

## The Prospect of Business Undergraduates' Intention to Engage in Digital Entrepreneurship: Do the Government Initiative Matters?

Chu May, Amy Yeo; Hui, Eyva Lim Koon

Veröffentlichungsversion / Published Version  
Zeitschriftenartikel / journal article

### Empfohlene Zitierung / Suggested Citation:

Chu May, A. Y., & Hui, E. L. K. (2023). The Prospect of Business Undergraduates' Intention to Engage in Digital Entrepreneurship: Do the Government Initiative Matters? *Studia z Polityki Publicznej / Public Policy Studies*, 10(1), 9-40. <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-91508-8>

### Nutzungsbedingungen:

Dieser Text wird unter einer CC BY Lizenz (Namensnennung) zur Verfügung gestellt. Nähere Auskünfte zu den CC-Lizenzen finden Sie hier:  
<https://creativecommons.org/licenses/by/4.0/deed.de>

### Terms of use:

This document is made available under a CC BY Licence (Attribution). For more Information see:  
<https://creativecommons.org/licenses/by/4.0>

*Amy Yeo Chu May<sup>1</sup>, Eyva Lim Koon Hui<sup>2</sup>*

## **The Prospect of Business Undergraduates’ Intention to Engage in Digital Entrepreneurship: Do Government Initiatives Matter?**

---

### **Abstract**

The synergies between rapid information technology (IT) development and the shifting paradigms of economic transactions have led to the emergence of digital entrepreneurship. This study aims to investigate potential precursors affecting the intention of final-year business students to engage in digital entrepreneurship. This research was examining the IT acceptance among the business students by employing two tailored technology acceptance models based on the theory of planned behavior and theory of reasoned action models. A sample of 302 respondents were analyzed using SPSS and Smart-PLS. The results revealed that fresh graduates’ intentions to engage in digital entrepreneurship were significantly influenced by their own attitudes towards IT. The study also reaffirmed that the dimensions of I. Ajzen’s theory of planned behavior model, including attitude towards IT, perceived usefulness, perceived ease of use, subjective norms except perceived risk have a “direct effect” on undergraduates’ interest in an Internet-based business model. Although the results have contributed to filling the paucity of the empirical research in digital entrepreneurship,

---

<sup>1</sup> Tunku Abdul Rahman University of Management and Technology, Faculty of Accountancy, Finance and Business, Malaysia, e-mail: yeocm@tarc.edu.my, <https://orcid.org/0000-0002-2880-8701>

<sup>2</sup> Tunku Abdul Rahman University of Management and Technology, Faculty of Accountancy, Finance and Business, Malaysia, e-mail: limkh@tarc.edu.my

particularly in the Asian region, the availability of information technology, government resources and support to affect digital usage and behavior are not to be underestimated.

**Keywords:** digital entrepreneurship, final-year undergraduate, theory of planned behavior, perceived risk, Malaysia

**JEL Classification Codes:** L26, L53, L86, O38

---

---

### **Możliwości zaangażowania studentów biznesu w przedsiębiorczość cyfrową. Czy rządowe inicjatywy mają znaczenie?**

---

#### **Abstrakt**

Współdziałanie szybkiego rozwoju technologii informatycznych i zmiennych paradygmatów transakcji gospodarczych doprowadziło do powstania przedsiębiorczości cyfrowej. Niniejsze badanie ma na celu analizę potencjalnych czynników wpływających na zamiar zaangażowania się studentów ostatniego roku kierunku biznes w przedsiębiorczość cyfrową. Prezentowane badania dotyczyły akceptacji technologii informatycznych wśród studentów biznesu. Wykorzystano w nich dwa modele akceptacji technologii oparte na teorii planowego zachowania i teorii uzasadnionego działania. Analizie z wykorzystaniem SPSS i Smart-PLS poddano próbę 302 respondentów. Wyniki pokazały, że na zamiar zaangażowania się w przedsiębiorczość cyfrową znaczący wpływ miały postawy absolwentów wobec technologii informatycznych. Badanie potwierdziło również, że wymiary modelu teorii planowego zachowania według I. Ajzena, m.in. stosunek do technologii informatycznych, ich postrzegana przydatność i łatwość użycia oraz subiektywne normy z wyjątkiem postrzeganego ryzyka, mają bezpośredni wpływ na zainteresowanie studentów modelami biznesowymi bazującymi na wykorzystaniu Internetu. Chociaż przedstawione wyniki uzupełniają lukę poznawczą dotyczącą badań empirycznych nad przedsiębiorczością cyfrową, zwłaszcza w Azji, nie należy lekceważyć kwestii dostępności technologii informatycznych oraz rządowych zasobów i wsparcia pozwalającego wpływać na użytkowanie technologii cyfrowych i powiązane z tym zachowania.

**Słowa kluczowe:** przedsiębiorczość cyfrowa, ostatni rok studiów licencjackich, teoria planowego zachowania, postrzeganie ryzyka, Malezja

**Kody klasyfikacji JEL:** L26, L53, L86, O38

---

In the context of digitalization, innovation and entrepreneurship can become significant drivers in the economic advancement of a country (Lalkaka, 2002). The spread of automated business processes and communication has allowed businesses

to achieve greater efficiency and effectiveness in business processing. In recent years, information technology (IT) has been cited as a powerful instrument to overcome the barrier in both physical and managerial segments in an organization (Kraus et al., 2018). The synergies between rapid IT advancement and the shifting paradigms of economic transactions have led to the formation and growth of digital entrepreneurship. Digital entrepreneurship refers to the creation of new business based on IT and seemingly covers vital processes with the aim to achieve economic growth, job creation and social welfare through many aspects such as time and financial resources (Matlay, 2004).

It is noteworthy that the huge upsurge in IT in the business world has had a significant influence on various possibilities for developing entrepreneurship. In addition, the adoption of IT has led to new business opportunities by offering innovative products and services which then boost the economic development of a country (Kraus et al., 2018). Steinberg (2003) posits that future entrepreneurs should adopt digital technology into their business in order to retain the business's sustainable competitive advantage (SCA) in the net economy. Besides, future entrepreneurs should always get themselves well prepared to adopt e-collaborative strategies for the sake of achieving business growth and be more receptive to information and knowledge from different stakeholders in the business (Matlay & Westhead, 2007).

Previous studies (e.g., Wang & Lin, 2016; Linan, Rodriguez-Cohard, & Rueda-Cantuche, 2011; Bennani & Oumlil, 2014) have shown that digital entrepreneurship plays a crucial part in the economic landscape as it establishes many opportunities for better rewarding professions and positions for a large number of individuals. Digital entrepreneurship is the key to growing the economy and so raise the average income of Malaysians (Vivekarajah, 2019). Over the years, the Malaysian digital economy, on average, has grown annually in value-added terms, highlighting its role as a source of expansion. Furthermore, the International Data Corporation (IDC) predicts that, by 2022, over 21% of Malaysia's GDP will be digitalized against the current level of 18%. Thus, it is critical to boost more digital entrepreneurship in Malaysia. In the 2020 Budget, the Government of Malaysia announced several schemes worth billions of ringgits for Malaysian companies to encourage digitalization in the economy, from the provision of outright grants to financing guarantee programmes. Moreover, small and medium-sized enterprises (SMEs) in particular need support from the government because they otherwise might not have the necessary resources to embark on digitalization compared to large corporations. The digitalization of SMEs is extremely significant as 90% of business establishments in Malaysia are SMEs, which account for two-thirds of employment in the economy, while contributing more than 37% of the GDP in 2017.

For the current year, the COVID-19 pandemic has led many countries to enforce travel restrictions and movement controls. In Malaysia, the small business sector is one of the most directly affected by the government's movement control orders (MCO). According to recent data, the younger generations are more digital and entrepreneurial than ever, commencing twice the number of businesses compared to previous generations. In this respect, a "new normal" has been brought to the world of digital entrepreneurship as people now trust such platforms and websites to conduct businesses (Kana, 2020). Besides, in order to assist the youth in overcoming the post-pandemic economic challenges, the Malaysian Youth Council (MBM), in collaboration with the Malaysia Digital Economy Corporation (MDEC) and Celcom Axiata, has created a smart and digital entrepreneur hub, aimed at providing new employment opportunities for the youth, especially in the context of digital entrepreneurship (Celcom Axiata Berhad, 2020). This has brought to light the importance of digital entrepreneurship which is good for society as well as the economy.

In addition, the Malaysian government has also offered numerous initiatives that build upon the foundation of existing programmes, such as the RM510 million allocated to the National Entrepreneur Group Economic Fund to finance micro and SMEs, which also includes RM20 million for entrepreneurship development of other minority communities. These initiatives are in addition to business technical guidance that will be given to more than 2,000 women entrepreneurs under the Micro Entrepreneurs Business Development Programmes. Since March 2020, the government under the purview of the "Malaysian SME Corporation" has allocated RM196 billion to assist SMEs in weathering the impact of the COVID-19 pandemic. The measures are being implemented through 10 comprehensive economic packages, which the government included in the 2021 and 2022 budgets.

