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## Article

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## Developing Student's Nascent Digital Entrepreneurial Model

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### ABSTRACT

**Purpose:** The purpose of this study was to analyze the effect of entrepreneurial orientation on entrepreneurial competence, the effect of entrepreneurial competence, entrepreneurship knowledge, environmental support on entrepreneurial self-efficacy, and the influence of entrepreneurial competence, entrepreneurial self-efficacy, and environmental support on student's nascent digital entrepreneurs in Semarang, Indonesia.

**Design/methodology/approach:** This study uses a quantitative approach with a survey to collect data. Research respondents are 143 students in Semarang who have digital businesses. The research analysis was carried out using PLS-SEM.

**Findings:** The result showed that entrepreneurial orientation has a positive influence on entrepreneurial competence. Furthermore, entrepreneurial knowledge, entrepreneurial competence, and environmental support have a positive effect on entrepreneurial self-efficacy. The study proves environmental support and self-efficacy have a positive effect on digital entrepreneurial behaviors. However, entrepreneurial competence has no influence on digital entrepreneurial behaviors.

**Research limitations/implications:** This study has several limitations: the object of analysis is one area in Semarang, and only five factors that influence digital entrepreneurial behavior. Future research should expand the scope of research to more areas, and add antecedents to the model so that the results can be generalized.

**Originality/value:** The study is highlighting the important of developing nascent digital entrepreneurs of university students because they are the answer of the necessity of the 4th industry revolution.

*Keywords: entrepreneurial competence, entrepreneurial knowledge, environmental support, entrepreneurial self-efficacy, student's nascent digital entrepreneur*

## I. Introduction

Facing the fourth industrial revolution, the Indonesian people have a huge opportunity in the development of digital entrepreneurship (entrepreneurship by utilizing digital transformation), because demographically Indonesia has a large population and more importantly

internet access is getting easier, cheaper and more accessible, high penetration (Vorbach et al., 2019). In connection with the business transformation process towards digital, reliable and competent human resources (HR) are needed in utilizing digital technology (Flores et al., 2020).

Producing superior human resources is the responsibility of formal, non-formal and informal education, including universities. Higher education collaboration with internal and external stakeholders is absolutely necessary to be supporting infrastructure

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and human resources.

Students are an important part of the nation's elements that play a role in encouraging the acceleration of digital entrepreneurs, not only because the number is quite large but also supported by an understanding of information technology and entrepreneurship learning during college. Digital entrepreneurship has also attracted the business interests of millennial businessmen, especially in universities (Farani et al., 2017). Students can use their time to develop digital businesses when they are carrying out their obligations to complete their study.

The importance of the contribution of college graduate entrepreneurs can be seen from the increasing open unemployment rate in general and the open unemployment rate for college graduates in 2019-2020, one of the main factors being the COVID-19 pandemic. The open unemployment rate of university graduate students in 2019 was recorded at 746,351 (10.5%), in 2020 it increased to 981,203 (10.04%), and in 2021 there were 848,657 (5.87%) of the overall open unemployment rate based on education (BPS, 2021). Based on this data, serious efforts are needed to reduce the open unemployment rate for students after the COVID-19 pandemic by effort push creation graduate digital entrepreneurship college high.

Start up very identical and is often associated with new ventures in digital, information technology and applications. To form a new digital business, students must be equipped with digital entrepreneurship learning, psychological aspects that encourage confidence in realizing digital businesses, the role of environmental support so that they are able to realize the formation of students as new entrepreneurs who have businesses in the digital field (student's nascent digital entrepreneur).

Previous studies that have tried to find the antecedent factors that effect the realization entrepreneurial behavior still shows different results and indicate research gap in previous literatures. Research conducted by Onjewu et al. (2021) showed that entrepreneurial knowledge in the form of inviting guest lecturers or speakers from outside the campus had no significant effect on student's nascent entrepreneur,

while entrepreneurial knowledge in the form of courses, workshops and training had a significant effect on student's nascent entrepreneur. Research conducted Barazandeh et al. (2015) conclude that entrepreneurial competence has a significant effect on the performance of nascent entrepreneurs, while Ahmed et al. (2021) in their research says that entrepreneurial competence in the form of digital literacy has no significant effect on digital entrepreneurial behavior. The results of research conducted by Amir et al. (2018) concluded that environmental support had a significant effect on entrepreneurial behavior, while results study by Khoshmaram et al. (2020) concluded that environmental support had no significant effect on entrepreneurial behavior.

Understanding and planning are needed about the development and management of student digital businesses in building the intention and behavior of students in digital entrepreneurship from startups to established businesses. According to the Global Entrepreneurship Monitor (Bosma et al., 2020) in the entrepreneurial process its existence is at the TEA (Totally Early Activity) stage, where a person will make a decision whether to continue his business or not to continue. There are still differences in the results of research on the factors that influence entrepreneurial behavior, which is a gap for research on the development of digital entrepreneurial behavior models. Semarang as one of the big cities in Indonesia which has many universities and students is certainly expected to be able to contribute to the birth of digital entrepreneurs who are college graduates.

