The Role of Government Support on Readiness Batik SMEs' in Digital Transformation

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Abstract

Small and medium-sized enterprises (SMEs) are crucial for economic development and sustainability. However, they have challenges regarding sustainability and their ability to adopt digital transformation as part of the industrial revolution effectively. The emphasis on conversations surrounding digital transformation has transitioned from debating its importance to addressing the challenges of evaluating a company's readiness for digital transformation. Hence, it is imperative to establish a systematic procedure to identify sustainability aspects that can enhance the readiness of SMEs to embrace digital transformation. The progress of SMEs in adopting digital technology has a role for the government. The form of government presence supports SMEs in becoming more advanced in using technology. The government plays a pivotal role in fostering SMEs' growth and efficient operation. Government support is crucial and means for the improvement of SMEs. This study investigates the extent of government assistance in facilitating the digital transformation of Batik SMEs. The study used convenience sampling, utilizing both online and paper-based surveys to gather 180 responses from Batik SMEs. There was conducted for this study. This sample facilitated the evaluation of the connections between the proposed variables using the structural model of data analysis. Structural Equal Modeling-Partial Least Square (SEM-PLS) version 3 technique was used to examine the data. Primary data was obtained from questionnaires distributed to respondents. To achieve the research purpose, this study put up three hypotheses. Results indicate that financial support has no significant moderating effect on the relationship between readiness to digital transformational. The strongest dimension of firm readiness is technology readiness. Furthermore, the strongest support of the government is non-financial support. Meanwhile, the study's findings indicate that all the readiness dimensions have a significant and direct impact on firm readiness.

Keywords: digital, government support, readiness, SMEs.

1.0 Introduction

The digital transformation process significantly impacts several industries, including healthcare, telecommunications, automotive, banking, and manufacturing (Nadeem et al., 2018). According to (Wang & Yan, 2023), digital transformation is a digital change brought by technology. Successful digital transformation enables companies to capitalize on strong customer relationships and enhance cross-selling prospects (Paul et al., 2024). In the digital era, the manufacturing industry has undergone a transformation that has resulted in the emergence of small and medium-sized enterprises (SMEs) that are at the forefront of incorporating innovative technology and digital platforms for product marketing, business transactions, and various high-quality investment services throughout their operations (Okfalisa et al., 2022). However, the initiative failed to meet expectations since SMEs showed little engagement and enthusiasm, and active leaders did not prioritize information exchange. As a result, the digital revolution is facing challenges in its implementation (Okfalisa et al., 2022). SMEs have a

substantial impact on the expansion of national economies. As a result, they are a crucial focus for governments' development plans in advanced and emerging economies (Zulu-chisanga & Mandawa-bray, 2020).

Previous research has identified several challenges and needs that SMEs commonly face during the revolution stage (Okfalisa et al., 2022). These include issues related to human resources and capitalization (Song et al., 2020), competition (Schr, 2016), marketing strategy (Ogundele et al., 2013; Yong, 2023), government policies (Jeong et al., 2021), readiness for market conditions, market demand potential (Surya et al., 2021), innovation and creativity (Wall, 2021), exports (Bachtiar & Amin, 2021), company resilience and survival (Altayyar et al., 2021), understanding of local business dynamics (Turner & Endres, 2017), women's empowerment (Nesa, 2017), internet and digitalization (Ji & Singh, 2024; Telukdarie et al., 2023), currency conversion (Badshah & Borgersen, 2020), manufacturing (Lechuga et al., 2021), trade, and infrastructure (Okfalisa et al., 2022). Digital transformation involves obtaining and implementing appropriate technologies (Nadeem et al., 2018) and company readiness (Dolganova & Deeva, 2019; Jain & Jain, 2022; Lezina et al., 2019; Va, 2022).

Readiness is the state of being prepared for digital transformation, encompassing factors like as managerial commitment, operational resources, and technological capabilities and requirements (Kee et al., 2023). As a crucial strategic choice inside the company, the process of implementing transformation must initially evaluate its readiness (Elnaggar, 2023). Readiness assessment allows for identifying and resolving organizational deficiencies before or during the implementation of change (Rismansyah et al., 2022). Additionally, a readiness assessment is conducted to identify any potential limitations that may hinder the organization's success (Kee et al., 2023). This evaluation enables the organization to address and overcome these constraints before the commencement of the project (Pirola et al., 2019).

