives offered to the firm.

This is consistent with research using Malaysian data on the conditional effect of government support on SME technology adoption. Tang et al. (2024) investigated SMEs in Sabah and Sarawak and reported that Government Support had a significant moderating effect on the linkage between perceived ease of use and e-commerce adoption. Yet, the dependent variable was e-commerce adoption instead of Financial Performance. This research thus provides evidence of the contextual role of Government Support for SME digitalisation but not a direct test of the moderation effect proposed in this study.

This evidence is mixed and fragmented. Research in Malaysia has shown that Government Support can influence technology-adoption relationships and that other forms of external support may strengthen the relationship between digital technology adoption and firm performance (Low et al., 2022; Teh & Subramaniam, 2024; Tang et al., 2024; Sangosanya et al., 2025). There is also evidence that Government Financial Support can make it easier to implement digital technology without directly contributing to Financial Performance (Jayeola et al., 2022). On the other hand, relatively little research has specifically considered how Government Incentives may affect the strength of the relationship between overall firm-level Digitalization Adoption and Financial Performance, particularly among Malaysian SMEs. The unresolved relationship forms the basis of exploring the role of Government Incentives as a moderator of the relationship between Digitalization Adoption and Financial Performance in this study.

Moderation Proposition

This previous literature provides a theoretical and empirical basis for examining whether Government Incentives moderate the relationships between ESG Implementation, Innovation Capability, Digitalization Adoption, and Financial Performance. For example, Government support can help reduce financial, technological, knowledge, and implementation barriers that might be present to prevent SMEs from capturing economic values associated with organisational investments and practices. These findings indicate that some studies report significant moderating effects of government support, while others did not find such an effect or it depended on the context (Tang et al., 2024; Otache & Usang, 2022; Sangosanya et al., 2025; Zhu et al., 2025).

The mixed evidence from the existing literature is highly relevant to the context of Malaysian SMEs. Despite the existence of different forms of support provided by the Malaysian government towards promoting sustainability, innovation, and digitalisation, this does not necessarily suggest that Government Incentives moderate the financial significance of underlying firm-level practices and capabilities. There is little evidence specifically investigating the moderating effect of Government Incentives on the relationships of interest within the Malaysian context. The fact that these studies exist in Malaysia does not suggest that Government Incentives positively influence the financial significance of such relationships. The propositions examine whether the relationships are stronger or weaker based on the degree of Government Incentives received by SMEs.

Based on the preceding theoretical arguments and empirical evidence, the following are the propositions:

P4a: Government Incentives moderate the relationship between ESG Implementation and the Financial Performance of SMEs in Malaysia.

P4b: Government Incentives moderate the relationship between Innovation Capability and the Financial Performance of SMEs in Malaysia.

P4c: Government Incentives moderate the relationship between Digitalization Adoption and the Financial Performance of SMEs in Malaysia.

CONCEPTUAL FRAMEWORK AND PROPOSED PROPOSITIONS

Integrated Conceptual Framework

The conceptual framework of this study is derived from the theoretical perspectives, empirical findings, and research gaps reviewed in the previous section. It investigates three conceptually different firm-level predictors (ESG Implementation, Innovation Capability, and Digitalization Adoption) and their relationship with the Financial Performance of Malaysian SMEs. Government Incentives are proposed to moderate each of these relationships.

ESG Implementation, Innovation Capability and Digitalization Adoption are important to SMEs for different financial reasons. ESG practices might have immediate costs but also longer-term operational or market benefits. Innovation could provide new opportunities at the cost of limited funds, while digital tools might help to be more efficient if used effectively. Investigating one topic in isolation could leave a partial picture of Financial Performance. The present study examines how each of these predictors relates to the same financial performance in a Malaysian SME model without expecting them to interact or be part of a general capability.

ESG Implementation (higher-order construct) comprises Environmental, Social, and Governance dimensions (lower-order constructs). The three dimensions reflect different aspects of ESG practice. Together they constitute overall ESG Implementation; therefore, they are not presented as separate independent variables or structural relationships to Financial Performance. Instead, the conceptual framework proposes a relationship between the higher-order ESG Implementation construct and Financial Performance. The approach does not affect the conceptual framework: the proposed structural relationship remains between overall ESG Implementation and Financial Performance. Innovation Capability and Digitalization Adoption are considered separately as predictors. While Innovation Capability reflects the firm's ability to create and apply new or enhanced products,

processes, and organisational practices, Digitalization Adoption captures the adoption and application of digital technologies within business activities and processes. Inclusion of these predictors does not mean that innovation or digitalisation must be a prerequisite for implementing ESG nor that one of the two affects the other. Instead, it allows one to study the individual financial relevance of three theoretically different organisational areas in the same model.

