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## Do Small and Medium Enterprises (SMEs) need Government Financial Support to Successfully Implement Cloud ERP for Better Performance?

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### Abstract

In driving economic development, small and medium enterprises (SMEs), which are the economic pillars of many countries receive support from the government for various technological innovations such as cloud enterprise resource planning (ERP). In Malaysia, government financial support (GFS) for cloud ERP implementation in SMEs has been encouraging. However, despite numerous GFS, SMEs are hesitant to implement the technology. Given cloud ERP is a low-cost technology coupled with SMEs' challenges in accessing GFS, the question of whether GFS is required for SMEs to successfully implement cloud ERP for improved performance arises. While the impact of government support on cloud ERP implementation has been well documented, the precise impact of GFS on cloud ERP implementation success and how this affects performance remains unclear. The goal of this research is to determine the impact of GFS on cloud ERP implementation success and how this affects the financial performance of SMEs. The study's model was validated using data from 204 Malaysian manufacturing SMEs. The results of partial least square structural equation modelling (PLS-SEM) show that GFS has a positive influence on cloud ERP implementation success, which in turn improves financial performance. The findings can be used by policymakers and practitioners to develop strategies for improving cloud ERP implementation and economic development.

**Keywords:** Government Financial Support, Cloud ERP, Financial Performance, Small and Medium Enterprises, Malaysia

### Introduction

Small and medium-sized enterprises (SMEs) constitute the largest business entities in the vast majority of countries, where governments show a keen interest in ensuring their competitiveness. This interest is usually channelled through policies and financial assistance towards the implementation of innovative and emerging technologies, especially in developing countries. SMEs are crucial in growing economies such as Malaysia's, where they

play a critical role in the country's economic success. SME accounts for 65% of employment, 98.5% of total company entities (907, 065), up to 18% of aggregate exports, and 36.3% of GDP (Department of Statistics Malaysia, 2016; Ming et al., 2018; The World Bank, 2016).

As a result, the Malaysian government has been providing assistance in the form of regulations, laws, policies, and financial incentives for SMEs to adopt cloud computing (CC) services such as cloud enterprise resource planning (ERP) to bolster their competitiveness and performance. Cloud ERP is a software application that is hosted on the CC platform that allows organisations to utilise IT resources (such as networks, storage, and servers) on a pay-per-use system in order to integrate organisational operations involving several departments and functions. Cloud ERP offers various advantages to SMEs, such as ease of data control, flexible data access, lower licencing costs, minimum maintenance, and generally lower investment costs (Lenart, 2011).

Support for SME's cloud ERP implementation from the Malaysian government is divided into two categories: non-financial government support (NFGS) (e.g., policies, laws, and legislation) and government financial support (GFS) (e.g., grants, subscription fee refund, and tax deduction (Jayeola et al., 2020). Nevertheless, this paper focuses on GFS since the government has provided huge financial support for SMEs on IT implementation (Alam & Noor, 2009), such as CC. Also, GFS is derived from tax payers' fund, which makes it a significant issue. For example, the Malaysian government offers SMEs a 50% matching grant of RM5,000 (US \$1,180) each for the next five years, beginning in 2020, to purchase cloud-based ERP and other CC services (Singh, 2019).

SMEs were also given a six-month subscription cost reimbursement or up to RM1,500 (US \$355) off the total cost for all types of software-as-a-service (SaaS) subscriptions, including cloud ERP (Hassan, 2017; Hassan et al., 2017). Despite the abundance of GFS, CC adoption remains inadequate. According to a recent industry survey, only 44% of SMEs use cloud services, and cloud ERP is the least popular digitization solution, accounting for only 10.5% of usage among SMEs (SME Corp Malaysia & Huawei Technologies, 2018). Moreover, over 50% of Malaysian SMEs believe financing is a major barrier, with 60% being unaware of financial options (SME Corp Malaysia & Huawei Technologies, 2018), further aggravating the implementation problem. Furthermore, Datuk Michael Kang, national president of the Malaysian SME Association, noted that the RM5,000 incentive is critical, particularly for micro businesses. However, he claims that the layers of bureaucracy (e.g., slow approvals, cumbersome documentation, and referrals to other agencies) that small businesses must pass through in order to receive this incentive have significantly impeded their capacity to achieve the intended effect (Lim, 2021).

