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The Role of Entrepreneurial Personality Mediation and Technological Competencies Moderation in Determining Entrepreneurial Intentions in Vocational Education

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Abstract: The importance of intention in producing graduates who are ready for entrepreneurship has not been addressed in depth in vocational education. The lack of entrepreneurial personality that is supported by technological competence is the main problem. In addition, low social and psychological capital is a consequence of these problems. This study examines the determination of the influence of social and psychological capital, and entrepreneurial personality on entrepreneurial intentions. In addition, the entrepreneurial personality is tested for its role as a mediator and the moderating effect of technological competence is tested, which includes technological capacity and capability. Ex-post facto research was conducted involving 647 participants. Data were collected through the entrepreneurial intention scale questionnaire. SEM analysis was used to test the direct effect relationship based on the path coefficient and the mediation and moderating effect based on the bootstrap results. Findings revealed that social and psychological capital, and entrepreneurial personality have a significant effect on entrepreneurial intentions. Entrepreneurial personality plays a significant role in mediating the effect of social capital, but not on the influence of psychological capital. Meanwhile, capacity and capability only play a significant role in moderating the influence of social capital, even though technological capabilities are can significantly moderate entrepreneurial personality. These results indicate the importance of social and psychological capital, and entrepreneurial personality as an important foundation for the formation of entrepreneurial intentions in vocational education students. On the other hand, technological competence is very important in strengthening social capital to stimulate the growth of entrepreneurial intentions.

Keywords: Entrepreneurial intention, social capital, psychological capital, vocational education

1. Introduction

The mismatch between the number of jobs and the workforce has become a crucial relay whose solution has not yet been realized, especially in developing countries (Bi et al., 2019; Billett, 2006; Blaug, 1984; Sylla, 2013). Indonesia has

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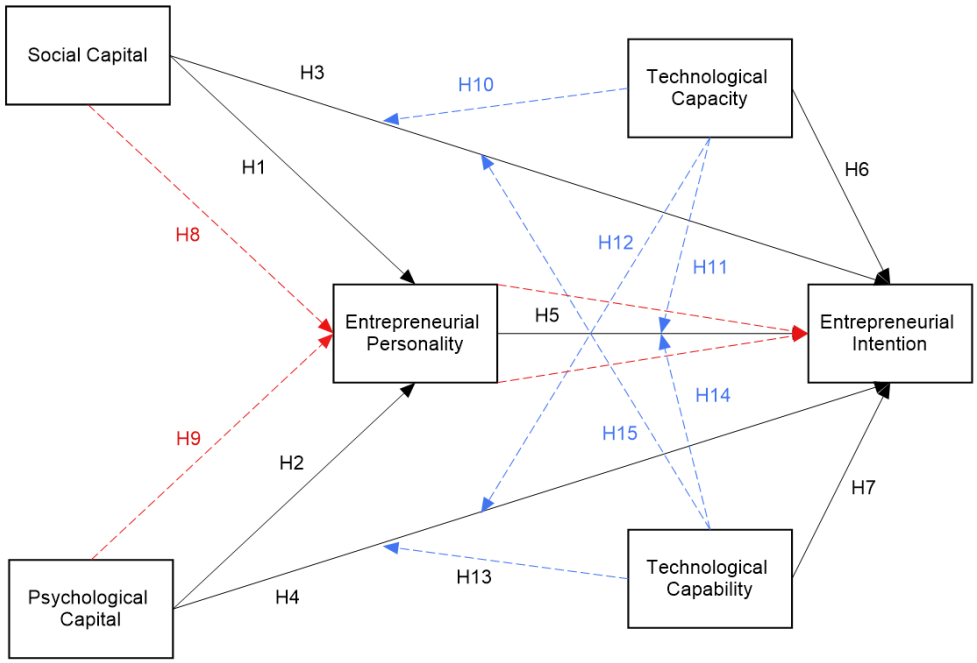
spurred entrepreneurship programs for more than 10 years through its educational programs, especially in the vocational education (Amalia and von Korflesch, 2021; Purusottama and Trilaksono, 2019). The hope is the formation of entrepreneurs who can expand the number of jobs as the workforce increases field (Ismail et al., 2019 and Sendouwa et al., 2019). However, in reality, this is not the case vocational education graduates have been identified as filling existing work fields (Handayati et al., 2021; Yuan et al., 2020). Although vocational education is oriented toward being ready to work, this will have an impact in the long term on the gap in the unemployed workforce (Soputan, 2017). Departing from these problems, various efforts that encourage individuals to be career-oriented toward the field of entrepreneurship have become the focus of the attention of various important studies. In the report, several studies have identified the main factors forming the focus and orientation of entrepreneurship in students. Entrepreneurial intention (EI) is the main factor identified from the latest research report section (Boldureanu et al., 2020; Handayati et al., 2020; Yıldırım et al., 2016). The entrepreneurial intention in students is seen as very important and plays a role in implementing one's entrepreneurship (Sawang, 2020). Entrepreneurial intention is defined as a person's firm determination to focus on starting an entrepreneurship (Anjum et al., 2021). Entrepreneurial intention is also defined as an individual's state of mind that focuses on paying attention and is realized by concrete actions in the form of entrepreneurial behaviour as planned (Sawang, 2020). Therefore, the intention is referred to as the core heart of entrepreneurship which is the foundation of students in risking their body and soul for a career through entrepreneurship. Previous studies by Meoli et al. (2020) have determined that entrepreneurial intentions can influence students' decisions to be firm in choosing and carrying out all the risks of entrepreneurship. Thus, entrepreneurial intentions are an important key for students in vocational education.

