The Role of Digital Marketing Technology Assimilation by SMEs

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Abstract

This study investigates factors related to the degree of Digital Marketing Technology (DMT) assimilation by Small and Medium Enterprises (SMEs). This study also proposed a conceptual model to examine at three stages of assimilation: initiation, adoption, and routinization drawing upon theories on contingency settings. The model feature includes five main constructs that was investigated together with its hypotheses. A set of data using 328 participants from SMEs in service sector, were conducted for analysis using multiple regression technique and related statistical tests. The results show that all proposed factors have significantly influenced the DMT assimilation in each stage. The (i) business resilience is significantly and predominantly critical factor in all assimilation stages which follows by (ii) organizational management (*at routinization stage*), (iii) technological readiness (*at adoption stage*), (iv) environmental forces (at initiation stage), and (v) business characteristics (*at routinization stage*). These findings offer insight into how SMEs business owners-managers—would be engage at each assimilation stage of Social Media (SM) and DMT adoption. The novel contribution of this research was to optimize the adoption of DMT so that SME policymakers can create a strategic plan for such an engagement. This empirical study can also help academics better grasp the effects of internal and external factors affecting the assimilation of DMT.

Keywords: Digital marketing technology, Social media, SMEs, Assimilation

Introduction

The role of Small and Medium Enterprises (SMEs) plays a crucial role in the country's economic development. In the situation of the epidemic of the Corona Virus Disease (COVID-19) incident; obviously, many entrepreneurs were affected by the aforementioned economic recession (Bank of Thailand, 2020), resulting in SMEs needing to accelerate new technology adoption to remain

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in their competitive market (Hershanty & Jafrizal, 2021; Matarazzo et al., 2021; Pisicchio & Toaldo, 2020). Previous research has shown the attempt by some SMEs to adapt their existing business models incorporating new technologies, but the rate adoption of such initiatives, and actual metrics which describes how their project technology uptake and success—still remains a mysterious (Wielgos et al., 2021). Indeed, new technologies are often major strategic investments, as they impact a firm's performance and are led by top management who cannot afford to risk failure; consequently, such fully new technologies investment is still challenge. Another reason could stem from the fact that SMEs tend to not accept unfamiliar technologies that cannot well operate and control due to resource constraints (Teo et al., 1997). Regardless COVID-19 situation, the perspective of entrepreneurs SMEs have continually changed with factors that are catalysts for changing business models such as the change of consumer behavior, rapid growth of technology and uncertainty related to government policy due to the severity of the outbreak. Consequently, SMEs must have a flexible business model that can adapt swiftly to changes according to those factors, in order to survive the economic downturn.

Central business District (CBD) of Phitsanulok is one of regional city where SMEs suffered from economic recession of COVID-19 hit also. One of the major challenges and obstacles were to adopt new mechanisms for day-to-day business activities, particularly new technologies such as a full adoption of SM and its strategy (Yawised & Apasarawirote, 2021). Although SM platforms was perceived as a game changer of business owners-managers' perspective in helping businesses to increase trade opportunities and to create new and potential consumers, some SMEs; especially located at Phitsanulok, considers that SM is perceived rather as a natural and gradual improvement of their already existing legacy systems (Apasrawirote & Yawised, 2021; Yawised & Apasarawirote, 2021). Additional common explanation why SM is not perceived as a game changer was that the SM is not a new technology of which company has been using the SM sites for engaging with customers for a years before they have been labelled as 'Digital Marketing' (DM) tools (Olson et al., 2021). The adoption of SM platforms has increasingly become part of supportive marketing practitioners and business owners. In line with the government's policy to develop digital business plans in the 20-year national strategy and issuing policies of economic stimulus financial streams using Electronic Payment (e-Payment) through the use of smartphone application. Meanwhile, Phitsanulok local government have created a master plan of 20 years strategy to upgrade SMEs business and immigrates them to digital platform as Phitsanulok will become distribution center of logistics at lower northern

region (OSMP, 2021). As such, it is possible that SM engagement by SMEs tends to be inevitable driven by necessity.

