International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

INTERNATIONAL JOURNAL OF ENTREPRENEURSHIP AND MANAGEMENT PRACTICES (IJEMP)
www.ijemp.com

EXPLAINING BUSINESS PERFORMANCE ENABLERS IN THE NEW WORLD OF DIGITAL BUSINESS

Nurul Hidayana Mohd Noor[1*]

[1] Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA (UiTM), Seremban, Negeri Sembilan, Malaysia
Email: hidayana@uitm.edu.my
[*] Corresponding Author

Article Info:

Article history:
Received date: 24.02.2025
Revised date: 20.03.2025
Accepted date: 10.06.2025
Published date: 30.06.2025

To cite this document:

Noor, N. H. M. (2025). Explaining Business Performance Enablers In The New World Of Digital Business. *International Journal of Entrepreneurship and Management Practices, 8* (30), 366-381.

DOI: 10.35631/IJEMP.830027

Abstract:

Digital business will change how people manage and conduct their business and market business products to a broader market level, even internationally, faster and cheaper. Following previous studies, the factors that cause the implementation of digital business are less well received by some small entrepreneurs due to cost, location, and productivity factors. This study aimed to identify the relationship between factors influencing digital business performance among small business entrepreneurs in the State of Selangor and Kuala Lumpur. These factors include attitude, subjective norm, perceived behavioral control, and digital competencies. The second is to examine the mediating effect of digital competencies. The study used cluster sampling to select respondents for this study. A total of 227 entrepreneurs were accepted as final respondents for the study. The study format was a questionnaire using an online method. The data collected were processed using SPSS and AMOS. Structural Equation Modelling (SEM) was used to form the proposed model. Four variables, namely attitude, subjective norm, perceived behavioral control, and digital competencies, were found to have positive and significant relationships with performance. Digital competencies were found to mediate the proposed relationships partially. This discovery is expected to help small entrepreneurs leverage the use of digital technology to increase business profits and use it to compete in the digital economic environment, as well as to assist government agencies in helping in the form of training and infrastructure appropriate to the needs of entrepreneurs.

Keywords:

Attitude, Business Performance, Digital Competencies, Perceived Behavioral Control, Subjective Norm

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

Introduction

In a world surrounded by the advancement of science and technology, we can enjoy various benefits because of innovation and technological applications in daily life (Lazo-Amado et al., 2021). The evolution of telephones to mobile phones and smartphones has changed today's society's landscape, where everything moves quickly and briefly. With an Internet connection, online or digital business allows anyone to conduct virtual buying and selling transactions (Zhou et al., 2025). Digital usage in the Industrial Revolution 4.0 (Industry 4.0) is increasing significantly. This trend has changed the landscape of human life, including the economy, the world of work, and even human lifestyles (Pira & Fleet, 2025). These changes have also significantly impacted the business sector (Wielgos et al., 2021). Digital technology in business has opened various opportunities for entrepreneurs (Qazi, 2025). In 2023, e-commerce contributed 248.16 billion Malaysian ringgit (RM) to the gross domestic product (GDP), an increase of around nine billion Malaysian ringgit compared to the previous year (Amanda, 2025).

According to the Department of Statistics Malaysia (DOSM), Malaysia's e-commerce revenue recorded a four percent growth to RM918.2 billion in the first nine months of 2024, with the highest amount reached in the second quarter worth RM309.8 billion. However, e-commerce revenue in the third quarter of 2024 recorded a slight decrease of 0.6 percent to RM307.9 compared to the second quarter (Bernama, 2024). Despite this, e-commerce remains an important pillar in the Malaysian economic landscape. In 2023, the Information and Communications Technology (ICT) and e-commerce industry will generate value of RM427.7 billion compared to RM411.6 billion in 2022, with a growth of 3.9 percent. In addition, e-commerce revenue by customer type through Business to Business (B2B) recorded the highest revenue of RM786.5 billion with a contribution of 69.8 percent, followed by Business to Consumer (B2C) with RM312.6 billion (27.7 percent), and Business to Government (B2G) with RM27.8 billion (2.5 percent) (Bernama, 2024).

Among the benefits consumers get from online purchases is that it can save users time (Setkute & Dibb, 2022). The congestion factor in shopping malls and supermarkets has made users switch to digital businesses. Users do not have to rush to find a parking space, queue to make payments, or fight to get limited items (Qazi, 2025). Digital purchases give users a different experience because they can browse and find items that meet their needs (Akpan et al., 2022). Payment is also easy with today's Internet banking technology, which only requires users to verify and confirm. This efficient, safe, and easy logistics facility has become the new norm in a society where time is important (Burns, 2022).

From the perspective of businesses, digital businesses have lower risks when running a business (Qin et al., 2025). This is because entrepreneurs do not need to spend money on renting a business premise and hiring employees more optimally than conventional businesses (Mohd Noor et al., 2024a). Starting a conventional business is usually higher, but renting a shop, renovating a building, employee wages, and others can be reduced through digital business. Thus, small entrepreneurs need to utilize the resources and capabilities of digital platforms more effectively to compete with larger companies (Olson et al., 2021). The use of technology can benefit businesses in mapping the direction to the next growth stage. Digital businesses use a multi-sided platform that can combine customers, suppliers, and partners in one platform and form a new ecosystem. This digital ecosystem can provide cost advantages, increase productivity, and build competitiveness for the business (Wei et al., 2025). Many

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

studies also recommend using digital platforms among small enterprises to benefit their businesses more significantly (Lim & Teoh, 2021; Wei et al., 2025).

Nowadays, digital marketing methods have become the leading platform for distributing products to the target market they want to reach. According to Lee et al. (2021), the Internet has become a catalyst for empowering small entrepreneurs. Local businesses such as Elrah Exclusive, Radiusite, and many other famous brands use technological facilities to promote their products. Recently, digital business has significantly changed the buying and selling system to a more straightforward and safer one; for example, fashion brands use websites and social media to promote clothes and payments through a more secure platform. The success of engaging in digital entrepreneurship also depends on the cost of business, the importance of interpersonal communication, and digital skills (Al Omoush et al., 2025).