Hence, many SMEs might be discouraged from opting for GFS and could even go ahead and foot the bill, especially medium enterprises that have more financial capability, since the average minimum initial fee for implementing cloud ERP is about \$1,357 (RM5,700), with average monthly levies of \$99 (RM400) (BetterBuys, 2021). The above analyses therefore raise the question: Do SMEs really require GFS to successfully implement cloud ERP for better financial performance? Meanwhile, while earlier research examined the effect of government support on cloud ERP implementation, the specific effect of GFS was overlooked. This is because previous research on cloud ERP implementation (e.g., AlBar & Hoque, 2019; Amini & Bakri, 2015; Hsu & Lin, 2016) either integrated GFS and NFGS measurement items into a single dimension of government support or investigated just the NFGS dimension implicitly. Additionally, many of these studies neglected to incorporate performance into their models. In other words, cloud service deployment is an intermediate organisational process that

should be further investigated for its ultimate impact on business performance. This research therefore closes gaps in the literature by investigating the relevance of specific government support, GFS, on cloud ERP implementation success and how this in turn enhances better financial performance, which is of significance to governments and SMEs.

The remainder of the article is structured as follows: literature review and hypotheses development are presented in the next section. Section 3 depicts methodology, followed by data analysis in section 4. Section 5 of the paper discusses the findings, theoretical and contextual contributions, practical contributions, limitations, and areas for future research, as well as the conclusion.

## **Literature Review and Hypotheses Development**

### **Cloud ERP Implementation in SMEs**

Computing resources (such as disc storage space, networks, servers, databases, and software) can be accessed on a pay-per-use basis via the internet using CC (Marston et al., 2011; Yigitbasioglu, 2015). Software as a Service (SaaS), Infrastructure as a Service (IaaS) and Platform as a Service (PaaS) are the three main internet-based services provided by CC. In addition to accessing software applications, SaaS allows users to access infrastructure such as networks, servers, virtual machines, and storage; IaaS allows users to explore and deploy software; and PaaS allows users to try out and test software (Bruque-Cámara et al., 2016). These three types of services are called PaaS, SaaS, and IoT.

SaaS is the most cost-effective choice for SMEs because it is remotely hosted, generated, controlled, and distributed via the internet by a service provider (Cho & Chan, 2015). SaaS business applications, such as Gmail, Zoom, and Facebook, as well as more advanced solutions like cloud ERP and customer relationship management (CRM), are accessible for SMEs. Out of these, this study focuses on cloud ERP. A cloud ERP system is a collection of functional modules that reflect an organization's various logistics departments, such as production, sales, HR, transportation, inventory management, warehousing, and procurement (Khamis & Mohd, 2016). SME users, who make up the vast majority of Cloud ERP users, also benefit greatly from the numerous advantages that Cloud ERP offers (Lenart, 2011).

A substantial shift has taken place in the business climate in which SMEs operate. Today's market demands that SMEs provide excellent customer service and adaptability in their operations (Salum & Abd Rozan, 2015). SMEs are turning to new technologies like cloud ERP to help them address these issues. Meanwhile, cloud ERP offers them cost reductions, faster decision-making, a competitive advantage, and improved performance. Cloud ERP integrates an enterprise's processes and functions, resulting in a more reliable, efficient, and visible manner of carrying out corporate operations. In the present digital business era, cloud ERP offers a potential chance for SMEs to collaborate and generate new competitive advantages (Assante et al., 2016; Kumar et al., 2017).

Cloud ERP enables SMEs to reap the benefits and privileges of an ERP solution without the necessity for IT hardware installation (Wamba et al., 2016). As a result, a new technology, such as a cloud ERP solution, is usually more effective for SMEs than for large corporations (Wamba et al., 2016; Utzig et al., 2013). Numerous factors drive cloud ERP adoption in SMEs, but nonetheless, adoption is not guaranteed in the absence of financial incentives that make excellent economic sense (Oliveira et al., 2014).

## Hypotheses Development

### Government Financial Support and Cloud ERP Implementation Success

The provision of additional sources of funding to SMEs with the specific aim of spurring their adoption of cutting-edge technologies through the use of cloud-based services is characterised as GFS (Huong & Cuong, 2019; Sandu & Gide, 2018).