Based on phenomena and research gap, this study is purposed to analyze the effect of entrepreneurial orientation on entrepreneurial competence, the effect of entrepreneurial competence, entrepreneurship knowledge, environmental support on entrepreneurial self-efficacy, and the influence of entrepreneurial competence, entrepreneurial self-efficacy, and environmental support on student's nascent digital entrepreneurs in Semarang, Indonesia

## II. Literature Reviews

### A. Entrepreneurial Orientation on Entrepreneurial Competence

Competence is one aspect of human capital which consists of traits that encourage entrepreneurial success (Al Mamun & Fazal, 2018). Competence and entrepreneurial orientation are unique intangible resources owned by an entrepreneur. Entrepreneurial orientation is a set of behavior consisting of innovativeness, proactiveness, risk taking, autonomy and aggressiveness which play a role in increasing one's entrepreneurial competence (Bolton & Lane, 2012). The higher a person's entrepreneurial orientation will the more increase entrepreneurial competence. Aisyah et al. (2017) found a significant effect of small medium enterprises owner on entrepreneurial competence in Makassar, Indonesia. Another study by Al Mamun and Fazal (2018) in Malaysia and by Khan et al. (2020) in Pakistan also found a significant effect of entrepreneurial orientation on entrepreneurial competence.

**H1:** entrepreneurial orientation has a significant effect on entrepreneurial competence.

### B. Entrepreneurial Competence on Entrepreneurial Self-Efficacy

The social cognitive theory proposed by Bandura gave birth to the concept of self-efficacy which is defined as: individual's belief that he or she can complete specific tasks under various circumstances. In the field of entrepreneurship, entrepreneurial self-efficacy is often defined as an individual's belief in their ability to successfully launch an entrepreneurial venture (McGee et al., 2009). As a sub-category of entrepreneurship (Prendes-Espinosa et al., 2021), the development of digital entrepreneurship could apply social cognitive theory. A high entrepreneurial competence will enhance one's belief to success their business. In the current era of digitalization and

automation, universities play an important role in developing student's digital entrepreneurial competencies because almost all business activities are basically the formation of a system of professional competencies (Kurmanov et al., 2020). Talua et al. (2016) suggested linkages between competency and efficacy. In field digital competence, Bazkiaei et al. (2020) found a significant relationship between digital competence and digital entrepreneurial self-efficacy in students in Bangladesh and Malaysia. Li et al. (2020), and Setiawan et al. (2022) found the significance effect of competence on entrepreneurial self-efficacy.

**H2:** Entrepreneurial competence significantly effect on entrepreneurial self-efficacy.

### C. Entrepreneurial Knowledge on Entrepreneurial Self-Efficacy

Among these four sources of self-efficacy, performance accomplishment is especially influential because it is based on experiences of personal mastery (Y.-S. Wang et al., 2020). Educated and trained students in digital will elevate an individual's digital entrepreneurial self-efficacy (Y.-S. Wang et al., 2020). Regarding to Khoshmaram et al. (2020), entrepreneurial knowledge is one of human capital, and it will play a role in growing entrepreneurial self-efficacy (Zhao et al., 2005). Y.-S. Wang et al. (2020) found a positive relationship between internet entrepreneurial knowledge and internet entrepreneurial self-efficacy in their study in Taiwan. Onjewu et al. (2021) conducted research on student's nascent digital entrepreneurship (2021), found that entrepreneurial knowledge in the form of a course, workshop, training, guest lecturer of entrepreneurship was a positive effect on entrepreneurial self-efficacy.

**H3:** Entrepreneurial knowledge positive effect on entrepreneurial self-efficacy.

#### D. Environmental Support on Entrepreneurial Self-Efficacy

Ajzen developed theory of planned behavior to determine person's behavior which consist three main element: attitudes, subjective norms, and perceived control behavior (Ajzen, 2014). Based on developed model of theory of planned behavior (Ajzen, 2014), environmental support is one of background factor which could effect to certain behavior. The role of these environmental factors is to provide the resources needed by novice entrepreneurs to start a business. However, according to Krueger et al. (2000) the influence of contextual factors such as environmental support is indirect effect through entrepreneurial self-efficacy. In some entrepreneurial research, environmental effects will first arise entrepreneurial self-efficacy before finally could effect to behavior. Policy supports from university will arise student's confidence to realize their digital business (Widiasih & Darna, 2021). S Darmanto et al. (2022) also found a significant effect of environmental support on entrepreneurial self-efficacy.

**H4:** Environmental support positive effect on entrepreneurial self-efficacy.

#### E. Entrepreneurial Competence on Entrepreneurial Behavior

Competency is associated with the start-up, growth and sustainability which are characterized as valuable knowledge, skills and abilities (Al Mamun & Fazal, 2018). Individuals with entrepreneurial. competence can lead competitor advantages and will enhance the performance of entrepreneurs (Khan et al., 2020). Entrepreneurial skills and entrepreneurial personality are the basic of entrepreneurial competencies and it is assessed by perceived capability, perceived opportunities, having less fear of failure, and entrepreneur role model all year (Barazandeh et al., 2015). Results research conducted by Apriyani et al. (2019) concluded that entrepreneurial competence

has a significant effect on entrepreneurial behavior. According to Li et al. (2020) entrepreneurial competence in the form of entrepreneurial passion is an important component in the realization of entrepreneurial behavior.

