

Higher Cognitive, the Higher Entrepreneurial Intention of Undergraduate Students in Indonesia, Has It Been Always That Way?

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ABSTRACT

The paper provides a preliminary study about entrepreneurial intention among undergraduate students in Indonesia based on five dimensions in cognitive adaptability developing by Hanie and Shepherd in 2009. The quantitative approach is used by collecting 112 data from questionnaires survey. Simple regression analysis is conducted to analyze the data. Contrast with previous research findings; this study reveals that only three cognitive adaptability dimensions significantly influence entrepreneurial intention among undergraduate students in Indonesia. Those dimensions are metacognitive experience, metacognitive knowledge, and monitoring. Although two other dimensions, goal orientation, and metacognitive choice, do not significantly influence entrepreneurial intention, the empirical evidence of this study can contribute, especially for educators, in developing curriculum and skill-building related to entrepreneurship in any level of education.

Keywords: *cognitive adaptability, entrepreneurial intention, metacognitive experience, metacognitive knowledge, monitoring*

1. INTRODUCTION

Entrepreneurship has a significant role in developing countries such as Indonesia as one of the drivers of the economic rate. Unfortunately, the number of entrepreneurs in Indonesia does not reach the government target yet even though the number has fulfilled the national target but is still below compared to other Southeast Asian countries such as Singapore. The former minister of industry, Airlangga Hartanto, said that Indonesia needs as many as 4 million new entrepreneurs to strengthen the economic structure. The ratio of entrepreneurs in the country is approximately only 3.1 percent of the total population [1]. The Indonesian government made a continuous effort to boost the number of entrepreneurs. One of the innovations was the idea of an e-commerce platform. This e-commerce platform will be expected to help small, and big businesses face industry 4.0.

The existence of e-commerce innovation is expected to trigger the number of young entrepreneurs in Indonesia. On the contrary, the data shows that young people's intention to become entrepreneurs in Indonesia is still relatively low compared to other Asian countries [2]. This situation was unfavorable because more young people are becoming more entrepreneurial than ever,

with around twice as many businesses as the baby boomer generation based on global information obtained in 2016 [3]. Around three sectors became top wealth creation sectors identified among young people globally: retail, professional services, and technology. Shortly, the other three industries predicted to be popular are financial services, social media, and e-commerce. The new generation of entrepreneurs is around 35 years old, known as 'millennials' and 'generation Y-ers'. This generation is known for its unique business approach, which is ambitions, results, and leadership style.

The Ministry of Education in Indonesia also provides efforts to encourage entrepreneurial intentions for the young generation. Entrepreneurship curriculum starts to be encouraged from school to university level. The purpose of entrepreneurship education is to make young people aware of the importance of entrepreneurship, help them explore whether entrepreneurship is their desire, and equip them with various entrepreneurial skills (e.g., opportunity recognition, business planning, running a business model) which will enable them to develop entrepreneurial competencies [4]. Entrepreneurship education will be beneficial for their own business in the future and also when they decide to work in a company. Young people have not developed the knowledge, skills,

or abilities needed to judge about entrepreneurial desirability and feasibility [5].

The entrepreneurial mindset is an individual's way of thinking and behavioral characteristics possessed by an entrepreneur to take advantage of all kinds of opportunities in uncertain situations. Cognitive adaptability is an emerging concept in entrepreneurship literature [2][4]. Cognitive adaptability (CA) is one of the mindsets that an entrepreneur should have. CA is described as a condition in which an entrepreneur has a dynamic, flexible, self-regulating attitude, and is involved in a decision-making process that focuses on sensing, changing processes, and taking action on their environment. Someone with CA will be familiar with making a framework in making a decision. The framework is used to organize knowledge about people and situations to help increase the sense of what is going on [6].

Haynie and Shepherd (2009) introduced five dimensions of cognitive adaptability [7]. These dimensions are goal orientation, metacognitive knowledge, metacognitive experience, metacognitive choice, and monitoring. Learning about cognitive adaptability becomes important for entrepreneurial pedagogy because everyone can learn about it. This study is built on the work of Hanie and Shepherd (2009), which addresses the five dimensions of cognitive adaptability; Urban (2012b); Botha and Bignotti (2017), whose research examines the relationship between cognitive adaptability and entrepreneurial intentions [7][8][9]. There is only limited evidence confirming the relationship between cognitive adaptability and entrepreneurial intention. To the best of our knowledge, no study was conducted about this relationship in the case of Indonesia. Both research from Urban (2012b); Botha and Bignotti (2017) were taken in South Africa. Therefore, this research commences with a short theoretical foundation; then, hypotheses are formulated and tested using correlation and regression analysis. Respondents of this study are undergraduate students. By exploring the entrepreneurial mindset of undergraduate students through the dimensions of cognitive adaptability, the findings of this article can be used in the educational setting, such as adding some learning in developing a curriculum for entrepreneurship.