The current study aims to investigate the potential antecedents affecting the intentions of young generations (i.e., fresh graduates) to engage in digital entrepreneurship. The research also intended to find out why "attitude to IT" has an indirect effect on perceived ease of use and perceived usefulness of getting involved in Internet entrepreneurship.

## Literature Review and Theoretical Framework

### Digital Entrepreneurship

Undoubtedly, the rapid spread of digital technologies in the modern global economy has altered the competitive business environment, reshaped traditional business

structures and strategies, and engendered the changes in all aspects in the business world (Porter, 2001; Bharadwaj et al., 2013; Nambisan, 2017; Anim-Yeboah et al., 2020). The emergence of digital technologies has triggered modern ways of cooperating, resource mobilization, changes in goods or services structures as well as the expansion and advancement of shared technologies (Markus & Loebbecke, 2013; Sahut, Landoli, & Teulon, 2019). Subsequently, the rising importance and expansion of digital technologies have reshaped the general environment of entrepreneurship and created a new entrepreneurial structure called “digital entrepreneurship”.

There are many definitions of what exactly comprises digital entrepreneurship. One definition is that it: “embraces all new ventures and the transformation of existing businesses that drive economic and/or social value by creating and using novel digital technologies” (European Commission, 2005: 1). The high intensity of utilization of novel digital technologies (i.e., mobile and cloud solutions) has been adopted by digital enterprises in the interest of enhancing commercial ventures, inventing new business models, focusing business intelligence, as well as engaging with the interested parties of the business (European Commission, 2005). They present career growth and opportunities for future generations. It can be noted that the “digital entrepreneurship is probably the most significant single manifestation of entrepreneurship and has flow-on effects into the structure of business itself” (Zhao & Collier, 2016: 2176). From this standpoint, there is no doubt, that the rise of digital entrepreneurship has had enormous impact on all industrialized economies.

Another definition is as per Guthrie (2014: 115) who posits that digital entrepreneurship comprises “the sale of digital products or services across electronic networks”. The philosophy of entrepreneurial organizations has mostly been predicated on employment creation as well as the commercialization of modern inventions (Linan & Rodriguez-Cohard, 2005). The upsurge in the knowledge and digital economy has altered the ways entrepreneurs and organizations behave. Digital entrepreneurs, with new prospects and possibilities, adopt modern production approaches and technologies, and revamp rivalry by penetrating emerging markets. Thus, it is rational to conclude that digital entrepreneurs will have a profound influence on the further enhancement of cyberspace and also the digital economy.

## Research Model and Hypotheses Development

The research model has been built from constructs of the relevant models predicting IT acceptance. There are a myriad of previous studies using the theory of planned behaviour (TPB) successfully to examine entrepreneurial intentions (Pavlou & Fygenson, 2006; Van Gelderen et al., 2008; Fitzsimmons & Douglas, 2011;

Astuti & Martdianty, 2012; Yang, 2013). As such, in addition to the theory of reasoned action (TRA) and technology acceptance models (TAM) mainly for technology-related research, the researchers also employed TPB as part of the theoretical framework development of this study.

## Attitude towards Information Technology and the Intentions towards Digital Entrepreneurship

The TRA model (Ajzen and Fishbein, 1980) is a comprehensive model suggesting that ones' social behaviour is driven by their own attitude towards the behaviour. In other words, ones' behaviour is predicated on a behavioural intention to perform such behaviour, and the behavioural intention is expounded by ones' attitude. Davis (1989) adopted the TRA model's cause-and-effect relationships in TAM to justify the individual's acceptance behaviour towards IT. Thus, attitude is considered as a vital component in predicting an individual's behavioural intention. In the digital entrepreneurship context, attitude towards IT (ATIT) could foster the intention of digital entrepreneurship (Linan, Rodriguez-Cohard & Rueda-Cantuche, 2011; Bennani & Oumlil, 2014). According to Yurtkorua et al. (2014), personal attitude and perceived behavioural control are predictors of entrepreneurial intention with an emphasis on personal attitude. Therefore, the following hypothesis was proposed: *H1: Attitude towards IT is positively and directly related to the fresh graduates' intention to engage in Digital Entrepreneurship.*

## Perceived Usefulness and the Intentions towards Digital Entrepreneurship

Davis, Bagozzi and Warshaw (1989) highlighted that perceived usefulness (PU) could enhance the individual's job performance by using a particular system. It represents a hypothetical substitute of the comparative strengths developed in the innovation diffusion theory (Roger, 1995). PU is attested to be the decisive factor of IT acceptance (Igbaria, Schiffman & Wieckowski, 1994; Bennani & Oumlil, 2014; Lane, Wafa, Hassan & Belkhamza, 2014). Carter & Yeo (2016) posit that information values were the strongest drivers of attitudes towards usage. If a digital technology can improve the entrepreneur's job performance it will affect their intention to accept it (Lane et al., 2014). There are also extensive empirical findings that endorse the substantial impact of perceived usefulness on behavioural intention (i.e., Fishbein & Ajzen, 1977; Davis et al., 1989; Jackson, Chow, & Leitch, 1997; Venkatesh & Davis, 2000; Suh & Han, 2003; Bennani & Oumlil, 2014; Zaremohzzabieh et al., 2016).



Thus, PU is supposed to influence positively and indirectly (via ATIT) the intention of fresh graduates to accept digital entrepreneurship. Therefore, these relationships are hypothesized as follows:

*H2: Perceived Usefulness is positively and directly related to the fresh graduates' intentions to engage in Digital Entrepreneurship.*

*H3: Perceived Usefulness is positively and indirectly, via Attitude towards IT, related to the fresh graduates' intentions to engage in Digital Entrepreneurship.*

## Perceived Ease of Use and the Intentions towards Digital Entrepreneurship

Perceived Ease of Use (PEOU) refers to how easy a particular system is to use. Technologies that are considered as being easier to operate and least complex are more likely to be accepted by potential users (Fishbein & Ajzen, 1977; Davis et al., 1989; Suh & Han, 2003; Lane et al., 2014). Hence, the intention of future fresh graduates to accept digital entrepreneurship is affected by the ease of use of the digital technology (Davis, Bagozzi, & Warshaw, 1989). According to prior studies, perceived ease of use is supposed to influence behavioural intention, either positively and indirectly throughout attitude (Davis, Bagozzi, & Warshaw, 1989, Jackson, Chow, & Leitch, 1997; Venkatesh & Davis, 2000; Suh & Han, 2003; Zaremohzzabieh et al., 2016; Lim, Radzol, Cheah, & Wong, 2017). The present study intends to attempt to revalidate such relationships in the context of digital entrepreneurship. As mentioned earlier, one's behavioural intention is determined by one's attitude. Fishbein and Ajzen (1975) argue that beliefs influence behavior only by virtue of their indirect effect on attitudes, whereas Weiner (1986) claims attitudes are co-determinants of behavioral intentions. Subsequently, this has led to the following hypotheses:

*H4: Perceived Ease of Use is positively and directly related to the fresh graduates' intentions to engage in Digital Entrepreneurship.*

*H5: Perceived Ease of Use is positively and indirectly, via Attitude towards IT, related to the fresh graduates' intentions to engage in Digital Entrepreneurship.*

## Subjective Norms and the Intentions towards Digital Entrepreneurship

Subjective Norms (SN) allude to the extent to which one perceives that almost everyone who is important to them expects that they should or should not employ the technology that portrays the social influence processes (Fishbein & Ajzen, 1975; Venkatesh & Davis, 2000). Drawing upon Kelman's (1958, 1961) work on social



influence and French, Raven, & Cartwright's (1959) work on power influences, TAM2 theorizes that three social influence mechanisms, (1) compliance; (2) internalization; and (3) identification, play a role in understanding the social influence processes. The TAM2 (an improved version of TAM) includes more detailed explanations for the reasons users find a given system useful at three (3) points in time: pre-implementation, one-month post-implementation and three-month post-implementation (Lai, 2017). The model postulates that SN will positively impact behavioural attitude through processes of internalization and identification, respectively, and wane over time as users acquire more experience with the technology (Warshaw, 1980; Venkatesh & Davis, 2000). Carter & Yeo (2016) posit that the most important influencers, i.e., friends and family tend to have more influence over the behaviour of undergraduates than other influencers. What other persons or groups believe, conform or dispute ones' own decision in carrying out a given behaviour, significantly contributes to the decision. In general, people may seek the opinion from their important influencers before making any decisions. It was noted that government roles for supporting and encouraging digital transformation in small service business: build a digital platform for small service business; promote mobile/digital payment; provide digital training; and build a digital collaboration ecosystem; somehow inspired graduates' intention to venture into digital entrepreneurship (Chen et al., 2021). Thus, in the digital entrepreneurship context, it is supposed that SN could foster the intention of embarking on digital entrepreneurship.