Various efforts in forming entrepreneurial intentions have been carried out by seeking a more intensive entrepreneurship learning (Sendouwa et al., 2019). However, several studies have analyzed the shortcomings of entrepreneurial learning, which is only oriented to knowledge and understanding accompanied by skills in the field (Amalia and von Korflesch, 2021; Purusottama and Trilaksono, 2019). Whereas Baum et al. (2007), state that success in producing someone who intends to become an entrepreneur is not only a matter of knowledge and skills. More than that, an innovative approach is needed that is able to stimulate the formation of an entrepreneurial character in individuals (Schmitt-Rodermund, 2004). Forming an entrepreneurial personality is one of the most important aspects contributing to forming entrepreneurial intentions in students' (Mei et al., 2017). This was also confirmed through a literature review by Abbasianchavari and Moritz (2021); Liñán and Fayolle (2015) which concludes that most studies identify entrepreneurial personality as the factor that stimulates the growth of intention in a person. In education, entrepreneurial personality is student behaviour in learning that reflects entrepreneurs, starting from self-confidence, results-oriented, leadership, hard work, creativity and willingness to take risks (Abbasianchavari & Moritz, 2021). The formation of these behaviours makes students have a high intention to make entrepreneurial decisions (Şahin et al., 2019). In other terms, the entrepreneurial intention of students can also be referred to as a positive consequence when the entrepreneurial personality is in them.

To shape the personality and entrepreneurial spirit of students, important stimulations are needed. Several studies in the last 3 years have predicted the entrepreneurial personality of individuals from the perspective of social capital owned by students (Mahfud et al., 2020; Obschonka et al., 2019; Sarwar et al., 2021). They highlight the circumstances and the social environment as the basis for stimulating students to behave like entrepreneurs. In addition, they also agree and believe that the growth of entrepreneurial desire and determination in students cannot be separated from their social conditions. As reported, social capital acts as a social investment in the form of values that support and strengthen a person's determination to make decisions (Cohen et al., 2019). In addition to social capital factors, previous research has also highlighted psychological capital factors which have become a new paradigm as a trigger for the growth of personality and intentions from within Ephrem et al. (2019). Although not many have researched these factors in entrepreneurship, their essence is very important as the basis for forming personality and entrepreneurial intentions. Research in several countries establishes that psychological conditions can encourage someone to develop entrepreneurial behavior. As also researched by Baluku et al. (2020); Mahfud et al. (2020); Welter & Scrimpshire (2021), psychological capital can make a very significant contribution to influencing the entrepreneurial intention of students. Several studies also combine these two factors as predictors of the formation of personality and entrepreneurial intentions (Ephrem et al., 2019; Mahfud et al., 2020; Wale et al., 2021). More deeply, part of the contribution of social and psychological capital in shaping entrepreneurial intentions is mediated by the entrepreneurial personality itself (Mei et al., 2017). In other words, the direct influence of these two factors is not optimal, so some form an entrepreneurial personality first, which then stimulates the emergence of intentions.

Researchers do not stop here but also try to examine other factors that have the potential to strengthen the contribution of the above factors in forming entrepreneurial intentions, which are considered very important. Researchers realize that starting their own business requires proper assistance, even so, interest in entrepreneurship is a major aspect for students in starting a career in entrepreneurship. Based on current developments, within the context of entrepreneurship, what is taught can involve technological developments as a means of quick and easy commercialization. A report from Martín-Rojas et al. (2013), highlights that a person's technological competence contributes to its influence in supporting entrepreneurial processes. Social capital, psychological capital, and entrepreneurial personality are thought to have positive interactions in increasing their role in forming entrepreneurial

intentions. Although similar research is still minimal, the main consideration is the results of research from Martín-Rojas et al. (2017), who successfully tested the significance of the interaction of social support and psychological reinforcement with the ability to use digital technology in influencing students' career decisions. In addition, entrepreneurial behavior was identified as closely related to the use of technology in building a business, so its orientation will also strengthen the intention to develop a business (García-Morales et al., 2014). On the importance of these factors, the researcher intends to examine the important role of social capital, psychological capital, and entrepreneurial personality in forming entrepreneurial intentions in vocational education students. In more depth, we also examine entrepreneurial personality as a mediator and technological competence as a moderator of the influence of social capital and psychological capital on entrepreneurial intentions. Fig. 1 presents the conceptual framework and visualization of hypotheses for this research.



Note: ── = direct effect; -- = mediation effect; -- = moderation effect

Fig. 1- Conceptual framework and visualization of hypotheses

2. Literature Review and Hypothesis

2.1 Social Capital and Psychological On Entrepreneurial Personality

Entrepreneurial personality reflects the nature and character of a person inclined to a process of entrepreneurial activity (Charfen, 2019). Some of the literature focuses on examining technical factors to shape personality. But basically, what needs to be understood more deeply is that the process of forming an entrepreneurial personality is not only influenced by technical aspects. Especially for students in vocational education whose formation process requires basics that are able to construct an ideal entrepreneurial personality (Handayati et al., 2020; Schmitt-Rodermund, 2004). Charfen (2019) explained that the most important aspect of forming an entrepreneurial personality comes from a person's social and psychological capital. These aspects are important basic capital for entrepreneurship, so they are very important to be studied in depth (Baluku et al., 2020; Kholifah et al., 2022; Mahfud et al., 2020). Porcar and Soriano (2018) said that social capital is the ability of entrepreneurs to build relationships with other entrepreneurs, which is an important provision in achieving entrepreneurial goals. Regarding social construction in entrepreneurial personality (Chell, 2008) explained that social capital is an interaction based on ability, trust, understanding, shared values, and social networks that bind group members to collaborate efficiently and effectively. These five aspects play an important role in building an entrepreneurial personality. As explained in the study by Mahfud et al. (2020) that social capital has a significant effect on a person's entrepreneurial personality. Previous studies also revealed findings that entrepreneurial personality requires social support and is directly proportional (Cohen et al., 2019; Obschonka et al., 2019). Especially in vocational education dominated by engineering-related learning, the lack of entrepreneurial personality is identified due to the lack of sufficient social capital in students. It is also approved by Yıldırım et al. (2016), which reveals the significant social role in bridging students to become entrepreneurs so that an entrepreneurial personality is indirectly formed through it.