According to the report of the Phitsanulok chamber of commerce (CGD, 2021a), the number of new entrepreneurs registered in new businesses with digital technology has continuously increasing, such as registration for the e-Commerce, e-Payment and e-Delivery scheme. Such movement indicated that local SMEs tend to invest more in their SM channels coupled with its sophisticated system. Some SMEs extend it as part of a business strategy to attract new potential customers. Consistent with previous research asserted that many SMEs that has already engage in Digital Marketing Technologies (DMT) will obtain a new group of customers that they never expected before (Delacroix et al., 2019). According to prior empirical studies, internal and external factors such as business characteristics (Ritz et al., 2019), resilience of business and leader (Petrocchi et al., 2021; Tasic et al., 2020), organizational management (Katsikeas et al., 2020), environmental forces (Hossain et al., 2021), and technology readiness (Nugroho et al., 2017), may influence DMT adoption by local SMEs. However, there were no empirical studies regarding the roles and levels of DMT usage by Phitsanulok' SMEs including the degree to which DMT have transformed business model, the levels and stages of DMT engagement, and the methods and approaches for adopting it. Thus, with the nature of Thai local SMEs context, particularly, rural SMEs, such factors that could drive SMEs to engage with DMT, should be investigated. Although there is a general agreement in recognizing the importance of DMT as a technology supporting the marketing practices, a complete theorization of the variables that affect the relation regarding the adoption intention of such initiatives is still lacking. To address these research gaps, this study have designed a theoretical model based on the theory of Technology acceptance model (David et al., 1989) in order to identify the underlying factors and conditions that drive business owners-managers to engage in SM so that they operate it as DM. In this scenario the main objective of this research includes:

To investigate the characteristics of the SMEs' attributes, determine DMT assimilation

Literature review

Digital Marketing (DM) has been defined in the terms of complete online marketing strategy encompassing major techniques by leveraging SM online advertising, content marketing, influencer marketing, search engine optimization (SEO), e-mail marketing, game advertising, affiliate marketing, pay-per-click and e-commerce website trends (Chinakidzwa & Phiri, 2020; Dolega et al.,

2021; Mulier et al., 2021). Adoption of the DM is not restricted to certain industries. There is an increasing trend for firms, regardless of industry, using SM sites to reach out to customers. However, businesses that have higher market performances measured by revenues are more likely to use multi-SM channels to reach their customers compared to others. The characteristics that differentiate SMEs from large businesses are related to their structure, strategy, environment, and decision-making process, and leader individual traits, such as the role of the owner-dominant manager, but they also relate to their flexibility, proximity to markets, and ability to react and reorient themselves. Thus, the adoption and assimilation of DM, and of digital technology in particular, are deemed to be influenced by a number of business characteristics, organizational, environmental, technological and individual factors (Bellalouna, 2021; Mulier et al., 2021; Saheb et al., 2021). Whereas digital technology adoption refers to whether or not a business willingness to use such technology, DMT assimilation essentially refers to the breadth and depth of such technology usage. Thus, the proposed factors below are expected affecting assimilation DMT process by SMEs business also.

2.1 Business characteristics

Research suggests that type of market (i.e. business to customer (B2C) and business to business (B2B)) and the age of business operation have positive impacted on new technology uptakes by leveraging digital SM platforms to disseminate information on marketing purposes (Cartwright et al., 2021; Juntunen et al., 2020; Krings et al., 2021; Rodrigues Graziela et al., 2020). The process of absorption such as SM sites have performed in different ways based on the flexibility and the readiness of their resources and capabilities together coupled with target-market context. However, transitional business model in digital era in terms of short-long term strategic goals and plans— is quite time consuming and may lead to costs that outweigh the likely benefits (Ritz et al., 2019). Thus, age and type of business including the level of SM usage would determine as a drivers or barriers in such technology adoption (Hendriks & Stokmans, 2020). Top management may draw up several alternative strategic scenarios and appraise them against the long-term objectives of the business. The use of SM platform is scrutinized as a first step tactical tool to engage and connect with their customers. The level of strategic SM usage depends on the level of marketing program intensity (Ritz et al., 2019). The research conducted by Ritz et al., (2019), for example, indicating that technological benefits may not be the only motivators for small business entrepreneurs who undertake digital marketing. The reason could be that they would change the business model supporting from the change of customer behaviors. Obviously, customers' increased usage of smart technology is causing business practitioner to recognize their impact on customer purchasing experiences. As a result,

adjusting business using the previous work experience and skills that they have acquired—created a process of using or transforming the environment called as 'Assimilation process' (Omenugha, 2018). Thus, this leads to the first hypothesis:

H1: There is a positive relationship between business characteristics and DMT assimilation process