**H5:** Entrepreneurial competence positively effect on entrepreneurial behavior.

#### F. Entrepreneurial self-efficacy on entrepreneurial behavior

Entrepreneurial self-efficacy is assessed as the main individual character that has the most influence on entrepreneurial behavior, or it can be said that someone deciding to become an entrepreneur is determined by the magnitude of the influence of entrepreneurial self-efficacy (Pihie & Bagheri, 2011). The higher individual belief in conducting business activities will effect the behavior of individual business development (Dessyana & Riyanti, 2017). Entrepreneurial self-efficacy are found has positive effect of entrepreneurial behavior (individual actions indicated by entrepreneurial decisions), or in digital business development, it is defined as a person's decision to realize the establishment of a digital business. Previous studies by Li et al. (2020) and Onjewu et al. (2021) concluded that entrepreneurial self-efficacy has a significant effect on entrepreneurial behavior.

**H6:** Entrepreneurial self-efficacy has a significant effect on entrepreneurial behavior.

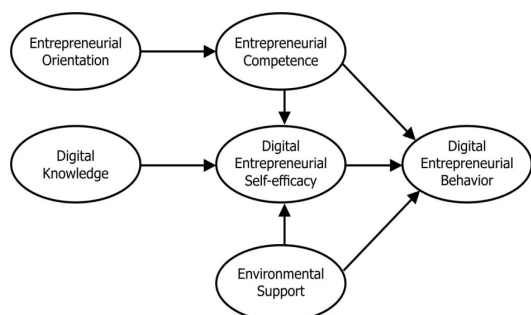
#### G. Environmental support on entrepreneurial behavior

The development of behavior in the Theory of planned behavior is not only based on their 3 main elements, but also on the basis of background factors which consist of personal, demography and environmental. According to Engle et al. (2010) Theory of Planned Behavior can be applied in almost all planned behavior including entrepreneurship, so it can also be used

to develop digital entrepreneurship research models. Environmental supports not only boosts entrepreneurial intention but also develops entrepreneurial behavior for budding entrepreneurs (Kristiansen & Indarti, 2004). Environmental supports could be from family, social, institution or government support. Environmental support could encourage someone to behave an entrepreneur although they have entrepreneurial intention (Akter & Iqbal, 2022). Family support such as support from parents and friends found significantly arises entrepreneurial behavior (Susetyo Darmanto & Yuliari, 2016). The role of government supports through training and programs also proved significant effect in developing entrepreneurial behavior (Amir et al., 2018). Social support such as conducted by a joint business group also assists to develop entrepreneurial behavior (Ekopriyono & Darmanto, 2020).

**H7:** Environmental support significant effect on entrepreneurial behavior.

Figure 1 shows the relationship between variables as the basis for formulating hypotheses, consisting of three types of exogenous variables, and three endogenous variables. Each component model is based on a literature review of the theory of planned behavior and social cognitive theory.



**Figure 1.** Research conceptual framework

### III. Method

#### A. Samples

The population in this study are active students at universities in Semarang City, Indonesia, who have digital businesses or have marketed their businesses digitally. The research sample was determined by adopting criteria a cross-sectional design, taken using a purposive sampling technique so that a total of 143 samples were collected. Paper-based surveys were distributed to students in college entrepreneurship groups through supervisors, and online surveys using facilities from Google Forms.

#### B. Measurement

This study uses three exogenous variables consisting of entrepreneurial orientation, digital knowledge, and environmental support as an explanation for the three endogenous variables, namely entrepreneurial competence, entrepreneurial self-efficacy, and student's nascent digital entrepreneur. The research variables were measured by adopting previous research as described in Table 1. All variables in this study were measured using a Likert scale with five alternative answers, namely "Strongly disagree" (1) to "Strongly agree" (5). In addition, the first part of the survey questionnaire briefly describes the rationale for the study and instructions for filling out the survey questionnaire and socio-demographic information. Questions include respondents, gender, age, education, marital status, parental background, type of business, and length of business.

#### C. Data Analysis

This study uses the SPSS software package was used to analyze descriptive demographic profiles of respondents, and research variables. Inferential data analysis was performed using the partial least squares structural equation modeling (PLS-SEM) technique.