2. LITERATURE REVIEW

Cognitive adaptability (CA) is one of the mindsets that an entrepreneur should have. CA is described as a condition in which an entrepreneur has a dynamic, flexible, self-regulating attitude and is involved in a decision-making process that focuses on sensing, changing processes, and taking action on their environment [6]. Metacognition is the core basis of the formation of cognitive adaptability [9]. The ability to understand cognitive adaptability is obtained after the

individual clearly understands metacognition. One can describe the origins of cognitive adaptability as the combined effect of the context in which individual functioning and individual motivation are interpreted. Metacognition activates cognitive adaptability, making cognitive processes necessary in the entrepreneurial context [7][10].

CA can be reflected in the metacognitive awareness (MA) of an entrepreneur. MA is the ability to evaluate, understand, and control a person's thoughts and understanding of himself. Specifically, metacognition describes the higher-level cognitive processes that allow a person to know and acknowledge his or her situation. Someone with high metacognitive will understand their task, situation, and environment to find gaps towards effectiveness and be able to adapt to a complex and dynamic environment [6]. Cognitive adaptability will help a person in completing new tasks. For an entrepreneur, CA will help when entering the market as a newcomer and managing the company in uncertain situations. A person with CA will have self-awareness, think long term, have high knowledge, plan strategies, plan in his mind, know what is known, and monitor himself well. The good news is that everyone can improve their CA skills.

Metacognition could be defined as an individual's capability to be knowledgeable and proficient in a learning design. Therefore, the individual will be more adaptive in dynamic and uncertain contexts. In other simple words, metacognition is described as knowing about knowing [11][24]. Facing the entanglement of the business environment and the need for a volatile decision-making approach, Haynie (2005) proposes an adaptive thinking style called cognitive adaptability, which is derived from five metacognitive dimensions. Those dimensions are goal orientation, metacognitive knowledge, metacognitive experience, metacognitive choice, and monitoring. The five a priori dimensions were tested by Haynie and Shepherd (2009) and used CFA to validate them [7][11].

Goal Orientation

The ability to achieve specific results defines the goal orientation dimension [9]. Entrepreneurial goals arise from the interaction of various motives and the surrounding context, which have reciprocal effects [12]. Someone aware of the process of goal formation is considered the beginning of cognitive adaptability. The goal orientation dimension of metacognition would affect the interaction of entrepreneurs with the environment, especially regarding how the environment affects intentions [8]. However, research results from Urban (2012b) show a negative influence between these two

variables. Meanwhile, research conducted by Botha and Bignotti (2017) showed the opposite result [8][9].

Metacognitive Knowledge

Metacognitive knowledge refers to conscious thought of the cognitive functions performed in someone when behaving towards people, tasks, and strategies [13]. Such thought includes understanding one's preferences, individual negotiating style with the environment, weaknesses, strengths, and concerns about how others recognized various situations. Metacognitive knowledge will assist entrepreneurs in allocating adequate resources in an unsettled work environment [7][14]. The entrepreneur's understanding of the environment around his business influences entrepreneurial intentions. This metacognitive knowledge dimension is the only variable that positively influences entrepreneurial choices in the research conducted by Urban (2012b) [8][15][16].

Metacognitive Experience

Metacognitive experience referred to mental orientation. A person's emotions, memories, and incidents experienced by someone who has a high metacognitive experience will increasingly rely on their hunches when managing conditions in an environment [12][17]. Some of the items that measure this dimension, according to Haynie and Shepherd (2009), including setting priorities regarding things that need to be completed before completing an assignment, using various strategies depending on the situation, controlling time and information to achieve the best goals, purposively addressing on essential information, counting on sense to govern the most effective strategy to use, and relying on intuition to help to frame strategies. Related findings regarding the relationship between metacognitive experience and an intention include the background of individuals in setting up a business based on their cognition of a new business opportunity that is influenced by metacognitive experience. Botha and Bignotti (2017) also found that metacognitive experiences significantly influence entrepreneurial intentions [8][9][12].

Metacognitive Choice

When confronting a changing environment, a person will use metacognitive knowledge and experience to choose a decision framework from the available alternatives that best fit their goal orientation [11]. The metacognitive choice is the extent to which individuals are involved in an active process of selecting, interpreting, planning, and implementing from several decision frameworks that best respond to managing a changing environment [7]. Path analysis confirms that the positive relationship between attitude and behavior is fully explained by the attitude—intention and intention—behavioral link. Since the intention to set up a business always involves some

degree of consideration, such judgments elicit some cognitive outcomes in which understanding and behavioral action are required to make choices when selecting from among several decision frameworks [8][18][19][20]. However, in his research, Urban (2012b) did not find a significant effect between metacognitive choices and entrepreneurial intentions. On the other hand, Botha and Bignotti (2017) state that metacognitive choices affect entrepreneurial intentions.