However, handling digital business is not easy, and there are many challenges among them: risk of digital fraud, lack of digital literacy and skills, limited market opportunities, unsuitable business products, and fierce competition with established digital businesses (Mohd Noor et al., 2024a; Qazi, 2025; Qin et al., 2025). In 2024, The Royal Malaysian Police (PDRM) revealed that RM62 million in losses were recorded due to online or e-commerce fraud. Fraud originating from advertisements via Facebook recorded the highest number of cases, with 3,457 cases, followed by WhatsApp, which had 1,168 cases. TikTok also recorded 800 cases, followed by the Telegram application with 771 cases, making the total number of frauds recorded 6,909 cases (Hafidzul Hilmi, 2024). In addition, a lack of interest in using high-tech devices is also a significant factor hindering small entrepreneurs from applying business digitally (Noor & Omar, 2024). Currently, many small businesses are limited in using technology on social media, namely Facebook, WhatsApp, Instagram, and others (Minai et al., 2021). Some telecommunications service providers also do not provide quality services, such as poor Internet access in rural areas with technical factors such as lack of suitable infrastructure, as well as regulatory factors such as unfriendly business regulation and lack of investors, making it a challenge for them and thus hindering the improvement and development of small entrepreneurs (Bai et al., 2021).

Therefore, this article will examine the determinants that could help small entrepreneurs apply business through digital technology. Small entrepreneurs must be sensitive to ethical differences, culture, and technological changes to survive and compete healthily. In modern digital technology, businesses must quickly adapt to keep their business running. Studies on digital competencies as a mediator in Malaysia are limited to date. Secondly, social researchers acknowledge the narrow scope of the Theory of Planned Behaviour (TPB) (Ajzen, 1991), which includes three original components, namely attitudes, subjective norms, and perceptions of behavioral control; most of the research using TPB to predict intention in explaining behavior is less robust. This study added the digital competencies variable to further increase the model. In this paper, we pose the following research questions:

1) Does attitude significantly predict the digital business performance of small businesses?
2) Does subjective norm significantly predict the digital business performance of small businesses?
3) Does perceived behavioral control predict the digital business performance of small businesses?
4) Do digital competencies predict the digital business performance of small businesses?

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

5) To what extent do digital competencies mediate the relationships between (a) attitude, (b) subjective norm, (c) perceived behavioral control, and the digital business performance of small businesses?

Literature Review

Theory of Planned Behaviour (TPB)

The theory of planned behavior (TPB) is a theory reported by Ajzen (1991). This theory is an extension of the theory of reason action (Fishbein & Ajzen, 1975). The theory is often closely related to social psychology, which explains the situation of an individual who cannot fully control his/her personality. In theory, the intention will motivate an individual to perform a behavior. The intention represents a person's cognitive readiness to perform a specific behavior and is considered a premise for behavior (Fishbein & Ajzen, 1975). The intention is also assumed to be a motivational factor that influences human behavior, and it is a sign of how an individual is willing to try and how much effort an individual is willing to give to perform a behavior. The higher the intention for an individual towards a behavior, the higher the individual is to perform the behavior. Thus, intention and behavior are related to each other. TPB also highlights that human behavior is guided by three variables: beliefs about the possible consequences of behavior, beliefs about the normative expectations of others, and beliefs about factors that can facilitate or hinder behavioral performance. Of these three variables, behavioral beliefs will influence attitudes that Favor or disfavor certain behaviors, normative beliefs will be influenced by social pressure or subjective norms, and behavioral control will influence whether the individual performs a specific behavior. When attitudes toward behavior, subjective norms, and behavioral control are combined, they will form intention control (Azjen, 1991).

Entrepreneurial Capabilities and Digital Platforms

Today's changing entrepreneurial landscape is more focused on digital or online business platforms. Using digital technology or digitalization can change business models and open new opportunities for entrepreneurs to provide value to customers (Olson et al., 2021). Digital technology is the foundation of information and communication technology (ICT) systems that enable organizations to store, process, and disseminate information to make organizational decisions and internal controls more organized and manageable (Broekhuizen et al., 2021). Studies conducted by Wielgos et al. (2021) show that these ICT and digital technologies can improve the overall performance of organizations through increased operational efficiency and excellent customer orientation. Digital platforms are a socio-technical group that includes technical elements such as software, hardware, processes, and standards in an organization (Broekhuizen et al., 2021; Noor, 2024).

According to Palmié et al. (2022), a digital platform is a software-based platform that provides essential functions shared by modules and interact interfaces. This digitalization will transform business processes that include several aspects, such as advertising, customer relations, transactions, payments, order taking, services, and feedback in a wholly digital environment (Dolega et al., 2021). Digital transformation encompasses a comprehensive change in a business. It requires effort and commitment from business owners to replace traditional business models with versions that integrate digital technology (Al Omoush et al., 2025). For micro and small enterprise entrepreneurs, the adaptation process is considered quite challenging (Santos et al., 2023). It is not only time-consuming but also requires relatively high

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

expenses. For example, significant funds are needed to purchase sophisticated devices, change management, and operational systems. Business owners may also have to allocate some money to participate in computer literacy courses to have sufficient knowledge and skills to digitize their businesses. Many small entrepreneurs still lack the resources and capabilities to use new business models (Dwivedi et al., 2023). Some of the issues faced by small entrepreneurs were infrastructure barriers, lack of access to digital skills, and regulatory and administrative burdens (Almunawar & Ansari, 2022). The results of the study by Santos et al. (2023) found that entrepreneurs need to utilize the resources and capabilities of digital platforms more effectively by improving their planning to compete with larger companies.