**Table 1.** Measurement

Variables	Indicators	References
Entrepreneurial Orientation (EO)	<ol style="list-style-type: none"> <li>1. I have a strong tendency to support the discovery of new ideas</li> <li>2. I have a strong tendency to develop new products</li> <li>3. I always take the initiative to look for opportunities for new activities or activities</li> <li>4. I am always active in anticipating changing consumer needs</li> <li>5. I always update business information</li> <li>6. I have a strong tendency to dare to take risks entering the market</li> <li>7. I have the courage to take the necessary actions to launch a new product</li> <li>8. I have a strong tendency to dare to carry out new strategies</li> </ol>	(Cho & Lee, 2018; Efrata et al., 2021; Naveed et al., 2021; Satar & Natasha, 2019)
Digital Knowledge (DK)	<ol style="list-style-type: none"> <li>1. I have basic knowledge of online business regulation</li> <li>2. I have basic knowledge of website design</li> <li>3. I have knowledge of how to open a new digital business</li> <li>4. I have knowledge of how to offer digital products that the market needs</li> </ol>	(Efrata et al., 2021; Farani et al., 2017; KrischananKampanthong, 2021; Islami, 2019; Widiasih & Darma, 2021)
Environmental Support (ES)	<ol style="list-style-type: none"> <li>1. My parents and close people support me in realizing a digital business</li> <li>2. My college supports social activities and digital business activities</li> <li>3. Local and central governments provide support for information networks for digital business development</li> <li>4. The government supports stakeholders who help develop digital businesses</li> <li>5. I easily access information networks and bureaucracy to help digital activities</li> </ol>	(Ahmed et al., 2021; Akter & Iqbal, 2022; Khoshmaram et al., 2020)
Entrepreneurial Competence (EC)	<ol style="list-style-type: none"> <li>1. I am able to monitor the progress of the business so that it is in line with long-term business goals</li> <li>2. I am able to explore new ideas as business opportunities</li> <li>3. I am able to capture quality business opportunities</li> <li>4. I am able to develop long-term trusting relationships with other people</li> <li>5. I am able to keep up with business developments, apply the skills and knowledge learned to real practice.</li> <li>6. I can identify strengths and weaknesses and match them to opportunities and threats</li> <li>7. I am able to be honest and transparent in business matters</li> <li>8. I am able to cooperate and help others in business (especially close associates).</li> </ol>	(Aisyah et al., 2017; Apriyani et al., 2019; Farani et al., 2017; Sitingjak, 2019)
Entrepreneurial Self-Efficacy (ESE)	<ol style="list-style-type: none"> <li>1. I have confidence that I can realize a digital business</li> <li>2. I have the ability to take advantage of digital business opportunities</li> <li>3. I have ability in digital business management and application</li> <li>4. I have ability develop and commercializing new digital ideas</li> <li>5. I have the ability to build good relationships with business partners</li> </ol>	(Wu et al., 2022) (Cai et al., 2021; Elnadi & Gheith, 2021; Jiatong et al., 2021; Soomro & Shah, 2022; Wu et al., 2022)
Digital Entrepreneurial Behavior (DEB)	<ol style="list-style-type: none"> <li>1. I've discussed digital business ideas with potential customers</li> <li>2. I've gathered information about the market and competitors of the digital venture</li> <li>3. I have written a business plan</li> <li>4. I have started a digital product or service business development</li> <li>5. I have started marketing a digital product or product promotion</li> <li>6. I have purchased materials and equipment for digital business</li> <li>7. I've been trying to get business funding from outside</li> <li>8. I already have a patent, copyright or trademark</li> <li>9. I have registered the business that I manage with the authorized agency</li> <li>10. I have sold a digital product or service</li> </ol>	(Akter & Iqbal, 2022; Li et al., 2020; Murad et al., 2022; Neneh, 2020)

According to Hair Jr et al. (2016), PLS-SEM is a statistical tool with good capabilities, even in studies with small samples and predictive model. SEM-PLS data analysis was carried out in two stages, namely

the analysis of the measurement model including convergent validity, discriminant validity, reliability testing and structural model analysis. Analysis of the measurement model is determined by convergent

validity and discriminant validity. An indicator is said to meet the criteria for convergent validity if it has a factor loading value of more than 0.6, while the validity test is discriminant use cross-loading criteria and Fornell-Larcker. Standard criteria Fornell-Larcker if correlation between variable with AVE squared higher than the correlation of other variables in the research model (Ramli et al., 2018). The reliability test is measured by the Cronbach Alpha value ( $\alpha$ ), rho\_A ( $r$ ), and the composite reliability (CR) value. If all scores exceed 0.7 and the average variance extract (AVE) value is more big from 0.5 then declared reliable (Hair et al., 2019; Latan et al., 2018). Analysis structural evaluated by coefficient path between variables, the variance inflation factor (VIF), and coefficient of determination ( $R^2$ ) (Latan & Noonan, 2017). The PLS-SEM technique in this study used SmartPLS version 3.2.8 (Ringle et al., 2015).

## IV. Results

### A. Respondent demographic profile

Table 2 demographic information for the people who participated in the study. Respondents were male (38.5%) and female (61.5%) from a total of 143 respondents, and the largest sample group was aged 21+ to 25 years (47.6%). Characteristics based on the education level of the respondents taking undergraduate education (92.2%) and diploma (7.8%). Overall, based on business products, it is known that 38% of respondents have businesses in the field of digital services. Finally, the majority of respondents have the characteristics of 1 year to 3,5 year in business (57.3%).

