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# Digital Transformation and Entrepreneurial Resilience among SMEs in Sabah, Malaysia: Evidence from Government Business Development Support Initiatives

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**Abstract**
Small and Medium Enterprises (SMEs) are an important part of Sabah's economy, supporting employment, entrepreneurship and local business activity. Yet many SMEs in the state still operate with uneven digital readiness, limited resources, geographical constraints and uncertain market conditions. In response, the Malaysian government has introduced a range of Business Development Support (BDS) initiatives, including financing, training, advisory services and digitalisation assistance. This study explores how these government BDS initiatives support digital transformation and entrepreneurial resilience among SMEs in Sabah, Malaysia. A qualitative secondary data analysis was conducted using reports and statistical publications issued between 2020 and 2025 by the Department of Statistics Malaysia (DOSM), SME Corporation Malaysia, SME Bank and Malaysia Digital Economy Corporation (MDEC). The evidence suggests that digital transformation can strengthen SME resilience by improving operational efficiency, expanding market access and increasing business adaptability. Government programmes have also helped SMEs adopt digital technologies, although infrastructure gaps and uneven digital capabilities continue to limit progress. The study therefore points to the need for more targeted support to accelerate digital transformation and encourage sustainable SME growth in Sabah, Malaysia.
**Keywords**: Digital Transformation, Entrepreneurial Resilience, SMEs, Business Development Support, Sabah, Malaysia.

## 1.Introduction

Small and Medium Enterprises (SMEs) form a substantial part of Malaysia's economic landscape and are especially important to local economic activity in Sabah. They support employment, entrepreneurship and the movement of income within communities. According to the Department of Statistics Malaysia (DOSM), Malaysian MSMEs contributed 39.5% of national GDP in 2024, equivalent to RM652.4 billion in value added, while MSME GDP grew by 5.8% (DOSM, 2025). These figures underline the importance of strengthening SME capacity not only at the national level, but also within regional economies such as Sabah. This contribution is taking place in a business environment that is increasingly shaped by digital technology. SMEs now use digital tools to communicate with customers, promote products, receive payments, manage information and access wider markets. Digital transformation, however, goes beyond simply adopting a new application or platform. It involves integrating digital technologies into business activities and processes in ways that improve efficiency, customer access and value creation. Malaysian studies suggest that this shift can extend market reach, encourage innovation and strengthen business resilience, particularly when firms are supported by appropriate policy, infrastructure and training (Asri, Karim, & Abdullah, 2022). The issue is particularly relevant in Sabah, where businesses are spread across urban centres, rural areas and geographically dispersed communities. DOSM's Digital Economy Dashboard reports that 85.1% of establishments in Sabah used computers, compared with 93.8% nationally. Computer use alone does not capture the full extent of digital transformation, but the difference offers a useful indication that ICT adoption varies across locations in Malaysia (DOSM, 2024). This regional gap makes it important to examine digital readiness and the effectiveness of support initiatives within the specific context of Sabah. For many SMEs, the move towards digital business is not straightforward because resources are limited. Adopting technology may require spending on devices, software, internet connectivity, digital marketing, training, cybersecurity and related services. Entrepreneurs may also have limited time, specialised staff or technical knowledge to assess which technologies are suitable and how they should be integrated into existing operations. Digital transformation therefore creates meaningful opportunities for smaller firms, but it also places new demands on their financial and organisational capabilities.

Entrepreneurial resilience becomes especially important under these conditions. It refers to the ability of entrepreneurs and firms to respond to disruption, adjust their operations and continue doing business when circumstances change. Digital technologies can contribute to this resilience by giving firms more options to modify sales channels, maintain customer relationships and reorganise business processes. Using qualitative evidence from SMEs during the COVID-19 crisis, Khurana, Dutta, and Singh Ghura (2022) found that digital technology adoption formed part of wider business-model and operational changes through which firms developed resilience capabilities. Their findings suggest that digital transformation can be one of the mechanisms that helps SMEs cope with uncertainty. Digital transformation and resilience, however, are not shaped only by what happens inside the firm. Government and institutional support can affect whether SMEs are able to obtain finance, knowledge, training, technology and wider business development opportunities. Malaysian support programmes reflect this broader role by combining financial assistance with advisory services,