2.2 Business resilience

Previous research indicating that the resilience of SME's leader and its business tends to uptake new technology integrating into their existing business process (Garikipati & Kambhampati, 2021; Petrocchi et al., 2021; Tasic et al., 2020). Some previous scholars have proposed dominant indicators for IT and e-business assimilation by SMEs. This includes the characteristics of the business resilience such as the business's structure and resources adaptability (Burggräf et al., 2021; Elghany et al., 2012), together with the resilience-decision making of the business's leaders (Conz et al., 2017; Herbane, 2019). According to contingency theory, business leaders will always face unique challenges, and they must be prepared to admit that their success is contingent on their circumstances (Fiedler, 1964). Thus, the ability of adaptability of knowledge and skills of the SMEs leader and employees are among the most important determinants of group performance which can lead to the transformation of new business paradigms and processes (Burggräf et al., 2021; Glabiszewski & Zastempowski, 2016). Haarhaus and Liening (2020) argues that with environmental uncertainty strengthens the positive effect of strategic foresight on strategic flexibility. Additionally, Perelygina et al. (2022) conducted a research by creating a digital business model indicating that the capacity to assimilate DMT does not only learning and utilizing it, but also transforming it appropriately, with suitably resources or even the strength of capabilities being co-created. Thus, this leads to the second hypothesis:

H2: The greater business resilience, the greater its assimilation of DMT

2.3 Organizational management

According contingency theory, in organizational behavior context, focuses on particular environmental circumstances that might influence the direct connections between the decision to change or not to change business model which could influence the adoption of new ideas (Sousa & Voss, 2008; Vidal et al., 2017). Such environment relates to the leadership which involves a process of influence in order to achieve goals (Vidal et al., 2017)**.** Given that digital technologies assimilation is relatively related with employee-level initiatives and on the technology savvy nature and creative capacity of business leader and employees— operational management (Sousa & Voss, 2008),

managerial management (Katsikeas et al., 2020) and risk management (van der Vegt et al., 2015) have been considered as potential components in making decision to engage in digital technology. Also, operational and managerial flexibility in the sense of DM era, is examined in the context of the coordination of a multi-stage utilizing data. Customer data seems not to be a resource anymore, it could be transformed as business capabilities (Herhausen et al., 2020). The DMT assimilation of such businesses perform in different ways based on their traits and resources. Thus, it could be assumed that business with well management in terms of operational, managerial and technical infrastructure exists to support the use of the system—could have well prepared a function of new technology adoption(Chatterjee & Kumar Kar, 2020; Patil et al., 2020; S. Kim et al., 2022). Therefore, this study would expect the following relationship to hold true:

H3: The greater SMEs perform well in their organizational management, the greater its assimilation of DMT

2.4 Environmental forces

Previous research found that the pressure from external factors (i.e. competitive market, economic recession, pandemic incident and etc.) could result in the business aware of changes in business practices (Al-Maroof et al., 2020; Glabiszewski & Zastempowski, 2016). Specifically, external pressures from the firm's business partners can lead to fully adoption of new advancing technology (Abed, 2020). The absorptive capacity of a company, according to Cohen and Levinthal (1990), is its ability to recognize, integrate, and use knowledge from the environment. Because absorptive capacity is classified as an ability, it cannot be assessed directly, but rather through common proxies such as research and development activities (Leahy & Neary, 2007), organization structure (Kane, 2017), routine (Daghfous, 2004), and new digital business practices (Schiavone et al., 2021). The absorption of new knowledge about DMT by SMEs is high or low stemming from a degree to which such external forcing factors are seen by all stakeholders. In other words, higher competition intensity and uncertainty during disease pandemic coupled with economic recession—enable SMEs to accelerate the speed of absorptive capacity of DMT (Glabiszewski & Zastempowski, 2016; Hossain et al., 2021). This could state that the environments forces may affect the degree of adoption. Hence, this study hypothesizes the following:

H4: The greater the SMEs environmental forces, the greater its assimilation of DMT.