Government support for new technologies, particularly in developing countries, has been widely acknowledged in previous studies (Amini et al., 2014; Ellahi et al., 2010). Salum and Abd Rozan (2016) found that Malaysian SMEs were encouraged to adopt cloud ERP by the government's support. According to Ezzaouia and Bulchand-Gidumal (2020), the Moroccan government plays a big role in the adoption of IT in the Moroccan hotel industry.

Furthermore, government support was highlighted as an important factor in the success of CC adoption among India's Micro, Small, and Medium-Sized Enterprises (MSMEs) (Raut et al., 2017). Government support was a critical enabler of CC adoption among SMEs in Tamil Nadu, India (Wilson et al., 2016). Government support has been extensively studied as a unidimensional construct in the CC study arena, with the majority of studies combining GFS and NFGS, measuring items into a single dimension or examining only the NFGS dimension.

GFS and NFGS measuring items, for example, were combined into a single dimension (AlBar & Hoque, 2019; Amini & Bakri, 2015; Salum & Abd Rozan, 2016; Hsu & Lin, 2016), whereas others only examined the NGFS dimension (Gangwar, 2017; Oliveira et al., 2014; Usman et al., 2019). As a result, it is unclear how GFS can assist SMEs in successfully implementing cloud ERP, particularly in developing countries. This study demonstrates the efficacy of GFS.

Financial support is critical for IT innovation (Chang et al., 2019; Kuan & Chau, 2001), and businesses can only benefit from cloud services if they have enough money to put them in place (Ifinedo, 2011). According to Alsafi and Fan (2020), a lack of government support in terms of CC funding is a challenge for Saudi Arabian SMEs. While investigating the impact of GFS on technology innovations in South Korean SMEs, Doh and Kim (2014) discovered a significant positive relationship between innovation and the Korean government's technology development assistance funds. As such, GFS is designed to encourage SMEs to use CC and, as such, should be a reliable predictor of successful cloud ERP implementation.

As a result, the following hypothesis is developed:

H1: Government financial support positively influences cloud ERP implementation success.

### Cloud ERP Implementation Success and Financial Performance

Increased market share, increased productivity, a stable customer-oriented position, quick response to changing conditions of the market, and improved product and service innovation are just a few of the ways IT deployment can improve a company's performance (Cardona et al., 2013; Tran et al., 2014). Because of this, businesses only need to use technology when it has a big impact on their performance (Yunis et al., 2018).

Gupta et al. (2018) also investigated the impact of big data, predictive analytics, and cloud-based ERP systems on corporate performance (operational and market). According to the study's findings, both cloud ERP and big data had a significant positive effect on operational and market performance. Munene (2017) investigated the relationship between corporate social responsibility (CC) implementation and company performance in Kenyan SMEs. The findings indicated that the implementation of CC had a significant positive effect on all performance indicators.

Schniederjans and Hales (2016) evaluated CC and its impact on environmental and economic performance in the United States of America using several multisector companies. The findings confirmed CC's beneficial effect on economic and environmental performance.

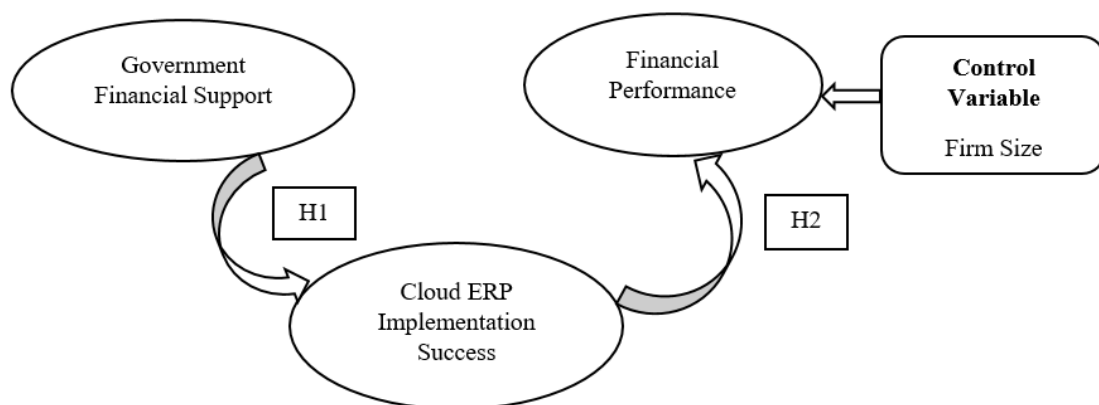
Meanwhile, there have been criticisms that IT is a commodity (Breznik, 2012) that does not necessarily benefit businesses through adoption but rather through usage (e.g., Gangwar, 2017) and/or strategic alignment with businesses' goals (e.g., Fuzes, 2018). Thus, effectively implementing and aligning an IT resource to enhance an organization's unique advantages contributes to the firm's success (Ilmudeen et al., 2019). According to research in this field, the greater the level of IT integration, the more profitable businesses are (Simoens & Scott, 2005). Additionally, the use of IT may improve operational efficiency, inventory management, and function integration, resulting in an increase in productivity (Liao et al., 2015). Similarly, Gangwar (2017) found a positive and statistically significant correlation between CC use and organisational performance in India.