digitalisation initiatives and market-related support. For example, SME Corp. Malaysia's reporting on MSME digitalisation describes programmes that pair financial assistance with advisory support to help firms adopt technology and prepare for digitalisation (SME Corp. Malaysia, 2021). SME Bank provides another example of support that goes beyond financing. Its 2022 Integrated Annual Report places digitalisation within its broader strategy and describes entrepreneurial assessment and training-related assistance delivered through ecosystem programmes. This shows how business support can combine funding with assessment, training and capability development rather than treating finance as the only requirement for growth (SME Bank, 2022). A more recent example is MDEC's Business Digitalisation Initiative (BDI), which reflects the continuing policy focus on MSME digitalisation. In March 2025, MDEC reported that the initiative was backed by a cumulative funding pool of about RM1.5 billion through public-private partnerships involving financial institutions, digital banks, peer-to-peer financing platforms and local service providers. The programme was designed around three closely linked areas: access to digital solutions, financing and expert guidance (MDEC, 2025). Together, these developments provide the basis for examining government Business Development Support (BDS) in relation to digital transformation and entrepreneurial resilience among SMEs in Sabah. This paper does not attempt to test a causal model statistically. Instead, it draws together secondary evidence to consider how government support can enable digital transformation, how digital transformation may strengthen resilience, and which barriers continue to restrict progress. Against this background, the study examines the role of government BDS initiatives in promoting digital transformation and strengthening entrepreneurial resilience among SMEs in Sabah, Malaysia. The analysis draws on evidence published between 2020 and 2025 by DOSM, SME Corporation Malaysia, SME Bank and MDEC. By bringing these sources together, the paper offers a Sabah-focused account of how support initiatives, digital transformation and resilience intersect, while paying particular attention to infrastructure gaps and uneven digital capabilities.

## 2. Literature review

### 2.1 Digital Transformation among SMEs

Digital transformation has attracted growing attention in SME research because digital technologies are changing how smaller firms manage marketing, operations, customer relationships and transactions. It is broader than digitisation, which may simply involve converting information from physical to digital form. Digital transformation refers to the wider integration of technology into organisational activities and the processes through which firms create value. In practice, this may involve social media marketing, e-commerce, digital payments, cloud-based applications, digital accounting, customer relationship systems and other business tools. For SMEs, these technologies can extend customer reach beyond a physical location while making routine activities faster and more efficient. Asri et al. (2022) found that digital transformation can widen market access, support innovation and strengthen business resilience among SMEs. Simply adopting technology, however, does not guarantee meaningful transformation. SMEs also need the knowledge, financial capacity and organisational readiness to use digital tools effectively. The cost of acquiring and maintaining technology can be substantial for smaller firms, and entrepreneurs may not always have the specialised skills required to integrate these tools into business processes. This is where the wider support ecosystem becomes particularly important. In Malaysia, government agencies have increasingly positioned digitalisation as part of the effort to improve SME productivity and competitiveness. SME Corp. Malaysia's 2021 reporting describes programmes that combine technology adoption with advisory services and financial assistance. Subsequent MSME Insights reports continue to place digital transformation within the broader policy and programme landscape for MSME development (SME Corp. Malaysia, 2021, 2024).

### 2.2 Entrepreneurial Resilience

Entrepreneurial resilience refers to the capacity of entrepreneurs and their businesses to deal with shocks and uncertainty while sustaining or rebuilding business activity. In practice, resilience may involve adapting products and services, revising business models, diversifying markets, adjusting operations or finding new ways to stay connected with customers.

The COVID-19 pandemic made the importance of resilience particularly visible for SMEs. Restrictions on face-to-face interaction and disruptions to supply chains forced many firms to reconsider established ways of operating. Digital technologies gave some businesses alternative channels for communication, selling and service delivery. Khurana et al. (2022) found that SMEs facing crisis conditions used digital technologies as part of wider changes to their business models and operations, with resilience developing as a higher-order capability. Resilience, therefore, should not be understood simply as avoiding business failure. It is about being able to respond, adjust and continue when conditions change. This is especially relevant for SMEs in Sabah, where geographical dispersion and market conditions can make flexibility and access to wider customer channels particularly valuable. External support can also strengthen the conditions for resilience. Mohamas et al. (2022) identified financial resources, government support, digital technology and appropriate business approaches as important enablers of SME resilience. Their findings suggest that resilience develops through a combination of internal business capability and the support available in the surrounding environment.