Attitude, Subjective Norm, Perceived Behavioural Control, and Digital Business Performance

Attitude is an individual personality based on personal desires and group stimuli (Qasim et al., 2024). Previous studies have shown that if someone shows an entrepreneurial attitude, their entrepreneurial interest, performance, and intention will indirectly exist (Ajzen, 1991). Entrepreneurial attitudes can be fostered and improved through entrepreneurship education. This is supported by a study by Fahmi and Savira (2023), which shows that entrepreneurship education can improve entrepreneurial characteristics. The developed entrepreneurial characteristics further increase motivation and self-confidence (Wardana et al., 2023). A positive entrepreneurial attitude can also create a desire to work independently. Some studies show that an environment that fosters entrepreneurship also impacts entrepreneurial attitudes (Lyu et al., 2022).

Generally, subjective norms are defined as other people's perceptions of the job one wants to perform (Ajzen, 1991). Subjective norms are also based on two main components: normative beliefs and motivation to comply. Normative beliefs are closely related to the perception and confidence of others towards an individual, whether they can display positive behavior or not. The opinions of experts or people considered important and influential can also form confidence, subsequently influencing the individual to perform a behavior (Soluk et al., 2021). The suggestions obtained from this reference group will help an individual analyze and decide on the behavior that needs to be performed. Thus, when the suggestions received from the normative environment are positive and encourage the acceptance of new technology, this will also accelerate the process of implementing the behavior. Meanwhile, the motivation to comply refers to the extent to which an individual strives to fulfill these expectations (Nafees et al., 2021). The strength of an individual's motivation to comply with the person who is their source of reference can also shape the individual's enthusiasm and determination to perform a specific behavior at a given time (Ajzen, 1991). From this description, the behavioral decisions chosen by the individual depend on their judgment and the judgment or evaluation of other individuals who are considered important. Entrepreneurs seeking information about digital business innovations will undoubtedly refer to reference groups that influence their behavioral decisions. When these reference groups provide support such as assessments, suggestions, or positive motivation towards the reform agenda, this will further strengthen the individual's desire to carry out their actions.

Apart from attitudinal influences and subjective norms, perception of behavioral control is also influential in foreseeing individual behavior to accept a technology (Al-Mamary & Alraja, 2022). Perception of behavioral control is an aspect of humanity that judges the influence of self-efficacy and the environment of encouragement on the behavior of accepting a change

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

(Mir et al., 2023). Taylor and Todd (1995) have broken down the structure of this control belief into three constructs: self-efficacy, resource, and technology-driven atmosphere. Perception of behavior is related to the individual's perception of his or her ability to control actions to carry out what is desired. This construct is reported to be able to influence the individual's desire or desire to carry out his or her actions. In e-commerce adoption, entrepreneurs with higher confidence and trust can perform better behavior than those less confident in their abilities (Malodia et al., 2023; Mohd Noor et al., 2023). Although entrepreneurs assume that they can control the degree of control of the actions they want to take, their behavioral decisions still depend on resources, opportunities, knowledge, and skills. This is in line with the statement by Ajzen (1991), which explains that an individual's degree of control and ability is based on the resources and opportunities that exist within and outside the individual.

Venkatesh et al. (2003) classify a push environment as a circumstance where individuals prove that the existing organizational and technical infrastructure supports using an information system. A push environment also refers to the readiness of efficient and extensive technological infrastructure facilities and supports the use of new technology. When resources that support digital business are not accessible and sufficient, this will hinder the implementation process of entrepreneurs' behavior (Jha et al., 2022). Among the obstacles that hinder the adoption of e-commerce are capital constraints, lack of technical skills and expertise, compromised system problems, and poor internet access (Sahut et al., 2021). Entrepreneurs primarily concentrated in developed regions have the advantage of enjoying various sophisticated technological infrastructure facilities and high-speed and stable Internet networks (Kumar et al., 2024).

Mediating Role of Digital Competencies

Technology has changed the environment of society to be more conducive and viable today. According to a study by Bartolomé et al. (2022), technology has become an instrument that facilitates daily activities with the availability of high-quality broadband networks. Meanwhile, ICT and the Internet are synonymous with entrepreneurship to complement marketing activities such as more manageable advertising (Triyono et al., 2023). The fourth Industrial Revolution (IR 4.0) began in 2016 with the discovery of new technologies, such as the use of robots, artificial intelligence (AI), system integration, simulation analysis, and Internet of Things (IoT) devices, provide new challenges to various sectors to make changes to remain competitive and accelerate the progress of the contemporary world landscape. The difficulty of mastering new technologies significantly impacts the smooth digital transformation of businesses (Espina-Romero et al., 2025). Based on the SME Annual Report (2022), apart from low broadband quality, other significant challenges faced by businesses in overcoming digitalization barriers are lack of understanding about the use of digital tools, lack of information about technology, lack of awareness about financing options, and limited access to technology. Most social media platforms offer features that allow entrepreneurs to conduct business directly. In addition to Shopee, many small business owners who sell clothing, food, and cosmetics are increasingly passionate about making sales through live broadcasts on Instagram, Facebook, and TikTok accounts. It is easy to generate quick profits with only a smartphone and an attractive personality. Unfortunately, constraints in owning the latest technology devices, Internet connection, and lack of digital competencies are the main factors that hinder the efficiency of business transition to digital platforms (Garcez et al., 2022; Noor, 2025).

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

Digital competencies refer to the abilities and knowledge related to the use of digital technology. Digital competencies include various skills, including digital literacy, digital communication, data analysis, graphic and multimedia design, digital marketing, and digital security (d'Ignazio et al., 2025). Digital competencies are becoming increasingly important in today's technological era. The increasing reliance on digital technology in various sectors makes these skills indispensable to remain relevant and competitive (Garcez et al., 2022). In the economic sector, online business is increasingly popular (Mohd Noor et al., 2024b). Technology plays a vital role in improving the efficiency of business operations. Automated processes introduced through digital technology can save time and costs and increase productivity (Elnadi & Gheith, 2023). With digital skills, individuals can take advantage of great opportunities in an increasingly connected global economy (Malik et al., 2025; Ostrovska et al., 2021). Based on the above reasonings, the following hypotheses are posited:

H1: Attitude significantly predicts the digital business performance of small businesses.
H2: Subjective norm significantly predicts the digital business performance of small businesses.
H3: Perceived behavioral control predicts the digital business performance of small businesses.
H4: Digital competencies predict the digital business performance of small businesses.
H5: Digital competencies mediate the relationships between (a) attitude, (b) subjective norm, (c) perceived behavioral control, and the digital business performance of small businesses.