**Table 2.** Respondent's profile

Demographic	Characteristics	Frequency	Percent
Gender	Man	64	44.8%
	Woman	79	55.2%
Age	18 years to 21 years	56	39.2%
	21+ years to 25 years old	68	47.6%
	25+ years - 30 years	13	9.1%
	30+ years or older	6	4.2%
Level of education	Diploma	11	7.8%
	Bachelor	132	92.2%
Parent's Profession	Farmer	19	13.3%
	Teacher/lecturer	3	2.1%
	Private sector employee	62	43.4%
	Government employees	3	2.1%
	Businessman	51	35.7%
	Another	5	3.5%
Business Products	Digital Services	38	26.6%
	Food	46	32.2%
	Fashion	35	24.7%
	Other	24	16.5%
Age in Business	Less than 1 year	49	34.4%
	1 year to less than 3.5 years	82	57.3%
	More than 3.5 years	12	8.4%



## B. Descriptive statistics

Table 3 presents the mean, standard deviation (SD), minimum, and maximum values for each construct in the proposed model. The average score for the entrepreneurial orientation variable is 4.46, the digital knowledge variable is 4.37, the environmental support variable is 4.38, the entrepreneurial competence variable is 4.43, the entrepreneurial self-efficacy variable is 4.43, and the digital entrepreneurial behavior variable is 4.16. These values in this study are categorized as high based on the tree box method criteria, which are above 3.67.

**Table 3.** Descriptive statistics of variables

Variables	Minimum	Maximum	Mean	Std. Deviation
EO	1.00	5.00	4.46	0.57
DK	1.25	5.00	4.37	0.62
ES	2.20	5.00	4.38	0.56
EC	1.88	5.00	4.43	0.50
ESE	2.20	5.00	4.43	0.52
DEB	2.40	5.00	4.16	0.63

## C. Measurement Model Analysis

The measurement of the model on the SEM-PLS can be assessed by looking at the loading factor of the research indicators. The calculation SmartPLS results in Table 4 show that the loading factor exceeds the minimum value of 0.6, except for one indicator of entrepreneurial competence (EC7). However, in this study the indicator is maintained because it reflects the respondent's perception and is supported by the fulfillment of the reliability test.

Convergent validity results by looking at Cronbach alpha, Composite reliability, and average variance extract (AVE). Table 4 shows the composite reliability (CR), rho\_A, and cronbach alpha exceeding the recommended value of 0.7 (Hair Jr et al., 2021). The results showed that the mean extract variance (AVE) was higher than the definite value of 0.5 (Hair et al., 2019). Finally, the results of discriminant validity in Table 5 show the square root of the AVE for all variables exceeding the intercorrelation, indicating sufficient discriminant validity (Fornell & Larcker, 1981).

**Table 4.** Result of confirmatory factor analysis

Construct	Indicator	l	a	r	CR	AVE
Entrepreneurial Orientation	EO1	0.710	0.887	0.893	0.910	0.559
	EO2	0.725				
	EO3	0.731				
	EO4	0.729				
	EO5	0.781				
	EO6	0.769				
	EO7	0.772				
	EO8	0.760				
Digital Knowledge	DK1	0.756	0.778	0.786	0.857	0.600
	DK2	0.808				
	DK3	0.810				
	DK4	0.719				
Environmental Support	ES1	0.693	0.802	0.811	0.863	0.560
	ES2	0.690				
	ES3	0.778				
	ES4	0.859				
	ES5	0.707				

**Table 4.** Continued

Construct	Indicator	I	a	r	CR	AVE
Entrepreneurial Competence	EC1	0.718	0.861	0.869	0.892	0.512
	EC2	0.754				
	EC3	0.747				
	EC4	0.783				
	EC5	0.743				
	EC6	0.774				
	EC7	0.520				
	EC8	0.648				
Entrepreneurial Self-efficacy	ESE1	0.763	0.840	0.842	0.887	0.610
	ESE2	0.747				
	ESE3	0.803				
	ESE4	0.790				
	ESE5	0.802				
Digital Entrepreneurial Behavior	DEB1	0.684	0.896	0.898	0.914	0.517
	DEB2	0.716				
	DEB3	0.691				
	DEB4	0.733				
	DEB5	0.687				
	DEB6	0.724				
	DEB7	0.732				
	DEB8	0.753				
	DEB9	0.738				
	DEB10	0.727				

#### D. Structural Model Analysis

The next analysis is a structural model for path coefficients for various direct and indirect relationships between exogenous and endogenous variables. Paths are analyzed using beta coefficients, critical ratios, and significance to determine which hypotheses are supported. The calculation results as summarized in the table are known from seven hypotheses, six relationships are supported, and one relationship is rejected. Figure 2 shows the path coefficients and variances that can be explained in digital entrepreneurial behavior. Based on Table 5, it is known that the path coefficient of direct influence to EO on EC ( $\beta = 0.390$ , and  $p = 0.000 < 0.05$ ), EC to ESE ( $\beta = 0.462$ ,  $p = 0.000 < 0.05$ ), DK to ESE ( $\beta = 0.236$ ,  $p = 0.006 < 0.05$ ), ES to ESE ( $\beta = 0.166$ ,  $p = 0.035 < 0.05$ ), EC to