The dependent variable is Financial Performance, which is proxied by revenue growth, profitability, cash flow, and market share. The outcome provides a common measure at firm level to examine the respective relationships between ESG Implementation, Innovation Capability, and Digitalization Adoption. The model specification also aligns with the study objective to examine the financial relevance of the respective predictors within Malaysian SMEs rather than more general performance measures for the organisation or its sustainability.

The moderating variable, Government Incentives, is included in this model. The reviewed literature does not indicate an equal effect on all firms or organisational activities from Government Incentives. Therefore, Government Incentives are not included as a direct predictor of Financial Performance. Rather, the model examines whether Government Incentives influence the respective relationships between ESG Implementation, Innovation Capability, and Digitalization Adoption and Financial Performance.

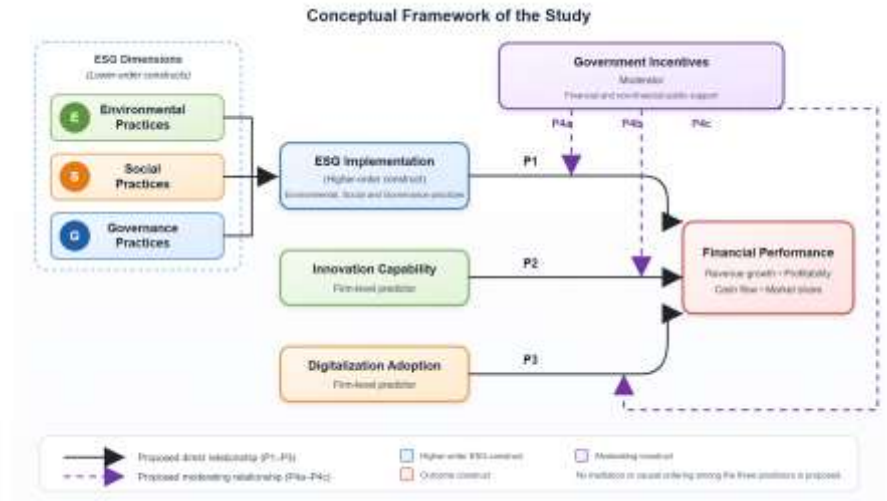
The conceptual framework combines RBV, Institutional Theory and TOE as explained in the Theoretical Foundation and applied in the Operationalization and Empirical Roadmap.

Theoretical Integration

Within the proposed framework, the three theoretical perspectives perform different explanatory roles. RBV supports ESG Implementation, Innovation Capability and Digitalization Adoption as firm-level practices and capabilities that may be financially relevant. TOE provides the specific basis for understanding Digitalization Adoption within its technological, organisational and environmental setting. Institutional Theory supports the inclusion of Government Incentives as an external condition that may strengthen or weaken the proposed relationships.

This division of explanatory roles makes the framework more complete than an RBV-only explanation. RBV explains the potential value of internal resources and capabilities, but it does not fully account for the conditions surrounding technology adoption or the external institutional environment. Combining the three perspectives allows the framework to distinguish internal capability, technology-adoption conditions and institutional support while preserving the conceptual independence of ESG Implementation, Innovation Capability and Digitalization Adoption.

Figure 1. Conceptual Framework of the Study



Source: Developed by the authors

Summary of the Proposition Relationships

Based on the literature review and proposed relationships provided in the previous section, this study suggests the following six propositions to be tested in an empirical investigation. The first three propositions relate to the relationship between ESG Implementation, Innovation Capability, and Digitalization Adoption with Financial Performance. The last three propositions explore whether there exists any moderating effect of Government Incentives on these relationships. As the ESG Implementation proposition relates to a higher-order construct, it is proposed only at that level. Environmental, Social, and Governance have not been proposed separately. Table 1 summarises the six proposed propositions.

Table 1. Summary of Proposed Propositions

PROPOSITION	Proposed relationship
P1	ESG Implementation has a positive relationship with the Financial Performance of SMEs in Malaysia.
P2	Innovation Capability has a positive relationship with the Financial Performance of SMEs in Malaysia.
P3	Digitalization Adoption has a positive relationship with the Financial Performance of SMEs in Malaysia.
P4a	Government Incentives moderate the relationship between ESG Implementation and the Financial Performance of SMEs in Malaysia.
P4b	Government Incentives moderate the relationship between Innovation Capability and the Financial Performance of SMEs in Malaysia.
P4c	Government Incentives moderate the relationship between Digitalization Adoption and the Financial Performance of SMEs in Malaysia.