2.5 Technological readiness

Previous empirical research conducted by Zhu et al. (2006) showing that characteristics of the technological context, including both technology readiness and technologies intergration by the firm were the key derterminant factors of e-business assimilation. Glabiszewski and Zastempowski (2016) also further extends the absorptive capacity in technological context with including the ability of acquire new technology, ability to assimilate the acquired technology and to exploit the introduced technology. As expected, SMEs were assumed to be engage in SM platforms, neither sophisticated platforms nor complex analyses are essentially required for effective marketing system. A traditional marketing requires any technologies (regardless of how simple or complex they are) to help facilitate the underlying marketing and customer-related strategies with the aim of reaching customer, then using that to tailor communications to customers and eventually enhancing a customer lifetime value (Yawised et al., 2018). Prior research regarding the adoption of new technology in smart hotel (Yang et al., 2021) and in SMEs (Nugroho et al., 2017) reaffrims that technological readiness have a positive significant influence on the new technology adoption. The degree to which SMEs' adoption and implementation level depends on the sophisticated legacy system in their business (Martin et al., 2020; Pappas et al., 2021). Thus, the readiness of technology and the intensity of its usage could impact on the potential of DMT assimilation also. This would expect the following relationship to hold true:

H5: The greater the SMEs readiness of advanced technology, the greater its assimilation of DMT

Conceptual framework

Based on aforementtioned, five constructs are proposed including: business characteristics (i.e., type of market and age of business), business resilience (i.e., ability of leader and busines adaptability), organizational management (i.e., operational, managerial and risk management), environmental forces (i.e., competive presurre and uncertainty (COVID-19)) and technological readiness (i.e., technology readiness and level of usage). Each construct represents as a broad picture representing a component of variables details for further analysis. Such factors are deemed to influence a SMEs' assimilation of DMT as shown in **Figure 1**. In this study, the assimilation of DMT is concptualised as three stages of enagegement: (i) initiation, (ii) adoption, and (iii) routineiztion adapted to previous work model conducted by Zhu et al. (2006). The initiatives stage refers to ground-breaking and on job training activities, the adoption stage is more strategic in nature with a standardized process, while the routinization stage is emphasizing on redesign process business and

the adpatability processes that impacted on the structual business functions. This study supposes that all such proposed factors could affect in each stage of assimilation. Assimilation stages for SMEs in adoption DMT still blurred with a lack of empirical supports in developing country, particulally in the rural areas.