**Table 5.** Fornell-larcker criterion discriminant validity

Variables	EO	DK	ES	EC	ESE	DEB
EO	0.747					
DK	0.432	0.774				
ES	0.443	0.535	0.748			
EC	0.690	0.662	0.552	0.716		
ESE	0.644	0.631	0.547	0.710	0.781	
DEB	0.327	0.592	0.532	0.528	0.605	0.719

DEB ( $\beta = 0.113$ ,  $p = 0.246 > 0.05$ ), ESE to DEB ( $\beta = 0.383$ ,  $p = 0.001 < 0.05$ ), and SE to DEB ( $\beta = 0.260$ ,  $p = 0.023 < 0.05$ ). Based on the data from the research, it can be concluded that six paths of direct influence are significant so that six hypotheses are accepted, while one path is not significant so that the fifth hypothesis (H5) is rejected (Table 6). The total effect

of the results of the PLS-SEM bootstrap calculation is described in Table 7. The results of the calculations explain that all the indirect effects of EO, DK, ES, EC and ESE on DEB are significant ( $p$ -value<0.05). This finding indicates that ESE provides a mediating role for all indirect relationships.

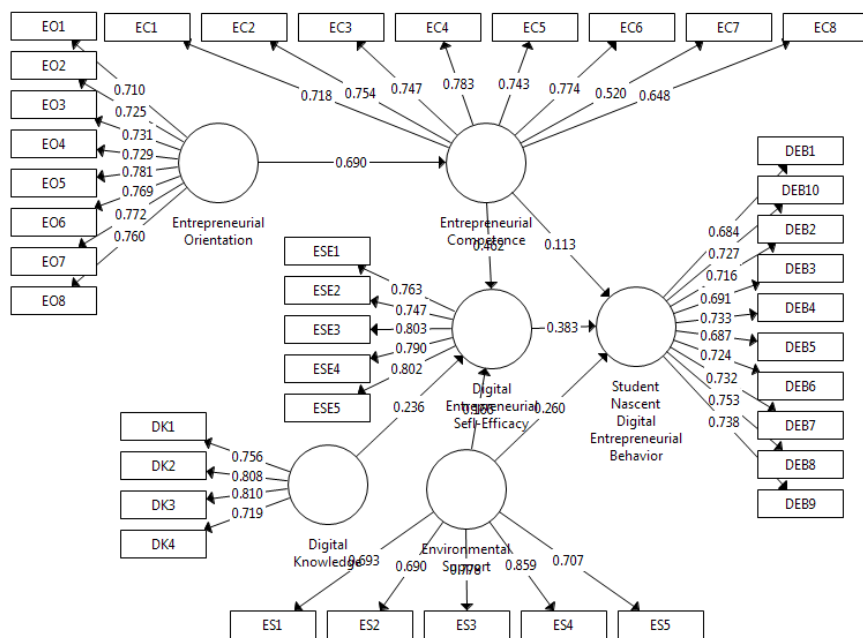
These results reveal that the antecedent variables are able to describe digital entrepreneurial behavior among students with an  $f$ -square value above 0.000. The further result is that the model explains 43% of the variance in digital entrepreneurial behavior, which is much higher than 0.35. Finally, the VIF value of all variables is below 3 so that it shows

the absence of multicollinearity.

**Table 7.** Total effect

Effect	Estimate	T Statistics	P Values	Decision
EO -> DEB	0.2 00	2,741	0.006	Supported
DK -> DEB	0.09 0	2,084	0.038	Supported
ES -> DEB	0.324	3.123	0.002	Supported
EC -> DEB	0.29 0	3.02 0	0.003	Supported
ESE -> DEB	0.383	3.35 0	0.001	Supported

VIF = 1.256 ... 2.517  
 $f$  square = 0.010 ... 0.250  
 $R^2$  EC = 0.477;  $R^2$  ESE=0.568;  $R^2$  DEB= 0.430



**Figure 2.** The final model result

**Table 6.** Path coefficient

Hypothesis	Effect	Coefficient	T Statistics	P Values	Decision
1	EO -> EC	0.690	8,401	0.000	Supported
2	EC -> ESE	0.462	5.319	0.000	Supported
3	DK -> ESE	0.236	2,774	0.006	Supported
4	ES -> ESE	0.166	2.118	0.035	Supported
5	EC -> DEB	0.113	1.161	0.246	Rejected
6	ESE -> DEB	0.383	3.350	0.001	Supported
7	ES -> DEB	0.260	2.272	0.023	Supported

## V. Discussion

The objective of this study is to analyze the influence of entrepreneurial orientation on entrepreneurial competence, the influence of entrepreneurial competence, knowledge entrepreneurship, support environment to entrepreneurial self-efficacy, and influence competence entrepreneurship, entrepreneurial self-efficacy, environmental support for student's nascent digital entrepreneurs. This study also analyzes the mediating role of entrepreneurial competence and entrepreneurial self-efficacy in mediate the role of human capital, strategy and Support environment on student digital entrepreneurship behavior. Based on result, from the 7 hypotheses proposed, 6 hypotheses are proven to have a positive and significant influence, namely entrepreneurial orientation to entrepreneurial competence, entrepreneurial knowledge, entrepreneurial competence, environmental support to entrepreneurial self-efficacy, entrepreneurial self-efficacy, and environmental support to entrepreneurial behavior. While one hypothesis, namely entrepreneurial competence on entrepreneurial behavior, proved insignificant.