### 2.3 Government Business Development Support

Business Development Support refers to interventions by government and government-linked organisations that are intended to strengthen SME resources, capabilities and opportunities. In line with the scope of this study, the main forms of support considered are financial assistance, training programmes, advisory services and digitalisation support. Each form of support addresses a different constraint. Financial assistance can ease the immediate cost of technology adoption

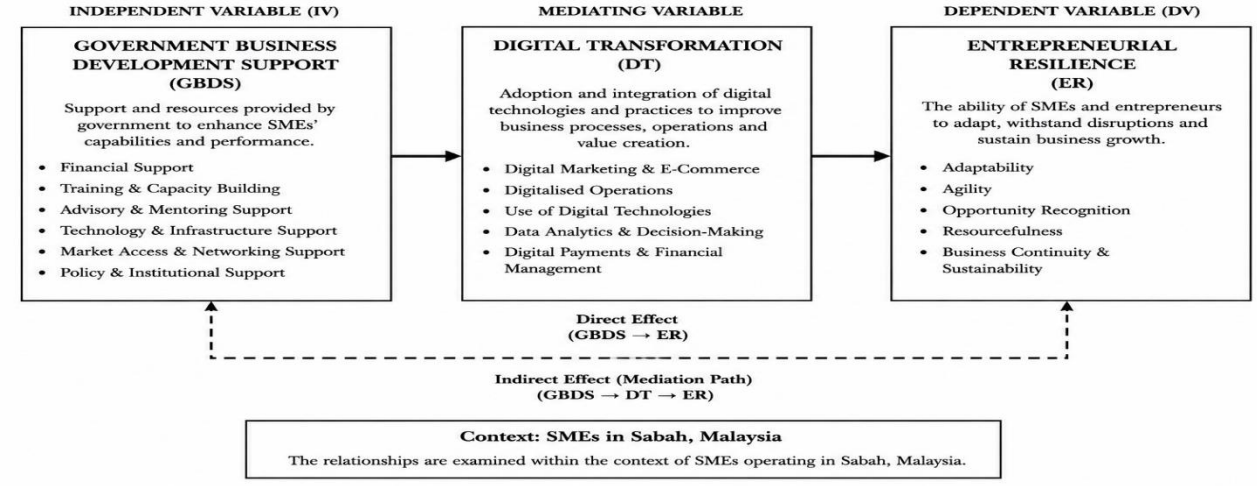
and business adjustment. Training can improve digital literacy, management capability and the practical use of technology. Advisory services help entrepreneurs identify business needs and evaluate suitable solutions, while digitalisation programmes can provide access to tools and initiatives that encourage firms to integrate technology into their operations. Malaysian support programmes show that these forms of assistance often operate together rather than separately. SME Corp. Malaysia's digitalisation initiatives have combined financing with advisory support, while MDEC's BDI brings together digital solutions, financing facilitation and expert guidance. SME Bank's ecosystem programmes similarly demonstrate how financing, assessment and training can be used together to build SME capabilities. The importance of government BDS therefore lies not only in the immediate assistance it provides. It can also shape the conditions that allow SMEs to develop capabilities over time. This matters for digital transformation because meaningful change usually depends on a combination of resources, skills and guidance rather than on a single technology purchase.

### 2.4 Digital Transformation, Government Support and Resilience

Existing literature points to a close relationship between government support, digital transformation and resilience. Support programmes can give SMEs access to finance, knowledge and technology, making digital adoption and integration more achievable. Once embedded in business activities, digital technologies can provide alternative market channels and more flexible processes that help firms adapt and maintain continuity. This proposed relationship needs to be interpreted with care. The present study relies on qualitative secondary evidence and does not claim statistical mediation or causal effects. The framework is instead used to organise the documentary evidence around an enabling pathway in which government BDS supports digital transformation, and digital transformation in turn contributes to entrepreneurial resilience. This perspective is consistent with Khurana et al. (2022), who view SME digital transformation as part of a wider entrepreneurial ecosystem rather than as an isolated decision made within the firm. It also reflects Malaysian policy practice, where digitalisation programmes frequently combine technology access with financing, training and advisory assistance.

## 3. Conceptual Framework

The conceptual framework brings together three elements that recur throughout the paper: government Business Development Support initiatives, digital transformation and entrepreneurial resilience among SMEs in Sabah. It is intended as a descriptive and exploratory framework for organising the evidence, rather than as a causal model that is statistically tested in this study.




| Government Business Development Support | Digital Transformation | Entrepreneurial Resilience |
|---|---|---|
| Financial support | Digital capability | Adaptation |
| Training support | E-commerce | Business continuity |
| Advisory support | Digital marketing | Market diversification |
| Digitalisation support | Digital payment | Crisis response |
| Market development | Digital operations | Opportunity exploitation |

*Figure 1: Proposed relationship between government support, digital transformation and entrepreneurial resilience*

## 4. Research Questions

Based on this focus, the study addresses the following research questions:

RQ1: How do government Business Development Support initiatives support digital transformation among SMEs in Sabah, Malaysia?