As a result, this study conceptualises cloud ERP implementation success as a process of usage and strategic alignment with the goal of capturing value, such as improved financial performance (FP).

Hence, the following hypothesis is proposed.

H2: Cloud ERP implementation success positively influences financial performance.

Figure 1 depicts the relationship between the constructs in a conceptual model.



**Fig 1: Conceptual Model**

### Methodology

Manufacturing SMEs in two Malaysian states (Selangor and Johor) and one federating territory (Kuala Lumpur), which have the highest density of SMEs (Department of Statistics Malaysia, 2016) constitute the sample. The SME Corp and Federation of Malaysian Manufacturers (FMM) directories were used to compile the lists of registered SMEs.

An online survey was conducted between October 2020 and January 2021 using Google Forms as a questionnaire tool. The study questionnaire was pre-tested by four respondents and one information systems researcher prior to data collection to ensure its understandability and usability. To improve the clarity of our questionnaire, we modified some items based on Pre-testers' observations. Then, in order to avoid learning effects, a pilot test was conducted with a sample of 30 firms that were not included in the main survey (Joo & Suh, 2017). The findings demonstrated the instrument's validity and reliability.

Top-level managers and small business owners were chosen as the unit of analysis because they are more accountable for strategy development and decision-making (Tajeddini & Mueller, 2012). Using stratified random sampling, 208 completed questionnaires were retrieved from a total of 1020 distributed to SMEs' email addresses, representing a 20% response rate. Four responses, however, were eliminated because they were filled by large companies. Due to the online forced-answer approach, in which all questions must be answered, 204 responses were gathered, and no data were missing. A Likert scale of 1–5, with 1 representing strongly disagree, 2 implying disagree, 3 indicating neutral, 4 indicating agree, and 5 indicating strongly agree, was used.

There are a number of potential sources of common method biases (CMB) in studies that use self-reported data (Podsakoff et al., 2003). CMB is extremely difficult to manipulate, and researchers are expected to exert maximum control over it (Podsakoff et al., 2003). Harman's one factor technique was used in this study to account for the possibility of CMV. A factor analysis was performed on all construct items, using a principal component analysis. According to the findings, the first component accounted for 44.8% variance. As a result, no single general factor adequately explained the majority of the covariance (>50%) between the measures, indicating that CMV is not an issue in this data set.

According to descriptive analysis, 48.5% of the 204 respondents were owners, while 69.6% were between the ages of 21 and 50. The majority of respondents (39.7%) had a bachelor's degree, were female (54.4%), and mostly worked in the small business category (49.0%). The majority (17.6%) work in the Food, Beverage, and Tobacco sector, and the majority (76%) have used cloud ERP for less than three years, with a large number (80.4%) subscribing to public cloud ERP.

This study has two predictor constructs (government financial support and cloud ERP implementation success) and one endogenous construct (financial performance). The construct measurements were adapted from prior research to fit the context of this study. To mitigate the variance in financial performance, this study incorporates firm size as a control variable. Prior study has demonstrated that larger firms' financial resources may result in differences in the financial performance between firms of different sizes (Ilmudeen & Bao, 2018).