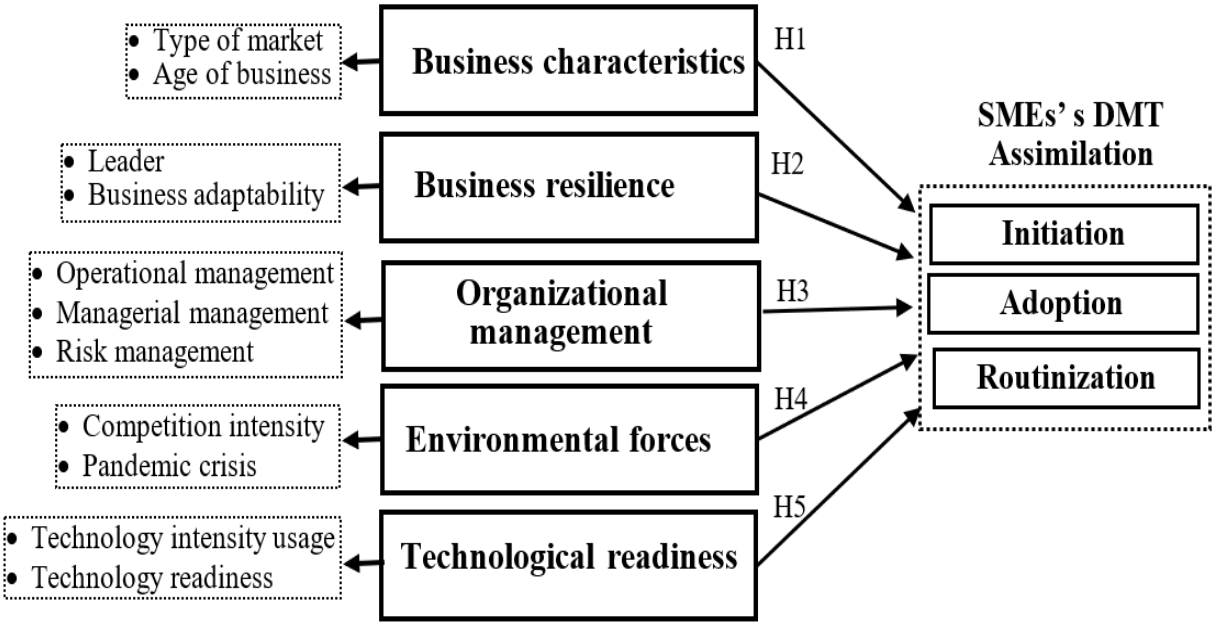

Figure 1 A proposed conceptual model of SMEs' DMT assimilation

Methodology

The quantitative research method was used in this resarch. The study included 328 SMEs which is operated at Phitsanulok' CBD (i.e., type of business mainly includes retail, wholesale, service businesseses). The purposive sampling was used to distribute a self- administered questionnaire. The results from samples were therefore representative of the population approximately of 1,284 businesses in CBD of Phitsanulok (CGD, 2021b). Research instrument used in the data collection is closed-end questionnaire to measure the variables to collect the data for participants (SMEs) who already had SM presence and system in their business. Specifically, a single informant in each firm was also conducted which included SME owners or managers or even the person who are currently enaging in marketing program. To ensure validity of quatitative research, the survey instruments was developed from a comprehensive review of current literatures related to the topics, and examination of survey items was reviewed by an expert panel for its content, scope, and proposed variables. Also, to test validity of the scale items, **Table 1** demonstrates the correlation matrix among all constructs which presents discriminant validity of it as suggested by Bagozzi et al.

(1991). The numbers are presented in the form of square root of the average variance extracted together with output of a *p*-value.

To test the reliability of the physical literacy Cronbach's alpha coefficient (α) (Streiner, 2003) was used incorporating with Composite Reliability (CR) test. Both reliability measurement method was greater than 0.7 indicating that the reliability is acceptable. Since the study uses data collected from a single-source, Harman's single factor test was conducted to ensure the common method variables bias did not affect the data (Podsakoff & Organ, 1986) and the total variance results presented less than 50% in line with previous research suggested (Dupuis et al., 2017) showed that a single source of respondents in this study did not cause significant bias. The statistics used in the data analysis for testing hypotheses was multiple regression analysis.

Table 1 Correlation coefficients matrix

Constructs	α	CR*	1	2	3	4	5	6	7	8
(1) Initiatives	0.80	0.73	1							
(2) Adoption	0.75	0.70	.35**	1						
(3) Routinization	0.92	0.70	.24*	.02	1					
(4) BC	0.86	0.82	.28*	.18	.08	1				
(5) BR	0.76	0.71	.11	.26*	-.50	-.20	1			
(6) OM	0.79	0.72	.30**	.16	.20*	.14	.18	1		
(7) EF	0.84	0.74	.26*	.51***	.26**	.08	.02	0.04	1	
(8) TR	0.90	0.77	.20*	.27	-.31	.16	.09	*N/A*	*N/A*	1

CR= composite reliability, N/A= Not Applicable,

*P=value ***p < 0.01, **p < 0.05, and *p < 0.10*

Results

Table 2 demonstrates the characteristics of respondents. Of 328 respondents (after eliminating incomplete surveys), reported the engagement of SM by their business. Most of respondents were business owner (70.9 %) and food and beverage sector were reported as the most answered among of its industrial sector representing as 26.6 %. Type of market was B2C (67.3%) where the majority of respondents operated their business between 3 to 10 years (48.9%). Also, most of respondents had an experience of SM usage between 1 to 5 years.

Table 2 Descriptive results

Respondent position	**N**	**%**	**Industrial sector**	**N**	**%**
Business owner	244	70.9	Food and beverage	87	26.6
Manager	84	29.1	Retails and wholesale	65	19.8
Overall	328	100	Tourism and hospitality	58	17.7
Type of business	**N**	**%**	Argriculture	42	12.8
B2C	221	67.3	Education	35	10.6
B2B	85	26.0	Finacial services	26	8.0
Others (e.g. B2C and B2B)	22	6.7	Manufacturing	10	3.0
Overall	**328**	**100**	IT and media	5	1.5
Age of business operation	**N**	**%**	***Overall***	**328**	**100**
Between 1-2 years	120	36.5	**Experience of SM usage**	**N**	**%**
3 – 5 years	72	22.0	Less than 1 year	84	25.6
6 – 10 years	88	26.9	1 – 5 years	185	56.4
More than 10 years	48	14.6	More than 5 year	59	18.0
Overall	**328**	**100**	***Overall***	**328**	**100**

Hypotheses testing

Based on the multiple regression analysis, **Table** 3 shows a summary of overall fit statistics. The results show the Adjusted R^2 of the model was .391 and R^2 (R square) = .384 respectively. This means that the regression explains 38.4% of the variance in the data. The values of the coefficients reveal that each unit increases in business resilience and the organizational management is associated with an increase in the uptake of DMT assimilation by a factor of 3.20 (B=.379) and 2.29 (B=.274) respectively (Table 6). This means that business resilience has a maximum and a larger part in explaining actual engagement of DMT assimilation. The third largest variance in absorptive DMT is explained by technological readiness of SMEs, which is followed by environmental forces and business charaterirstics. All proposed variables were significantly impacted on DMT assimilation; thus, resulted in all hypotheses of this study were accepted ($p<0.001$).

