

Review Paper

# The Impact of Technology Acceptance and Technology Compliance Costs on SMEs' Business Resilience

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## ABSTRACT

The importance of digitalization among Small and Medium Enterprises (SMEs) is undeniable, especially when the Organization for Economic Co-operation and Development (OECD) is also focusing on how to connect SMEs in Southeast Asia through digitalization. Many incentives have been provided by the government to encourage SMEs' involvement in digital transformation such as grants and training for SMEs to adopt digitalization in daily operations; however, digitalization did not attract the participation of all SMEs. As such, the issue of SMEs' tendency to lag in technological adoption becomes the main concern of this study, since many SMEs are unable to internationalize digitally because they were not initially designed to scale that way. In addition, managing businesses using online platforms is also challenging, especially when higher costs are involved. Nonetheless, changing this situation by removing the barriers may help SMEs to build the resilience needed for future uncertainties. Therefore, this study attempts to examine the relationship between technology acceptance and technology compliance costs toward business resilience among SMEs. A structured questionnaire was developed, validated, and distributed to SME owners via an online survey form from May 2021 to December 2021. A total of 215 SMEs completed the questionnaire and they were included in the data analysis, which was carried out using SPSS version 20. The findings showed that the two factors under technology acceptance, perceived usefulness and perceived ease of use, had a significant positive relationship with business resilience. In this regard, SMEs' lack of new technology acceptance would have an adverse effect on their business performance. In addition, compliance costs were also found to have a positive and significant relationship with business resilience. Hence, SMEs' investment in technology platforms and provision of employee training to use digital platforms will positively affect their business resilience. In view of the digitalization of SMEs becoming an important national agenda, the findings of this study will further support and motivate SMEs to adopt the current technology and engage in digital transformation. Ultimately, the study justifies the policymakers' urgent attention to actively encourage SMEs to transform their businesses before they are left behind.

## HIGHLIGHTS

- ① This paper is devoted to study the factors that encourage SMEs' involvement in digital transformation.
- ② In the course of the study, the effect of technology acceptance and compliance costs toward business resilience among SMEs are examined.

**Keywords:** Technology acceptance, compliance cost, ease of use, perceived usefulness, and small and medium enterprises.

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The emergence of digitalization and e-commerce has impacted the ability of businesses to leverage technology. Therefore, the incorporation of online services has enhanced business models to fit tailored strategies in showcasing offline to online integration as a key tenet of business strategies. In the Malaysian context, such a paradigm shift in business operations provides wide market opportunities to our homegrown Small and Medium Enterprises (SMEs), hence offering larger sources of revenue to the government (Loh, 2020). The importance of digitalization among SMEs is undeniable, especially when the Organization for Economic Co-operation and Development (OECD) is also focusing on how to connect SMEs in Southeast Asia through digitalization. In 2019 alone, many activities have been conducted between international organizations and ASEAN countries to promote digitalization and innovation among SMEs; these include organizing the Global Digitalization Model for Micro Enterprises Workshop, Policy Dialogue related to SMEs' digitalization, and ASEAN Mentorship for Entrepreneurs Network. The purpose of these activities is to create a basic guideline on how SMEs can adopt digitalization and promote a conducive environment. As a result, SMEs' transformation process has been fostered, as reported in SMEs' Annual Report 2018/2019 by SME Corporation.

Interestingly, SMEs continue to play an important role as a growth stabilizer even though they are vulnerable to the economic impacts of the pandemic. In fact, Malaysian SMEs contribute 37.4 percent or over RM512.8 billion to the country's GDP for the year 2021; consequently, SMEs have shown positive signs of recovery. However, this figure is still low compared to other developed countries (Kamel, 2019) with an average of 40 percent contribution to GDP. Therefore, the resilience of SMEs during such a vulnerable situation must be strengthened for SMEs to continue contributing to the national economy. Nonetheless, digitalization did not attract the participation of all SMEs; some SMEs refused to move towards digitalization. A study by SME Corporation and Huawei Technologies (M) Sdn Bhd in 2018 found that 71% of Malaysian SMEs engaged in social media for product communication and marketing. Surprisingly, only 41% were involved in e-commerce and the majority used

basic technological tools, making them unable to achieve transformation of operations and products or service improvement. Besides Malaysian SMEs, Europe's SMEs also lag in technological adoption either due to reluctance or lack of resources to embrace new technology (Wood, 2023).