Operationalization and Empirical Roadmap

Future empirical testing should begin by defining the target population and sampling frame. A suitable frame would be active Malaysian SMEs identified through SME Corp. Malaysia resources or relevant government and industry registers, subject to access, eligibility, and data-protection requirements. Researchers should verify SME status using the applicable Malaysian definition and record firm size, sector, location, age, and ownership characteristics. A stratified approach across micro, small, and medium firms and across major sectors—such as manufacturing, services, retail/wholesale, and technology-related services—would improve coverage and permit assessment of sectoral differences. Where a complete national frame is not accessible, researchers should state the frame actually used and avoid claiming national representativeness from a convenience sample.

The unit of analysis should be the firm, with one knowledgeable owner-manager, director, or senior manager responding on behalf of each SME. Sample size should be justified through an a priori power analysis based on the number of predictors and interaction terms, the expected effect size, desired statistical power, and significance level; a generic minimum should not be assumed. Because moderation effects can be small, the design should seek adequate statistical power for the three interaction terms, not only the direct relationships. Researchers may also consider firm size, firm age, sector, location, and ownership as control variables where theoretically justified.

Construct measurement should preserve the distinctions established in this paper. ESG Implementation can be operationalised through items covering actual environmental practices, employee and social practices, and governance practices, with the three dimensions specified as lower-order constructs of an overall higher-order construct. Innovation Capability should measure the firm's continuing ability to develop and apply new or

improved products, processes, and business practices, rather than merely count new products launched. Digitalization Adoption should assess the breadth and depth of digital technologies integrated into business processes, information management, customer interaction, and transactions, rather than technology ownership alone. Financial Performance may be measured using perceptual indicators of revenue growth, profitability, cash flow, and market share, as proposed above; where firms consent and comparable records are available, researchers could triangulate responses with objective financial indicators. Existing validated scales should be adapted to the Malaysian SME context, with expert review and pilot testing before the main survey.

Government Incentives require a deliberate measurement decision. A multidimensional approach is recommended where the research question concerns differences between financial and non-financial support: measure grants, subsidies, financing and tax relief separately from training, technical advice, infrastructure, and implementation assistance, then test their moderating effects separately. If theoretical or sample constraints require a single overall construct, researchers should justify the aggregation and ensure that items capture comparable aspects of access, adequacy, and use. Researchers should also distinguish awareness of a programme, eligibility, application, approval, and actual receipt; these are not equivalent exposures and may have different relationships with firm outcomes.

PLS-SEM may be appropriate when the primary purpose is prediction, the model includes a higher-order ESG construct and interaction effects, and the measurement model or data characteristics make variance-based estimation suitable. CB-SEM may be preferable where the principal aim is theory confirmation and assessment of overall model fit, provided its assumptions and sample requirements are adequately met. The choice should be based on the research objective, construct specification, data properties, and power analysis—not simply on a claim that PLS-SEM requires a small sample. For either approach, researchers should report measurement reliability and validity, assess discriminant validity, examine collinearity, and estimate each interaction term explicitly. The ESG higher-order specification and the three moderation effects should be described transparently.

A cross-sectional survey offers a feasible initial test but limits temporal interpretation and can increase common-method concerns when all constructs are reported by one respondent at one time. A stronger design would collect predictor and incentive measures at Time 1 and financial-performance outcomes at Time 2, or combine survey responses with subsequent accounting data where access permits. Procedural safeguards—such as assuring confidentiality, separating predictor and outcome sections, and using clear, non-leading items—can further reduce response bias. Regardless of design, findings should be interpreted as evidence consistent with the proposed relationships unless the research design supports stronger causal inference.

As an initial empirical application of the framework, a firm-level survey of Malaysian SMEs is recommended, with one knowledgeable owner-manager or senior manager responding for each firm. The design should use an accessible and clearly defined sampling frame, seek coverage across SME sizes and major sectors, and determine the required sample through an a priori power analysis that accounts for the three interaction terms. PLS-SEM would provide a suitable starting approach where the objective is to examine the predictive relationships, estimate the higher-order ESG Implementation construct, and test the proposed moderation effects simultaneously. However, this recommendation does not preclude the use of CB-SEM where the research objective, measurement specification, data characteristics, and sample size support a confirmatory approach. A time-lagged design or the use of subsequent financial records would strengthen later studies, but a carefully designed cross-sectional survey would provide a practical initial test of the proposed framework.

DISCUSSION

Theoretical Implications

The theoretical contribution lies in the way the framework assigns a distinct explanatory role to each perspective rather than merely placing three theories together. RBV explains the potential financial relevance of firm-level practices and capabilities, TOE accounts for the conditions surrounding Digitalization Adoption, and Institutional Theory explains the external support environment. The integrated perspective therefore provides a

basis for examining why similar firm-level capabilities may have different financial relationships when adoption conditions and Government Incentives differ.