*H6: Subjective Norm is positively and directly related to the fresh graduates' intentions to engage in Digital Entrepreneurship.*

## Perceived Risk and the Intentions towards Digital Entrepreneurship

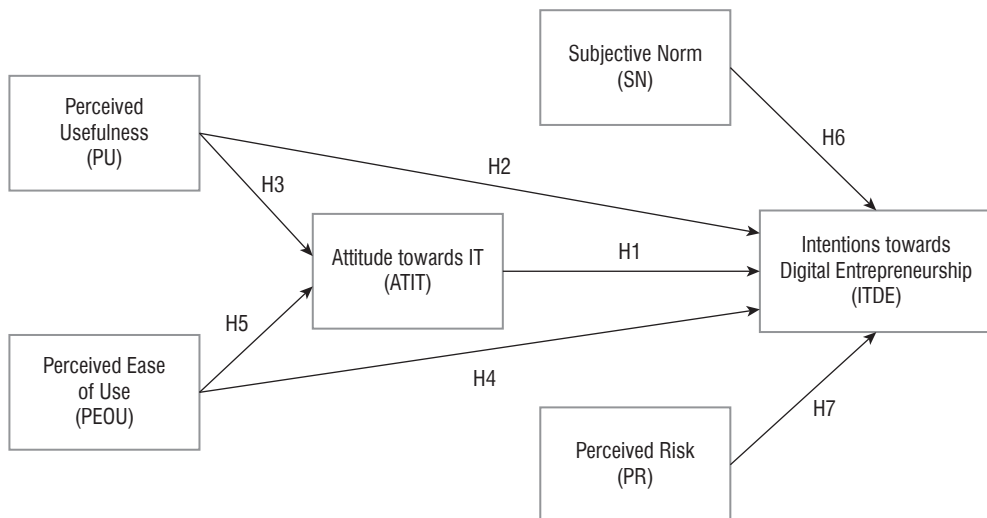
The concept of perceived risk (PR) was introduced by Bauer (1960) in terms of the uncertainty and consequences associated with a user's action. Peter and Ryan (1976) defined perceived risk as a kind of subjective expected loss, whereas Featherman and Pavlou (2003) added that PR is related to the possibility of experiencing negative consequences or losses in uncertain situations. Several researchers have posited that PR is manifested in a number of potential ways such as performance, financial, time, psychological, social and privacy risk and that, for digital entrepreneurs, perceived risk could contribute to an uncertain future with the adoption of IT (Featherman & Pavlou, 2003; Kesharwani & Bisht, 2012; Bennani & Oumlil, 2014). Thus, these entrepreneurs will consider the adoption of IT as riskier and will tend to be more reluctant towards digital entrepreneurship (Bennani & Oumlil, 2014).

Hence, it is evidenced that PR has a detrimental effect on the intention to accept digital entrepreneurship. The following hypothesis, therefore, is proposed:

*H7: Perceived Risk is negatively and directly related to the fresh graduates' intentions to engage in Digital Entrepreneurship.*

As a result of the literature review, the conceptual model in Figure 1 is proposed.

**Figure 1. Proposed Conceptual Framework**



Source: Authors' own elaboration.

## Research Methodology

### Research Design

In this study, the research design consisted of a quantitative research approach, followed by a descriptive cross-sectional study using a primary data collection method. The questionnaire was classified into two sections, Sections A and B. Part I of the questionnaire covered the demographic profile data of the respondents. This section consisted of five questions, including gender, age, race, current educational level and the programme of study. The respondents were only allowed to select an option for each question to reflect their current status. The data obtained provided a better insight for the researcher on the respondents' demographic information. Part II (Section B) of the questionnaire provided essential instructions and elaborated further the predictor variable and criterion variable that were used in this study. Each construct

was measured by using multiple items that were adapted from different sources as presented in Table 1. A 7-point Likert scale was used to record the responses.

**Table 1. Operationalization and source of constructs**

Constructs	Item	Source
Intention towards Digital Entrepreneurship (ITDE)	5	Venkatesh & Davis (2000) Wang & Lin (2016)
Attitude towards IT (ATIT)	5	Suh & Han (2003)
Perceived Usefulness (PU)	6	Davis (1989)
Perceived Ease of Use (PEOU)	5	Venkatesh & Davis (2000) Davis (1989)
Subjective Norm (SN)	4	Venkatesh & Bala (2008)
Perceived Risk (PR)	4	Liang & Xue (2010)

Source: Authors' own elaboration.

## Sample and Data Collection

The data collection was done through questionnaires distributed, by email, and social media to respondents because this study was very much relating to an individual's viewpoint since digital entrepreneurship is primarily driven by an individual's attitude and perspective which will influence their intention to engage (Malhotra, 2010). The questionnaire items, adapted from relevant research journal articles, were keyed into an online spreadsheet (Google Form) for the purpose of data collection and analysis.

The targeted respondents were the existing final year undergraduates (bachelor's degree) of business faculty/school both from private and public universities. The reason for selecting these respondents was that most of the students from a business faculty would have studied "entrepreneurship" and "information technology (IT)" or any IT related course as a mandatory/elective subject before they completed their study. To do this, a nonprobability sampling technique was used as it enabled the researchers to select the sample respondents based on their own personal subjective judgement or convenience. Prior to full data analyses, a pilot test was conducted with 12 male participants and 18 female participants and the data was run using SPSS. A Cronbach Alpha test of reliability was then carried out. All the six constructs (i.e., ITDE, ATIT, PU, PEOU, SN and PR) were well-above the recommended threshold of 0.70 (Hair et al., 2014), ranging from 0.863 to 0.989. The verbal feedback from the respondents was taken into account and none of the questions required modification. The final version of the questionnaire items that measured each construct was then keyed into the Google Form where a link was created for collecting the data. The online

spreadsheet Uniform Resource Locator (URL) link was then shared and forwarded via email, WhatsApp, Instagram, Twitter and Facebook to all the target respondents.

There are several recent studies based on digital entrepreneurship with the sample size ranging from 90 to 400. Malhotra (2010) asserts that aside from time and cost factors, the researcher should also take other factors (i.e., resource constraints) in consideration when making the decision on sample size. Based on this rationale, data from the present study was collected over a four-week period and administered at distinct time of day. Of a total of 324 respondents, 302 usable responses were employed in the analysis. The sample size for this study was considered appropriate as it met the requirements as stated above. The data collected from the online survey was used for the preliminary analysis, descriptive analysis, reliability and validity test as well as inferential analysis. The IBM Statistical Package for Social Sciences (SPSS) version 25 and SmartPLS version 3.2.8 were used to generate the statistical analyses.

## Data Analysis and Findings

### Multicollinearity Analysis

Table 2 below displays the VIF (Variance Inflation Factor) and tolerance value of the current study. In this model, the tolerance statistics ranged between 0.163 and 0.991, which was greater than the recommended value of 0.2 (Field, 2018: 402) and 0.1 (Allen, Bennett, & Heritage, 2014). Besides, the VIF values ranged between 1.009 and 6.053, which was lower than the recommended value of 10 (Field, 2018) and 5 (Hair, Risher, Sarstedt, & Ringle, 2019). Hence, it can be claimed that there was no collinearity within the present data. Normality test analyses were then conducted as explained in the following subsection.

**Table 2. Assessment of Multicollinearity**

Model	Constructs	Collinearity Statistics	
		Collinearity Tolerance	Statistics VIF
1	ATIT	0.483	2.069
	PU	0.415	2.412
	PEOU	0.389	2.572
	SN	0.589	1.697
	PR	0.980	1.021
	Dependent Variable: ITDE		

Model	Constructs	Collinearity Statistics	
		Collinearity Tolerance	Statistics VIF
2	ITDE	0.182	5.498
	PU	0.471	2.125
	PEOU	0.163	6.143
	SN	0.582	1.720
	PR	0.976	1.024
	Dependent Variable: ATIT		
3	ITDE	0.170	5.872
	ATIT	0.514	1.947
	PEOU	0.165	6.045
	SN	0.583	1.715
	PR	0.973	1.028
	Dependent Variable: PU		
4	ITDE	0.401	2.495
	ATIT	0.446	2.242
	PU	0.415	2.408
	SN	0.674	1.484
	PR	0.991	1.009
	Dependent Variable: PEOU		
5	ITDE	0.171	5.849
	ATIT	0.448	2.230
	PU	0.412	2.428
	PEOU	0.190	5.273
	PR	0.978	1.023
	Dependent Variable: SN		
6	ITDE	0.168	5.939
	ATIT	0.446	2.243
	PU	0.407	2.456
	PEOU	0.165	6.053
	SN	0.579	1.727
	Dependent Variable: PR		

Source: Authors' own elaboration.

## Demographic Profile and Other Characteristics

Table 3 presents an overview of the target population's profile of 302 respondents; there were more female (54.6%,  $n=165$ ) students than male students (45.4%,  $n=137$ ). Moreover, in terms of age demography, 51.7% of the respondents were within the age group of 24–26 years old ( $n=156$ ) and most of the students were Chinese (81.1%,  $n=254$ ). All of the respondents were pursuing a bachelor's degree and they represented different programmes. Most of the students were from Accounting (10.9%), Business Administration (26.2%), Banking and Finance (16.9%) and

Finance and Investment (12.6%). By virtue of the information gathered, whether or not the intention towards digital entrepreneurship existed amongst these respondents was examined, cross referenced by several key characteristics such as the programme on which they were enrolled.