RQ2: How does digital transformation contribute to entrepreneurial resilience among SMEs in Sabah, Malaysia?

RQ3: What challenges limit digital transformation and entrepreneurial resilience among SMEs in Sabah despite government Business Development Support initiatives?

## 5. Significance of Study

The value of this study lies in bringing together three issues that are often examined separately: government business support, SME digital transformation and entrepreneurial resilience. Focusing specifically on Sabah adds a regional perspective and helps draw attention to the opportunities as well as the practical constraints surrounding digitalisation.

For SME owners and managers, the study reinforces a practical point: successful digital transformation requires more than simply having access to a platform or digital tool. Whether technology is adopted and used effectively may depend on the availability of finance, relevant training, advisory guidance and suitable infrastructure. For policymakers and support agencies, the findings point to the value of coordinated and targeted interventions. Financial assistance is likely to be more useful when it is complemented by training, advisory support and access to appropriate digital solutions. The Sabah context also shows why differences in infrastructure and digital capability need to be considered when support programmes are designed and delivered. From an academic perspective, the paper contributes to the discussion on entrepreneurial resilience by locating digital transformation within a broader institutional support environment. It does not seek to establish statistical causality; rather, it provides a structured synthesis that can serve as a basis for future empirical work.

## 6. Research Methodology

The study uses a qualitative secondary data analysis approach, as stated in the submitted abstract. This approach allows evidence from official reports, statistical publications and institutional documents to be brought together to examine SMEs, digital transformation, business support and resilience within a common analytical frame. The documentary evidence covers publications issued between 2020 and 2025. The main sources are the Department of Statistics Malaysia (DOSM), SME Corporation Malaysia, SME Bank and Malaysia Digital Economy Corporation (MDEC). These organisations were selected because their publications provide official statistics, programme information, policy evidence and institutional reporting relevant to SME development and digitalisation in Malaysia. The documents were reviewed around three themes derived from the purpose of the study. The first was digital transformation, particularly its contribution to operational efficiency, market access and business adaptability. The second was government BDS, with attention to financial assistance, training, advisory services and digitalisation support. The third covered the constraints that continue to affect SMEs, especially infrastructure limitations, resource shortages and uneven digital capabilities. A thematic synthesis was then used to organise the material. Relevant statements and evidence were grouped under the three themes and compared across sources. Where similar observations appeared in several documents, they were treated as recurring patterns. Differences between sources were retained as contextual observations rather than being interpreted as statistical inconsistencies. No primary survey, experiment or interview was undertaken. The findings should therefore be read as an evidence-based synthesis of published secondary material rather than as firm-level empirical estimates. The study does not calculate effect sizes, test hypotheses or claim statistical generalisation to all SMEs in Sabah.

### 6.1 Source Selection and Scope

Source selection followed the boundaries set out in the submitted abstract. Priority was given to institutional and statistical publications issued between 2020 and 2025 by DOSM, SME Corporation Malaysia, SME Bank and MDEC. Keeping to this period ensures that the analysis reflects the evidence base defined for the study rather than introducing later developments outside its original scope. Different sources were used for different parts of the analysis. DOSM publications provided the broader SME and ICT context, while SME Corporation Malaysia reports were used to identify government programmes, digitalisation initiatives and the wider support environment. SME Bank reporting added evidence on financing, assessment and capability development. MDEC publications were especially useful for examining more recent digitalisation support, including the Business Digitalisation Initiative introduced in 2025. This source strategy follows the nature of the research questions. Because the study asks how government BDS supports digital transformation and resilience, documents that describe programmes and institutional responses provide relevant evidence. The intention is to identify recurring themes and patterns across sources, not to calculate a single numerical effect of government support.