**Table 1. Measurement Items**

Constructs (sub-construct)	Sources	Items
Government financial support.	Hassan (2017); Singh (2019).	4
Cloud ERP implementation success		
*Strategic alignment,	Chiu and Yang (2019); Jorfi et al. (2017)	9
*Usage	Gangwar (2017)	3
Firm financial performance	Wang et al. (2008).	5

### Data Analysis

Because of the (1) non-normality of the data distribution (2) small sample size of 204 (3) goal of maximising the variance explained by the dependent construct in the model, this study used the Partial least squares-structural equation modelling (PLS-SEM) technique with the statistical software Smart PLS 3.3.2 to analyse the data (Hair et al., 2011; 2014).

### Measurement Model

Based on confirmatory factor analysis (CFA), a measurement model was conducted to assess the construct reliability, indicator reliability, convergent validity, and discriminant validity of the constructs. The constructs of the study comprise of lower-order constructs (LOCs) (GFS and FP) and higher-order construct (HOC) (cloud ERP implementation success) which consist of LOCs "usage" and "strategic alignment". The LOCs were reflectively modelled in accordance with literature review. Similarly, based on the literature review and the conceptual logic that the HOC is the consequence of the LOCs (Mikulić & Ryan, 2018), the HOC was modelled as reflective-reflective (Sarstedt et al., 2019). Additionally, to specify and evaluate the HOC, we employed the disjoint two-stage approach. In the disjoint two-stage approach, antecedent paths were created to the LOCs of the HOC directly, without the inclusion of the HOC in stage 1, while the latent variable scores of the LOCs were saved and used to measure the HOC in stage 2.

The first-order measurement model is shown in Table 2. Reliability scores of the constructs measured by CR ranged from 0.914 to 0.972, which are all higher than the 0.7 threshold suggested by (Hair et al., 2014). These results guaranteed the internal consistency between these constructs. The indicators' loadings of the constructs were above the 0.7 threshold, demonstrating the constructs' reliabilities (Hair et al., 2010). Also, the AVE scores which were used to measure the common variance in a particular construct ranged from 0.748 to 0.895, indicating values higher than 0.5 threshold recommended by Fornell and Larcker (1981). Thus, assuring the convergent validity of the constructs. The discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT) which is novel, rigorous and reaches a higher level of specificity than the Fornell-Larcker (1981) criterion and cross-loadings (Henseler et al., 2015). The HTMT scores presented in Table 3 were lower than 0.85 (Kline, 2011), suggesting there is no issue of discriminant validity. The measurement model of the HOC (cloud ERP implementation success) was conducted next in Table 4. The CR for cloud ERP implementation success (0.923) shows the internal consistency of the construct. The factor loadings for usage and strategic alignment (LOCs) of cloud ERP implementation success indicates values higher than the 0.7 threshold (Hair et al., 2010), hence confirming the reliabilities of the LOCs. AVE of 0.857 for cloud ERP implementation success confirms the convergent validity. Lastly, as suggested by Sarstedt et al. (2019), the discriminant validity of all constructs were evaluated, and the HTMT values were below the 0.85 benchmark of Kline (2011) (see Table 5). The results support the reliability and validity of the constructs which can be used for the structural model assessment.



**Table 2. First-order Measurement Model: Factor Loadings, AVE, CR**

Construct	Indicator	Loadings	AVE	CR
Government Financial Support	GFS1	0.966	0.895	0.972
	GFS2	0.949		
	GFS3	0.934		
	GFS4	0.936		
Cloud ERP Usage	ERP_usage1	0.914	0.780	0.914
	ERP_usage2	0.886		
	ERP_usage3	0.848		
Strategic Alignment of Cloud ERP	ERP_str_align1	0.870	0.748	0.964
	ERP_str_align2	0.838		
	ERP_str_align3	0.830		
	ERP_str_align4	0.874		
	ERP_str_align5	0.878		
	ERP_str_align6	0.900		
	ERP_str_align7	0.869		
	ERP_str_align8	0.854		
	ERP_str_align9	0.868		
Financial Performance	FIN_PERF1	0.913	0.811	0.955
	FIN_PERF2	0.858		
	FIN_PERF3	0.896		
	FIN_PERF4	0.923		
	FIN_PERF5	0.910		

**Table 3. First-order Constructs: Heterotrait-Monotrait Ratio (HTMT)**

	ERPUSAGE	FP	GFS	STR_ALIGN
Cloud ERP usage				
Financial performance	0.401			
Government financial performance	0.335	0.249		
Strategic alignment of cloud ERP	0.793	0.478	0.441	