Multiple readiness evaluations have been previously created, intended as self-assessment tools that encompass many dimensions (Silva et al., 2022; Stoianova et al., 2020; Tripathi & Gupta, 2021). However, while the majority of these studies are centered on manufacturing, they do not specifically target small and medium-sized enterprises (SMEs). Consequently, Kee et al. (2023) propose the development of a three-dimensional (managerial, operational and technological) readiness assessment tool. Kee, et al. (2023) defined managerial readiness (MR) as the dedication of the top management team to digital transformation, prioritizing it and formulating a plan for its implementation. Operational readiness (OR) pertains to the level of preparedness of SMEs in terms of their financial and human resources, machinery, and infrastructure. Technological readiness (TR) assesses the level of readiness of SMEs in terms of their technical knowledge, personnel skills, and the digital readiness of their technological systems and equipment.

The success of digital transformation in SMEs cannot be separated from the role of government. According to Nakku et al. (2020), support from the government is in the form of financial and non-financial support. Financial support programs encompass many forms of assistance such as loans, credit guarantees, and subsidies. Despite the associated risks, these programs empower SMEs to actively pursue more daring and creative ideas (Musabayana et al., 2022). Financial institutions have a key role. In their study, Grimmer et al. (2017) utilized the R-A theory to demonstrate that having access to financial support has a favourable impact on the performance of SMEs. Financial support is crucial for the long-term survival and expansion of SMEs, especially when they face financial constraints. This support allows SMEs to participate in entrepreneurial activities to gain an advantage (Grimmer et al., 2015). Nonfinancial support

encompasses the delivery of services, such as small business consulting, business development workshops, and technical assistance, to enhance SMEs' capacities (Lwesya et al., 2021). In addition, research conducted by Romadon et al. (2014) showed non-financial support from the government in the form of digital technology training.

Multiple prior studies have demonstrated the substantial impact of government assistance in fostering the growth of micro, small, and medium enterprises (MSMEs) (Alkahtani et al., 2020; Arshad et al., 2020; Nakku et al., 2019; Razumovskaia et al., 2020; Romadon, Y., Kumadji, S., & Abdillah, 2014). However, there have also been several studies that have yielded conflicting findings. Nugroho (2015) demonstrates that governmental assistance does not have a discernible impact on enhancing the performance of micro, small, and medium enterprises (MSMEs). The lack of government backing has little impact due to the unreadiness and lack of qualifications among the human resources in MSMEs to embrace and adapt to new technologies and innovations (Romadon, Y., Kumadji, S., & Abdillah, 2014). Hence, when offering assistance to MSMEs, the government must prioritize the readiness and capability of SME company operators (Nugroho, 2015). Seo & Kim (2020) conducted another study which revealed that government assistance was ineffective in enhancing the performance of SMEs. The research highlights the need to provide direction and support to SMEs, emphasizing that it holds greater importance than policy. Similarly, Tende's (2014) research revealed that the government's capital loan program for SMEs did not have any impact on enhancing the performance of SMEs. Hence, this study aims investigates the extent of government assistance in facilitating the digital transformation of Batik SMEs through the firm's readiness.

2.0 Research Method

This research uses Path Analysis with a quantitative approach and smart PLS 3 to explain the correlation between latent variables and multidimensional variables. This study (second-order) on firm readiness variables affecting digital transformation variables with reflective formative constructs. Manifest variables, or indicators, are observable variables that are supposed to convey information about the behavior of latent variables, theoretical concepts, which cannot be observed directly but are fundamental to scientific endeavors in almost all fields. In the social sciences factor models are most commonly used to analyze the interaction between latent and manifest variables. Model construction and estimation used to be focused primarily on the specification, validation, and interpretation of factor loadings and underlying factors (latent variables), but in the seventies of the previous century, the relationships between the factors themselves became a central object.