H_1: Social capital affects the formation of entrepreneurial personality.

Likewise, aspects of psychological capital in entrepreneurship (Mei et al., 2017; Şahin et al., 2019) play an important role in shaping the entrepreneurial personality of students. According to Charfen (2019), Psychological capital in entrepreneurship is a psychological condition oriented towards trust, hope, optimism, resilience, and emotion in running a business. These five aspects are also very important as a balancer for social capital, so that together they are able to underlie the formation of an entrepreneurial personality. This is consistent with several studies that prove that psychological capital is an important provision for students in forming entrepreneurial attitudes and personalities (Larijani & Saravi-Moghadam, 2018; Mahfud et al., 2020).

H_2: Psychological capital affects the formation of entrepreneurial personality.

2.2 Social Capital, Entrepreneurial Personality, and Psychological Capital On Entrepreneurial Intention

Entrepreneurial intention is an individual's state of mind that focuses on paying attention and is realized by concrete actions in the form of entrepreneurial behaviour as planned. Entrepreneurial intentions include the dimensions of desires, preferences, plans, and behavioural expectations to develop the entrepreneurship (Douglas, 2020). For a long time, research has directed technical skills to equip students with entrepreneurship capital, so it is hoped that the intention to entrepreneurship will also be strongly stimulated. However, recently, the issues of social capital, entrepreneurial personality, and psychological capital in entrepreneurial intentions have been discussed and studied in this study (Ephrem et al., 2019; Jaedun et al., 2022; Mahfud et al., 2020; Mei et al., 2017; Pérez-Macías et al., 2021). A study Hu et al. (2018); Ndofirepi (2020); and Pérez Fernández et al. (2021) shows that entrepreneurs with high intentions in entrepreneurship already have an entrepreneurial personality and sufficient social and psychological capital. In the same vein, the lack of entrepreneurial intention that leads to failure is identified as weak in these three aspects (Alonso & Kok, 2021). Although the literature that examines students is still limited, the characteristics of students, social and psychological capital, and entrepreneurial personality are basic needs that must be met first (Soputan, 2017). This is confirmed by Handayati et al. (2020); Soputan (2017), who states that someone who reaches the age of vocational education is more important to have high social and psychological capital as a builder of competence, relationships and self-confidence. Likewise, the formation of an entrepreneurial personality in schools plays an important role in making decisions for entrepreneurship when graduating (Charfen, 2019). Various similar studies agree that social and psychological capital and entrepreneurial personality together stimulate the growth of entrepreneurial intentions (Mei et al., 2017; Şahin et al., 2019; Yıldırım et al., 2016).

H_3: Social capital affects the growth of entrepreneurial intentions;
H_4: Psychological capital affects the growth of entrepreneurial intentions; H_5: Entrepreneurial personality influences the growth of entrepreneurial intentions.

2.3 Technological Competencies On Entrepreneurial Intention

Technological competence has been defined broadly, and various important areas emerged based on its context, role, and development (Arifin et al., 2020). Lorenzo et al. (2018) classify two important areas of technological competence that fall within the context of entrepreneurship. In entrepreneurship, technological competence is needed, including technological capacity and capability to support its implementation (Condom-Vilà, 2020; Alonso & Kok, 2021). Technological capacity refers to passive resource strength, which includes facilities and infrastructure to support business processes (Lorenzo et al., 2018). This means that capacity is a competency that someone must fulfill to start the entrepreneurial process, considering that it is undeniable that capacity is the object of carrying out the process. A study Condom-Vilà (2020) claims that one's technological capacity greatly determines one's intention to develop a business. In addition, the study of Dutta et al. (2015) and (Ji and Goo, 2021) also emphasizes that in conducting entrepreneurship, the role of important facilities and infrastructure is the responsibility of entrepreneurs, so indirectly, the intention to grow is in line with the fulfilled technological capacity.

H_6: technological capacity affects the growth of entrepreneurial intentions.

Meanwhile, capability refers to five levels of mastery of technology that can support the entrepreneurial process in vocational education. The five levels include technology awareness, technological literacy, technology operation, technological creativity, and technology criticality (Lorenzo et al., 2018; Mutohhari et al., 2021; Pavlova, 2009). All these levels are important to be equipped to select, operate, and innovate technology for business development. The higher the acceptance of technological capabilities, the higher the potential for progress in entrepreneurship. It will indirectly affect the intention to enter the entrepreneurship (García-Morales et al., 2014). This is supported by those who reveal that digital technology skills can provide broad views and ways of thinking to run entrepreneurship, so

intentions are automatically stimulated (Ndungu et al., 2017). Likewise, research from Deligianni et al. (2019) and Nambisan (2017) also proves that students with digital technology competence have more entrepreneurial intentions.

H_7: Technological capabilities affect the growth of entrepreneurial intentions.