### 6.2 Analytical Procedure

The documentary analysis was carried out in four broad stages. First, the selected documents were reviewed for information on SME digital readiness, technology adoption, business support and resilience. Second, relevant material was grouped into preliminary categories. Third, these categories were compared across institutional sources to identify common patterns and areas of convergence. Finally, the resulting themes were brought together in the findings presented in Section 7. Digital transformation formed the first analytical category, with evidence organised around operational efficiency, market accessibility, technology adoption and business adaptability. Government BDS formed the second category, covering financial assistance, training, advisory services and digitalisation support. The third category captured continuing constraints, particularly infrastructure limitations, resource constraints and uneven digital capability. The final synthesis considered how these categories interact in the context of SMEs in Sabah. Because the analysis is based on secondary data, interpretation was kept within the limits of what each source could reasonably support. For instance, the DOSM computer-use indicator is used as an indication of ICT adoption, not as a complete measure of digital transformation. Likewise, the

existence of a government programme is treated as evidence that institutional support is available, not as proof that every participating SME became more resilient. Maintaining these distinctions helps avoid overstating the documentary evidence.

### 6.3 Analytical Boundaries

The study is deliberately limited to the relationship identified in the abstract: government BDS initiatives, digital transformation and entrepreneurial resilience among SMEs in Sabah. It does not statistically measure firm-level performance, compare individual programmes in terms of cost effectiveness, or estimate the causal effect of any single intervention. The findings are therefore presented as thematic evidence accompanied by policy-relevant interpretation.

## 7. Findings

The secondary analysis produced five related findings on government Business Development Support (BDS), digital transformation and entrepreneurial resilience among SMEs in Sabah. Overall, the evidence shows a support system that is substantial in scale, increasingly attentive to innovation and technology, and broader than financing alone. Training, advisory assistance and digitalisation support are also visible across the evidence. Even so, high costs, capability gaps and infrastructure limitations remain important barriers.

### 7.1 Scale and Structure of Government Business Development Support

The first finding concerns the scale of government support for MSMEs in Malaysia. SME Corp. Malaysia's MSME Insights 2024/25 reports that 326 MSME development programmes were implemented nationwide in 2024, with RM35.0 billion in expenditure and 721,507 MSME beneficiaries. Delivery involved 14 Ministries, four Sole Agencies, 52 Agencies and 13 State Governments, illustrating the breadth of the support ecosystem. Financing accounted for by far the largest share, with RM34.81 billion channelled through 133 programmes to 414,317 MSMEs. Human capital development involved RM628.7 million across 135 programmes and reached 209,363 MSMEs. Innovation and technology adoption received RM515.9 million through 43 programmes, benefiting 32,290 MSMEs. Market access and infrastructure were allocated RM147.2 million and RM86.5 million, respectively (SME Corp. Malaysia, 2025). Support remained substantial in 2025. By 31 October, 349 programmes had been reported with a combined allocation of RM30.3 billion and 613,511 MSME beneficiaries. Innovation and technology adoption expanded to 47 programmes, with RM447.8 million allocated and 30,190 MSMEs recorded as beneficiaries. Market access rose to 81 programmes with RM233.6 million, while infrastructure support comprised 50 programmes with RM113.1 million (SME Corp. Malaysia, 2025).

**Table 1: Government MSME Development Programmes by Focus Area, 2024–2025**

| Focus Area | 2024 | 2025 |
|---|---|---|
| Total programmes | 326 | 349 |
| Total expenditure / allocation | RM35.0b | RM30.3b |
| MSME beneficiaries | 721,507 | 613,511 |
| Access to Financing | RM34,811.6m; 133; 414,317 | RM30,101.3m; 150; 400,633 |
| Human Capital | RM628.7m; 135; 209,363 | RM1,486.7m; 150; 135,758 |
| Innovation & Technology | RM515.9m; 43; 32,290 | RM447.8m; 47; 30,190 |
| Market Access | RM147.2m; 79; 119,254 | RM233.6m; 81; 112,608 |
| Infrastructure | RM86.5m; 42; 6,222 | RM113.1m; 50; 11,344 |

*Source: SME Corp. Malaysia; KUSKOP; DOSM; SME Corp. Malaysia Sabah reporting.*

These figures make clear that BDS extends well beyond financing. The wider support system includes human capital development, innovation and technology, market access and infrastructure. The presence of a dedicated innovation and technology component is particularly relevant to this study because it shows that digital and technological upgrading has become an established part of MSME development policy.