**Table 3. Demographic Profile and Other Characteristics (N: 302)**

Demographic Variables	Frequency	Percentage (%)
<b>Gender</b>		
Male	137	45.4
Female	165	54.6
<b>Age</b>		
18–20 years old	2	0.7
21–23 years old	141	46.7
24–26 years old	156	51.7
27 years old and above	3	1.0
<b>Race</b>		
Malay	32	10.6
Chinese	245	81.1
Indian	25	8.3
Others	-	-
<b>Programme</b>		
Accounting	33	10.9
Business Administration	79	26.2
Banking and Finance	51	16.9
Corporate Administration	41	13.6
Economics	20	6.6
E-Commerce and Marketing	17	5.6
Finance and Investment	38	12.6
Marketing	22	7.3
Others	1	0.3

Source: Author's own elaboration.

## Pearson's Correlation Analysis

In accordance with Hinkle, Wiersma and Jurs (2003), Table 4 below shows that PR had little positive correlation with PEOU, where  $r = 0.007$ ; whilst it had little negative correlation with ITDE, ATIT, PU, and SN, where  $r = -0.053, -0.101, -0.072$ , and  $-0.068$ , respectively. Besides, SN had a low to moderate positive correlation with ITDE, ATIT, PU, and PEOU, where  $r = 0.536, 0.464, 0.510$ , and  $0.632$ , respectively. Furthermore, PEOU had a moderate to high positive correlation with ITDE, ATIT as well as PU where  $r = 0.894, 0.628$ , and  $0.694$ , respectively. Additionally, PU had a moderate to high positive correlation with ITDE and ATIT at 0.01 probability level, where  $r = 0.705$  and  $0.683$ , respectively. Lastly, ATIT had a moderate positive correlation with ITDE at 0.01 probability, where  $r = 0.687$ .

**Table 4. Assessment of Correlation between Variables**

Constructs	ITDE	ATIT	PU	PEOU	SN	PR
ITDE	1					
ATIT	0.687**	1				
PU	0.705**	0.683**	1			
PEOU	0.894**	0.628**	0.694**	1		
SN	0.536**	0.464**	0.510**	0.632**	1	
PR	-0.053**	-0.101**	-0.072**	0.007**	-0.068**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Notes: ITDE = intention towards digital entrepreneurship; ATIT = attitude towards IT; PU = perceived usefulness; PEOU = perceived ease of use; SN = subjective norm; PR = perceived risk

Source: Authors' own elaboration.

## Goodness of Measures Analysis

### Reliability – Internal Consistency (PLS-SEM)

To establish and assess the accuracy of the variables measures, a reliability and validity check was conducted. Table 5 illustrates that the scales for the seven constructs employed in this research possess internal consistency, where the values of Cronbach's alpha, composite reliability, and Dijkstra-Henseler's rho are greater than 0.7, 0.7, and 0.7, respectively, as specified by Hair, Black, Babin, and Anderson (2014); Gefen, Straub, and Boudreau (2010); and Dijkstra and Henseler (2015). Based on the above results on internal consistency that were generated using SPSS and PLS-SEM, it was concluded that the constructs employed in this research met the internal consistency requirements at this stage.

**Table 5. Results of Tests of Internal Consistency (PLS-SEM)**

Constructs	Cronbach's Alpha, $\alpha$	Composite Reliability	Rho-A
ITDE	0.934	0.950	0.930
ATIT	0.929	0.947	0.935
PU	0.939	0.952	0.908
PEOU	0.905	0.931	0.917
SN	0.919	0.943	0.940
PR	0.921	0.937	0.922

Notes: ITDE = intention towards digital entrepreneurship; ATIT = attitude towards IT; PU = perceived usefulness; PEOU = perceived ease of use; SN = subjective norm; PR = perceived risk

Source: Author's own elaboration.



## Convergent Validity

In this research, convergent validity of the measurement model was further verified to examine whether the indicators were loaded into its underlying latent variables. Table 6 indicated that the convergent validity was achieved in this study by virtue of:

- i) All the factors in this measurement model, ranging from 0.824 to 0.963, were well-above the threshold level of 0.708, indicating that the latent constructs explained at least 50% of their indicator's variance (Hair, Matthews, Matthews, & Sarstedt, 2017).
- ii) Composite reliability (CR) was above the cut-off point of 0.7.
- iii) The AVE for all constructs stood at more than 0.729, which exceeded the required level of 0.50 (Hair et al., 2014).

**Table 6. Construct Reliability and Validity**

Constructs	Items	Factor Loading	CR	AVE
Intentions towards Digital Entrepreneurship	ITDE1	0.903	0.950	0.790
	ITDE2	0.857		
	ITDE3	0.889		
	ITDE4	0.889		
	ITDE5	0.907		
Attitude towards IT	ATIT1	0.880	0.947	0.780
	ATIT2	0.859		
	ATIT3	0.856		
	ATIT4	0.912		
	ATIT5	0.908		
Perceived Usefulness	PU1	0.895	0.952	0.767
	PU2	0.876		
	PU3	0.863		
	PU4	0.881		
	PU5	0.856		
	PU6	0.882		
Perceived Ease of Use	PEOU1	0.848	0.931	0.729
	PEOU2	0.882		
	PEOU3	0.842		
	PEOU4	0.826		
	PEOU5	0.870		
Subjective Norm	SN1	0.903	0.943	0.806
	SN2	0.906		
	SN3	0.913		
	SN4	0.869		
Perceived Risk	PR1	0.873	0.937	0.789
	PR2	0.887		
	PR3	0.963		
	PR4	0.824		

Source: Authors' own elaboration.

## Discriminant Validity

Hair et al. (2017) suggested that Heterotrait-Monotrait (HTMT) values close to 1 indicate a lack of discriminant validity, whereas Kline (2016) asserts that HTMT value should be less than 0.85 in order to achieve discriminant validity. Table 7 exhibits that almost all the values fulfilled the criterion of HTMT 0.85 (Kline 2016). This indicated that discriminant validity of the measurement model had been ascertained.

**Table 7. Heterotrait-Monotrait Discriminant Assessment**

Constructs	ATIT	ITDE	PEOU	PR	PU	SN
ATIT						
ITDE	0.736					
PEOU	0.683	0.832				
PR	0.007	0.050	0.042			
PU	0.730	0.752	0.752	0.066		
SN	0.502	0.577	0.690	0.059	0.549	

Notes: ITDE = intention towards digital entrepreneurship; ATIT = attitude towards IT; PU = perceived usefulness; PEOU = perceived ease of use; SN = subjective norm; PR = perceived risk

Source: Author's own elaboration.

## Analysis of Structural Model

Structural model evaluation should be undertaken to investigate the model's predictive capabilities and the targeting relationships between its latent constructs (Hair et al., 2017). In this research, the assessment of the model was performed using SmartPLS, which involve the  $R^2$  level and  $f^2$  of the path model as well as the significance of the path coefficients.

### Assessment of the Coefficient of Determination ( $R^2$ )

As per Chin's (1998) rules of thumb for acceptable  $R^2$ , the  $R^2$  level for the respective targeted endogenous variable in this research was 0.831, which was well-above 0.33; thence, they were deemed to have a substantial level of variance explained, as shown in Table 8.

**Table 8. R<sup>2</sup> Assessment of the Structural Model**

Endogenous Variables	R <sup>2</sup>	Remarks for R <sup>2</sup>
ITDE	0.831	Substantial

Notes: ITDE = intention towards digital entrepreneurship

Source: Author's own elaboration.

## Assessment of the Effect Size (f<sup>2</sup>)

To measure the effect size, this research adopted the guidelines specified by Cohen (1988). The values of 0.02, 0.15, and 0.35 represented small, medium, and large effects, respectively, where Table 9 illustrates that ATIT (0.088), PR (0.009), PU (0.018), and SN (0.024) had small effects in producing the adjusted R<sup>2</sup> for ITDE. Besides, the result indicated PEOU (1.399) and so had a large effect in producing the adjusted R<sup>2</sup> for ITDE.

**Table 9. Effect Size (f<sup>2</sup>) of Endogenous Variables of the Structural Model**

Variables		Effect Size (f <sup>2</sup> )	Remarks
<b>Endogenous Variable</b>	ITDE		
Exogenous Variable	ATIT	0.088	Small Effect
Exogenous Variable	PEOU	1.399	Large Effect
Exogenous Variable	PR	0.009	Small Effect
Exogenous Variable	PU	0.018	Small Effect
Exogenous Variable	SN	0.024	Small Effect

Notes: ITDE = intention towards digital entrepreneurship; ATIT = attitude towards IT; PU = perceived usefulness; PEOU = perceived ease of use; SN = subjective norm; PR = perceived risk

Source: Author's own elaboration.