In this regard, many incentives have been provided by the government to encourage SMEs' involvement in digital transformation such as grants and training for SMEs to adopt digitalization in daily operations. The study expected that the participation of SMEs in utilizing digital platforms could enhance SMEs' resilience and develop their growth opportunities (Loh, 2020); however, the issue of SMEs' tendency to lag in technological adoption becomes the main concern of this study. This is due to the fact that many SMEs are unable to internationalize digitally because they were not initially designed to scale that way, and managing businesses using online platforms is challenging (Westerlund, 2020), especially when higher costs are involved to adopt new technology systems and processes. While changing this situation by removing the barriers may help SMEs to build the resilience needed for future uncertainties, this study attempts to examine the relationship between technology acceptance and technology compliance costs toward business resilience among SMEs. In view of the digitalization of SMEs becoming an important national agenda, the findings of this study will further support and motivate SMEs to adopt the current technology and engage in digital transformation. Ultimately, the study justifies the policymakers' urgent attention to actively encourage SMEs to transform their businesses before they are left behind. In the following sections, three variables pertinent to the study are discussed and empirical evidence is presented, followed by the research methodology and empirical study.

## LITERATURE REVIEW

### Small and Medium Enterprises (SMEs) in Malaysia

SMEs in Malaysia are defined by two criteria, namely sales turnover and the number of full-time employees. The definition of SMEs covers all sectors, including services, manufacturing, agriculture, construction, and mining and quarrying. In the

context of the manufacturing sector, SMEs are defined as firms with sales turnover not exceeding RM50 million or the number of full-time employees not exceeding 200. Meanwhile, in the services and other sectors, SMEs are defined as firms with sales turnover not exceeding RM20 million or full-time employees not exceeding 75 workers.

The Malaysian SME market has expanded significantly from 2016 to 2021. According to the Malaysia Statistical Business Register (MSBR) published by the Department of Statistics Malaysia (DOSM), there were 1,226,494 SMEs in 2021 or 97.4% of businesses in Malaysia. Narrowing the statistics to the key economic sectors, 83.8% of the businesses were in the service industry. The construction sector had the second-largest contribution with 8.0%, followed by the manufacturing sector with 5.8%, the agriculture sector with 1.9%, and finally 0.4% of SMEs engaging in mining and quarrying.

The contribution of SMEs to the economy of nations around the world is undeniable, including Malaysia (Yusof, Wahab, Latiff, Osman, Zawawi, & Fazal, 2018). In fact, SMEs representing 97.4% of the total business establishments in Malaysia could serve as an important growth driver for the Malaysian economy. In 2017, SMEs' contribution to the overall Malaysian gross domestic product (GDP) was 37.1%; however, in 2020, the contribution of SMEs was slow due to the COVID-19 pandemic. Nonetheless, SMEs recovered in 2021 with a 37.4 percent contribution to the Malaysian economy. Notwithstanding its momentum, this figure is still low compared to other developed countries (Kamel, 2019), which might be due to inadequate capabilities and limited resources held by SMEs. Li, Su, Zhang, and Mao (2018) also stated that SMEs in China had inadequate capabilities and limited resources; therefore, companies require digital transformation to expand and grow their businesses.

Based on the white paper by SME Corporation and Huawei Technologies (M) Sdn Bhd, over 50% of Malaysian SMEs have the Information, Communication, and Technology (ICT) leader mindset, which entails a plan to use ICT to grow their businesses or develop a competitive advantage. However, about 30% of SMEs used ICT as a productivity tool but not as a business enabler, while 20% of SMEs were too cautious about investing in ICT. Additionally, in terms of e-commerce usage,

only 44% of SMEs used e-commerce, while the rest did not involve e-commerce. Overall, the findings showed that the involvement of SMEs in digital technology is alarming. As asserted by Li *et al.* (2018), SMEs were not prepared to move towards digitalization due to a lack of experience in e-commerce. As a result, SMEs were not likely to see the advantages of using digital platforms in their businesses. Furthermore, SMEs in Turkey also had erratic behaviors in investing their capital for business digitalization, and such a situation calls for government support to drive businesses to utilize digital platforms (Ulas, 2019).