Table 3 Multiple regression overall fit statistic of DMT assimilation

Model	DMT assimilation				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.860	0.267		11.306	0.011
Business characteristics	-0.166	0.179	-0.099*	0.844	0.000
Business resilience	0.219	0.268	0.379*	3.206	0.000
Organizational management	0.100	0.287	0.274*	2.296	0.000
Environmental forces	-0.152	0.170	-0.12*	2.188	0.000
Technological readiness	0.147	0.084	0.112*	1.718	0.000
$p<0.001$ $R=.412$, $R^2=.384$, Adjusted $R^2=.391$, $SE=.88235$, $F=3.489$, $Sig=.000$					

Table 4 Multiple regression analysis of three stages DMT assimilation

Variables	Initiation			Adoption			Routinization		
	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta
(Constant)	1.516	0.228		1.901	0.361		1.645	0.364	
Business characteristics	0.359	0.076	0.078	0.154	0.276	0.278*	0.157	0.194	**0.220****
Business resilience	0.381	0.157	**0.277*****	0.055	0.223	**0.582*****	0.381	0.335	**0.201****
Organizational management	-0.037	0.174	**-0.139***	0.112	0.216	**0.124***	0.272	0.224	**0.345*****
Environmental forces	-0.085	0.168	**-0.194****	-0.352	0.145	**-0.130***	0.152	0.243	**0.141***
Technological readiness	0.281	0.146	**0.170****	0.504	0.071	**0.470*****	-0.049	0.168	**-0.014***

Significant,	**R**= .650	**R = .699**	**R= .562**
***$p < 0.001$,	**R^2** = .522	**R2 = .587**	**R2 = .441**
**$p < 0.01$,	**Adjust R**	**Adjust R**	**Adjust R**
*$p < 0.05$	**Square** = .419	**Square = .462**	**Square = .344**
	SE = 1.652	**SE = .845**	**SE =2.665**

Further analysis to find the best indicators related to the three stage of DMT assimilation, the findings show in **Table 4** indicating that at the initiation and adoption stage—business resilience and technology readiness are significantly predictors, where business resilience has a higher impact than Technological readiness by comparing the standardized coefficients (Beta= 0.277 versus 0.170 at initiative stages and 0.582 versus 0.470 at adoption stage). Meanwhile, organizational management is considered as an impact predictor at the routinization stage (Beta=0.345), followed by business characteristics (Beta= 0.202) and resilience (Beta= 0.201) respectively. A predictive construct each stage(R-square) can explain 52.2 % at initiation, 58.7% at adoption, and 44.1% at routinization stage as shown in **Table 4**.

Discussion

After test of five factors on three stage of DMT assimilation. The empirical results have revealed several factors that have differential effects at different stages. As expected, all proposed factors including business characteristics, business resilience, organizational management, environmental forces and technological readiness—are significantly impacted on DMT engagement leading to accept hypothesis 1 to 5. Specifically, to answer resaerch questions to what the characteristics of the SMEs' attributes determine DMT assimilation are—the priority of factors (based on hypotheses testing) has discussed as follows:

- *Business resilience* (H2)— indicated as the predominantly of

DMT assimilation in all stages, it might be argued that SMEs tend to be more advanced in using technologies integrating with the flexibility of business practices. In line with previous research, although SMEs usually engages with the unfamiliar technologies (Teo et al., 1997), flexible leaders have the ability to change their marketing plans in response to unpredictable circumstances and match the reality of the situation (Herbane, 2019). Thus, at the initative and adoption stage of DMT, SMEs with resilence planning to uncertainty will enable them to have a great absorptive capacity.