## Assessment of the Collinearity Issues

Table 10 displays the findings of the assessment of structural model for collinearity issues in this study, all the independent variables' inner VIF values, ranging from 1.027 to 2.605 were found to have fulfilled the threshold conditions as suggested by Hair et al. (2017), whereby the inner VIF values should be less than 5.0 and 3.3. Thus, indicating collinearity was not a concern in this research.

**Table 10. Assessment of Structural Model for Collinearity Issues**

Constructs	Inner VIF Values
ATIT	2.078
PU	2.422
PEOU	2.605
SN	1.708
PR	1.027

*Dependent Variable: ITDE*

*Notes: ITDE = intention towards digital entrepreneurship; ATIT = attitude towards IT; PU = perceived usefulness; PEOU = perceived ease of use; SN = subjective norm; PR = perceived risk*

Source: Author's own elaboration.

## Assessment of Path Coefficients

### Direct Effect Analysis of the Models

The assessment of the path coefficient illustrates that only four relationships were found to have t-value of more than 1.645, thus significant at 0.05 level of significance. Table 11 exhibits the direct effect of hypothesized relationship.

**Hypothesis 1:** There is a significant positive relationship between attitude towards IT and the intention towards digital entrepreneurship,  $\beta = 0.174$ , t-value = 4.650,  $P < 0.05$ ;  $P = 0.00$ . Thus, Hypothesis 1 was supported. However, in accordance with the recommendations of Elifson, Runyon, & Haber (1998), the positive relationship between attitude towards IT and the intention towards digital entrepreneurship was weak (i.e.,  $< 0.31$ ). Nonetheless, this still indicated that an individual who had a positive attitude towards IT were more likely to engage in digital entrepreneurship.

**Hypothesis 2:** There is a significant positive relationship between perceived usefulness and the intention towards digital entrepreneurship,  $\beta = 0.084$ , t-value = 2.089,  $P < 0.05$ ;  $P = 0.00$ . Thus, Hypothesis 2 was supported. However, in agreement with Elifson, Runyon, & Haber's (1998) recommendations, the positive relationship between perceived usefulness and the intention towards digital entrepreneurship was weak (i.e.,  $< 0.31$ ). This showed that when perceived usefulness increased, the individuals' intention to engage in digital entrepreneurship was more likely to be increased.

**Hypothesis 4:** There is a significant positive relationship between perceived ease of use and the intention towards digital entrepreneurship,  $\beta = 0.779$ , t-value = 18.230,  $P < 0.05$ ;  $P = 0.00$ . Thus, Hypothesis 4 is supported, again, in accordance with Elifson, Runyon, and Haber's (1998) recommendations, the positive relationship between perceived ease of use and the intention towards digital entrepreneurship appeared to be

strong (i.e.,  $<1.00$ ). This indicated that when an individual perceives that technology is easy to use, they are more likely to engage in digital entrepreneurship.

**Hypothesis 6:** There is a significant positive relationship between subjective norm and the intention towards digital entrepreneurship,  $\beta = 0.082$ ,  $t\text{-value} = 2.679$ ,  $P < 0.05$ ;  $P = 0.00$ . Thus, Hypothesis 6 is supported. In accordance with Elifson, Runyon, and Haber's (1998) recommendations, the positive relationship between subjective norm and the intention towards digital entrepreneurship was concluded to be weak (i.e.,  $<0.31$ ). This indicated that an individual's intentions to engage in digital entrepreneurship was positively influenced when the perceived social pressure exerted by those significant others around them to engage was high.

**Hypothesis 7:** There is an insignificant negative relationship between perceived risk and the intention towards digital entrepreneurship,  $\beta = -0.040$ ,  $t\text{-value} = 1.274$ ,  $P > 0.05$ ;  $P = 0.102$ . Thus, the results lead to the conclusion that Hypothesis 7 was not supported in this study.

**Table 11. Result of Causal Relationship with Direct Effect**

				Path Coefficient	Std. Deviation	t-value	P-Value	Study Result
H1	ATIT	(+) and	ITDE	0.174	0.037	4.650	0.000	Supported
H2	PU	(+) and	ITDE	0.084	0.040	2.089	0.000	Supported
H4	PEOU	(+) and	ITDE	0.779	0.043	18.230	0.000	Supported
H6	SN	(+) and	ITDE	0.082	0.031	2.679	0.009	Supported
H7	PR	(-) and	ITDE	-0.040	0.031	1.274	0.102	Not Supported

Notes: ITDE = intention towards digital entrepreneurship; ATIT = attitude towards IT; PU = perceived usefulness; PEOU = perceived ease of use; SN = subjective norm; PR = perceived risk

Source: Author's own elaboration.

## Indirect Effect Analysis of the Models

There were two indirect hypotheses (i.e., H3 and H5) being developed between the constructs in this research. Table 12 illustrates the indirect effect of causal relationship between the variables. Based on the result, it can be concluded that both mediations are significant at  $t\text{-values} > 1.96$  and  $p\text{-value} < 0.05$ . As a result of attitude towards IT becoming a mediator, perceived usefulness and perceived ease of use were found to have an indirect effect on the intention to take part in digital entrepreneurship.

**Hypothesis 3:** The bootstrapping analysis showed that there was a significant indirect effect on the relationship between perceived usefulness and the intention towards digital entrepreneurship,  $\beta = 0.052$ ,  $t\text{-values} = 7.885$ ,  $P < 0.05$ ;  $P = 0.00$ . Thus, Hypothesis 3 was statistically supported with the results shown. This hypothesized

the relationship between perceived usefulness and the intention towards digital entrepreneurship was positively mediated by attitude towards IT.

**Hypothesis 5:** There is a significant indirect effect of relationship between perceived ease of use and the intention towards digital entrepreneurship,  $\beta = 0.083$ ,  $t\text{-values} = 4.739$ ,  $P < 0.05$ ;  $P = 0.004$ . Hence, Hypothesis 5 is statistically supported by the results. This hypothesized the relationship between perceived ease of use and the intention towards digital entrepreneurship was positively mediated by attitude towards IT.

**Table 12. Indirect Effect of Causal Relationship between the Variables**

		Path Coefficient	Std. Error	t-value	P-Value	Study Result
H3	PU and ATIT and ITDE	0.052	0.063	7.885	0.000	Supported
H5	PEOU and ATIT and ITDE	0.083	0.061	4.739	0.004	Supported

Source: Author's own elaboration.

## Discussion

Despite the efficacy of the TAM model to anticipate users' technology acceptance, it might not apply in the ITs study area to a nation with an emerging economy like Malaysia (Zaremozhzabieh et al., 2016). The future fresh graduates as entrepreneurs might have different technology acceptance choices. Thus, the ultimate objective of this research paper was to discover the determinants influencing the fresh graduates' intention to engage in digital entrepreneurship. In order to achieve the research objectives, the researchers utilized TAM, and its extensions, to predict IT acceptance and so selected the most tested constructs to predict IT acceptance. Besides the main TAM constructs; predicting individual behavioral intention (ATIT, PU, PEOU and SN), the researchers added one pervasive construct in the TAM extension, that of perceived risk. Perceived risk is considered an external variable and supposed to enhance future entrepreneurs' intention to accept digital entrepreneurship.

## Assessment of Path Coefficients

### Direct Hypothesized Relationship

In this study, there were five direct hypotheses being developed between the constructs to test the significance level and t-statistics for all paths were generated using PLS-SEM's bootstrapping function as proposed by Hair et al. (2017). The assessment

of the path coefficient illustrates that there were only four relationships found to have t-value of more than 1.645, thus significant at the 0.05 level of significance. Table 13 exhibits the direct effect of hypothesized relationship.

**Table 13. Result of Causal Relationship with Direct Effect**

				Path Coefficient	Std. Deviation	t-value	P-Value	Study Result
H1	ATIT	(+) →	ITDE	0.174	0.037	4.650	0.000	Supported
H2	PU	(+) →	ITDE	0.084	0.040	2.089	0.000	Supported
H4	PEOU	(+) →	ITDE	0.779	0.043	18.230	0.000	Supported
H6	SN	(+) →	ITDE	0.082	0.031	2.679	0.009	Supported
H7	PR	(-) →	ITDE	-0.040	0.031	1.274	0.102	Not Supported

Notes: ITDE = intention towards digital entrepreneurship; ATIT = attitude towards IT; PU = perceived usefulness; PEOU = perceived ease of use; SN = subjective norm; PR = perceived risk; (+) = positively related; (-) = negatively related.

Source: Author's own elaboration.