### 7.2 Government Business Development Support in Sabah

The second finding concerns the strength of government BDS at the Sabah level. In 2024, KUSKOP reported that RM813.4 million was channelled to 53,395 MSMEs and cooperatives in the state through agencies including Amanah Ikhtiar Malaysia, TEKUN Nasional, Bank Rakyat, SME Bank, SME Corp. Malaysia, Pernas and the Malaysian Cooperative Societies Commission (KUSKOP, 2025). Support in Sabah also included capability development. INSKEN delivered 41 entrepreneurship training and guidance programmes in the state during 2024, reaching 1,585 entrepreneurs. This shows that the Sabah support ecosystem combines financial assistance with human-capital development rather than relying on financing alone (KUSKOP, 2025). BEEP Plus Sabah and Sarawak provides a more targeted example of support for micro-enterprises. SME Corp. Malaysia describes BEEP Plus as an integrated programme designed to build competitive, resilient and dynamic Bumiputera micro-enterprises through capacity building, productivity improvement and better access to finance. Support covers areas such as packaging, productivity and automation, branding and promotion, e-commerce, e-payment, ICT applications, product development and innovation, as well as export-related training (SME Corp. Malaysia, 2023).

By December 2024, BEEP Plus Sabah and Sarawak had supported 163 micro-enterprises, with approved grants totalling RM13.31 million. As the reported figure combines Sabah and Sarawak, it is not interpreted here as a Sabah-only beneficiary count (SME Corp. Malaysia, 2025).

**Table 2: Selected Government BDS Evidence for Sabah**

| Sabah Support Dimension | Evidence | Numerical Outcome |
|---|---|---|
| Financing | KUSKOP agencies supporting MSMEs/cooperatives in Sabah, 2024 | RM813.4 million |
| Financing reach | MSMEs/cooperatives receiving support | 53,395 |
| Training & guidance | INSKEN programmes in Sabah, 2024 | 41 programmes |
| Training beneficiaries | Entrepreneurs benefiting | 1,585 |
| Targeted micro-enterprise support | BEEP Plus Sabah & Sarawak | 163 micro-enterprises |
| BEEP Plus approved grants | Sabah & Sarawak combined, up to Dec. 2024 | RM13.31 million |

*Source: SME Corp. Malaysia; KUSKOP; DOSM; SME Corp. Malaysia Sabah reporting.*

Taken together, these examples show that Sabah has a multidimensional support environment that includes financing, training, capability development and targeted assistance for micro-enterprises.

### 7.3 Digital Transformation Support and Adoption

The third finding is the growing policy emphasis on digital transformation. Nationally, innovation and technology adoption accounted for 43 programmes in 2024, with RM515.9 million allocated and 32,290 MSMEs reached. In 2025, the number increased to 47 programmes, involving RM447.8 million and 30,190 recorded beneficiaries (SME Corp. Malaysia, 2025). The evidence also shows that digital transformation is not limited to purchasing technology. SME Corp. Malaysia reports that 69% of respondents identified digital tools for remote collaboration as the leading organisational innovation, while 81% viewed the integration of digital payment systems as the most effective financial innovation. This suggests that digital tools are increasingly being used in day-to-day coordination and financial transactions. There is also evidence of digitalisation activity at the Sabah level. The Digital Scaling-Up Seminar for SMEs: Tech Up, Scale Up!, held in Kota Kinabalu in November 2025, brought together more than 150 SMEs from manufacturing, services and tourism. The programme focused on using digital technology to improve efficiency, productivity and scalability, and included 12 digital and technology solution providers (SME Corp. Malaysia, 2025).

**Table 3: Evidence of Digital Transformation Support**

| Digitalisation Indicator | Evidence |
|---|---|
| Innovation & technology programmes, 2024 | 43 |
| Innovation & technology expenditure, 2024 | RM515.9 million |
| MSMEs reached, 2024 | 32,290 |
| Innovation & technology programmes, 2025 | 47 |
| Innovation & technology allocation, 2025 | RM447.8 million |
| MSMEs reached, 2025 | 30,190 |
| Digital tools for remote collaboration | 69% |
| Digital payment integration | 81% |
| SMEs at Tech Up, Scale Up! Sabah | >150 |
| Tech Spot solution providers | 12 |

*Source: SME Corp. Malaysia; KUSKOP; DOSM; SME Corp. Malaysia Sabah reporting.*

Taken together, these initiatives suggest that digital transformation is becoming more firmly embedded within government BDS and is increasingly being translated into local capacity-building activities in Sabah.

### 7.4 Persistent Barriers to Digital Transformation

The fourth finding is that wider government support has not removed the main obstacles to digital transformation. SME Corp. Malaysia reports that 94% of MSMEs identified high implementation costs as a barrier, 81% reported insufficient internal technical capability, and 75% found it difficult to source qualified external experts. A further 63% reported resistance to learning new skills due to cultural and mindset barriers, while 56% cited limited digital marketing skills and knowledge (SME Corp. Malaysia, 2025).