- *Organizational management* (H3)— shows as a crucial

element with all DMT assimilation stage, particularly the routinization stage. DMT routinization requires a formalization of operations aimed at achieving strategic expansion and actions aimed at improving resilience to severe recession pandemic. This implies that with less operational structure in SMEs, the resources can be utilised utilised more explicitly for practice. However, at the initiative stage, a formal strategic DMT implementation of the strategy will inevitably be ad hoc and patchy. The practical learning process will be conducted the basic of DMT professional skills at the routinization stage. Once the learning practices of DMT succeed, the formal stratgic planning process will be created along with the risk management functions to make action plans are useful in implementing or strengthening activities. In line with previous research affirms that SMEs that do well operate and manage their existing resources and adapt into new business technology system and vice versa, are more likely to uptake such technologies compared to those who are had not. Also, a company that have a low risk aversion tends to engage in new innovative technology also during COVID-19 pandemic (Petrocchi et al., 2021). This is because such businesses have sophisticated adaptability strategies that conduct a practical and helpful for business survival (Burggräf et al., 2021; Elghany et al., 2012).

- *Technnologies readiness* (H5)— is considered as another

critical element for DMT assimilation. Even though SMEs already engaged in SM platforms, the strength of the entire absorption potential is derived from the individual elementary components which are the business's specific resources and capabilities being the source of individual abilities. But this study have not provided much support from previous research by Taiminen Heini and Karjaluoto (2015), showed that SMEs seem not to be keeping pace with digital developments, mostly due to the lack of knowledge of DM. However, with the COVID-19 pandemic recession, this study found that the key determinant of DMT assimilation by SMEs shifts from accumulation to integration of technologies such as merging SM platforms to legacy system. Thus, it can be argued that at adoption stage, SMEs tend to assimilate new ideas to traditional system by observing their rivals or successful business that already adopt DMT initiaves, and then adapted it into their business context. The resulted of SMEs with technology readiness, thus, would be able to assimilate DMT into the organisanal culture.

- *Environment forces* (H4)—as expected, competition intensity

and crisis situation are positively impacted on DMT assimilation at initiation and adoption stage in correspondence with previous studies confirmed that SMEs with large customers and followers must be prepared to increase their business's assimilation of DM trends rather than under pressure from

their customers and other rivals (Belanche et al., 2021; Sugandini et al., 2019). Unsurpisngly, since the COVID-19 pandemic occurs in 2019, SMEs seem to rely more on the development of their internal practices to support their marketing program.

- *Business characteristics* (H1)—is determinant of key factor at routinization stage, this could explain that to accomplish self-transformation and survival, SMEs are now actively embracing digital technologies and altering business techniques. With readiness of resources in terms of financial supports, and short-long term strategic goals and plans, coupled with precisely of target market segment, such adoption plan can lead SMEs through the process assimilation and help clarify their decisions to engage in such initiatves. In line with recent study Ritz et al. (2019) and Naeem (2020) affrim that DMT adoption is quite time consuming, the changes in long-established businesses can begin practicing on their employees where the collaborative and interactive usage of SM platforms can increase technology knowledge while also facilitating routine exchange of rich information.

The novel contribution of this research lies on both practical and theoritcal aspects. From a theoretical perspective, this study contributes to the current literature by providing empirical evidence that business characteristics, business resilience, organizational management, environmental forces, and technological readiness are the factors affecting SMEs assimilation of DMT. Also, the empirical research confirms the previous study in terms of investigating the factors influencing the DMT adoption. In practical level, this study contributes to the context of local SMEs where business owners, markting managers, practitioners or policy makers'—could improve favorable traditional marketing strategy incorporating new technology adoption. This study also serves as a foundation for developing a strategic adoption plan for any new cutting-edge technology incorporating with SMEs' business strategy.

Limitations and conclusion

There will be a limitation of this research; first, the findings are limited by the subjective, self-reported nature of the single respondent's data. Second, the study's focus on a single developing country may limit the generalizability of the findings to other countries. Third, although construct reliability and validity were empirically tested in data set, future confirmatory studies are necessary to determine the external validity of the results. Testing path models including the relationship of specific proposed variable using structural equation modeling is recommended. The findings of this study have relevance for researchers as well as SMEs owners-managers. Given the prior empirical

data on DMT in SMEs, the findings of this study show that SMEs must examine the assimilation level in order to gain more information. In this context, the concept of DMT assimilation as operationalized in this study appears promise, as SMEs' utilize SM platforms and smartphone applications varied substantially. The degree to which DMT assimilation had progressed that depends on SMEs' heterogeneity and their effort put into it.

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