### **Business Resilience and Digitalization**

Resilience can be defined as the ability to sustain generally steady, healthy levels of psychological and emotional functioning over time in the wake of trauma or significant loss such as disasters, shocks, or jolts (Williams & Sheperd, 2016). In the same vein, resilience is crucial for SMEs because it allows them to continue operating even when a system is disrupted, or to save the components needed to update or rearrange a system if an interruption changes the way it functions. Entrepreneurs, in general, are always looking for ways to improve their knowledge and expertise so that they are able to predict risks and surmount unforeseen challenges. Similarly, the leadership of an organization, along with its social capital, internal collaboration, organizational experience, and staff support, may all play a role in deciding whether the organization has high adaptive resilience (Purwanti & Hapsari, 2022).

Digitalization can significantly enhance business resilience by enabling organizations to adapt more quickly to changes in the marketplace, respond to disruptions, and operate more efficiently. In this regard, by implementing digital technologies, businesses can automate and streamline their operations, reduce the likelihood of errors and delays, and improve overall efficiency. Moreover, digitalization can also help companies to collect and analyze data in real-time, thus enabling the companies to make more informed decisions as well as respond more quickly to changes in the market.

According to Besson and Rowe (2012), digital technologies are a valuable asset for leveraging organizational change due to their disruptive nature and systemic effects on organizations.

Digital technologies, particularly in the field of entrepreneurship, remove restrictions on the procedures and results that can be accomplished (Nambisan, 2017). An interface between technology capability and integration, as well as a team of skilled workers and executives, are required for a digital transformation in order to design and carry out its transformative power (Nadkarni & Prügl, 2021). Digital technologies are also a catalyst for innovation (Nyl'en & Holmstrom, 2015; Nambisan, Wright, & Feldman, 2019) internationalization (Nambisan *et al.* 2019), ecosystem shaping (Autio, Nambisan, Thomas, & Wright, 2018), and the development of new business models and strategic positionings (Teece, 2018).

Digitalization can help SMEs to diversify their supply chains and reduce their reliance on a single source of supply or a particular geographical region. This can be particularly important in times of disruption, such as natural disasters or geopolitical events that may disrupt supply chains. In addition, digitalization can also have a significant impact on business resilience by improving operational efficiency, enabling remote work, enhancing customer engagement, and facilitating data-driven decision-making. The following discussions include several studies and reports that support this claim.

According to a study by McKinsey (2020), businesses that embraced digitalization before the pandemic were more resilient during the crisis than those that did not. Evidently, companies that invested in digital capabilities prior to the pandemic were able to respond more quickly and effectively to the disruption caused by COVID-19. McKinsey (2020) also stated that digitalization is not only about technology but rather about transforming business models and creating new sources of value for customers. Companies that embrace digitalization can achieve significant improvements in efficiency, customer experience, and innovation; thus, digitalization requires new skills and organizational structures, and companies that invest in developing these capabilities are more likely to succeed. Digitalization is happening rapidly and is disrupting traditional industries, creating new winners and losers. Therefore, companies that lag behind in digitalization risk losing market share, revenue, and profits to more agile competitors.

Based on a report by Ekholm (2023) in the World Economic Forum, digitalization can help businesses become more agile and adaptable, which are the key factors in building resilience. As noted in the report, digitalization can help companies anticipate and respond to changes in their business environment, enabling them to pivot their strategies quickly and effectively. A study by Accenture (2020) also found that digital technologies such as automation, artificial intelligence, and cloud computing can help businesses reduce costs, increase productivity, and improve customer experiences, all of which can contribute to greater resilience; therefore, by digitizing operations, companies can streamline processes, eliminate waste, and respond to changes in demand more quickly and effectively.

In conclusion, drawing from the ample evidence, digitalization can help SMEs build resilience by improving efficiency, enabling remote work, enhancing customer engagement, facilitating data-driven decision-making, and diversifying their supply chains, thus reducing their vulnerability to disruptions.

## RESEARCH FRAMEWORK AND HYPOTHESIS DEVELOPMENT

### Technology Acceptance Model (TAM)

A theory in information systems called the Technology Acceptance Model (TAM) illustrates the process through which technology is adopted and used by consumers. The model suggests that when users are exposed to new technology, their choice in terms of how and when technology can be used is influenced by various factors (Silva, 2015; Muchran & Ahmar, 2019). For instance, TAM is a reliable approach for assessing the influencing elements of financial technology that are frequently employed in Indonesian SMEs (Purnamasari, Pramono, Haryatiningsih, Ismail, & Shafie, 2020). Najib and Fahma (2020) also stated that TAM effectively accounts for the behavior toward the acceptance of new technology, especially in light of current company use and adoption of digital technology.