Figure 1 portrays the research model of the study.

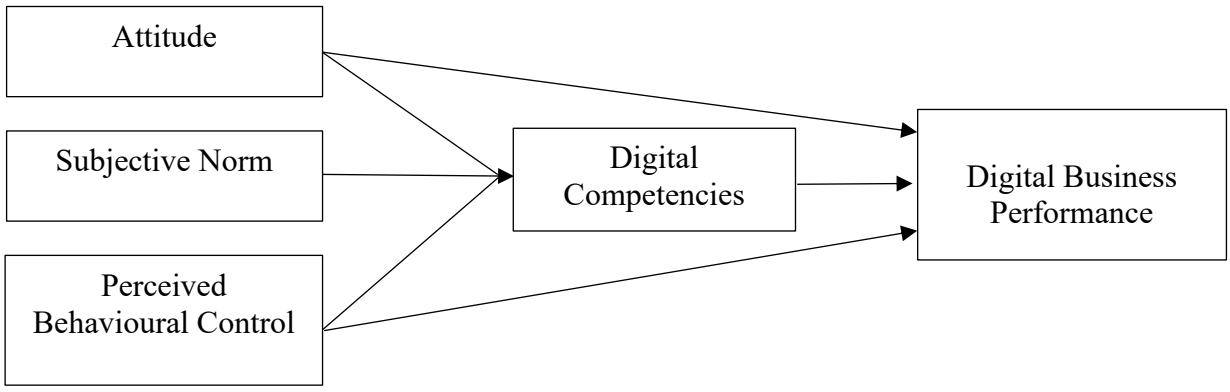

Figure 1: Research Model

Methodology

This study uses a quantitative approach through face-to-face surveys. A set of questionnaires was designed and used as a study instrument to obtain data. A total of 300 respondents were selected based on cluster sampling techniques to randomly obtain small business entrepreneurs in the Kuala Lumpur and Selangor areas. This is sufficient because, according to Hair et al. (2010), a sample size of 200-400 is sufficient for a research study. Several areas identified are around Kuala Lumpur and Selangor, namely around Cheras, Kerinchi, Bangsar, Putrajaya, Kajang, Bangi, Petaling Jaya, and Shah Alam. The sample was selected based on typical urban areas with metropolitan characteristics and more modern socioeconomics to obtain a good population. In this regard, the selection of areas for this study considered urban residents with a high probability of being involved in the online business system.

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

The selection of this area is also based on the modernity characteristics, which coincide with the characteristics of ICT users and the position of the area, which is also near the Multimedia Super Corridor (MSC), which implements the rapid use of ICT. The measurement items used for the questionnaire were identified from previous research highlights. To capture three core components in the TPB, items were adopted from Liñán and Chen (2009). Among the items are "Being a digital entrepreneur implies more advantages than disadvantages for me," "A career as a digital entrepreneur is attractive to me," and "If I decided to create a digital firm, my closest family would approve of that decision." Six items were adapted from the research of Rubach and Lazarides (2021) to measure digital competencies. Some examples are "I can identify and use appropriate sources in digital environments based on my information needs" and "I can use search strategies in digital environments." Six items for sustainable performance were adapted from Mitra and Datta's (2014) and Hanim Mohamad Zailani et al.'s (2012) studies. Examples include "We have a well-managed relationship with suppliers" and "We strongly consider stakeholders' welfare."

All variables were measured with a Likert scale from (1) 'strongly disagree' to (5) 'strongly agree.' Structural Equation Modeling (SEM) analysis was used using two levels of structured modeling. The first level involved testing Confirmatory Factor Analysis (CFA) to test the measurement items' unidimensionality, validity, and reliability, while the second level involved testing structured modeling to test the effect. This study used IBM® SPSS® version 27 software to analyze the initial data and IBM®Amos version 26 to test the hypothesis of structured modeling.

Findings

Demographics Profile

A total of 227 entrepreneurs were accepted as final respondents for the study. Most respondents are in the age group of 31 to 40 years old (n=124, 54.7%). The age range of 51 to 60 is the smallest number of respondents, with only five people or 2.2%. Regarding gender, most respondents in this survey were women, representing 189 people (83.3%) compared to men. Most respondents also have a high level of education, namely undergraduate qualifications, representing 89 people (39.2%). In addition, most respondents run a food-based business, representing 70 people (30.9%). When looking at the duration of the business, most respondents are still new to the business field. Most have been in business for less than three years, 71 people (31.3%). As for the monthly income profile, most respondents earn an income of RM2001 to RM3000 (n=100, 44.1%).

Confirmatory Factor Analysis (CFA)

AMOS analysis can identify the compatibility of the study model (goodness of fit) described in the Model of Fit. Arbuckle (2015) states that CMIN/DF is known as a relative chi-square. Although there is no set value, according to Kline (1998), this ratio should be less than 3. This study obtained a CMIN/DF value of 2.554, which is less than 3. reflecting the quality of the model compared to the assumed model. The Normed Fit Index (NFI) (0.920), Tucker Lewis Index (TLI) (0.910), and Goodness of Fit Index (GFI) (0.930) values are close to 1, indicating a good model (Byrne et al., 1989). The root mean square error of approximation (RMSEA) value obtained from this study is 0.0670. RMSEA $\leq$ 0.080 are considered acceptable. Thus, it

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

can be concluded that the model formed has compatibility between the variables. Figure 2 shows the CFA result.