2.4 The Mediating Role of Entrepreneurial Personality

Stimulating the growth of entrepreneurial intentions requires an ideal entrepreneurial personality (Mei et al., 2017). At the same time, the entrepreneurial personality is constructed through several important aspects, including social and psychological capital (Mahfud et al., 2020). Although these two aspects also significantly affect the growth of entrepreneurial intentions, research from Pérez Fernández et al. (2021) and Sarwar et al. (2021) revealed that the effect was not maximal. In other words, social capital and psychological capital require mediating factors that can bridge their indirect influence on entrepreneurial intentions. In this context, entrepreneurial personality has relevant characteristics in mediating these two aspects' indirect influence (Kusumawijaya and Astuti, 2021; Mei et al., 2017). According to Ephrem et al. (2019) and Handayati et al. (2021), The growth of intention in students requires important aspects related to social and psychological conditions. Certain social and psychological conditions will form a student's personality profile that tends to suit these conditions (Baluku et al., 2020; Boldureanu et al., 2020). In the end, the formation of a certain personality results from social and psychological conditions that tend to be able to increase intentions in someone's (Cohen et al., 2019; De Carolis & Saparito, 2006). Likewise, in the context of students' entrepreneurial intentions, as Mahfud et al. (2020), entrepreneurial personality plays a significant role in bridging the influence of social capital on the growth of entrepreneurial intentions. In addition, other studies also confirm that in stimulating students' entrepreneurial intentions, psychological aspects and the mediating role of entrepreneurial personality are needed to bridge these aspects (Cai et al., 2021).

H_8: Entrepreneurial personality mediates the effect of social capital on entrepreneurial intentions;
H_9: Entrepreneurial personality mediates the effect of psychological capital on entrepreneurial intentions.

2.5 The Moderating Role of Technological Competencies

Technological competence, which includes capacity and capability, is very important for implementing the entrepreneurial process to indirectly affect the growth of entrepreneurial intentions (Ji and Goo, 2021). Running the entrepreneurial process certainly cannot be separated from the role of technology directly used, so competence is needed in its mastery (Lorenzo et al., 2018. On the other hand, the growth of intention, which is constructed by social and psychological capital and the entrepreneurial personality, requires special interactions that can add strength to the growth of the intention (Martín-Rojas et al., 2013). As discussed earlier, the entrepreneurial process requires technical skills related to mastery of technology supporting the production process of goods or services. This means that the original intention to grow due to factors of social and psychological capital and entrepreneurial personality will be stronger if it is accompanied by the capacity and capability of the technology (Anjum et al., 2021). This is supported by research from Condom-Vilà (2020); García-Morales et al. (2014); and Sarwar et al. (2021) which also proves a positive interaction between social capital and psychological capital, thereby strengthening the growth of entrepreneurial intentions. Then other research also states that the formation of an entrepreneurial personality supported by technological competence further strengthens the stimulus for the growth of entrepreneurial intentions (Yıldırım et al., 2016). Several studies have also revealed that technological capacity and capability can strengthen the influence of social and psychological factors on entrepreneurial intentions (Condom-Vilà, 2020; García-Morales et al., 2014).

H_{10}: The capacity of technology to moderate social capital in influencing entrepreneurial intentions;
H_{11}: The capacity of technology to moderate entrepreneurial personality in influencing entrepreneurial intentions; H_{12}: The capacity of technology to moderate psychological capital in influencing entrepreneurial intentions;
H_{13}: The ability of technology to moderate social capital in influencing entrepreneurial intentions;
H_{14}: Technology capability moderate's entrepreneurial personality in influencing entrepreneurial intention; and
H_{15}: The ability of technology to moderate psychological capital in influencing entrepreneurial intentions.

3. Method

3.1 Research Design

Considering the data collected, we adopted an ex-post facto research method whose design was developed to examine events that occur in the education (Cohen et al., 2011). This is a cross-sectional study in which data were collected through a questionnaire designed with structured questions. According to the conceptual framework and existing theoretical studies, direct influence, moderation, and mediation are measured based on actual data. The data analysed reflect their respective roles in growing students' entrepreneurial intentions in vocational education. We ensure the

direction of research is in line with human resource development policies in Indonesia through entrepreneurship education so that research focuses on schools that intensify entrepreneurship programs.

3.2 Research Respondents

Research participants were selected considering the criteria for taking entrepreneurship subjects for more than one year. Thus, we only selected participants already in third-grade vocational education (top class). Probabilistic simple random sampling calculation obtained several participants (N = 647 students) who are members of private and public schools in Indonesia. Of all the participants, fifty-eight percent were women, and the rest were men. At least three areas of expertise in vocational education are represented: Technology and Engineering (39%), Information and Communication Technology (32%), and Tourism (29%). The age range is between 16-18 years, and the mean is 17 years (SD = 4.62). Most participants (63%) reported that their parents worked with other people or agencies, and the rest reported that they were entrepreneurs.

3.3 Measures

3.3.1 Entrepreneurial Intention

The entrepreneurial intention scale was adopted to develop this research instrument (Atitsogbe et al., 2019; Nguyen & Duong, 2021). The scale was adopted with the consideration of a high level of reliability and validity for measuring intentions across various participant characteristics. This scale originally consisted of five pure intention items that evaluated participants' determination in decision-making to become entrepreneurs: desire, steadfastness, preferences, plans, and behavioural expectations. We decided to eliminate two items due to lack of validity, leaving us with desires, plans and behavioural expectations. This instrument adopts a 5-point Likert Scale type starting from a score of 1 (strongly disagree) to 5 (completely agree). With respect to the level of validity, the confirmatory factor analysis of SmartPLS stated: desire (Eg: I have the desire to become an entrepreneur) is obtained LF = 0.807 and α = 0.896; plan (eg: I have plans in the future to become an entrepreneur) is obtained LF=0.870 and α =0.948); and behavioural expectations (eg: I have an expectation to behave boldly in taking risks) is obtained LF =0.749 and α =0.901. While the eliminated items obtained: stability is obtained LF=0.596 and α =0.328, and preferences is obtained LF =0.612 and α =0.412.