Based on TAM, perceived usefulness and ease of use are the two factors with the biggest impact on people's acceptance of new technology. In this regard, while utilizing a system, people will develop attitudes and intentions toward understanding and

implementing new technology. According to Davis (1989), perceived usefulness is associated with the way people think that utilizing a specific system will improve their ability to accomplish their tasks. On the contrary, perceived usefulness refers to the degree to which a person feels that a specific system requires little effort to use. Evidently, King and He (2006) in their study confirmed that perceived usefulness and ease of use are valid cognitive aspects.

### Perceived Usefulness

Perceived usefulness is associated with individuals' expectations of what they will gain from technology, where it is anticipated that technology will increase their effectiveness.

Davis (1989) defined perceived usefulness as the extent to which a person thinks that utilizing a certain technology will improve their ability to accomplish a job. Supported by previous studies, it has been agreed upon that the key factor influencing the actual utilization of new technology is perceived usefulness (Burton-Jones & Straub Jr., 2006; King & He, 2006; Legris, Ingham, & Collette, 2003). As such, it is further anticipated that perceived usefulness contributes to the determination of SMEs' readiness and acceptance of digital technology. Thus, the hypothesis development is as follows:

*H<sub>1</sub>: Perceived usefulness has a significant positive relationship with SMEs' business resilience*

### Perceived Ease of Use

People's perceptions that technology will reduce their effort in completing activities are related to perceived ease of use. According to Davis (1989), perceived ease of use refers to how little effort a person believes a particular system will require. In addition, King and He (2006) stated that perceived ease of use serves as a reliable and significant cognitive factor in people's acceptance of new technology. Therefore, the following hypothesis was developed:

*H<sub>2</sub>: Perceived ease of use has a significant positive relationship with SMEs' business resilience*

### Technology Compliance Costs

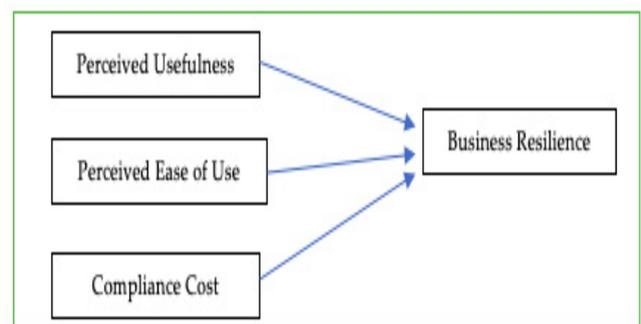
Compliance costs in information technology (IT) adoption refer to the expenses incurred by an

organization in ensuring that its IT systems and processes comply with various regulations and standards. These costs can arise from a variety of sources, including government regulations, industry standards, and company policies. Examples of compliance requirements that can impact IT adoption include data privacy regulations, industry-specific standards, and financial reporting requirements. The costs associated with compliance can also include implementing new technologies, hiring compliance specialists, conducting audits and assessments, and training employees on new processes and policies. Failure to comply with these requirements may result in fines, legal action, and reputational damage.

According to Kyobe (2009), although compliance costs serve as the most important element, neither rural nor urban SMEs have extensively attempted to create policies or show compliance. All costs were associated with keeping a business in compliance. Overall, compliance costs can be a significant factor influencing the decision to adopt new IT systems and processes, particularly for smaller organizations with limited resources. However, the benefits of compliance, such as improved data security and customer trust, may ultimately outweigh the costs. Hence, this leads to the following hypothesis:

*H<sub>3</sub>: Technology compliance costs have a significant positive relationship with SMEs' business resilience*

Fig. (1) presents the research framework for explaining the respective relationships involving the three (3) independent variables, namely perceived usefulness, perceived ease of use, and compliance costs with the dependent variable, business resilience.