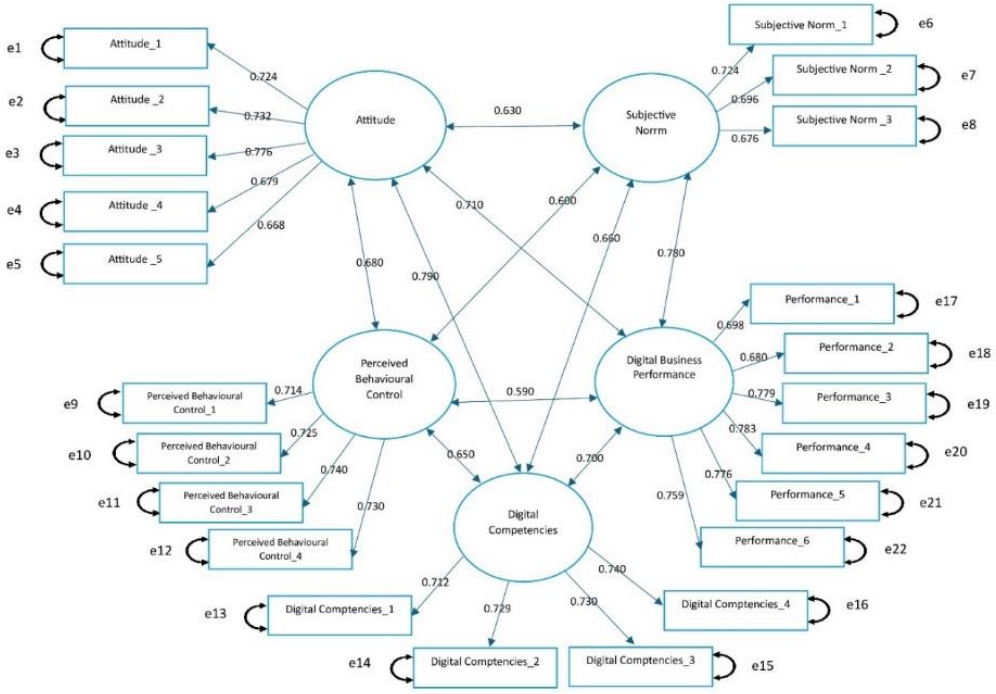

Figure 2: CFA Results

Validity and Reliability Tests

All items in this construct did achieve good factor weights (λ) of more than 0.50, the composite reliability (CR) exceeded 0.70, and the AVE value exceeded 0.50. Thus, all dimensions of the construct were accepted as achieving a good level of internal consistency reliability. The internal consistency reliability test is also reasonable based on Cronbach's alpha (α) value exceeding 0.60. Table 1 details the results of the constructs' convergent validity and internal consistency reliability analysis.

Table 1: Validity and Reliability Test Results

Variable	Items	Item Loadings	α	AVE	CR
Attitude	Attitude_1	0.724***	0.772	0.680	0.820
	Attitude_2	0.732***			
	Attitude_3	0.776***			
	Attitude_4	0.679***			
	Attitude_5	0.668***			
Subjective Norm	Subjective Norm_1	0.724***	0.804	0.700	0.854
	Subjective Norm_2	0.696***			
	Subjective Norm_3	0.676***			

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

Perceived Behavioural Control	Perceived Behavioural Control_1	0.714***	0.815	0.688	0.862
	Perceived Behavioural Control_2	0.725***			
	Perceived Behavioural Control_3	0.740***			
	Perceived Behavioural Control_4	0.730***			
Digital Competencies	Digital Competencies_1	0.712***	0.780	0.640	0.840
	Digital Competencies_2	0.729***			
	Digital Competencies_3	0.730***			
	Digital Competencies_4	0.740***			
Digital Business Performance	Performance_1	0.698***	0.814	0.702	0.830
	Performance_2	0.680***			
	Performance_3	0.779***			
	Performance_4	0.783***			
	Performance_5	0.776***			
	Performance_6	0.759***			

Discriminant Validity

Discriminant validity tests ensure that each construct differs from the others. For this test, the mean square value of the average extracted variance (AVE) is compared with the relationship between the constructs (Hair et al., 2010). Based on the results shown in Table 2, each item is interconnected between its respective constructs but different from other constructs.

Table 2: Discriminant Validity

No.	Variable	1	2	3	4	5
1	Attitude	**0.825**				
2	Subjective Norm	0.630**	**0.837**			
3	Perceived Behavioural Control	0.680**	0.600**	**0.829**		
4	Digital Competencies	0.790**	0.660**	0.650**	**0.800**	
5	Digital Business Performance	0.710**	0.780**	0.590**	0.700**	**0.837**

Note: Values in the diagonal show the square root of AVE

Hypothesis Testing

From Table 3, it can be concluded that attitude (β=0.308***), subjective norm (β =0.332***), perceived behavioral control (β=0.260***), and digital competencies (β=0.209***) have a significant influence on sustainable performance due to their probability value, which shows a value of 0.000 which means <0.05. Thus, H1, H2, H3, and H4 were accepted. Then, the results also show that attitude (β=0.670***), subjective norm (β=0.520***), and perceived behavioral control (β=0.480***) significantly influence digital competencies. Mediation analysis is discussed in Table 5. The results have proved that there are significant mediation effects of digital competencies towards the relationships between attitude (β=0.140***), subjective norm (β=0.109***), perceived behavioral control (β=0.101***), and digital business performance.

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

Lower-Level Confidence Intervals (LLCI) and Upper-Level Confidence Intervals (ULCI) values do not contain zero. Thus, H(a), H5(b), and H5(c) are accepted.

