

Affecting Factors of Technopreneurial Intention toward Younger Generation

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Abstract—This study aims to examine factors associated with technopreneurial intention by adapting theory of reasoned action (TRA) and technology acceptance model (TAM). Proportional random sampling was used to collect information from 108 undergraduate students of Business Administration Department and Information System Department. Partial Least Square (PLS) was used to analyze the data. The findings indicate that the significant effect of environment on technopreneurial intention, while academic climate has significant effect on attitude and self-efficacy. The findings suggest that creating positive environment particularly family and a conducive academic climate are needed to support technopreneurial intention among undergraduate students.

Keywords—*technopreneurial intention; attitude; self-efficacy; academic climate; young generation*

I. INTRODUCTION

The increasing use of web media especially for promotions and transactions shows that the development of entrepreneurship in the field of Information Technology and information (IT) has been increasingly rapid, although it has not comprehensive yet. This situation encourages the emergence of many technopreneurship where young children create and innovate a lot in the business field. The business activity that carried out by young people usually use information technology-based which emerge the existence of technopreneur. The technopreneurship term is almost the same as entrepreneurship, since technopreneurship is within the same scope of entrepreneurship. Technopreneurship is an entrepreneurship in the field of technology, which requires the ability to create, innovate and utilize science with technology. This phenomenon is good since the culture of our society is leaning towards as a consumer that must be transformed into a productive society. A large number of our Human Resources (HR) is very feasible to develop technopreneurship, and only has to be supplemented by skilled workers. The model of technopreneurship development itself can be initiated by knowing an individual, environmental, and technological factors.

A university student is a productive workforce. The trend to choose to become a worker rather than an entrepreneur will be dangerous for Indonesian in 2030 since the population of productive age is greater than the unproductive one, while not

all of the workforce gets jobs. Therefore, it is important to encourage a university student to become an entrepreneur. In this study, the researcher used Students majoring in Business Administration (AB), Informatics (I) and Information Systems (SI) as a research subject. The study was carried out with the assumption that AB students have good business skills while SI and I students have good IT skills. This research finds out whether there are differences in technopreneurial intentions between them and how much their intention to become an entrepreneur is largely determined by individual factors, environmental factors, and technological factors. The purpose of this study is: (1) to explain the influence of the Environment on Attitude, (2) to explain the influence of the Environment on Self-Efficacy, (3) to explain the influence of the Environment on Technopreneurial Intention, (4) to explain the effect of Academic Climate on Self-Efficacy, (5) to explain the effect of Academic Climate on Attitude, (6) to explain the effect of Self Efficacy on technopreneurial Intention, (7) to explain the effect of Attitude on technopreneurial Intention.

The theoretical contributions in this research are: (1) Providing a development discourse about the Theory of Reasoned Action (TRA) and Technology Acceptance Model (TAM) models in the field of entrepreneurship research, by implementing the variables of ability, creativity, invention and innovation with Technopreneurship development model. (2) Providing development discourse on the Perceive Ease of Use (PEoU) into the variables of ability, creativity, invention and innovation. (3) Providing contribution to further researchers not only to stop the intention variable but to refine the model by adding variables in TRA and TAM that have not been used in this research.

Technopreneurship is a term which formed from two words, they are 'technology' and 'entrepreneurship'. Generally, the word Technology is often used in the practical application of science to the industrial world. Narrowly, the technology itself is considered as a tool for creating products or developing skills and expertise to solve a problem. But the rapid advances in technology have an important role in the global business competition. While the word entrepreneurship comes from the word entrepreneur who focuses on someone who has the ability to create and manage a business without fear of the risks and the uncertainties to achieve profits. If the two words above are combined between technology and entrepreneurship then

become "technopreneurship". "Technology entrepreneurship is fundamentally a socially driven endeavor" [1,2]. Technopreneurship is a joint concept of creativity, innovation, entrepreneurship, and technology. While technopreneurs are individuals who have expertise in mastering technology so they are able to see business opportunities in the technology field. Sheng, et al. computer self-efficacy is very important for individuals as capital to motivate in capturing business opportunities [3].

Tan wrote a journal entitled "Environmental munificent For Entrepreneurs: entrepreneurial alertness and commitment" [4]. The purpose of his research is to show that a conducive environment will help someone to develop their business. Supporting environmental conditions will stimulate the intensity of prospective entrepreneurs to start their business. The researcher wants to know the influence of a conducive environment on entrepreneurial alertness levels and moderated by self-efficacy variables. In addition, researchers also examine the influence of the level of awareness of entrepreneurial commitment to their new business. In testing the hypothesis, the researchers used data from the study panel of entrepreneurial dynamics (PSED). This type of research is exploratory using confirmatory factor analysis (CFA) analysis. The results of this study indicate a strong influence between the environment and the level of entrepreneurial vigilance, especially if you have high self-efficacy in creating new businesses. Furthermore, vigilance is also related to sustainability and commitment to effective behavior from entrepreneurs.