**Table 4: Major Barriers to MSME Digitalisation**

| Digitalisation Barrier | MSMEs Reporting Barrier |
|---|---|
| High implementation costs | 94% |
| Insufficient internal technical capabilities | 81% |
| Difficulty sourcing qualified external experts | 75% |
| Resistance to learning new skills | 63% |
| Limited digital marketing skills and knowledge | 56% |

*Source: SME Corp. Malaysia; KUSKOP; DOSM; SME Corp. Malaysia Sabah reporting.*

The pattern points to a combination of financial and capability constraints. The 94% cost figure shows that digital adoption remains expensive for many MSMEs, while the 81% and 75% figures draw attention to shortages in internal technical skills and external expertise. These barriers help explain why financial, training and advisory components of BDS remain relevant even as more digitalisation programmes become available. Sabah's position also highlights the issue of uneven digital readiness. DOSM reports that 85.1% of establishments in Sabah used computers, compared with 93.8% nationally in the relevant state-level distribution. Although computer use should not be treated as a complete measure of digital transformation, the 8.7 percentage-point gap still provides evidence that ICT adoption differs across locations (DOSM, 2024).

### 7.5 Digital Transformation and Entrepreneurial Resilience

The fifth finding considers how digital transformation may contribute to entrepreneurial resilience. Across the documentary evidence, three mechanisms stand out: operational efficiency, market accessibility and business adaptability. Digital tools can improve coordination, communication, transactions and information management, giving SMEs more flexible ways to organise everyday operations. Digital channels can also widen market access. Social media, e-commerce and digital payment systems allow businesses to reach customers and conduct transactions beyond their physical locations. This is particularly relevant in Sabah, where geographical dispersion can make alternative customer channels and market diversification more important for SMEs. A further contribution of digital transformation is greater business adaptability. Digital tools give entrepreneurs more options to adjust marketing, sales, communication and service processes when circumstances change. This interpretation is consistent with Khurana et al. (2022), who found that SMEs used digital technologies as part of broader changes to business models and operations during crisis conditions. These findings nevertheless need to be read cautiously. The study does not include firm-level survey data that directly measure entrepreneurial resilience among Sabah SMEs, so it cannot establish a statistical causal relationship between digital transformation and resilience. What the secondary evidence does show is that digital technologies provide practical mechanisms through which SMEs can improve efficiency, extend market access and become more adaptable.

### 7.6 Cross-Source Synthesis

Viewed across DOSM, SME Corporation Malaysia, SME Bank, MDEC and Sabah-specific government reporting, the evidence reveals a broadly consistent pattern. Government support is increasingly delivered as a combination of financing, training, advisory assis ance, technology adoption and market-related support rather than through a single type of intervention. The numerical evidence also places digitalisation within a much larger BDS ecosystem. Nationally, 47 innovation and technology programmes were reported in 2025. In Sabah, RM813.4 million in financing support reached MSMEs and cooperatives in 2024, alongside 41 entrepreneurship training and guidance programmes. Yet the continuing presence of high implementation costs and capability gaps shows that access to support does not automatically result in effective digital transformation. Overall, the evidence supports the main argument of the paper. Government BDS can create conditions that make digital transformation more achievable, while digital transformation can give SMEs greater flexibility, wider market access and stronger adaptability, all of which are relevant to entrepreneurial resilience. In Sabah, however, the strength of this pathway depends on support that is sensitive to differences in digital readiness, skills and infrastructure.

## 8. Discussion

The findings suggest that government BDS, digital transformation and entrepreneurial resilience are best understood as connected parts of the SME development environment. Government support does not automatically make a business resilient. Rather, it can reduce barriers to digital adoption, while digital transformation can equip SMEs with practices and resources that make adaptation easier when conditions change. One implication is that digital transformation should be approached as a process of capability building. Tools such as social media, e-commerce and digital payments can be useful, but their longer-term value depends on how well they are integrated into normal business activities. For this reason, training and advisory support may be just as important as the technology itself. This interpretation is consistent with SME Corp. Malaysia's digitalisation programmes, which combine technology adoption with financial and advisory assistance.