**Table 4. Second- order Measurement Model: Factor Loadings, AVE and CR**

Construct	Indicator	Loadings	AVE	CR
Cloud ERP Implementation success	ERP_USAGE	0.906	0.857	0.923
	STR_ALIGN	0.945		

**Table 5. All Constructs: Heterotrait-Monotrait Ratio (HTMT)**

	CERPIMPL	FP	GFS
Cloud ERP implementation success			
Financial performance	0.496		
Government financial performance	0.437	0.249	

### Structural Model and Testing of Hypotheses

The variance inflation factor (VIF) was used to assess the multicollinearity of the constructs before evaluating the structural model. The VIF values ranged between 1.000 and 1.192. The values are lower than the 3.3 threshold, indicating the absence of multicollinearity among the

constructs (Hair et al., 2014). The standard criteria to assess the structural model followed include the path coefficient, coefficient of determination  $R^2$ , effect size  $f^2$ , and  $Q^2$  (Hair et al., 2014).

### Path Coefficient Assessment

The path coefficients were used to determine the significance of the hypothesised direct and indirect relationships between the constructs. A comprehensive bootstrapping technique was used in SMARTPLS with 5000 subsamples, and t-statistics were generated to examine the significance of all paths coefficients. Therefore, t-statistics  $\geq 1.96$  indicates 0.05 level of significance according to Hair et al. (2014). As shown in Table 6, government financial support ( $\beta = 0.401$ ,  $t = 6.093$ ,  $p < 0.001$ ) had a positive effect on cloud ERP implementation success, thus supporting H1. Cloud ERP implementation success ( $\beta = 0.448$ ,  $t = 5.766$ ,  $p < 0.001$ ) positively influenced financial performance, hence H2 is supported. For the control variable, firm size had no effect on financial performance. That is, either a firm was micro, small or medium sized, there was no differential impact on their financial outcome.

**Table 6. Hypothesis Testing**

No	Hypothesis	$\beta$	SD	t-value	Result
H1	GFS $\rightarrow$ CERPIMPL	0.401***	0.066	6.093	Supported
H2	CERPIMPL $\rightarrow$ FP	0.448***	0.078	5.766	Supported
Control variable	FS $\rightarrow$ FP	0.108 <sup>ns</sup>	0.062	1.479	No effect

Note: <sup>ns</sup> = non-significant, \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ ,  $\beta$  = Standard Beta, SD = Standard Deviation

### Assessment of $R^2$ , $f^2$ , $Q^2$

The determination coefficient ( $R^2$ ) quantifies the amount of variance in an endogenous variable that can be explained by its exogenous variables (Hair et al., 2014). The effect size  $f^2$  enables one to determine the contribution of an exogenous construct to the  $R^2$  value of an endogenous latent variable. Predictive relevance ( $Q^2$ ) utilises the blindfolding procedure to determine the predictive power of exogenous constructs over endogenous constructs (Geisser, 1974; Stone, 1974). As indicated in Table 7, the  $R^2$  value of cloud ERP implementation was 0.161, while that of financial performance was 0.206. This results indicated that 16% of variance in cloud ERP implementation success can be explained by government financial support. Additionally, cloud ERP implementation success and government financial support accounted for 21% variation in financial performance. According to Cohen (1988),  $R^2$  value of 0.26, 0.13, 0.02 suggests substantial, moderate and weak explanatory power.

Hence, cloud ERP implementation success had a moderate explanatory power, while financial performance had substantial explanatory power. The  $f^2$  for GFS  $\rightarrow$  cloud ERP implementation success relationship was 0.192; and cloud ERP implementation success  $\rightarrow$  FP relationship equalled 0.251, see Table 7. According to Cohen (1988),  $f^2$  value of 0.35, 0.15, 0.02,  $< 0.02$  suggests large, medium, small and trivial effect sizes. Thus, government financial support had medium effect on cloud ERP implementation success, also cloud ERP implementation success had medium effect on financial performance. Hair et al. (2014), suggested that when a  $Q^2$  value is higher than 0, it indicates that the endogenous constructs have predictive relevance in the model. The statistical analysis revealed that the  $Q^2$  values for endogenous constructs are greater than zero (0.128; 0.156) as shown in Table 7 for cloud ERP implementation success and financial performance, implying the sufficient predictive relevance of this study's model.