## Attitude towards Information Technology and the Intentions towards Digital Entrepreneurship

In this study, attitude towards IT was found to have a significant positive effect on the individuals' intention towards digital entrepreneurship. This affirmed previous research which suggested that an individual's attitude towards technology will affect their intentions towards digital entrepreneurship (Pelling & White, 2009; Onur Bodur, Brinberg, & Coupey, 2000; Kautonen, Van Gelderen, & Fink, 2015; Richte et al., 2017). According to Othman and Ishak (2009), attitude is an important determinant of an individual's success in entrepreneurship. Thus, a heartfelt and positive attitude is needed to assist fresh graduates in choosing and participating in digital entrepreneurship. The present study has emphasized the importance of fresh graduates' attitude and their belief on the importance of engaging in digital entrepreneurship. Thus, it can be inferred that the future fresh graduates with a positive attitude towards IT may tend to have high entrepreneurial intentions, meaning that these students are ready to make a concerted effort to start and run their own business.

## Perceived Usefulness and the Intention towards Digital Entrepreneurship

In this study, perceived usefulness was proved to influence significantly fresh graduates' intentions to engage in digital entrepreneurship. This affirmed previous research, which suggested that perceived usefulness would affect the individual's



intentions to digital entrepreneurship (Richter et al., 2017; Autio, Szerb, Komlósi, & Tiszberger, 2018; Oumlil & Juiz, 2018; Kraus et al., 2018). The results imply that fresh graduates have a propensity to engage in digital entrepreneurship when they perceive that the utility of digital entrepreneurship is high. Besides, the findings also confirm the subjectivity of the behaviour of fresh graduates being influenced by other factors like usefulness and the profitability of the information technology. This may suggest that fresh graduates are relatively pragmatic and tend to engage in digital entrepreneurship if it is perceived to generate high profitability.

### **Perceived Ease of Use and the Intentions towards Digital Entrepreneurship**

In this study, perceived ease of use was found to have to have significant positive effect on the individuals' intention towards digital entrepreneurship. This affirmed the previous research, which suggested that perceived ease of use would affect their intentions towards digital entrepreneurship (Ndubisi, Jantan, & Richardson, 2001; Richter, Kraus, Brem, Durst, & Giselsbrecht, 2017; Autio et al., 2018; Oumlil & Juiz, 2018). The current findings suggest that the ease of use of the technology is imperative in predicting the digital entrepreneurship engagement intent. The result implies that fresh graduates have a propensity to engage in digital entrepreneurship when they perceive the technology is not hard to comprehend, to learn and/ or to manage, i.e., when the adoption of digital technology into their business is perceived to require minimum effort in its usage, fresh graduates are more willing to engage in the digital entrepreneurship context.

### **Subjective Norm and the Intentions towards Digital Entrepreneurship**

In this study, subjective norm was found to have to have significant positive effect on the individuals' intention towards digital entrepreneurship. This affirmed the previous research, which suggested that the subjective norm would affect the intention towards digital entrepreneurship (Jusoh & Halim, 2006; Alam, Khatibi, Ahmad, & Ismail, 2007; aremohzzabieh et al., 2016; Kraus et al., 2018). The current findings illustrate that fresh graduates are inclined to be interested in engaging in digital entrepreneurship when the perceived social support from important people around them is high. This result was supported by the demographic profiles of the target sample in this research, the reason being that most of fresh graduates are still in the stage of establishing their career choice preferences. Thus, the

opinions of important others (i.e., friends, parents, lecturers, and course-mates) are more likely to influence their decision to engage in digital entrepreneurship. Generally, this study highlights the significant role of the subjective norm in digital entrepreneurship intention of fresh graduates. It can be inferred that the more influential the referent group (i.e., friends, parents, lecturers, and course-mates) is to fresh graduates, the more likely are they to have the intention to engage in digital entrepreneurship.

### Perceived Risk and the Intentions towards Digital Entrepreneurship

On other hand, perceived risk was found to have an insignificant and negative effect on the individuals' intention towards digital entrepreneurship. The results of this study for perceived risk were not as hypothesized in the studies (Belkhamza & Wafa, 1970; Lu, Hsu, & Hsu, 2005; Nambisan, 2017; Autio et al., 2018). The current findings could be explained, perhaps by the demographic profiles of the target sample in this research. The results may be interpreted by assuming that fresh graduates do not consider the risks of engaging in digital entrepreneurship. The fresh graduates' perspective may be differed from normal users in that they may not consider the potential risks from the adoption of digital entrepreneurship. The reason being that students are normally attracted by the advancement of technology without considering the potential risks that might arise (Lu, Hsu, & Hsu, 2005). The findings indicated that fresh graduates could not foresee the potential risks that might occur and so do not think the engagement will lead to possible hazards. Thus, perceived risk does not weaken the perception of fresh graduates in their intention towards digital entrepreneurship.

### Indirect Hypothesized Relationship

As regards the mediating effect of the attitude towards IT construct, previous studies have argued that individuals' attitude to IT should be included along with perceived usefulness, perceived ease of use and the intentions towards digital entrepreneurship (Lim et al., 2017; Oumlil & Juiz, 2018; Zaremohzzabieh et al., 2016). Thus, in this study, the mediating role of attitude towards IT was examined. The findings support both hypotheses (i.e., H3 and H5) as shown in Table 14.

**Table 14. Indirect Effect of Causal Relationship between the Variables**

		Path Coefficient	Std. Error	t-value	P-Value	Study Result
H3	PU → ATIT → ITDE	0.052	0.063	7.885	0.000	Supported
H5	PEOU → ATIT → ITDE	0.083	0.061	4.739	0.004	Supported

Source: Developed for this research.

Notes: ITDE = intention towards digital entrepreneurship; ATIT = attitude towards IT; PU = perceived usefulness; PEOU = perceived ease of use

Source: Author's own elaboration.

### Mediating Effect of Attitude towards Information Technology on Perceived Usefulness and the Intentions towards Digital Entrepreneurship

Based on the findings of the current study, attitude towards IT was found to have a significant positive mediating effect on the relationship of perceived usefulness and intentions towards digital entrepreneurship, and this is consistent with previous research (Oumlil and Juiz, 2018; Zaremohzzabieh et al., 2016). In other words, the conjunction of attitude towards IT, together with perceived usefulness, contributes to greater predictive power of the intention towards digital entrepreneurship. In this study, the results imply that perceived usefulness influenced fresh graduates' propensity to use information technology, because these future entrepreneurs form positive attitudes to IT, which, in turn, they believe will positively influence their intentions in engaging in digital entrepreneurship. In other words, when the use of IT is perceived to be an enhancement to one's productivity and its usefulness (Davis et al., 1989), these future entrepreneurs are more likely to develop a positive attitude towards the intentions to engage in digital entrepreneurship.

### Mediating Effect of Attitude towards Information Technology on Perceived Ease of Use and the Intentions towards Digital Entrepreneurship

In this study, attitude towards IT was found to have a significant, positive mediating effect on the relationship of perceived ease of use and intentions towards digital entrepreneurship, and this is consistent with previous research (Lim et al., 2017; Oumlil & Juiz, 2018; Zaremohzzabieh et al., 2016). In other words, attitude towards IT, together with perceived ease of use, constitutes greater predictive power for intentions towards digital entrepreneurship. The present findings showed that when information technology is simple and easy to use, the attitude towards it is more likely to be positive, and thus the intention of fresh graduates to engage in digital entre-

preneurship will also be increased. In short, this means that when the technology is easily understandable and learnable (Davis et al., 1989), these future entrepreneurs are more likely to develop a positive attitude towards the intention to engage in digital entrepreneurship.

## Research Implications

### Theoretical Implications

From a theoretical standpoint, the findings revealed a new perspective to the theoretical perception of information technology acceptance and the emerging local market in various respects. The literature review indicated that there was a paucity of empirical research regarding digital entrepreneurship in the Eastern context. Nonetheless, the past studies of digital entrepreneurship literature continue to increase in the Western context, unlike in Malaysia, where minor attention is paid closely to digital entrepreneurship. Thus, the present study has extended the theoretical knowledge and provided new insights on digital entrepreneurship research in the Eastern context.

Secondly, the present study illustrated further insights into the direct relationships of Ajzen's Theory of Planned Behavior model, including the attitude towards IT, perceived usefulness, perceived ease of use, subjective norms and perceived risk, with the intention to engage in digital entrepreneurship. The current findings of this research demonstrated that these predictive variables are foreseen to be linked to fresh graduates' intention to engage in digital entrepreneurship. In other words, the models used in the current research are consistent with prior research which produced general theories on predicting fresh graduates' intentions to engage in digital entrepreneurship (Alam, Khatibi, Ahmad, & Ismail, 2007; Zaremohzzabieh et al., 2016; Richter et al., 2017; Autio, Szerb, Komlósi, & Tiszberger, 2018; Kraus et al., 2019).

Thirdly, the mediator between the predictive variables (i.e., perceived usefulness and perceived ease of use) and the intention to engage in digital entrepreneurship was also found in the present study. The results demonstrated that fresh graduates' intentions to engage in digital entrepreneurship were significantly influenced by their own attitudes towards IT. In other words, when the employment of technology is perceived to be useful and easy to learn and understand, these future entrepreneurs are more likely to develop a positive attitude towards the intentions to engage in digital entrepreneurship.