2.1 Data Collection and Sampling Method

Quantitative was used in this research by using the survey method. Sampling respondents using purposive sampling method. Data dissemination was carried out with the target respondents of Batik SMEs in Pekalongan with a sample of 180 respondents. The questionnaire was distributed by delivering the questionnaire form directly to the respondent. Direct delivery of questionnaires to respondents was preceded by an interview. This was done to ensure that the respondents who filled out the questionnaire met the criteria. The scale in organizing the questionnaire is indicators of the latent variable firm readiness (second order), indicators of managerial readiness, indicators of process readiness, indicators of financial support, indicators of non-financial support, and indicators of digital transformation.

2.2 Research Design

This research consists of firm readiness, government support and digital transformation. The second-order construct model developed in this study uses reflective-refective type II and the second-order construct uses a formative model (the direction of the incoming arrow to the latent variable) as shown in Figure 1.

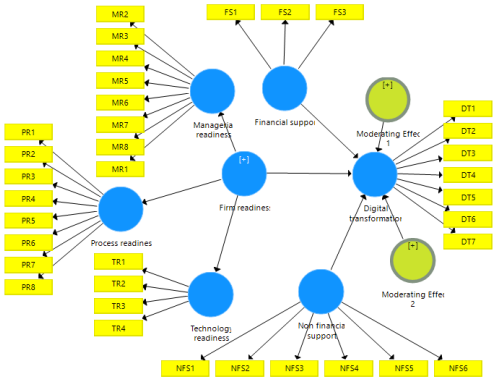

Fig. 1: Reflective-Formative Model in First-Order Construct and Second-Order Construct.

Figure 1 shows the reflective-formative model in first-order construct and second-order construct. The questionnaire instrument was measured using a Likert scale. The second-order construct model in Figure 1, then developed a hypothesis in this research to analyze the influence of Firm Readiness on Digital Transformation and the role of Government Support.

There are 3 hypotheses developed, namely:

H1 : Firm readiness had a significant effect on digital transformation

H2 : Financial support moderates the relationship between firm readiness and digital transformation

H3 : Non-financial support moderates the relationship between firm readiness and digital transformation

2.3 Analysis Method

The analysis technique used in this research (Table 1) is Partial Least Square with Structural Equation Model (PSL-SEM). SEM is a multivariate analysis technique that tests the relationship between variables in a model, both between indicators and their constructs and the relationship between constructs, while PLS is a component or variant (Hair, 2017) based SEM structural equation model. The analysis model was developed using measurement model evaluation and structural model evaluation was processed using the SmartPLS version 3 application.

3.0 Result and Discussion

3.1 Profile Respondents

Research data that met the respondent criteria was successfully collected for analysis by 180 respondents using Hair formula (Hair, 2017) that is indicator multiplied by 5 to 10. Questionnaires filled by respondents aged from 20 to 68 years old that already managed their

firm from 1 to more than 40 years. The social medias that they have been used to support their business are Instagram, What'sapp, Tiktok, Shopee, Telegram, and Facebook. Those respondents have been used the social media from 1 to more than 10 years.

3.2 Result and Discussion

1. Outer Model Measurement

a. First Order Validity and Reliability

Testing the convergent validity of the measurement model with reflective mode indicators that form the firm readiness variable is assessed based on the correlation between item scores/component scores and construct scores. Reflective measurement results are said to be high if the correlation value is more than 0.70 (Ghozali, 2015).

Table 1: Validity and Reliability First Order

Construct	Item	Before				After			
		Loadings	Cronbach's Alpha	CR	AVE	Loadings	Cronbach's Alpha	CR	AVE
Managerial readiness	MR1	0,602	0,918	0,934	0,640	-	0,924	-	-
	MR2	0,843				0,833		0,939	0,688
	MR3	0,864				0,875			
	MR4	0,855				0,873			
	MR5	0,798				0,806			
	MR6	0,728				0,739			
	MR7	0,842				0,838			
	MR8	0,833				0,843			
Process readiness	PR1	0,775	0,912	0,929	0,622	0,775	0,912	0,929	0,622
	PR2	0,748				0,748			
	PR3	0,813				0,813			
	PR4	0,750				0,750			
	PR5	0,854				0,854			
	PR6	0,836				0,836			
	PR7	0,808				0,808			
	PR8	0,712				0,712			
Technology readiness	TR1	0,833	0,863	0,907	0,710	0,833	0,863	0,907	0,710
	TR2	0,880				0,880			
	TR3	0,855				0,855			
	TR4	0,800				0,800			