**Fig. 1:** Research Framework

## RESEARCH METHODOLOGY

### Research Design

The employees This study employed a survey method with hypothesis testing based on the quantitative data obtained from questionnaires. The survey was conducted among SMEs throughout Malaysia and a purposive sampling technique was used to determine the sample. The inclusion criterion for the sample involves SMEs registered with SMEs Corporation and the respondents include business owners or managers.

### Variable Measurements and Questionnaire Administration

The Business resilience refers to the ability of SMEs to maintain continuous operations, protect people and assets, and preserve brand equity in the face of disruptions. The measurement of this variable was based on ten indicators adopted from Hidayat, Latief, Nianti, Bahasoan, and Widiawati (2020). Next, technology acceptance refers to how users come to accept and use technology based on TAM. In this study, technology acceptance is divided into two categories: perceived usefulness and perceived ease of use. Seven and five indicators were used to measure perceived usefulness and perceived ease of use, respectively. In addition, technology compliance costs allude to the expenses incurred by an organization in ensuring that its IT systems and processes comply with various regulations and standards, and this variable was measured using eight indicators. Each research variable was measured using a 7-point Likert scale ranging from 1 with ‘very strongly disagree’ to 7 with ‘very strongly agree.’

Following the suggestion of Lewis, Templeton, and Byrd (2005), before distributing the questionnaire forms, the questionnaire was first consulted and validated with the assistance of academicians from the fields of accounting and entrepreneurship together with the panel industry from SMEs. Upon receiving some suggestions, several improvements were made to the questionnaire. The process continued with a small-scale pilot test involving 30 business owners and some questionnaire items were changed based on the answers indicated in the pilot test. The finalized questionnaires were then distributed online using Google Forms through

email and social media from May to November 2021. Out of 640 questionnaires sent to the potential respondents, a total of 215 were received, yielding a return rate of 33.5%.

## RESULTS

### Demographic Profile

This section presents the demographic profile of the respondents. Statistical Package for the Social Sciences (SPSS) version 20 was used to analyze the developed hypotheses and the respondents’ demographic data (see Table 1), which are presented as frequency values and percentages. 53% (113) of the respondents are females, while 47% (102) of them are males. Besides, 47% of the respondents were between 18 and 29 years old, followed by 26% between 30 and 39 years old, 16% between 40 and 49 years old, and 11% who were 50 years old and above. The majority of the respondents (40%) also possessed a diploma as their highest academic qualification, followed by degrees (29%) and SPM/SPMV (15%). Finally, in terms of business demographics, sole proprietorships (51%) and private limited (44%) were the business types managed by most of the respondents.

**Table 1:** Summary of Demographic Characteristics

Demographic Characteristics	Frequency	Percent
<b>Gender</b>		
Male	102	47
Female	113	53
<b>Age</b>		
18-29 years old	102	47
30-39 years old	55	26
40-49 years old	35	16
50-59 years old	21	10
60 years old and above	2	1
<b>Education Level</b>		
Below SPM	5	2
O-Level/ SPM	33	15
A-Level/ Diploma	94	44
Bachelor’s Degree	63	29
Master’s Degree	10	5
Professional Qualification	10	5
<b>Type of Business</b>		
Private Limited	94	44
Joint Venture	3	1
Sole Proprietorship	109	51
Partnership	9	4

## Preliminary Analyses

This study used Cronbach's alpha statistics to measure the reliability of the questions, as shown in Table 2. Cronbach's alpha reliability coefficient normally ranges between 0 and 1; the closer the coefficient is to 1.0, the greater the internal consistency of the items (variables) on the scale. Furthermore, a correlation analysis using Pearson's correlation was employed to show the validity of the questions, as shown in Table 3. The results showed that all variables, namely perceived usefulness, perceived ease of use, and compliance cost, recorded a correlation coefficient of less than 0.7, which indicates no collinearity issues. Additionally, all correlation values were significant at the  $p < 0.01$  level.

**Table 2:** Cronbach's alpha reliability coefficient

Variable's Name	No. of Items	Cronbach's Alpha
Business Resilience	10	0.841
Technology Acceptance – Perceived Usefulness	7	0.794
Technology Acceptance – Perceived Ease of Use	5	0.855
Compliance Cost	8	0.798

**Table 3:** Pearson's Correlation

	1	2	3	4
1 Business Resilience	1			
2 Technology Acceptance – Perceived Usefulness	0.568**	1		
3 Technology Acceptance – Perceived Ease of Use	0.564**	0.660**	1	
4 Compliance Cost	0.398**	0.419**	0.439**	1

Note: \*\* refers to significance at the  $p < 0.01$  level.