**Table 7. R<sup>2</sup>, f<sup>2</sup> and Q<sup>2</sup> Values**

Relationship	R <sup>2</sup>	f <sup>2</sup>	Q <sup>2</sup>
GFS → CERPIMPL	0.161	0.192	0.128
CERPIMPL → FP	0.206	0.251	0.156

## Discussion and Conclusion

### Discussion

The Malaysian government has provided several financial incentives for SMEs to implement IT, including CC (Alam & Noor, 2009), but adoption of cloud-based services, such as cloud ERP, remains low. Furthermore, accessing GFS has been plagued by high bureaucratic bottlenecks that impede SMEs' implementation of cloud ERP, which is, however, affordable for some SMEs. As a result, the primary goal of this paper is to determine whether SMEs require GFS in order to successfully implement cloud ERP for improved financial performance. This study contributed to the body of knowledge by developing a conceptual model that examined the impact of GFS on cloud ERP implementation success and financial performance in a developing country context using a sample of 204 Malaysian manufacturing SMEs. In H1, it was hypothesised that GFS had a causal relationship with the success of cloud ERP implementation. GFS was discovered to have a significant positive impact on the success of cloud ERP implementation. This finding is supported by Doh and Kim (2014), who claim that the government's technology development assistance grants are critical for regional SMEs in South Korea to successfully innovate. Similarly, Wang et al (2019) found that government supportive roles such as financial assistance had a greater impact on CC assimilation than government regulations.

Our findings show that GFS such as matching grants, subscription fee refunds, and income tax deductions help SMEs effectively adopt and use cloud ERP. According to Cai et al. (2010) and Li and Zhang (2007), government support is more important in developing countries because strategic resources are frequently controlled by the government and involvement in company operations is achieved through the approval of initiatives and the allocation of funds. This study suggests that various financial assistance provided by the Malaysian government can optimise the interest of SMEs' decision-makers in using cloud ERP compared to those who do not receive it.

Furthermore, the impact of cloud ERP implementation success on FP in H2 was investigated in this study. This study discovered that cloud ERP implementation success influenced the financial performance of manufacturing SMEs, which is consistent with previous studies (Gangwar, 2017, Garrison et al., 2015; Khayer et al., 2020; Sallehudin, 2017). Given that the primary goal of cloud ERP implementation is to reduce overhead costs and improve performance, the outcome is predictable (Garrison et al., 2015). This finding implies that SMEs that effectively leverage cloud ERP and align it with their business strategies improve cross-departmental business process collaboration to increase flexibility (Wang et al., 2020), owing to improved information, materials, and product flow in the supply chain (Morell & Ezingear, 2002). As a result, increased revenue, market share, profitability, and return on investment are realised. According to the findings of the preceding analysis, GFS is indeed relevant and required by SMEs in order to successfully implement cloud ERP for improved financial performance.

### **Theoretical and Contextual Contributions**

This research highlights the importance of a specific dimension of government support, namely GFS, in cloud ERP implementation success. Prior CC implementation studies (e.g., AL-Shboul, 2018; Asiaei et al., 2019; Hsu & Lin, 2016) examined government support as a unidimensional construct, combining GFS and NFGS items or measuring only NFGS indirectly. As a result, the unique impact of GFS on CC implementation remained unknown. Given Malaysia's well-known GFS for cloud computing implementation (Hassan, 2017), this study investigated and identified GFS as a significant predictor of successful cloud ERP implementation. This study adds to our limited understanding of how GFS has aided the success of cloud ERP implementation in developing economies, particularly Malaysia. Furthermore, this study contributes to future theorization of government support in IT implementation studies by emphasising the importance of conducting a distinct empirical assessment of its bidimensionality (GFS & NFGS) in order for managers and policymakers to evaluate, improve and prioritise them accordingly.

Aside from prior research in the CC research stream (e.g., Amini & Bakri, 2015; Salum & Abd Rozan, 2016; Usman et al., 2019) failing to examine GFS, they also neglected extending their model to include performance metrics. The majority of previous research has paid scant attention to the holistic relationship between the antecedents of successful CC/cloud ERP implementation and its associated outcomes, such as business performance (Khayer et al., 2020; Novais et al., 2019). As a result, this study provides a better understanding by examining a specific antecedent of cloud ERP implementation success (GFS) and its impact (financial performance). This in-depth investigation contributes to a better understanding of both the causes and effects of implementing information systems.