One's entrepreneurial orientation derives from a set of emotions, beliefs and willingness to succeed their business (Zollo et al., 2021). Understanding the development of entrepreneurial orientation will lead us to efforts to improve entrepreneurial competence as a weapon to face tough business competition (Khan et al., 2020). Research conducted in Malaysia by Al Mamun and Fazal (2018) proves that entrepreneurial orientation in the form of creativity and innovativeness, proactiveness, autonomy has a positive and significant influence on entrepreneurial competence. Subsequent research conducted by Khan, et al (2020 ) in Pakistan, also proves that entrepreneurial orientation has a positive and significant effect on entrepreneurial competence.

Kurmanov et al. (2020) stated the importance of entrepreneurship competence in an effort to develop digital entrepreneurial competence for students as a way to overcome the business challenges they face, both cognitively, socially and behaviorally. Entrepreneurial self-efficacy is a cognitive aspect that has a strong

relationship with competence (Kassim et al., 2021). The results of this study prove that entrepreneurial competence has a positive and significant effect on entrepreneurial self-efficacy, thus supporting the previous research (Sitinjak, 2019). Results study by Cai et al (2020) on 312 students in China also proves that competence has an effect on entrepreneurial self-efficacy. However, the results of this study concluded that the direct influence of entrepreneurial competence on entrepreneurial behavior (student's nascent digital entrepreneur) proved insignificant. Entrepreneurial self-efficacy is needed to realize student's nascent digital entrepreneur from ability competence owned entrepreneurship. Previous research conducted by Islam (2019) concludes no existence influence significant among competence to entrepreneurial behavior.

Entrepreneurial knowledge is a construct that represents experience or formal learning obtained from other people who play a role in growing cognitive abilities so that it will increase one's belief in successful of entrepreneurship (Zhao, et al., 2005). It is a human capital resource which in social cognitive theory is mentioned as one of the supporting factors vicarious experience or the experience gained from others and will arise one's self-efficacy (Liñán et al., 2005). Someone who has digital entrepreneurial knowledge will have high confidence in creating digital business (Wang, 2020). The results of this study support research conducted by Onjewe, et al. (2021) who concluded that a course on entrepreneurship, workshops, creativity labs and training on entrepreneurship, guess lectures had a positive and significant impact on the entrepreneurial self-efficacy of students in the UK. Previous research conducted by Wang et al (2020) on 356 students in Taiwan also proved that entrepreneurial knowledge had a significant effect on entrepreneurial self-efficacy.

Environmental support even in the development of the theory of planned behavior (Ajzen, 2014) plays a role as a background factor, but in this study has the ability to build entrepreneurial behavior either directly or through entrepreneurial self-efficacy. One element forming self-efficacy is social persuasion

(Boyd & Vozikis, 1994), which in this study is manifested as environmental support from social support or support from people closest to proven to have a significant influence on entrepreneurial self-efficacy. This results study support previous study done by Widiasih & Darma (2021) who prove that public support plays a role to increase entrepreneurial self-efficacy and to realize student's nascent digital entrepreneur behavior. Research conducted by X. T. Nguyen (2020) on 350 students also prove that college support take significant beffect in increase the entrepreneurial self-efficacy of students in Vietnam. In addition to playing a role in increasing entrepreneurial self-efficacy, the results of this study also show that environmental support also has a direct influence on entrepreneurial behavior. This shows that, if good environmental, social, institutional (university) and government support is given optimally, it will be able to help the development of student's nascent digital entrepreneur. Research conducted by Amir et al. (2018) proves that environmental support in the form of trainings provided by the government has proven to have a significant influence on entrepreneurial behavior. Results research conducted by Akter and Iqbal (2022) on 327 students private universities in Bangladesh also concluded the significant role of university environment support on entrepreneurial behavior.

Establishing and developing a digital business is not easy, its success depends on several aspects, and one of the main factors is entrepreneurial self-efficacy (Dessyana & Riyanti, 2017). The results of his research prove that entrepreneurial self-efficacy has a positive and significant effect on nascent digital entrepreneurs in Jakarta. Entrepreneurial self-efficacy is rated as the most consistent individual aspect in realize behavior entrepreneurship (Hermawan et al., 2016). One's who has higher levels of entrepreneurial self-efficacy are proved to create new business compared to individuals who have less ones (Li et al., 2020). The results of this study support previous research done by Dessyana and Riyanti (2017) concluded that entrepreneurial self-efficacy has a positive and significant effect on entrepreneurial behavior. Results

study by Onjewu et al. (2021) also prove influence significant entrepreneurial self-efficacy towards nascent entrepreneurs in the UK.