## Multiple Regression Analysis

The overall linear regression model shows that the F value was 46.914 with a significance level of  $p < 0.01$ . Overall, the results suggest that the data provide sufficient evidence to conclude that the regression models fit the data. Table 4 shows the results for the 3 tested hypotheses. Two factors under technology

acceptance, which are perceived usefulness and perceived ease of use, showed a significant positive relationship with business resilience at  $p < 0.01$ . The result indicates that technology acceptance had a significant effect on business resilience and this coincides with the findings reported by Mustafa and Yaakub (2018). Indeed, SMEs' lack of acceptance of new technology will have an adverse effect on company performance (Mustafa & Yaakub, 2018), and Shanmugam and Shanmugam (2021) also stated that technology acceptance affects SMEs' performance. Besides, technological newness in products is among the superior values with more impact on business performance, especially in the current competitive environment (Rosli & Sidek, 2013). Therefore, both Hypotheses 1 and 2 were accepted.

**Table 4:** Multiple Regression Results

Variable	Standardized Coefficients Beta	Hypothesis Accepted/Rejected
Constant	- (2.306)*	
Technology Acceptance – Perceived Usefulness	0.316 (4.366)**	Accepted
Technology Acceptance – Perceived Ease of Use	0.296 (4.047)**	Accepted
Compliance Costs	0.136 (2.251)*	Accepted
Adjusted R square = 0.392		
F value = 46.914		

Note: \*\* refers to significance at the  $p < 0.01$  level while \* refers to significance at the  $p < 0.05$  level.

In addition, compliance costs also had a positive and significant relationship with business resilience at  $p < 0.05$ . This finding suggests that when SMEs spend on technology platforms and train their employees to use digital platforms, their business resilience will be positively affected. Thornton, Kagen, and Gunningham (2008) further supported that small companies that do not invest in new technology, especially to comply with regulatory policy, will go out of business. Furthermore, when SMEs advertise their products on social media, their business performance will improve (Syaifullah, Syaifudin,

Sukendar, and Junaedi, 2021). Undeniably, although the cost needed to engage in technology such as social media marketing is high and is not preferred by SMEs (Syaifullah *et al.* 2021), online promotion is imperative in a highly competitive environment. Therefore, hypothesis 3 was accepted.

## CONCLUSION

The results of this study have shown that technology acceptance through perceived usefulness and perceived ease of use had a positive impact on business resilience, which is consistent with the current emergence of digitalization and e-commerce that have impacted the ability of businesses to leverage technology. Essentially, such a paradigm shift in business operations provides wide market opportunities to SMEs, hence offering larger sources of revenue to the government. Indeed, the importance of technology acceptance among SMEs is undeniable, especially when the Organization for Economic Co-operation and Development (OECD) is also focusing on how to connect SMEs in Southeast Asia through digitalization. Nevertheless, digitalization did not attract the participation of all SMEs. Some of the SMEs refused to fully adopt technology in their business process, and SME Corporation on their website also claimed that 80 percent of Malaysian SMEs remain undigitized.

As a matter of fact, SMEs are not convinced to fully adopt new technology due to the high cost of investment in IT systems to comply with various regulations and standards. Nevertheless, compliance costs in IT adoption can enhance business resilience by promoting a culture of security and risk management within an organization. When businesses invest in compliance measures, they are better equipped to identify and mitigate potential risks and threats to their operations, thereby increasing their ability to respond effectively to disruptions. Moreover, based on a study by Accenture (2020), businesses that prioritize cybersecurity and compliance measures are more likely to have a higher level of resilience and recover more quickly from cyber-attacks and other disruptions.

In summary, these findings urge SMEs to engage in digital transformation and adopt new technology to enhance their business resilience by considering government support through various types of

funding such as digitalization grants and SMART automation grants. Furthermore, training and consultation provided to SMEs can also enable businesses to adopt digitalization and yield outcome-based results. In a highly competitive business environment together with the fast-changing political and social world, SMEs must be better prepared in terms of growth and resilience in the future. However, it should be noted that the current study only focuses on technology acceptance and cost; therefore, it is advisable that future research includes other factors to improve the results of this study.

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