Prior studies have used the concept of usage (Gangwar, 2017), adoption (Khayer et al., 2020; Munene, 2017) to assess the benefits of CC such as superior performance, which according to Barney (1991), may inadequately represent the VRIN qualities of resources and capabilities that give firms a competitive advantage and superior performance. Thus, in this research, cloud ERP implementation success has been conceptualised as usage and strategic alignment, which represent capabilities. In addition, cloud ERP software represents internal resource acquired from external resource (GFS). The conceptualization validates Barney's resource-based view (RBV) theory by providing deeper insights on how firms can benefit from IT implementation through the combination of resources and capabilities.

### **Practical Contributions**

The findings of this research are vital for practitioners, owners, managers, and policymakers. First, this study's discovery of the critical role of GFS in the success of cloud ERP implementation demonstrates unequivocally that SMEs require GFS to successfully implement cloud ERP. It demonstrates that SMEs do not exist in isolation, but as part of a larger ecosystem, with the government playing a critical role in shaping their technological evolution. Thus, government grants, subscription fee refunds, and tax incentives all contribute significantly to the success of small businesses' cloud ERP implementation.

Although administrative hitches have a negative impact on GFS of SMEs, their decision makers should take advantage of the various GFS available for cloud ERP implementation, as small businesses are fiscally constrained and thus stand to save money. Additionally, SMEs must seek reliable information, such as from online sources and peers, on how to obtain financial assistance from the government and use it to implement cloud ERP efficiently and successfully in order to improve financial performance. On average, SMEs that received

assistance from the government are 8% more likely to increase their level of digitalization than SMEs that did not receive assistance (OECD, 2021).

Second, the fact that successful cloud ERP implementation have been shown to improve financial performance implies that SMEs should intensely use cloud ERP strategically in order to reap its financial benefits. As a result, businesses must leverage it to make quick decisions by integrating critical internal processes with external processes such as smooth supply chain flow.

Finally, this study demonstrated to the Malaysian government the efficacy of GFS in successfully implementing cloud ERP and enhancing the financial performance of SMEs. The government should enhance financial assistance by increasing awareness, resolving all bureaucratic barriers to accessing GFS, enhancing existing financial assistance programmes, and, most importantly, ensuring that SMEs use the funds for their intended purpose. With this in place, there is a guarantee that cloud ERP implementation will improve, thereby contributing significantly to economic sustainability and growth.

### **Limitations and Future research**

This study focused entirely on GFS despite the critique of past studies which failed to discriminate between different types of government support (GFS and NFGS). An in-depth analysis of GFS and NFGS measures of government support by future studies might shed light on how these measures of government support influence cloud ERP implementation as well as the financial performance of SMEs distinctively. Additionally, this study gathered data exclusively from the perspective of owners/top managers. While these respondents are more qualified to provide sufficient knowledge about cloud ERP implementation success and performance, their opinions may contain some bias as a result of their predilection to overrate their responses. To further improve the data, future research should incorporate employee and cloud service provider perspectives. The dataset for this study was cross-sectional, which means it was compiled at a specific time point. Cloud computing is still in its infancy, and the data was gathered during the covid-19 pandemic, during which over 70% of additional SMEs worldwide adopted digital technologies (OECD, 2021). As the cloud matures and more SMEs adopt cloud ERP, a longitudinal study of this research context may uncover emerging and changing issues.

### **Conclusion**

Cloud ERP is an innovative and cost-effective IT solution for today's globalised business environment. The Malaysian government has therefore provided substantial financial assistance to SMEs to implement the technology. However, SMEs have been sluggish in adopting cloud ERP, and the government needs insight on the relevance of GFS if it wants to continue spending public money. Studies on GFS and cloud ERP implementation are sparse, particularly in emerging nations like Malaysia. Previous study either conflated NFGS and GFS or only studied NFGS indirectly. No research has shown that successful cloud ERP implementation based on GFS increases business performance. This study's findings suggest that GFS impacts cloud ERP implementation and thereby improves small business financial performance. It also presents a robust theoretical and practical relevance of a specific type of government support, GFS, and its impact on cloud ERP implementation and the performance of SMEs.

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