Monitoring

Monitoring activities contain the extent to which actual performance is following the objectives. Monitoring helps individuals evaluate their motives [4][21], knowledge, experience, and selection process of specific decision frameworks [12]. Monitoring includes task identification to check and evaluate one's progress. In addition, monitoring is also used to predict the results of progress. Concerning this last dimension of cognitive adaptation, highly successful entrepreneurs exhibit higher monitoring levels than less successful entrepreneurs as a self-regulatory mechanism to help them assess, regulate, and improve their performance [22][23]. The way intentions are adjusted is related to metacognition monitoring, in which outcomes are assessed to the individual's goal orientation. This monitoring informs the next generation and selects a decision framework [7][8]. However, an unexpected finding shows that the research conducted by both Urban (2012b) and Botha and Bignotti (2017) did not reveal any significant influence between this dimension and entrepreneurial intention.

Figure 1 shows the research model of this study. Based on some pieces of evidence on the significant relationship between cognitive adaptability and entrepreneurial intention, it is hypothesized that:

H1: Goal Orientation positively influences entrepreneurial intention among undergraduate students in Indonesia

H2: Metacognitive Knowledge positively influences entrepreneurial intention among undergraduate students in Indonesia

H3: Metacognitive Experience positively influences entrepreneurial intention among undergraduate students in Indonesia

H4: Metacognitive Choice positively influences entrepreneurial intention among undergraduate students in Indonesia

H5: Monitoring positively influences entrepreneurial intention among undergraduate students in Indonesia

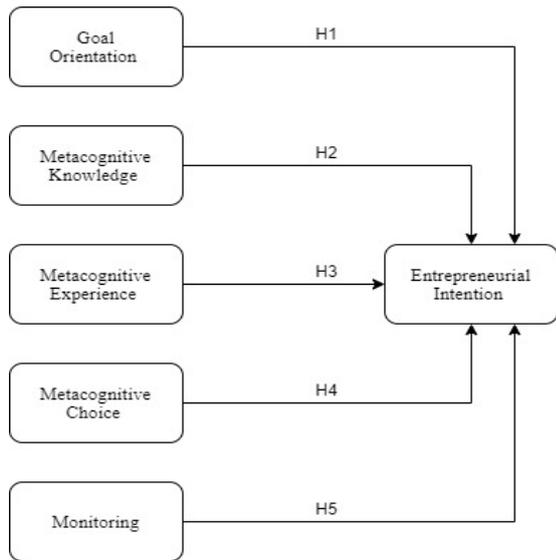


Figure 1. Research Model

3. RESEARCH METHOD

The quantitative approach was used in this study. Data was collected using a questionnaire survey to 120 undergraduate students in Indonesia, but only 112 data can be used for the following process. The paper aimed to test the significant relationship between the five dimensions of cognitive adaptability developed by Hanie and Shepherd (2009) to entrepreneurial intention. The five dimensions of cognitive adaptability are captured in a 36-item Measure of Adaptive Cognition (also known as the MAC model), which was tested by Haynie and Shepherd (2009) using confirmatory factor analysis (CFA). Simple regression analysis was conducted using SPSS to test the hypothesis.

4. RESULT AND DISCUSSION

This study discusses the relationship between goal orientation, metacognitive knowledge, metacognitive experience, metacognitive choice, and monitoring of entrepreneurial intention. Validity tests and reliability tests are conducted first before conducting multiple regression tests. Then, a validity test is conducted on each question item to measure the validity level of the given question, and it can be seen from the loading factor. The loading factor value must be above 0.60 (>0.60); the results showed that the 37 question items in this questionnaire have a value greater than 0.60; it is stated that the entire question item has qualified the validity of convergence.

Then reliability tests are conducted to measure the reliability of variables in the questionnaire, whether trustworthy or not. Although it can be seen in Table 2 that the Cronbach's alpha value of each variable is greater than 0.60 (> 0.60), it can be stated that the overall

reliability of latent variables in this study is accurate, consistent, and precise.

Table 1. Reliability Test

Variable	Cronbach's Alpha	Result
Goal Orientation (GO)	0.823	Reliable
Metacognitive Knowledge (MK)	0.894	Reliable
Metacognitive Experience (ME)	0.906	Reliable
Metacognitive Choice (MC)	0.928	Reliable
Monitoring (MN)	0.872	Reliable
Entrepreneurial Intention (EI)	0.925	Reliable

Source: Data Processed (2021)

A model in this study was conducted to determine the magnitude of the influence of goal orientation (X1), metacognitive knowledge (X2), metacognitive experience (X3), metacognitive choice (X4), and monitoring (X5) on entrepreneurial intention (Y) as a variable dependent. Statistically, this model can be measured from the value of the coefficient of determination (R²), the F-test, and the t-statistic. The accuracy of the regression function sample in estimating the actual value can be seen through the model's Goodness of Fit.