Notes: outer loading > 0,70, composite reliability > 0,60, AVE > 0,50

Based on the results in Table 1, there are indicators that do not meet the requirements, namely MR1 with a value of 0.602, and must be removed and then tested again. Based on table 1, it is known that the root AVE value is greater than 0.50 and the root AVE value is higher than the latent variable correlation. This means that it shows that the test of discriminant validity with the root AVE of all variables is said to be good, besides the value of all latent variables has a composite reliability value greater than 0.60 (Ghozali, 2014). Thus it can be concluded that all variables have good reliability. With the Cronbach's Alpha value also above the predetermined standard. In testing the outer model for second order, the results of Convergent validity testing of the firm readiness variable measurement model are assessed based on the correlation between the item score / component score and the construct score. Reflective measurement results are said to be high if the correlation value is more than 0.70 (Ghozali, 2015).

b. Validity and reliability second order

Table 2: Validity and Reliability Second Order

Construct	Item	Before				After			
		Loadings	Cronbach's Alpha	CR	AVE	Loadings	Cronbach's Alpha	CR	AVE
Firm readiness	MR	0,915	0,965	0,907	0,710	0,915	0,956	0,965	0,907
	PR	0,948				0,948			
	TR	0,887				0,887			
Financial support	FS1	0,795	0,816	0,892	0,733	0,794	0,816	0,892	0,733
	FS2	0,902				0,902			
	FS3	0,868				0,869			
Non-financial support	NFS1	0,753	0,912	0,932	0,694	0,753	0,912	0,932	0,694
	NFS2	0,850				0,850			
	NFS3	0,848				0,848			
	NFS4	0,829				0,829			
	NFS5	0,855				0,855			
	NFS6	0,859				0,859			
Digital transformation	DT1	0,828	0,769	0,831	0,510	0,827	0,769	0,925	0,712
	DT2	0,812				0,813			
	DT3	0,838				0,838			
	DT4	0,879				0,880			
	DT5	0,860				0,861			
	DT6	-0,082				-			
	DT7	-0,034				-			

Notes: outer loading > 0,70, composite reliability > 0,60, AVE > 0,50

Based on the results in Table 2, some indicators do not meet the requirements, namely DT6 and DT7 with values of -0.082 and -0.034 respectively, so they must be removed and then tested again. Based on the results in Table 2 after removing several invalid question items, they were tested again so that the results showed that the outer loading convergent validity value showed that all values were above > 0.70, the AVE root value was greater than 0.5 and the AVE root value was higher than the latent variable correlation. This means that it shows that discriminant validity testing with the root AVE of all variables is said to be good, besides that the value of all latent variables has a composite reliability value greater than 0.60 (Ghozali, 2015), thus it can be concluded that all variables have good reliability, with the Cronbach's Alpha value also above the predetermined standard.

2. Inner Model Measurement

a. R^2

The structural model in PLS is evaluated using R-Square (R^2) for the dependent variable, the R^2 value is used to measure the level of variation in changes in the independent variable on changes in the dependent variable. The higher the R^2 value, the better the prediction model of the research model (Abdillah & Hartono, 2015). According to Hair (2017) that the rule of thumb R^2 value of 0.75 is considered strong, 0.50 is considered moderate and 0.25 is considered weak. From table 4, it is known that the value of R^2 digital transformation of 0.784 is considered strong. That is, 78.4% of the variable impact is explained by the construct variables of firm readiness and government support, while the rest is from other variables not contained in the research model.

Table 3: R^2 and f^2

Construct	R^2	f^2
Firm readiness	0,710	
Financial support		0,059
Non-financial support		0,383
Digital transformation	0,784	

b. Effect size f^2

Based on Table 4, it shows that the moderating financial support variable in the research model has a weak effect because its value is close to 0.02, which is 0.059. Meanwhile, the non-financial support variable moderating variable in the research model has a strong effect because its value is 0.383.

c. Hypothesis test

According to Ghozali (2015) the limit for rejecting or accepting a proposed hypothesis is 1.96. If the t-statistic value is 1.96, the hypothesis is accepted.