3.3.2 Entrepreneurial Personality

Entrepreneurial personality is measured by students' strength of the entrepreneurial character profile. In measuring the personality profile that tends to be entrepreneurial, we follow previous research (Obschonka et al., 2019) and supported by the theory of (Charfen, 2019), which then adopted the five main profile indicators. These five profiles include process orientation, entrepreneurial ethos, management of self and others, mental attitude, and problem-solving attitude in entrepreneurship. Similar to the entrepreneurial intention questionnaire, this also adopts a 5-point Likert Scale with the same conditions. We omit the fourth indicator (mental attitude) because the level of validity and reliability does not meet the requirements with LF= 0.562 and α= 0.267. Other test results obtained: process orientation (e.g.: I am oriented towards the entrepreneurial process from the initial development stage to the advanced stage) obtained LF =0.917 and α= 0.911); entrepreneurial ethos (eg: I am motivated to strive to achieve entrepreneurial capital) obtained LF= 0.935 and α =0.941; self-management and others (eg: I am able to manage myself and others in making decisions) obtained LF= 0.924 and α= 0.922; and problem-solving attitudes in entrepreneurship (eg: I will solve problems in the entrepreneurial process) obtained LF= 0.806 and α= 0.899.

3.3.3 Technological Competencies

Technological competence, which includes capacity and capability, refers to the level of maturity between the two. Both capacity and capability were previously measured using the same scale, namely a Likert Scale of one to five (very unsuitable to very appropriate). In measuring the technological capacity possessed by students, we adopted five valid items from (García-Morales et al., 2014; Martín-Rojas et al., 2013), and we tested them again so that the level of validity and reliability is maintained. The results of adopting technological capacity items along with their validity and reliability indices include: level of accessibility (eg I have a virtual world access device that can be used for work) with the acquisition of LF=0.774 and α=0.887; the ability to provide equipment and materials (eg: I am able to provide computer support equipment) obtained LF= 0.737 and α= 0.850; the ability to innovate (eg: I am able to develop digital marketing processes in entrepreneurship) obtained LF= 0.830 and α= 0.914; maintaining the stability of the equipment (eg: I am able to maintain the equipment that supports entrepreneurship) obtained LF= 0.855 and α= 0.929; and set the usage time (eg: I am able to manage the device according to usage needs) to get LF= 0.716 and α= 0.846. Likewise, we adopted the five technological capability items returned from (Astuti et al., 2022; Fawaid et al., 2022) and have consistent levels of validity and reliability after testing. These items include technology awareness (eg: I am aware of the technology that is useful in supporting learning) obtained LF= 0.872 and α= 0.909; technological literacy (eg: I

understand that digital technology has benefits in supporting entrepreneurship) gains LF= 0.886 and α= 0.911; technological capability (eg: I am able to operate digital devices at work) gains LF= 0.896 and α= 0.931; technological creativity (eg: I am able to develop technology to support my work) obtained LF= 0.828 and α= 0.901; and technology critical (eg: I am able to choose technology according to work efficiency) get LF= 0.872 and α= 0.918.

3.3.4 Social Capital

Social capital has a broad scope and aspects of each indicator. However, in this context, we consider several widely used aspects of growing entrepreneurial intentions and playing an important role in supporting business processes. After conducting the analysis, we adopted the 5 important research items identified in (Fawaid et al., 2022; Mahfud et al., 2020; Pérez Fernández et al., 2021). The measurement scale still uses a Likert Scale of 1-5 (strongly disagree to agree). We confirmed strong validity and reliability levels for five items: interaction intensity (eg I have a high intensity to discuss with friends) obtains LF= 0.790 and α= 0.840; trust capital (eg: My family gives full trust to me to start a business) obtains LF= 0.823 and α= 0.862; an understanding of and with the social environment (eg: I interact with the social environment to strengthen entrepreneurial capital) obtains LF= 0.749 and α= 0.845; shared value (example: I got the meaning of learning entrepreneurship with other people) obtained a value of LF= 0.868; and α= 0.903), and social networks (e.g.: I have a relationship with the world of work) obtained LF= 0.831 and α= 0.879.

3.3.5 Psychological Capital

Like social capital, psychological capital also has a broad scope of application and measurement. After the analysis, we screened various important items for our adoption as indicators. In total, we selected five indicators of psychological capital adopted from (Baluku et al., 2020), which we then retested and confirmed high validity and reliability. These items include self-confidence (eg: I have the confidence to be able to solve problems at the workplace) obtaining LF= 0.826 and = 0.894; expectations (e.g.: I have strong hopes for developing entrepreneurial skills) to obtain LF= 0.845 and = 0.900; optimism (eg: I am optimistic that I will be successful when starting a business) obtain LF=0.821 and = 0.866); endurance (eg I have the persistence to keep trying) obtain LF=0.852 and = 0.893; and emotional (e.g.: I am able to manage my emotions at work) obtain LF=0.828 and = 0.857). The measurement scale still uses a Likert Scale of 1-5 (strongly disagree to agree).

3.4 Statistical Analysis

The research hypothesis is formulated based on relevant theoretical support related to the line of influence of exogenous variables on endogenous variables directly or by using mediation, as stated in the previous literature review. Structural Equation Modelling (SEM) analysis was used to test the hypothesis of a direct influence between variables and the role of mediation and moderation through path analysis and bootstrap methods. Path analysis measures the direct effect of exogenous variables on endogenous variables. In comparison, the bootstrap method is used to measure the role of entrepreneurship personality in mediating technological competence (capacity and capability) in reducing the influence of social and psychological capital on the growth of entrepreneurial intentions. Bootstrap was adopted considering its accuracy, considering that this method is the most reasonable and can obtain confidence limits for certain indirect effects in most conditions (Preacher & Hayes, 2008). Analysis of the data in this study using the support software SmartPLS 3.0.