## Practitioner and Policy Implications

This study offers valuable knowledge in providing governmental and non-governmental agencies with several insights concerning the engagement of the younger generations in digital entrepreneurship. From the standpoint of hypotheses 3 and 5 in this research, it is significant for the Malaysian government to emphasize the usefulness of information technology to future entrepreneurs (i.e., fresh graduates) by delivering monetary support along with the provision of IT training programmes for the universities and colleges. In this regard, it may foster the engagement of fresh graduates in entrepreneurial activities as well as implementing information technology in their enterprise activities.

Moreover, one other important practical implication for this study is that it is important to consider and integrate individuals' attitudes and intentions into all the entrepreneurial planning activities, particularly in IT development and employment in the SME sector. It is believed that the synergy between academic institutions, entrepreneurial government offices as well as the private sectors would be able to promote and encourage greater engagement among Malaysia's fresh graduates in digital entrepreneurship. Consequently, there will be more entrepreneurs in Malaysia who are inspired and motivated to adopt and employ information technology in their own entrepreneurial activities. The expansion of technology enables entrepreneurs to succeed in the uncertain and turbulent business environment and leads to new business opportunities by offering innovative products and services, thereby boosting the development and economy of Malaysia.

Furthermore, the present research has demonstrated that digital transformation in Malaysia will encourage more people, especially younger generations to engage in digital entrepreneurship. However, the current younger generations in Malaysia have a limited possibility to understand the complexities, nature and importance of digital entrepreneurship a failing of many academic institutions. From the standpoint of hypothesis 7, fresh graduates failed to see the potential risks incurred in digital entrepreneurship and only focused on short-term benefits. They might be overly optimistic about their achievements, which may affect their commitment once they have embarked on digital entrepreneurship.

Overall, as demonstrated by the present findings, the role of fresh graduates' intentions towards digital entrepreneurship is very much dependent on the availability of information technology and government resources as well as the support needed to stimulate their usage and behaviour towards digital entrepreneurship. It is also important to note that the Malaysian government has acknowledged that there has been a current shift in consumer buying behaviour via online purchasing

due to the unprecedented COVID-19 effect, and hence there was an allocation of RM150 million to implement the Shop Malaysia Online initiative which benefited 500,000 local sellers.

## Conclusion, Research Limitations, and Future Research

As the world is currently facing an unprecedented COVID-19 pandemic, building new ecosystems utilizing the digital capability is imperative. According to Wong (2020), the digital economy can ensure the rise of mass entrepreneurship in place of old systems especially in the digital ecosystem environment. The research findings of this study affirmed the relationship between attitude towards IT and the intent to get involved in businesses is therefore timely. Potential entrepreneurs who have an IT-inclined attitude would be more likely to benefit amidst the current coronavirus pandemic. Interestingly, Ratten (2020) also admonished would-be entrepreneurs to grasp this opportunity during such tough and challenging time to be innovative in the marketplace. Mindful of the exhortation from Chen et al. (2021), the government could alter the current policies and programs to support digital transformation in the small service business. This reaffirms the fact that the government plays an important role in supporting micro and SMEs to propel a new digital paradigm.

The respondents in this study were final year business students, who have not had a chance to experience the real business environment. Thus, there is a distinct possibility that they might have provided their own perceptions on digital entrepreneurship based on the theoretical knowledge they learned from their academic entrepreneurship courses. The results may be biased in that they do not represent the opinions of fresh graduates across Malaysia. Therefore, future research could focus more widely on real-world entrepreneurs, irrespective of their size and resources.

## Author Contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

## Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Ethics Statement

The authors certify that the research published in the text was carried out in accordance with the research ethics of the affiliated university. The ethics clearance has been granted by the Faculty Ethic Committee (Faculty of Accountancy, Finance and Business).

## Research Data Availability Statement

The original contributions presented in the study are included in the article. Further inquiries can be directed to the corresponding authors.

## References

- Ajzen I., Fishbein M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Alam, S.S., Khatibi, A., Ahmad, M.I.S., Ismail, H.B. (2007). Factors affecting e-commerce adoption in the electronic manufacturing companies in Malaysia. *International Journal of Commerce and Management*, 17 (1/2): 125–139.
- Allen, P., Bennett, K., Heritage, B. (2014). *SPSS statistics version 22: A practical guide*. South Melbourne, VC: Cengage Learning.
- Anim-Yeboah, S., Boateng, R., Awuni Kolog, E., Owusu, A., Bedi, I. (2020). *Digital Entrepreneurship in Business Enterprises: A Systematic Review*. In: M. Hattingh, M. Matthee, K. Smuts, I. Pappas, Y. Dwivedi, M. Mäntymäki (Eds.), *Responsible Design, Implementation and Use of Information and Communication Technology* (pp. 192–203). Cham: Springer.
- Astuti, R.D., Martdianty, F. (2012). Students' entrepreneurial intentions by using theory of planned behavior: The case in Indonesia. *The South East Asian Journal of Management*, 6(2): 65–142.
- Autio, E., Szerb, L., Komlósi, É., Tiszberger, M. (2018). *The European index of digital entrepreneurship systems*. Brussels: Publications Office of the European Union.
- Bauer, R.A. (1960). Consumer behavior as risk taking. *Dynamic marketing for a changing world: Proceedings of the 43 rd National Conference of the American Marketing Association, June 15, 16, 17, Chicago, Illinois, 1960*. Chicago: American Marketing Association, 384–398.
- Belkhamza, Z., Wafa, S.A. (1970). The effect of perceived risk on the intention to use e-commerce: The case of Algeria. *The Journal of Internet Banking and Commerce*, 14(1): 1–10.
- Bennani, A.E. and Oumlil, R. (2014). Acceptance of e-entrepreneurship by future entrepreneurs in developing countries: Case of Morocco. *Journal of Entrepreneurship: Research and Practice*, 20(14): 2–10.
- Bharadwaj, A., Sawy, O.A., Pavlou, P.A., Venkatraman, N. (2013). Digital business strategy: toward a next generation of insights. *MIS Quarterly*, 37(2): 471–482.



- Carter, S., Yeo, A.C.M. (2016). Mobile apps usage by Malaysian business undergraduates and postgraduates. *Internet Research*, 26(3): 733–757.
- Celcom Axiata Berhad (2020). *Celcom and MDEC to Collaborate on Digital Initiatives to Accelerate SME Digital Adoptions*, <https://www.celcom.com.my/aboutcelcom/media-centre/2020/celcom-and-mdec-to-collaborate-on-digital-initiatives-to-accelerate-sme-digital-adoptions> (accessed: 30.06.2020).
- Chen, C.-L., Lin, Y.-C., Chen, W.-H., Chao, C.-F., Pandia, H. (2021). Role of Government to Enhance Digital Transformation in Small Service Business. *Sustainability*, 13(3): 1028. DOI: 10.3390/su13031028.
- Chin, W.W. (1998). Commentary: Issues and opinion on structural equation modelling. *MIS Quarterly*, 22(1): 7–16.
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences*. 2nd ed. Hillsdale, NJ: Lawrence Earlbaum.
- Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3): 319–340.
- Davis, F.D., Bagozzi, R.P., Warshaw, P.R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8): 982–1003.
- Dijkstra, T.K., Henseler, J. (2015). Consistent partial least squares path modelling. *MIS Quarterly*, 39(2): 297–316.
- Elifson, K.W., Runyon, R.P., Haber, A. (1998). *Fundamentals of social statistics*. Boston, MA: McGraw-Hill.
- European Commission (2005). *Digital Transformation of European Industry and Enterprises: A report of the Strategic Policy Forum on Digital Entrepreneurship*, <http://ec.europa.eu/DocsRoom/documents/9462/attachments/1/translations/en/renditions/native> (accessed: 19.06.2020).
- Featherman, M.S., Pavlou, P.A. (2003). Predicting e-services adoption: a perceived risk facets perspective. *International Journal of Human-Computer Studies*, 59(4): 451–474.
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics*, 5th ed. London: Sage.
- Fishbein, M., Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research. *Journal of Business Venturing*, 10(2): 177–189.
- Fitzsimmons, J.R., Douglas, E.J. (2011). Interaction between feasibility and desirability in the formation of entrepreneurial intentions. *Journal of Business Venturing*, 26(4): 431–440.
- French, J.R., Raven, B., Cartwright, D. (1959). The bases of social power. *Classics of organization theory*, 7: 311–320.
- Gefen, D., Straub, D.W., Boudreau, M.C. (2000). Structural equation modelling techniques and regression: Guidelines for research practice. *Communications of the Association for Information Systems*, 4(1): 1–78.
- Guthrie, C. (2014). The digital factory: A hands-on learning project digital entrepreneurship. *Journal of Entrepreneurship Education*, 17(1): 115–133.
- Hair Jr, J.F., Matthews, L.M., Matthews, R.L., Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2): 107–123.

- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. (2014). *Multivariate data analysis*. Harlow, UK: Pearson Education.
- Hinkle D.E., Wiersma W., Jurs S.G. (2003). *Applied statistics for the behavioral sciences* (5th ed.). Belmont, CA: Wadsworth Cengage Learning.
- Igbaria, M., Schiffman, S.J., Wieckowski, T.J. (1994). The respective roles of perceived usefulness and perceived fun in the acceptance of microcomputer technology. *Behaviour & information technology*, 13(6): 349–361.
- Jackson, C.M., Chow, S., Leitch, R.A. (1997). Toward an understanding of the behavioral intention to use an information system. *Decision Sciences*, 28(2): 357–389.
- Jusoh, M.A., Halim, H.A., (2006). Role of technopreneurs in Malaysian economic. *Journal of Global Business Management*, 2(2): 1–8.
- Kana, G (2020). *Malaysian economy awaits MCO decision*, <https://www.thestar.com.my/business/business-news/2020/04/09/malaysian-economy-waitsfor-mco-decision> (accessed: 30.06.2020).
- Kautonen, T., Van Gelderen, M., Fink, M. (2015). Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice*, 39(3): 655–674.
- Kelman, H.C. (1958). Compliance, identification, and internalization: Three processes of attitude change. *Journal of Conflict Resolution*, 2(1): 51–60.
- Kelman, H.C. (1961). Processes of opinion change. *Public Opinion Quarterly*, 25(1): 57–78.
- Kesharwani, A., Bisht, S. (2012). The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model. *International Journal of Bank Marketing*, 30(4): 303–322.
- Kline, R. (2016). *Principles and Practice of Structural Equation Modelling*, 4th ed. New York, NY: The Guilford Press.
- Kraus, S., Palmer, C., Kailer, N., Kallinger, F.L., Spitzer, J. (2019), Digital entrepreneurship: A research agenda on new business models for the twenty-first century. *International Journal of Entrepreneurial Behavior & Research*, 25(2): 353–375. DOI: 10.1108/IJEBR-06-2018-0425.
- Lai, P.C. (2017). The literature review of technology adoption models and theories for the novelty technology. *Journal of Information Systems and Technology Management*, 14(1): 21–38.
- Lalkaka, R. (2002). Technology business incubators to help build an innovation-based economy. *Journal of Change Management*, 3(2): 167–176.
- Lane, P.P.M., Wafa, S.A., Hassan, R.A., Belkhamza, Z. (2014). Perceived usefulness and perceived ease of use of e-commerce adoption among entrepreneurs in Sabah. *Kuwait Chapter of the Arabian Journal of Business and Management Review*, 3(9): 94–103.
- Liang, H., Xue, Y. (2010). Understanding security behaviors in personal computer usage: A threat avoidance perspective. *Journal of the Association for Information Systems*, 11(7): 394–413.
- Lim, X.J., Radzol, A.M., Cheah, J., Wong, M.W. (2017). The impact of social media influencers on purchase intention and the mediation effect of customer attitude. *Asian Journal of Business Research*, 7(2): 19–36.

- Linan, F., Rodriguez-Cohard, J.C. (2005). *Factors affecting entrepreneurial intention levels*. Paper presented at the 45th Congress of the European Regional Science Association, Amsterdam. <https://econpapers.repec.org/paper/wiwwiwsa/ersa05p432.htm>.
- Linan, F., Rodriguez-Cohard, J.C., Rueda-Cantuche, J.M. (2011). Factors affecting entrepreneurial intention levels: A role for education. *International Entrepreneurship and Management Journal*, 7(2): 195–218.
- Lu, H.P., Hsu, C.L., Hsu, H.Y. (2005). An empirical study of the effect of perceived risk upon intention to use online applications. *Information Management and Computer Security*, 12(2): 106–120.
- Malhotra, N.K. (2010). *Marketing research: An Applied Orientation*. 6th ed. Englewood Cliffs, NJ: Prentice-Hall.
- Markus, M.L., Loebbecke, C. (2013). Commoditized digital processes and business community platforms: New opportunities and challenges for digital business strategies. *MIS Quarterly*, 37(2): 649–653.
- Matlay, H. (2004). E-entrepreneurship and small e-business development: Towards a comparative research agenda. *Journal of Small Business and Enterprise Development*, 11(3): 408–414.
- Matlay, H., Westhead, P. (2007). Innovation and collaboration in virtual teams of e-entrepreneurs: Case evidence from the European tourism industry. *The International Journal of Entrepreneurship and Innovation*, 8(1): 29–36.
- Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship Theory and Practice*, 41(6): 1029–1055.
- Ndubisi, N.O., Jantan, M., Richardson, S. (2001). Is the technology acceptance model valid for entrepreneurs? Model testing and examining usage determinants. *Asian Academy of Management Journal*, 6(2): 31–54.
- Onur Bodur, H., Brinberg, D., Coupey, E. (2000). Belief, affect, and attitude: Alternative models of the determinants of attitude. *Journal of Consumer Psychology*, 9(1): 17–28.
- Othman, N.H., Ishak, S. (2009). Attitude towards choosing a career in entrepreneurship amongst graduates. *European Journal of Social Sciences*, 10(3): 419–434.
- Pavlou, P.A., Fygenonson, M. (2006). Understanding and predicting electronic commerce adoption: An extension of the theory of planned behavior. *MIS Quarterly*, 30(1): 115–143.
- Pelling, E.L., White, K.M. (2009). The theory of planned behavior applied to young people's use of social networking web sites. *Cyber Psychology and Behavior*, 12(6): 755–759.
- Peter, J.P., Ryan, M.J. (1976). An investigation of perceived risk at the brand level. *Journal of Marketing Research*, 13(2): 184–188.
- Porter, M.E. (2001). Strategy and the Internet. *Harvard Business Review*, 79(3): 62–79.
- Ratten, V. (2020). Coronavirus (Covid-19) and entrepreneurship: Cultural, lifestyle and societal changes, *Journal of Entrepreneurship in Emerging Economies*, 14(5): 753–764.
- Richter, C., Kraus, S., Brem, A., Durst, S., Giselsbrecht, C. (2017). Digital entrepreneurship: Innovative business models for the sharing economy. *Creativity and innovation management*, 26(3): 300–310.
- Sahut, J.M., Iandoli, L., Teulon, F. (2019). The age of digital entrepreneurship. *Small Business Economics*, 56: 1159–1169.

- Steinberg, J. (2005). Information Technology and Development Beyond. *International Information Communication and Education*, 24(1): 127.
- Suh, B., Han, I. (2003). The impact of customer trust and perception of security control on the acceptance of electronic commerce. *International Journal of Electronic Commerce*, 7(3): 135–161.
- Van Gelderen, M., Brand, M., Van Praag, M., Bodewes, W., Poutsma, E., Van Gils, A. (2008). Explaining entrepreneurial intentions by means of the theory of planned behaviour. *Career Development International*, 13(6): 538–559.
- Venkatesh, V., Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, 39(2): 273–315.
- Venkatesh, V., Davis, F.D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2): 186–204.
- Vivekarajah S 2019, *10 Suggestions to Reboot The Digital Initiative In Malaysia*. <https://www.digitalnewsasia.com/insights/10-suggestions-rebootdigitalinitiativemalaysia> (accessed: 30.03.2020).
- Wang, Y.M., Lin, Y.S. (2016). Determinants of internet entrepreneurship intentions among business school students. *International Journal of Information and Education Technology*, 6(10): 754–758.
- Warshaw, P.R. 1980. A new model for predicting behavioral intentions: An alternative to Fishbein. *Journal of Marketing Research*, 17(2): 153–172.
- Weiner, B. (1986). *An Attributional Theory of Motivation and Emotion*. New York, NY: Springer-Verlag.
- Wong, B. (2020). *How digital entrepreneurs are accelerating economic recovery after COVID-19 pandemic*. <https://www.bernama.com/en/thoughts/news.php?id=1854262> (accessed: 13.12.2020).
- Yang, J. (2013). The theory of planned behavior and prediction of entrepreneurial intention among Chinese undergraduates. *Social Behavior and Personality: an international journal*, 41(3): 367–376.
- Yurtkoru, S.E., Kuşcu, Z.K., Doğanay, A., (2014). Exploring the antecedents of entrepreneurial intention on Turkish university students. *Procedia – Social and Behavioral Sciences*, 150: 841–850.
- Zaremohzzabieh, Z., Samah, B.A., Muhammad, M., Omar, S.Z., Bolong, J., Hassan, S.B.H., Mohamed Shaffril, H.A. (2016). Information and communications technology acceptance by youth entrepreneurs in rural Malaysian communities: The mediating effects of attitude and entrepreneurial intention. *Information Technology for Development*, 22(4): 606–629.
- Zhao, F., Collier, A. (2016). Digital entrepreneurship: Research and practice. In: D. Vrontis, Y. Weber, E. Tsoukatos (Eds.), *9th Annual Conference of the EuroMed Academy of Business: Innovation, Entrepreneurship and Digital Ecosystems* (pp. 2154–2163). Warsaw: EuroMed Press.