This study also proves the significant role of entrepreneurial self-efficacy in mediating aspects of personality, human capital and environment. Human capital play a role as resources, and has important implications, namely encouraging improvement efforts, survival so that could trained and repaired (S. Darmanto & Lestari, 2014). In study this is human capital realized in a form of entrepreneurial knowledge whose role is in Creating a student's nascent digital entrepreneur is enhanced through the role of entrepreneurial self-efficacy. This results study support (Onjewu et al., 2021) study which concluded significant role significant of entrepreneurial self-efficacy in mediating entrepreneurial knowledge on entrepreneurial behavior. The personality aspect proposed in this study is entrepreneurial competence which directly does not have a significant effect on entrepreneurial behavior so that the mediating role of entrepreneurial self-efficacy becomes real in bridging aspects of personality and entrepreneurial behavior. The results of research conducted by Ci, et al (2020) also prove the mediating role of entrepreneurial self-efficacy in mediating entrepreneurial competence and behavior. The significant role of entrepreneurial self-efficacy is also manifested in mediating environmental support for entrepreneurial behavior. According to Krueger et al. (2000) the influence of contextual factors such as environmental support is indirect through entrepreneurial self-efficacy. Previous study done by S. Darmanto and Lestari (2014) also prove the mediating role of entrepreneurial self-efficacy in mediating environmental support for entrepreneurial behavior.

## VI. Conclusions

Digital entrepreneurship has attracted the business interests of millennial businessmen in college because students can use their time to develop digital businesses

when they are carrying out their obligations to finish their study. This study aims to develop an empirical model of student's nascent digital behavior or students' nascent digital entrepreneur based on a digital entrepreneurial performance model based on the Theory of Planned Behavior and Social Cognition Theory. This study concludes that there is a positive and significant effect of entrepreneurial orientation on entrepreneurial competence. The tendency of digital entrepreneurs to support ideas, innovation, and business opportunities, dare to take risks, and carry out new strategies has a positive contribution to entrepreneurial competence. This finding strengthens the prior studies that the entrepreneurial orientation dimension is strongly related to the entrepreneurial competence (Khan et al., 2021; Kharismasyah et al., 2022).

Moreover, the current study concludes that digital knowledge, entrepreneurial competence, and environmental support have enhanced entrepreneurial self-efficacy. The results indicated that digital knowledge and entrepreneurial competence obtained from various sources will further increase a student's entrepreneurial self-efficacy. Likewise, environmental support also has an important role in growing entrepreneurial self-efficacy. These finding support the results of prior studies (Ganefri et al., 2021; Handayati et al., 2020; Wardana et al., 2020), that digital entrepreneurship knowledge and entrepreneurial skills contribute positively to student entrepreneurial self-efficacy. Some studies also show conformity with the results of this study that the entrepreneurial environment has an important role in entrepreneurial behavior (Martins & Perez, 2020; T. T. Nguyen, 2020; Wach & Bilan, 2021).

Lastly, the role of personality, human capital and environment in shaping student's nascent digital entrepreneur. The mediating ability of entrepreneurial self-efficacy also shows its importance as an aspect that needs attention in the development of entrepreneurial behavior. This finding is supported with various researches (Koe et al., 2022; X. Wang et al., 2020; Wijayanti et al., 2016). Entrepreneurial competence has a mediating role that needs to be considered to improve company performance (Kanaan-Jebna et al., 2022). Likewise, entrepreneurial self-efficacy has

a mediating role, and it is an important driver of entrepreneurial intention (Jung-Rae, 2022; Maheshwari & Kha, 2022), which, based on TPB, has a positive impact on entrepreneurial behavior (Al-Mamary & Alraja, 2022).

## VII. Implication

Digital entrepreneurship is the answer to the growing global situation towards digitization and automation. There is still a high open unemployment rate during the pandemic and post- pandemic to becomes must have space used for maximizing development student digital entrepreneurship . Some students are still developing conventional entrepreneurship and only a few are developing digital businesses or digital-based businesses. The results of this study provide managerial implications in the form of the necessity of universities, private, and government for increase student digital entrepreneurship through lecture programs, trainings, practices, assistance development network and financially.

Theoretically, the significant role of personality, human capital and environmental aspects is support for the applied theory of planned behavior in development digital entrepreneurial behavior. Development and application of the theory of planned behavior in various behaviors including entrepreneurial behavior is also becomes recommendation from Ajzen as the founder of the theory of planned behavior. Strong influence and the mediating ability of entrepreneurial self-efficacy contributes to the development of social cognitive theory, so to further develop social cognitive theory it is necessary to follow up with research at different levels of entrepreneurial self-efficacy.

## VIII. Limitations and Recommendations

This study has some limitations and recommendations for future research. The observed population is limited only for digital entrepreneurial students in Semarang, Indonesia, therefore next research should expand the scope of research respondents to more areas area, for example one province, one country or between countries so that the results can be applied in other regions or countries that have different personality backgrounds or environmental conditions. Studies can also be expanded or developed to other groups, such as nascent digital entrepreneurs who are non-university students. The research model development is limited to analyze competence, knowledge, environment as representative of personality, human capital and environment, so future research is recommended to analyze other aspects such as social capital, risk propensity. This study was a cross-sectional and using a questionnaire to collect the data which potentially effect inherent problems, therefore a longitudinal study is recommended for further research.

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