4. Result

4.1 Model Fit Evaluation

Previously, we have tested the fit model six times to obtain such a model, as presented in Fig. 2. This test model justifies the level of conformity of the standard structural model in explaining the coefficients of the relationship between variables and the role of mediation and moderation. The evaluation of the fit index in the last test (as the base model) is shown in Table 1. With the analysis carried out, all the fit indices in the overall base model were evaluated well according to the cut value criteria. Small, expected chi-square value confirmed accordingly. The high probability value (p-value 0.50) provides clarification of the suitability between the model being tested and the data so that the predictive ability of the model being tested against the observed value is very good. GFI, AGFI, TLI and NFI were all realized above the threshold value (≥0.90). SRMR value < 0.05 and RMSEA < 0.08 also means that it is highly suitable and can be analysed for structural models (Westland, 2019).

Table 1 - Model fit test result

Goodness of fit index	Criteria	Result	Evaluation
Chi-square	Expected to be small	21.683	Small
Probability	≥0.50	0.238	Fit
Goodness of fit index (GFI)	≥0.90	0.906	Fit

Adjusted goodness of fit index (AGFI)	≥0.90	0.911	Fit
Tucker lewis index (TLI)	≥0.90	0.907	Fit
Normal fit index (NFI)	≥0.90	0.916	Fit
Standardized root mean squared residual (SRMR)	<0.05	0.038	Fit
Root mean square error of approximation (RMSEA)	<0.08	0.072	Fit

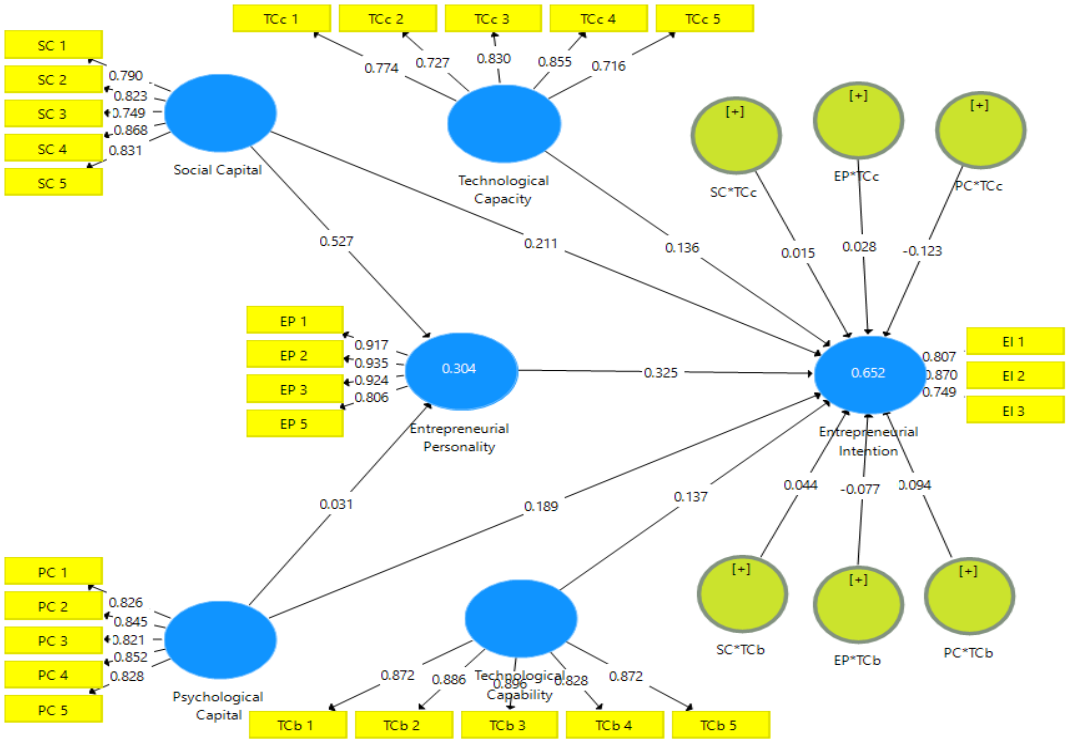


Fig. 2 - Structural model

4.2 Direct Effect Test Results

The first to seventh hypothesis testing is based on direct evidence of each path's estimated correlation coefficient. This refers to the correlation between the original sample and the p-value with a significance level of 5%. We also get confidence intervals that are higher than previous estimates with a percentage gain of 97.5% (CI 97.5%) so that the significance level changes to 2.5%. See Table 2 presents the results of the path analysis with the estimated value of the correlation coefficient on all paths above the minimum significant limit, except for the influence of psychological capital on entrepreneurial personality. The estimated path coefficient between social capital and entrepreneurial personality is .527, and the *p*-value is .000***, so H_1 is supported. The second consideration differs from the previous one in that the path coefficient value between psychological capital and entrepreneurial personality is .031, and the *p*-value is .598, so H_2 is rejected.

Furthermore, the estimated value of the correlation coefficient is .211, and the p-value is .000*** on the path of social capital and entrepreneurial intention, making H_3 supported. Likewise, H_4 is supported by considering the estimated value of the correlation coefficient and *p*-value of .000*** on the path of psychological capital and entrepreneurial intention. Furthermore, the path coefficient between entrepreneurial personality and entrepreneurial intention is .325, and the *p*-value is .000***, so H_5 is supported. In line with this, the correlation coefficient between technological capacity and entrepreneurial intention obtained is .136 and a *p*-value of .003** also makes H_6 supported. This also applies to the path of technological capability and entrepreneurial intention where the estimated correlation coefficient is .137, and the *p*-value is .003**, so H_7 is also supported.