Table 4: Path Coefficient, t-statistics, p-value and Hypothesis Test

	Path Coefficient	T Statistics (|O/STDEV|)	P Values	Explanation
Firm readiness -> Digital transformation	0.219	2.392	0.017	Positive, significant, accepted
Moderating Effect 1 -> Digital transformation	-0.228	2.305	0.022	Negative, significant, accepted
Moderating Effect 2 -> Digital transformation	0.212	2.221	0.027	Positive, significant, accepted

H1: firm readiness has a positive and significant impact on digital transformation. The firm readiness variable has a positive and significant impact on the digital transformation of 0.219 with a t-statistic value of 2.392 > 1.96 and a p-value of 0.017 <0.05. Thus, the results of this study are in line with the research of Citraresmi et al. (2023) which states that firm readiness has a positive and significant impact on digital transformation. Digital adoption is a transition from a conventional business model to a digital business or entrepreneurs can combine the two business models. In a business, the decision to digitize is determined by top management. Process readiness refers to the readiness of an organization to implement new processes or changes in its operational framework. Technology in digital readiness is a variety of elements related to computerization, both hardware and software.

However, different results are presented by Sucipto (2023) and Silva et al. (2022) which state that firm readiness does not affect digital transformation. Research conducted by Sucipto (2023) on SMEs in Jember Regency generally does not have readiness for digitalization. Silva et al. (2022) mentioned that the model used in their research was carried out, not achieve the highest readiness. This model should be used when carrying out digital transformation. It is not intended to assess how digital the organization is, but rather to assess how embedded the "digital-first" culture and mindset is in the way the company works, and how structured the company is in making changes, prioritizing the right initiatives, and keeping up with market changes.

H2: Firm readiness moderated by financial support has a negative but significant impact on digital transformation. The firm readiness variable moderated by financial support has an impact on digital transformation of -0.228 with a t-statistics value of 2.305 > 1.96 and a p-value of 0.022 < 0.05. This means that financial support has a negative but significant impact on the relationship between firm readiness and digital transformation. Thus, financial support cannot moderate the relationship between firm readiness and digital transformation. The results of this study are in line with the results obtained by Nakku et al. (2019) which states that the interaction between FSP and competitive aggressiveness and autonomy is significant, but negative. This result can be explained by the requirements attached to secured loans and credit schemes that limit the ability of companies to pursue attractive entrepreneurial opportunities. Albert and Couture (2013) state that support can reduce autonomy and increase dependency in small businesses. However, the results of this study are not in line with research conducted by Mirzaq et al. (2021) which states that one of the ways the government can improve the performance of SMEs is by facilitating and developing five collaborative roles, namely training, skills, coordinators, specialists, and financial providers. Financial support programs include loan assistance, credit guarantees, and subsidies that enable SMEs to proactively pursue risky, innovative initiatives. Financial institutions play a central role.

H3: Firm readiness moderated by non-financial support has a positive but significant impact on digital transformation. The firm readiness variable moderated by non-financial support has an impact on digital transformation of 0.212 with a t-statistics value of 2.221 > 1.96 and a p-value of 0.027 < 0.05. This means that non-financial support has a positive and significant impact on the relationship between firm readiness and digital transformation. Thus, non-financial support can moderate the relationship between firm readiness and digital transformation. The results of this study are in line with Mirzaq et al. (2021) which shows that the government's role in improving SME digitalization for SMEs in Malang is in the form of providing facilities and infrastructure, training, and also mentoring. Non-financial support consists of providing services such as small business consulting, business development workshops, and technical assistance designed to build the ability of SMEs to follow digital transformation.

4.0 Conclusion

This study aims to analyze the effect of firm readiness dimensions, namely managerial readiness, process readiness and technology readiness on digital transformation moderated by government support in the form of financial and non-financial support. The results obtained are firm readiness affects digital transformation. Financial support is proven to be unable to moderate the relationship between firm readiness and digital transformation. Meanwhile, non-financial support is known to moderate the relationship between firm readiness and digital transformation.

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