A second implication concerns the enabling role of government BDS. Financing can help reduce the cost of digital adoption, but money alone may not address gaps in information, skills or implementation capability. A combination of finance, training, advisory services and digitalisation support therefore appears better aligned with the needs reflected in the secondary evidence than a single-intervention approach. A third implication relates to entrepreneurial resilience. Digital transformation appears to strengthen resilience mainly by giving SMEs more options. Digital channels create alternative routes to customers, digital processes can make operations more flexible, and technology can help entrepreneurs adjust business activities as market conditions change. In this sense, resilience is less about preserving existing routines and more about having the capacity to adapt resources and processes when necessary. Context is a fourth important consideration. Sabah should not simply be treated as a smaller version of the national business environment. The difference in computer use reported by DOSM points to uneven ICT adoption, while Sabah's geographical characteristics create additional challenges for connectivity and access. These conditions support the case for programmes that are responsive to local infrastructure and capability differences.

The findings also support an ecosystem view of digital transformation. Khurana et al. (2022) describe SME resilience and digital transformation as processes that operate across micro, organisational and ecosystem levels. A similar pattern is visible in Malaysia, where digitalisation support involves government agencies, financial institutions and technology providers. SME digital transformation is therefore influenced not only by decisions made inside the firm, but also by the relationships between businesses and the institutions around them. Taken as a whole, the evidence is consistent with the conceptual framework in Figure 1. Government BDS provides resources and support that can make digital transformation more feasible, while digital transformation can improve operational efficiency, market access and adaptability, all of which are relevant to entrepreneurial resilience. Since the study relies on secondary evidence, the framework should be read as an organising explanation rather than as a statistically tested causal model.

### 8.1 Implications for Designing Targeted Support

Targeted support is likely to be more useful when it reflects the different levels of digital readiness found among SMEs. Businesses at an early stage may need basic digital skills, affordable tools and straightforward applications. Firms that already use digital technologies may require more advanced support in areas such as data use, e-commerce expansion, cybersecurity, integrated systems and process improvement. A staged approach can help avoid providing solutions that businesses are not yet ready to use effectively. Location should also form part of the targeting strategy. DOSM's state-level variation in computer use shows that ICT adoption is not geographically uniform. In Sabah, this may require support models that recognise differences between urban areas and locations with weaker connectivity. Accessible training and advisory channels can complement improvements in infrastructure and financial assistance.

### 8.2 Implications for Sustainable SME Growth

Digitalisation should also be viewed as more than a short-term response to disruption. When SMEs integrate digital tools into routine operations, customer engagement and market development, digital capability can become part of their longer-term growth. Government support can help this process by combining initial assistance with follow-up guidance and opportunities for firms to deepen their capabilities over time. From the SME's perspective, digital transformation is most useful when it addresses a clear business need. Technology is more likely to contribute to resilience when it helps firms reach customers, reduce delays, manage transactions or maintain communication during disruption. This makes advisory support important because it helps connect technology choices with practical business priorities and strategy.

### 8.3 Contribution to the Sabah SME Context

The main contribution of this paper is its Sabah-specific perspective. National digitalisation initiatives create an important policy environment, but their effectiveness in Sabah depends on local conditions. By drawing together evidence on government support, digital adoption and resilience, the study shows why differences in infrastructure and capability need to be considered when national SME digitalisation policies are implemented at the regional level.

## 9. Conclusion

This study explored how government Business Development Support initiatives contribute to digital transformation and entrepreneurial resilience among SMEs in Sabah, Malaysia. Using qualitative secondary data, the analysis brought together publications issued between 2020 and 2025 by DOSM, SME Corporation Malaysia, SME Bank and MDEC. The evidence suggests that digital transformation can strengthen SME resilience by improving operational efficiency, widening market access and increasing business adaptability. Digital technologies provide additional customer channels, more flexible ways of operating and practical options for responding when the business environment changes. Government support also appears to play an important enabling role in digital adoption. Financial assistance, training, advisory services and digitalisation initiatives address different aspects of the resource and capability constraints faced by SMEs. The evidence therefore favours an integrated view of Business Development Support rather than one that focuses mainly on financing. At the same time, infrastructure gaps and uneven digital capabilities remain significant. The presence of support programmes does not mean that all SMEs are equally able to adopt and use digital technologies. In Sabah, this reinforces the need for targeted assistance that takes account of different levels of digital readiness and local infrastructure conditions. The paper concludes that more targeted government support can help accelerate digital transformation and support sustainable SME growth in Sabah. Future empirical studies could build on this secondary evidence by examining the experiences of Sabah SMEs directly and testing the relationships between government support, digital transformation and entrepreneurial resilience using primary data.

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