Table 2 - Direct effect test result

Path	Estimate	SE	p	Evaluation
Social capital → entrepreneurial personality	.527	.021	***	Supported
Psychological capital → entrepreneurial personality	.031	.018	.598	Rejected
Social capital → entrepreneurial intention	.211	.006	***	Supported
Psychological capital → entrepreneurial intention	.189	.020	***	Supported

Entrepreneurial personality → entrepreneurial intention	.325	.003	***	Supported
Technological capacity → entrepreneurial intention	.136	.001	.003**	Supported
Technological capability → entrepreneurial intention	.137	.017	.003**	Supported

*Notes: *p<.05 and **p<.00*

4.3 The Mediating Role of the Entrepreneurial Personality

The mediation role test considers bootstrapping results with a 97.55% confidence interval using one thousand iterations. The mediating role tested is the mediating role of the entrepreneurial personality because of the growth of entrepreneurial intentions in students. Analysis using the bootstrap method obtained results that only supported one hypothesis. For consideration of support for the hypothesis, see Table 3, which presents the mediating role of entrepreneurial personality in bridging the indirect effects of social capital and psychological capital. The estimated coefficient of the indirect effect of social capital on entrepreneurial intentions is .172 with a *p*-value of .000***, so H_8 is supported. In contrast, the entrepreneurial personality failed in proving its mediating role in mediating the influence of psychological capital on entrepreneurial intentions, which only obtained an estimated coefficient of .010 and a *p*-value of .600, so H_9 is not supported.

Table 3 - Mediating role of entrepreneurial personality

Path	Direct Effect		Indirect Effect		Total Effect	
	Estimate	Sig	Estimate	Sig	Estimate	Sig
Social capital → entrepreneurial personality	.527	***	-	-	.527	***
Social capital → entrepreneurial intention	.211	***	.172	***	.383	***
Psychological capital → entrepreneurial personality	.031	.598	-	-	.041	.005
Psychological capital → entrepreneurial intention	.189	***	.010	.600	.192	***
Entrepreneurial personality → entrepreneurial intention	.325	***	-	-	.325	***

*Notes: *p<.05 and **p<.00*

4.4 The Mediating Role of the Technological Competencies

Hypothesis testing that refers to the moderating effect considers the results of the test of the effect of the interaction of exogenous variables with moderators on endogenous variables. Bootstrapping using 1.000 iterations proves the results supporting several moderating effect hypotheses. The first consideration is seen in Table 4 which presents the moderating role of technology capacity and capability. The coefficient of the influence of technology capacity in moderating social capital and entrepreneurial intention is .015 with a *p*-value of .762, so H_{10} is not supported. Meanwhile, technological capacity plays a significant role in moderating the influence of entrepreneurial personality on entrepreneurial intentions, with an estimated value of .028 and a *p*-value of .048*, so H_{11} is supported.

Meanwhile, technological capacity proves its significant role in moderating the effect of psychological capital on entrepreneurial intentions with a coefficient of .123 and a *p*-value of .006**, so H_{12} is supported. Then, the coefficient of the influence of technology capability in moderating social capital and entrepreneurial intention is .044 with a p-value of .366, so H_{13} is not supported. Meanwhile, technology capability plays a significant role in moderating the influence of entrepreneurial personality on entrepreneurial intentions with an estimated value of .077 and a *p*-value of .038*, so H_{14} is supported. Finally, technological capability also proves its significant role in moderating the effect of psychological capital on entrepreneurial intentions with a coefficient of .094 and a *p*-value of .035*, so that H_{15} is supported.

Table 4 - Moderating role of technological competencies

Outcome variable	Variable Interaction	*F*	*R*	R^2	Estimate	*p*
Entrepreneurial intention	SC → EI	92.6621	.149	.112	.211	***
	SC*TCc → EI				.015	.762
	PC → EI				.189	***
	PC*TCc → EI				.123	.006**
	EP → EI				.325	***
	EP*TCc → EI				.028	.048*
	SC → EI				.211	***

SC*TCb → EI	.044	.366
PC → EI	.189	***
PC*TCb → EI	.094	.035*
EP → EI	.325	***
EP*TCb → EI	.077	.038*

*Notes: *p<.05 and **p<.00*

5. Discussion

Before the theory of entrepreneurship developed in the 21st century, several theoretical opinions were born that state that entrepreneurs are innate and have potential from birth. In addition, previous researchers believed in the important role of successful entrepreneurs as game changers in economic revival by creating jobs for themselves and others. However, after that, the narrative began to change significantly, as evidenced by researchers in this field arguing that entrepreneurs are not innate but can be developed in a person at any time (Purusottama & Trilaksono, 2019; Sawang, 2020; Sendouwa et al., 2019). Usually, someone with a productive working age (including the age range in high school) has the potential to develop their way of thinking and entrepreneurial spirit (Handayati et al., 2020). The implication is that in the past decade, many studies have focused on factors that can be developed and implanted in students to form entrepreneurs. Entrepreneurial intention is one of the factors widely studied as the most important aspect of developing the entrepreneurial process. This is what then led to various studies also to examine the important factors of growing entrepreneurial intentions. In short, vocational education essentially has a crucial role in developing entrepreneurial intentions in individuals through strengthening social and psychological capital (Baluku et al., 2020; De Carolis & Saparito, 2006; Ephrem et al., 2019; Pérez Fernández et al., 2021). The reinforcement provided by vocational education has a sustainable role in shaping entrepreneurial personality and ultimately fosters entrepreneurial intentions in students (Mahfud et al., 2020). On the other hand, the development of digital technology, which is predicted to support the entrepreneurial process, is also integrated to strengthen social and psychological capital and entrepreneurial personality so that intentions are higher (Dutta et al., 2015; García-Morales et al., 2014).