ESG Implementation, Innovation Capability and Digitalization Adoption are all separate but increasingly connected areas of SME development. While still not entirely joined up, research has started to explore the connections between sustainability, innovation and digitalisation. For instance, Avelar et al. (2024) looked at the intersections of these three topics amongst SMEs and start-ups and showed the importance of looking at these strategic areas together. Another recent systematic review of the topic showed how SME digital transformation intersects with innovation, sustainability and other organisational factors (Philbin et al., 2022). The current study adds to this research by keeping a separate focus on each area (ESG Implementation, Innovation Capability and Digitalization Adoption) whilst also looking at the relationships of these three factors to a common outcome, Financial Performance in the Malaysian SME context.

The final theoretical contribution of this study comes from its use of Government Incentives as a boundary condition. Although previous support could help to obtain resources, knowledge, financing, or implementation assistance, this does not necessarily imply that this support alters the financial significance of the supported practices. The current study thus goes further than simply seeing government support as a precursor to adoption or a direct driver of performance. This study therefore proposes that future empirical research examine whether differences in Government Incentives change the strength of the respective relationships between ESG Implementation, Innovation Capability, Digitalization Adoption and Financial Performance.

Practical Implications

The study has important implications for SME owners and managers, who are often tasked with managing resources across competing demands and may have limited access to capital and other resources. For example, investing in ESG implementation, innovation development, or digitalisation can all require financial investments, organisational resources, learning, and alterations to existing business practices. These challenges are particularly true for SMEs, where they might compete with current operational needs. Considering the relationships of the three predictors simultaneously thus helps shed light on how they relate to Financial Performance in similar circumstances, without making assumptions about the financial returns from adopting or developing capabilities.

The existence of these initiatives provides further support for the inclusion of Government Incentives in the current research framework. The question for policymakers is not only whether support programmes are available or whether they encourage SMEs to adopt particular practices. It is also whether SMEs' access to and use of financial or non-financial support strengthen the relationships between those practices and Financial Performance. This distinction is important because programme availability, awareness, eligibility, receipt, utilisation and financial outcomes are not equivalent.

Limitations and Future Research

The review is based on a critical evaluation of theoretical concepts and empirical evidence rather than an empirical test of the proposed model. Future research should test the six proposed relationships among Malaysian SMEs using a sampling frame and sample-size justification appropriate to the target population, and should distinguish financial from non-financial incentives where the data permit. Cross-sectional findings would provide an initial test, while time-lagged data or objective financial indicators could strengthen temporal ordering and reduce reliance on a single respondent. Researchers should also examine whether relationships vary by firm size and industry, without assuming such differences in advance.

CONCLUSION

This study reviews the theoretical and empirical literature related to the relationships considered in this study. This study defines Financial Performance as a common outcome variable measured as revenue growth, profitability, cash flow, and market share. The literature review examines ESG Implementation, Innovation Capability, and Digitalization Adoption as separate predictors of Financial Performance for SMEs.

The review indicates that each of these predictors has the potential to influence Financial Performance but with varied outcomes. While some of these factors may be relevant from a financial perspective, it should also be noted that each factor does not necessarily have equal empirical support in all settings or studies. There are differences in the results reported because of differences in firms' characteristics, resources, measurements, industries, and contexts. This is particularly crucial in the Malaysian SME context because of the disparate results for various constructs, technologies, sustainability practices, performance measures, and research contexts. This review concludes that it is important to test the respective relationships between ESG Implementation, Innovation Capability, and Digitalization Adoption and Financial Performance in one empirical model.

In this paper, ESG Implementation is a higher-order construct of Environmental, Social, and Governance dimensions. Overall ESG Implementation is considered, while Environmental, Social, and Governance are not treated as separate structural predictors of Financial Performance. The remaining two predictors are Innovation Capability and Digitalization Adoption. Hence, no interactions, mediations, or dependencies are assumed among the three independent variables.

Finally, the contribution addresses a practical issue for Malaysian SMEs. Firms are encouraged to invest in sustainability, innovation and digital technologies, but the financial relevance of these investments may depend on internal capabilities, adoption conditions and external support. By integrating RBV, TOE and Institutional Theory, this paper provides a framework for examining these conditions together and proposes Government Incentives as a moderator of the three relationships.

DECLARATIONS

Ethics statement: Not applicable. This conceptual paper did not involve human participants, human data, or animals.

Conflict of interest: None.

Data availability statement: Not applicable. No new data were created or analyzed in this study.

Funding: None.

Acknowledgements: The authors would like to express their sincere gratitude to UNITAR International University for providing financial support towards the publication of this article.

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