Table 3: Assessment of the Structural Model

Path			***β***	**Bootstrap (95% CI)**	
Standardized Direct Effects				**Lower-Level Confidence Intervals (LLCI)**	**Upper-Level Confidence Intervals (ULCI)**
Attitude	→	Digital Business Performance	0.308***		
Subjective Norm	→	Digital Business Performance	0.332***		
Perceived Behavioural Control	→	Digital Business Performance	0.260***		
Digital Competencies	→	Digital Business Performance	0.209***		
Attitude	→	Digital Competencies	0.670***		
Subjective Norm	→	Digital Competencies	0.520***		
Perceived Behavioural Control	→	Digital Competencies	0.480***		
Standardized Indirect Effects (Mediation Effect via Digital Competencies)					
Attitude	→	Digital Business Performance	0.140***	0.074	2.220
Subjective Norm	→	Digital Business Performance	0.109***	0.700	2.219
Perceived Behavioural Control	→	Digital Business Performance	0.101***	0.730	2.240
Standardized Total Effects (Direct Effect + Indirect Effect)					
Attitude	→	Digital Business Performance	0.448***		
Subjective Norm	→	Digital Business Performance	0.441***		
Perceived Behavioural Control	→	Digital Business Performance	0.361***		

*Note: ***Paths are significant at the 1% level ($p < 0.01$). ***Indirect effects are significant at the 1% level with bootstrap at 5000 and bias-corrected percentile method*

Discussion

Four variables, namely attitude, subjective norm, perceived behavioral control, and digital competencies, were found to have positive and significant relationships with performance. Digital competencies were found to mediate the proposed relationships partially. This study has contributed to a deeper understanding of small entrepreneurship and digital business performance by considering the impact of attitude, subjective norms, perceived behavioral control, and digital competencies. From a theoretical perspective, the findings of this study are

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

broadly consistent with the TPB model, and the unique details of the context of small entrepreneurs in Peninsular Malaysia have been successfully highlighted. This study contributes to developing the TPB model through survey findings that increase understanding of entrepreneurship and digital technology. The information in this study can assist the government in designing assistance appropriate to the sector's needs and type of business, such as loans and business funds, training, and more practical advice.

Suggestions that can be made to improve digital entrepreneurship are to increase advocacy and promotion programs, provide development training guidance, and provide loan assistance schemes for entrepreneurs (Lee et al., 2021). The development and provision of these programs must be monitored regularly so that the impact of entrepreneurship success is higher and they can survive and be competitive in today's business market (d'Ignazio et al., 2025). Governments and agencies play a vital role in creating a digital environment so that online businesses can be supported and accessed by all communities in urban and rural areas (Garcez et al., 2022). Government policies and regulations, copyright, consumer rights laws, and enforcement are said to encourage or hinder entrepreneurs' use of digital technology. The friendly and supportive environmental regulation in the use of digital technology is important because it can encourage its use by organizations (Malodia et al., 2023). The strategic approach also includes trust and confidence in e-commerce, improving the legal and regulatory framework, strengthening infrastructure and logistical support for e-commerce, and optimizing economic and social benefits (Fahmi & Savira, 2023). This study also recommends that entrepreneur development programs conducted by government and private agencies focus on the critical success factors. Entrepreneurs and potential entrepreneurs must also be given information and awareness to participate in entrepreneur development programs through various effective strategies and campaigns (Ostrovska et al., 2021). This step is important to ensure an increase in new entrepreneurs, empower existing entrepreneurs, and reduce the number of entrepreneurs who experience bankruptcy and business failure. Proper advisory and training services can improve the knowledge and skills of digital entrepreneurs, thus making them more competitive in a challenging business environment (Garcez et al., 2022).

Conclusion

This research paper clearly understands the role and influence of attitude, subjective norms, perceived behavioral control, and digital competencies on digital business performance. This study also explains the influence of digital competencies as a mediator. The technological facility has opened part-time business opportunities for those who need extra income. The relevant parties should introduce initiatives to help small online entrepreneurs grow and prosper. In addition, the improvement of telecommunications infrastructure in the country also helps the development and use of online technology. Hopefully, every party and member of society will be ready to manifest their thoughts and face the economic and business patterns of the new millennium. Several limitations have been identified in this study. The findings of this study cannot be generalized due to the sample of entrepreneurs, which only involves respondents from Kuala Lumpur and Selangor. In addition, the background of the study participants heavily involved food-based businesses due to the difficulty of finding entrepreneurs who are busy with their business affairs. Future studies should involve more business sectors and other states or zones such as Sabah and Sarawak. Also, comparisons between urban and rural entrepreneurs need to be made to highlight the variation of factors in determining digital business performance.

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027

Acknowledgment

The author would like to acknowledge the support of the Ministry of Higher Education of Malaysia for the Fundamental Research Grant Scheme - Early Career Researcher (FRGS-EC)(600-RMC/FRGS-EC 5/3 (111/2024). The researcher is thankful to the participants involved in this study.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211.

Akpan, I. J., Udoh, E. A. P., & Adebisi, B. (2022). Small business awareness, adoption of state-of-the-art technologies in emerging and developing markets, and lessons from the COVID-19 pandemic. *Journal of Small Business & Entrepreneurship, 34*(2), 123-140.

Al-Mamary, Y. H. S., & Alraja, M. M. (2022). Understanding entrepreneurship intention and behavior in the light of the TPB model from the digital entrepreneurship perspective. *International Journal of Information Management Data Insights, 2*(2), 100106.

Almunawar, M. N., & Anshari, M. (2022). Digital enabler and value integration: revealing the expansion engine of digital marketplace. *Technology Analysis & Strategic Management, 34*(7), 847–857.

Al Omoush, K., Lassala, C., & Ribeiro-Navarrete, S. (2025). The role of digital business transformation in frugal innovation and SMEs' resilience in emerging markets. *International Journal of Emerging Markets, 20*(1), 366–386.

Amanda, S. (2025). *Contribution of e-commerce to the GDP of Malaysia 2015-2023*. Retrieved from https://www.statista.com/statistics/956908/e-commerce-contribution-to-gdp-malaysia/

Arbuckle, J. L. (2014). *IBM SPSS Amos 23.0 user's guide*. AMOS Development Corporation.

Bai, C., Quayson, M., & Sarkis, J. (2021). COVID-19 pandemic digitization lessons for sustainable development of micro-and small-enterprises. *Sustainable Production and Consumption, 27*, 1989-2001.

Bartolomé, J., Garaizar, P., & Larrucea, X. (2022). A pragmatic approach for evaluating and accrediting digital competence of digital profiles: A case study of entrepreneurs and remote workers. *Technology, Knowledge and Learning, 27*(3), 843-878.