In this study, we first examine social and psychological capital's direct effects on individuals' entrepreneurial personalities and intentions. Previous research has proven a significant relationship between the two independent and dependent variables (Mahfud et al., 2020; Pérez Fernández et al., 2021). These results slightly contradict our analytical evidence, revealing that psychological capital does not have a significant relationship with entrepreneurial personality. This indicates that students do not mind any psychological conditions. Entrepreneurial personality can still be constructed through sufficient social capital and other factors. Recently, several studies have also emphasized technical factors and competencies to construct entrepreneurial-leaning behaviours (Fawaid et al., 2022; Kusumawijaya & Astuti, 2021; Martín-Rojas et al., 2013). Although some studies contradict this, other studies support the rejection of the influence of psychological capital on entrepreneurial personality with considerations under certain conditions. Several studies point to the condition of individuals with high discipline and tenacity affecting the construction of entrepreneurial personality so that it has the potential to annul the extent of their psychological state (Handayati et al., 2021; Nadelson et al., 2018; Yuan et al., 2020). Meanwhile, social capital can consistently influence personality and entrepreneurial intentions because that is what is most needed (Charfen, 2019; De Carolis & Saparito, 2006; Meoli et al., 2020). The intensity of interaction, trust, and environmental conditions supported by the value of togetherness and strong relationships are the main needs, as has been proven by several previous studies (Cheng & Liao, 2020; Ha et al., 2020).

Furthermore, we also examine the role of entrepreneurial personality in mediating the effects of social and psychological capital on entrepreneurial intentions. This role was shown to be significant in the effect of social capital on intention, but again it was not proven to mediate psychological capital. In the same vein, research from Mahfud et al. (2020) also reveals the crucial role of entrepreneurial personality as a construction of social capital, which indirectly affects students' intentions. Meanwhile, on the aspect of psychological capital, it is again contradicted by previous research, which proves the mediating role of entrepreneurial attitudes towards it in influencing students' intentions (Fawaid et al., 2022). However, research from Baluku et al. (2020) and Ephrem et al. (2019) clarified that psychological capital tends to stimulate the growth of entrepreneurial intentions directly, so personality is only partially constructed. This was also conveyed by several researchers concerned with the construction of entrepreneurial personality in terms of technical competence to support entrepreneurship, so they rarely focused on psychological conditions, but they proved a direct influence on the intention (García-Morales et al., 2014; Martín-Rojas et al., 2013).

On the other hand, we also examine the direct effect of technological competence, which includes capacity and capability and test it as a moderator of the effect of social and psychological capital on entrepreneurial intentions. First, we prove the significant direct effect of these two aspects of competence on the growth of intention. This is consistent with several studies that agree with this and confirm that individual intentions grow because of their competence. Moreover, these technological competencies support activities that require high intentions (Ji and Goo, 2021; Martín-Rojas et al., 2013; Nambisan, 2017). However, neither capacity nor capability was able to prove their role in moderating social capital on students' entrepreneurial intentions. This reaps the pros and cons of previous research, such as research Cheng and Liao (2020), which argues that social capital has a strong enough interaction with

technological competence to influence entrepreneurial capital. Different from research Mahfud et al. (2020) support that social capital is the main capital in growing intentions and being able to stand alone so only a small amount of additional competence is needed.

Meanwhile, the significant role of the two aspects of technological competence was tested in moderating psychological capital and entrepreneurial personality to strengthen their influence on the growth of intention. According to research results from Cohen et al. (2019) and Ephrem et al. (2019), the level of an individual's psychological condition is usually always changing and unstable, requiring reinforcement from other aspects. In this case, the competence of technology supporting entrepreneurship is needed to maintain entrepreneurial intentions in individuals. Therefore, interaction is needed by social capital to grow individual intentions (Lorenzo et al., 2018). Likewise, the construction of an entrepreneurial personality will be stronger if there is an interaction of technological competence that can facilitate in implementation of entrepreneurial processes so that intentions will be boosted by itself (Deligianni et al., 2019; Ji and Goo, 2021).

This study implies that it is necessary to follow up further research to focus on the variables mentioned to test and reinforce the existing results so that relevant practitioners have clear solutions to increase entrepreneurial intentions in individuals. On the other hand, social capital and psychological capital remain the main needs vocational education institutions must strengthen to foster entrepreneurial intentions in their students. Strengthening trust, relationships, and shared values through social interaction with the environment and society is important to strengthening students' social capital (De Carolis & Saparito, 2006). Meanwhile, to strengthen psychological capital, counselling is needed to be related to the emotional condition of students related to the entrepreneurship (Ephrem et al., 2019). Then further, vocational education is also recommended to strengthen the construction of entrepreneurial personality through strengthening problem-solving skills and increasing the work ethic of entrepreneurship accompanied by strengthening entrepreneurial orientation in students (Condom-Vilà, 2020; Nadelson et al., 2018). Finally, it is also important to improve technical competencies that are technologically supportive of entrepreneurship to strengthen the entrepreneurial capital and spirit that exist in students to strengthen their intentions (Martín-Rojas et al., 2013; Schmitt-Rodermund, 2004).

6. Conclusion

This research has proven the influence of social capital, psychological capital, entrepreneurial personality, and technological competence on the growth of entrepreneurial intentions of vocational education students. Although entrepreneurial personality does not play a significant role in mediating psychological capital, its role is very important and social capital is needed to strengthen entrepreneurial intentions. The findings in this study indicate the importance of strengthening social capital to construct entrepreneurial personality which ultimately increases the intensity of intention. On the other hand, psychological capital is also very important to be strengthened as an effort to increase intention directly. Furthermore, both psychological capital and entrepreneurial personality require the interaction of strengthening technological competence which includes the capacity and capability to foster overall intention. These results indicate the importance of vocational education in emphasizing the strengthening of values included in social capital and aspects of psychological capital. More deeply, the construction of entrepreneurial personality and technological competence is important to build an important bridge for social and psychological capital in stimulating intention. The last finding of technological capacity and capability plays a role in strengthening the influence of psychological capital and entrepreneurial personality on intentions but does not apply to social capital.

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