Table 2. R-Test

Model	R	R Square	Adjusted R Square
1	.615	.379	.349

Source: Data Processed (2021)

The coefficient of determination (R²) measures how the model can explain the variation of dependent variables, obtained an adjusted value of R² is 0.349 or 34.9%, while R² results have 0.379 or 37.9%. Thus, it can be concluded that 37.9% of entrepreneurial intention variables can be classified or explained by the five predictors (goal orientation, metacognitive knowledge, metacognitive experience, metacognitive choice, and monitoring).

Table 3. F-test

Model	Df	F	Sig.
Regression	5	12.920	.000 ^b
Residual	106		
Total	111		

Source: Data Processed (2021)

F-test aims to determine if there is a simultaneous influence between the five variables and entrepreneurial intentions. The calculation result obtained a significance value of 0.000 and significant at 0.05; this means goal orientation, metacognitive knowledge, metacognitive experience, metacognitive choice, and monitoring have simultaneously affected the entrepreneurial intention variables.

The study has five hypotheses tested. The result of multiple linear regression analysis is presented in Table 4.

Table 4. Hypothesis Test

Model	t-value	Sig.	Hypothesis
H1 (GO to EI)	-.099	.921	Not Supported
H2 (MK to EI)	-.2008	.047	Supported
H3 (ME to EI)	2.862	.005	Supported
H4 (MC to EI)	.075	.941	Not Supported
H5 (MN to EI)	2.899	.005	Supported

Source: Data Processed (2021)

Based on Table 4, variable goal orientation has t-statistical value in -0.099 with a significance value of 0.921 greater than 0.05 (> 0.05), then Hypothesis 1 is rejected. It is indicated that there is no influence of goal orientation on entrepreneurial orientation on undergraduate students in Indonesia (respondents). The results of this study are contrary to the research owned by Botha and Bignotti (2017), who found a relationship between goal orientation and entrepreneurial intention.

Furthermore, the same thing happened in the relationship of variable metacognitive choice with entrepreneurial orientation (Hypothesis 4); the hypothesis is rejected. The test results showed with t-statistic value is 0.075 with a value of significance greater than 0.05 ($0.941 > 0.05$). It indicates no significant influence of metacognitive choice to variable dependent, i.e., entrepreneurial orientation. The study results are in line with the research from Urban (2012b), but contrary with the research owned by Botha and Bignotti (2017). Although

conducted in the same country, in which South Africa, Urban found that intention to become an entrepreneur was not influenced by metacognitive choice, Botha and Bignotti showed a positive relationship between both variables. In the case of Indonesia, metacognitive choice does not influence the intention of undergraduate students to start a new business.

The other three hypotheses' results are accepted; Hypothesis 2: Metacognitive knowledge to entrepreneurial orientation; Hypothesis 3: metacognitive experience to entrepreneurial orientation; and Hypothesis 5: monitoring variable to entrepreneurial orientation. This result indicates that there is an influence on every three variables to entrepreneurial orientation. The relationship between variable metacognitive and monitoring of entrepreneurial orientation has a positive influence relationship. The positive relationship between metacognitive experience and entrepreneurial intention supports previous research conducted by Botha and Bignotti (2017). Meanwhile, research by Urban (2012b) showed a contrast result between those two variables. Another unique finding is that this study shows a positive relationship between metacognitive knowledge and entrepreneurial intention, which is in line with the previous research by Urban (2012b) but crossing findings from Botha and Bignotti (2017), whose research showed conversely. The most unexpected finding in this study is found in the positive relationship between monitoring and entrepreneurial intention. On the other hand, both articles from Urban (2012b); Botha and Bignotti (2017) revealed the opposite relationship between those two variables.

These findings may be somewhat limited by the respondents who are undergraduate students in Indonesia. However, the result of this study could imply that the development of cognitive adaptability could be involved during the learning process at university. This study suggests that a high level of education, such as vocational school and university, can incorporate material on cognitive adaptability to increase entrepreneurial intention among the students. Further research should be undertaken after giving intensive learning about cognitive adaptability to the students since cognitive adaptability can be taught in time.

5. CONCLUSION

This study set out the relationship between the five dimensions of cognitive adaptability and entrepreneurial intention among Indonesia's undergraduate students. The most prominent finding from this research is that only three cognitive adaptability dimensions significantly influence entrepreneurial intention among undergraduate students in Indonesia. Those dimensions are metacognitive experience, metacognitive knowledge, and monitoring. This study might contribute to educators

developing curriculum and skill-building related to entrepreneurship in any level of education.

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