Bernama (2024). *Pendapatan e-dagang cecah RM918.2 bilion dalam sembilan bulan 2024*. Retrieved from https://www.bharian.com.my/bisnes/lain-lain/2024/12/1339049/pendapatan-e-dagang-cecah-rm9182-bilion-dalam-sembilan-bulan-2024

Broekhuizen, T. L., Broekhuis, M., Gijsenberg, M. J., & Wieringa, J. E. (2021). Introduction to the special issue–Digital business models: A multi-disciplinary and multi-stakeholder perspective. *Journal of Business Research, 122*, 847-852.

Byrne, B. M., Shavelson, R. J., & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance. *Psychological Bulletin, 105*(3), 456–466.

Burns, P. (2022). *Entrepreneurship and small business*. Bloomsbury Publishing.

d'Ignazio, A., Finaldi Russo, P., & Stacchini, M. (2025). Micro-entrepreneurs' financial and digital competencies during the pandemic in Italy. *Italian Economic Journal*, 1-37.

Dolega, L., Rowe, F., & Branagan, E. (2021). Going digital? The impact of social media marketing on retail website traffic, orders, and sales. *Journal of Retailing and Consumer Services, 60*, 102501.

Dwivedi, Y. K., Ismagilova, E., Rana, N. P., & Raman, R. (2023). Social media adoption, usage

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027
and impact in business-to-business (B2B) context: A state-of-the-art literature review. *Information Systems Frontiers*, 1–23.

Elnadi, M., & Gheith, M. H. (2023). The role of individual characteristics in shaping digital entrepreneurial intention among university students: Evidence from Saudi Arabia. *Thinking Skills and Creativity, 47*, 101236.

Espina-Romero, L., Chafloque-Céspedes, R., Izaguirre Olmedo, J., Albarran Taype, R., & Ochoa-Díaz, A. (2025). Driving digital transformation in Lima's SMEs: Unveiling the role of digital competencies and organizational culture in business success. *Administrative Sciences, 15*(1), 19.

Fahmi, F. Z., & Savira, M. (2023). Digitalization and rural entrepreneurial attitude in Indonesia: a capability approach. *Journal of Enterprising Communities: People and Places in the Global Economy, 17*(2), 454–478.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research* (Vol. 6). Reading, MA: Addison-Wesley.

Garcez, A., Franco, M., & Silva, R. (2022). The soft skills bases in digital academic entrepreneurship in relation to digital transformation. *Innovation & Management Review, 20*(4), 393–408.

Hafidzul Hilmi, M. N. (2024). *RM62 juta rugi penipuan e-dagang*. Retrived from https://www.bharian.com.my/berita/kes/2024/12/1340055/rm62-juta-rugi-penipuan-e-dagang

Hair, J. F. J., Black, W. C., Babin, B. J., & Anderson., R. E. (2010). *Multivariate Data Analysis. A global perspective* (7th Ed.). USA: Prentice Hall.

Hanim Mohamad Zailani, S., Eltayeb, T. K., Hsu, C. C., & Choon Tan, K. (2012). The impact of external institutional drivers and internal strategy on environmental performance. *International Journal of Operations & Production Management, 32*(6), 721–745.

Jha, A., Sindhwani, R., Dwivedi, A., & Saddikuti, V. (2022). Sustainable recovery for digital entrepreneurs with shared resources: Enablers, challenges, and solutions. *Journal of Asia Business Studies, 16*(3), 515–537.

Kline, R. B. (1998). *Principles and practice of structural equation modeling*. Guilford Press.

Kobbeltvedt, T., & Wolff, K. (2009). The risk-as-feelings hypothesis in at Theory-of-planned-behavior perspective. *Judgment and Decision Making, 4*, 567–586.

Kumar, V., Sindhwani, R., Behl, A., Kaur, A., & Pereira, V. (2024). Modelling and analysing the enablers of digital resilience for small and medium enterprises. *Journal of Enterprise Information Management, 37*(5), 1677-1708.

Lazo-Amado, M., Cueva-Ruiz, L., & Andrade-Arenas, L. (2021). E-Business model to optimize sales through digital marketing in a Peruvian Company. *International Journal of Advanced Computer Science and Applications, 12*(11).

Lee, Y. Y., Falahat, M., & Sia, B. K. (2021). Drivers of digital adoption: A multiple case analysis among low and high-tech industries in Malaysia. *Asia-Pacific Journal of Business Administration, 13*(1), 80-97.

Lim, C. H., & Teoh, K. B. (2021). Factors influencing the SME business success in Malaysia. *Annals of Human Resource Management Research, 1*(1), 41-54.

Liñán, F., & Chen, Y. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice, 33*(3), 593–617.

Lyu, C., Peng, C., Yang, H., Li, H., & Gu, X. (2022). Social capital and innovation performance of digital firms: Serial mediation effect of cross-border knowledge search and absorptive capacity. *Journal of Innovation & Knowledge, 7*(2), 100187.

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027
Malik, M., Raziq, M. M., Sarwar, N., & Tariq, A. (2025). Digital leadership, business model innovation and organizational change: Role of leader in steering digital transformation. *Benchmarking: An International Journal, 32*(5), 1632–1662.

Malodia, S., Mishra, M., Fait, M., Papa, A., & Dezi, L. (2023). To digit or to head? Designing digital transformation journey of SMEs among digital self-efficacy and professional leadership. *Journal of Business Research, 157*, 113547.

Minai, M. S., Raza, S., & Segaf, S. (2021). Post COVID-19: Strategic digital entrepreneurship in Malaysia. In *Modeling economic growth in contemporary Malaysia* (pp. 71–79). Emerald Publishing Limited.

Mir, A. A., Hassan, S., & Khan, S. J. (2023). Understanding digital entrepreneurial intentions: A capital theory perspective. *International Journal of Emerging Markets, 18*(12), 6165–6191.

Mitra, S., & Datta, P. P. (2014). Adoption of green supply chain management practices and their impact on performance: An exploratory study of Indian manufacturing firms. *International Journal of Production Research, 52*(7), 2085-2107.

Mohd Noor, N. H., Mohamad Fuzi, A., & El Ashfahany, A. (2023). Institutional support and self-efficacy as catalysts for new venture performance: A study of iGen entrepreneurs. *Journal of Entrepreneurship and Public Policy, 12*(3/4), 173-196.

Mohd Noor, N. H., Omar, N., Mohamad Fuzi, A., Md Zaini, S., & Mohd Beta, R. M. D. (2024). Advocating women entrepreneurs' success in a developing country: An explanatory analysis. *Journal of Emerging Economies & Islamic Research, 12*(1).

Mohd Noor, N. H., Yaacob, M. A., & Omar, N. (2024). Do knowledge and personality traits influence women entrepreneurs'e-commerce venture? Testing on the multiple mediation model. *Journal of Entrepreneurship in Emerging Economies, 16*(1), 231–256.

Nafees, L., Cook, C. M., Nikolov, A. N., & Stoddard, J. E. (2021). Can social media influencer (SMI) power influence consumer brand attitudes? The mediating role of perceived SMI credibility. *Digital Business, 1*(2), 100008.

Noor, N. H. M. (2024). Mengejar makhluk mitos–Syarikat unicorn: mengenalpasti kejayaan perniagaan baru dalam dunia digital. *Journal of Entrepreneurship and Business, 12*(2), 1–19.

Noor, N. H. M. (2025). An Investigation of Innovation Mindset, Entrepreneurial Knowledge, and Success of Small Businesswomen. In *The Future of Small Business in Industry 5.0* (pp. 57–84). IGI Global Scientific Publishing.

Noor, N. H. M., & Omar, N. (2024). Menangani ketaksamaan gender dalam keusahawanan: Cabaran usahawan wanita dari kumpulan berpendapatan rendah (B40). *Sains Insani, 9*(1), 34–46.

Olson, E. M., Olson, K. M., Czaplewski, A. J., & Key, T. M. (2021). Business strategy and the management of digital marketing. *Business Horizons, 64*(2), 285-293.

Ostrovska, H., Tsikh, H., Strutynska, I., Kinash, I., Pietukhova, O., Golovnya, O., & Shehynska, N. (2021). Building an effective model of intelligent entrepreneurship development in digital economy. *Eastern-European Journal of Enterprise Technologies, 6*(13), 114.

Palmié, M., Miehé, L., Oghazi, P., Parida, V., & Wincent, J. (2022). The evolution of the digital service ecosystem and digital business model innovation in retail: The emergence of meta-ecosystems and the value of physical interactions. *Technological Forecasting and Social Change, 177*, 121496.

Pira, M., & Fleet, G. (2025). Digital business transformation adoption in SMEs and large firms

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 30 (June 2025) PP. 366-381
DOI: 10.35631/IJEMP.830027
during COVID-19. *Technology Analysis & Strategic Management, 37*(1), 96–108.

Qasim, D., Shuhaiber, A., Bany Mohammed, A., & Valeri, M. (2024). E-entrepreneurial attitudes and behaviors in the United Arab Emirates: An empirical investigation in the digital transformation era. *European Journal of Innovation Management, 27*(8), 3014–3034.

Qazi, A. (2025). Fostering economic development and sustainability: Insights into the role of regulatory quality and e-commerce legislation in future technologies. *International Journal of Innovation Science.*

Qin, Z., Shuai, Q., Wang, G., Zhang, P., Cao, M., & Chen, M. (2025). *E-Commerce*. Springer Books.

Rubach, C., & Lazarides, R. (2021). Addressing 21st-century digital skills in schools – Development and validation of an instrument to measure teachers' basic ICT competence beliefs. *Computers in Human Behavior, 115*, 106636.

Sahut, J. M., Iandoli, L., & Teulon, F. (2021). The age of digital entrepreneurship. *Small Business Economics, 56*(3), 1159–1169.

Santos, V., Augusto, T., Vieira, J., Bacalhau, L., Sousa, B. M., & Pontes, D. (2023). E-commerce: Issues, opportunities, challenges, and trends. Promoting organizational performance through 5G and agile marketing, 224-244.

Setkute, J., & Dibb, S. (2022). "Old boys' club": Barriers to digital marketing in small B2B firms. *Industrial Marketing Management, 102*, 266-279.

SME Annual Report (2022). *MSME Insights 2022/23 New Release*. Retrieved from https://smecorp.gov.my/images/Publication/MSME_Insights/2022_23/3Chapter%202_Performance%20of%20MSMEs%20in%20Malaysia.pdf

Soluk, J., Miroshnychenko, I., Kammerlander, N., & De Massis, A. (2021). Family influence and digital business model innovation: The enabling role of dynamic capabilities. *Entrepreneurship Theory and Practice, 45*(4), 867–905.

Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research, 6*(4), 144–176.

Triyono, M. B., Mutohhar, F., Kholifah, N., Nurtanto, M., Subakti, H., & Prasetya, K. H. (2023). Examining the mediating-moderating role of entrepreneurial orientation and digital competence on entrepreneurial intention in vocational education. *Journal of Technical Education and Training, 15*(1), 116-127.

Venkatesh, V., Morris, M. G., Davis, F. D., & Davis, G. B. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425–478.

Wardana, L. W., Indrawati, A., Maula, F. I., Mahendra, A. M., Fatihin, M. K., Rahma, A., ... & Narmaditya, B. S. (2023). Do digital literacy and business sustainability matter for creative economy? The role of entrepreneurial attitude. *Heliyon, 9*(1).

Wei, F., Xie, B., & Chen, M. (2025). Digital financial inclusion, e-commerce development, and entrepreneurial activity. *International Review of Financial Analysis, 97*, 103806.

Wielgos, D. M., Homburg, C., & Kuehnl, C. (2021). Digital business capability: Its impact on firm and customer performance. *Journal of the Academy of Marketing Science, 49*(4), 762–789.

Zhou, F., Zhang, N., & Han, C. (2025). Enterprise niche and digital business model innovation-enabling role of organisational routine updating. *International Journal of Technology Management, 97*(2-3), 217-241.