Petti and Zhang wrote a research journal entitled Technological Entrepreneurship and Absorptive Capacity in Guangdong technology Firms [5]. The aim of Petti and Zhang's research was to examine the relationship between absorptive capacity, technological entrepreneurship and its influence on the performance of technology companies in Guangdong China. This research journal uses the ordinary least squares regression-based path analytical analysis technique with a sample of 113 technology-based companies in Guangdong. The research findings of their studies are consistent with their hypothesis, that greater absorptive capacity causes technology-based entrepreneurship to develop which leads to considerable performance. In this research entrepreneurial technology mediating variables have a positive role in absorbing power as an antecedent variable.

Indrawati et al., the Moderation Effects of Entrepreneurial Self-Efficiency in the Relationship between Environmental Dimensions and Entrepreneurial Alertness and the Effect on Entrepreneurial Commitment [6]. The research illustrated that only environmental complexity factors and entrepreneur self-efficacy that have an impact on entrepreneurial readiness. The impact of complexity is higher than that of entrepreneur self-efficacy. The study also found that entrepreneur self-efficacy is not a moderator, but rather a predictor of the relationship between the complexity of the environment and the readiness of entrepreneurs.

Nurfaizal in his research, "Behavior of Technopreneur Students in Informatics Engineering: An Overview of Self-sufficiency" stated that gender has a significant correlation

with self-sufficiency, while income, residence status and age do not have a significant correlation with self-sufficiency [7]. The researcher points out the importance of the benefits of sustainable entrepreneurship highlight to stimulate more interest in sustainable development.

A. Research Hypothesis

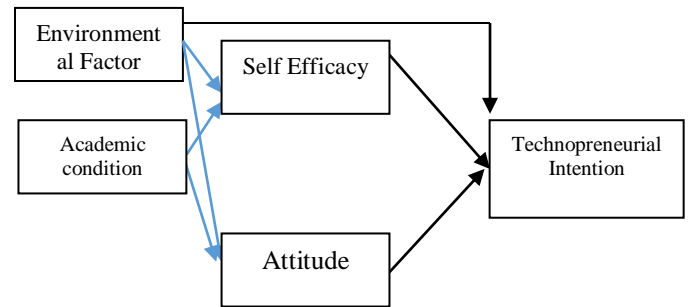


Fig. 1. Research hypothesis.

Based on the picture of the hypothesis above, the description of the hypothesis in this study is stated as follows:

- H1: Environmental factors which have a significant effect toward Attitude
- H2: Environmental factors which have a significant effect toward Self-Efficacy
- H3: Environmental factors which have a significant effect toward technopreneurial intention
- H4: Academic Climate Factors which have a significant effect toward Self-Efficacy
- H5: Academic Climate Factors which have a significant effect toward Attitude
- H6: Self-Efficacy Factors which have a significant effect toward Technopreneurial Intention
- H7: Attitude factors which have a significant effect toward Technopreneurial Intention

II. RESEARCH METHODS

This research uses a survey method with a quantitative approach. This research is in the form of explanatory or confirmatory. The unit of analysis in this research is the student of Business Administration and Informatics study program and the fifth semester of the UB Information System study program with proportional random sampling technique. The sample in this research is 108 students. Data analysis techniques are descriptive using mean and inferential using Partial Least Square (PLS).

III. RESULTS

A. Description of Variables

TABLE I. VALUE OF MEAN INDICATORS ON RESEARCH VARIABLES

No.	Variable	Indicator	Mean
1	Environmental Factor (X1)	Family (X3.1)	3,80
		Friends of the same Age (X3.2)	3,48
2	Academic Climate (X2)	Curricula (X3.1)	3,68
		Learning Atmosphere (X3.2)	3,75
3	Attitude (Y1)	Attitude to entrepreneur (X11)	3,58

		Attitude to IT (X12)	3,67
4	Self Efficacy (Y2)	Computer Self Efficacy (X13)	3,38
		Communication Self Efficacy (X14)	3,83
5	Technopreneurial Intention (Y3)	Bussiness Interest (Y4.1)	3,83
		Innovative job interest (Y4.2)	3,87
		Bussiness with Technolgy Interest (Y4.3)	3,85

B. Hypothesis Testing Results

The results of the complete influence analysis contained in the results of PLS analysis can be seen in the following Table:

TABLE II. TEST RESULTS OF DIRECT INFLUENCE COEFFICIENTS

Influence Path	Coefficient Path	T-Statistics	p-value	Note
X1 (Environmental Factor) -> Y1 (Attitude)	0.136	1.282	0.200	Not significant
X1 (Environmental Factor) -> Y2 (Self Efficacy)	-0.093	1.089	0.277	Not significant
X1 (Environmental Factor) -> Y3 (Interest in Becoming a Technopreneur)	0.263	2.579	0.010	Significant
X2 (Academic Climate Factor) -> Y1 (Attitude)	0.457	4.044	0.000	Significant
X2 (Academic Climate Factor) -> Y2 (Self Efficacy)	0.501	4.913	0.000	Significant
Y1 (Attitude) -> Y3 (Interest in Becoming a Technopreneur)	0.237	1.487	0.138	Not significant
Y2 (Self Efficacy) -> Y3 (Interest in Becoming a Technopreneur)	0.147	1.214	0.225	Not significant

The results of the hypothesis direct testing paths to find out their influence can also be seen in the diagram as follows:

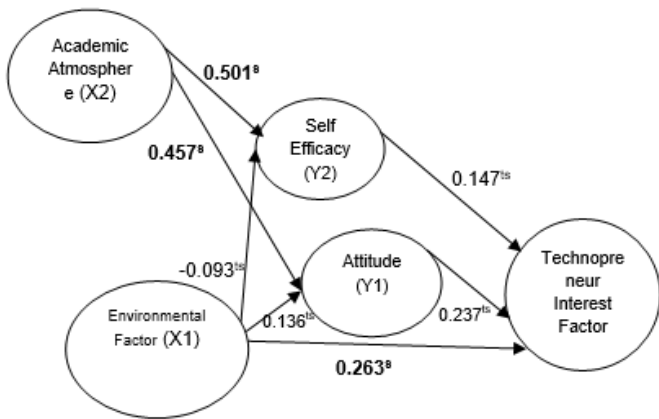


Fig. 2. Test results path diagram of direct influence coefficient.

IV. DISCUSSIONS AND SUGESTION

Based on Table 2 and Figure 2 the results of the research hypothesis testing are stated as follows:

- From this test, it is shown that the Environmental Factor variable does not directly influence the Attitude variable. Improving the quality of

Environmental Factors has not been able to increase Attitude significantly.

- From this test, it is shown that Environmental Factor (X1) does not directly influence the Self-Efficacy variable (Y2). Improving the quality of Environmental Factors has not been able to significantly improve self-efficacy.
- From this test, it is shown that Environmental Factors (X1) directly influence the variable Interest in Becoming a Technopreneur (Y3). Based on the results of testing the indirect effect of Environmental Factor (X1) on the Interest in Becoming a Technopreneur (Y3) through Attitude (Y1) as a mediating variable, the indirect coefficient of influence is obtained = 0.019 with p = 0.353 (not significant). From this test it is shown that to improve the quality of the interest in becoming a technopreneur, it can be done by improving the quality of environmental factors.
- From this test, it is shown that the Academic Climate Factor variable (X2) directly influences the Attitude variable (Y1). The quality improvement of Academic Climate Factors is able to increase Attitude significantly.
- From this test, it is shown that the Academic Climate Factor (X2) directly influences the Self-Efficacy

variable (Y2). The quality improvement of Academic Climate Factors can significantly improve self-efficacy.

- From this test, it is shown that the Academic Climate Factor (X2) directly influences the variable Interest in Becoming a Technopreneur (Y3). Based on the results of testing the Academic Climate Factor indirect effect (X2) on the Interest in Becoming a Technopreneur (Y3) through Attitude (Y1) as a mediating variable, the indirect effect path coefficient obtained is $= 0.182$ with $p = 0.004$ (significant). From this test it is shown that to improve the quality of the interest to become a technopreneur, it can be done by improving the quality of the Academic Climate Factor directly or through Attitude.

V. CONCLUSION

Based on the results of the analysis test in this study, some conclusion can be described as follows:

- Description of the overall variables including the variables of Academic Climate (X1), Environment (X2), Attitude (Y1), Self-efficacy (Y2) and Technopreneurial Intention (Y3) the majority of respondents responded positively agree.
- Environment has no significant effect on Attitude. Although the environment around the students is good, it does not necessarily have a high attitude towards IT. A very heterogeneous environment around students is still not conducive to forming attitudes towards IT.
- The environment has no significant effect on Self-Efficacy. Although the environment around the students is good, it does not necessarily have confidence in the high use of IT. A very heterogeneous environment around students is still not conducive to forming student self-confidence to operate IT well.
- The environment has a significant effect on Technopreneurial Intention. In the diversity of environments around students, the better quality of the environment will increase the interest of students to become technopreneur.
- Academic climate has a significant effect on attitude. The better the academic climate in the campus environment, the more students' attitudes towards IT will increase.
- Academic Climate has a significant effect on Self-Efficacy. The better the academic climate in the campus environment, the more students believe in operating IT

- Attitude has no significant effect on Technopreneurial Intention. Even though the attitude towards IT is getting better among students, it is not able to increase students' interest in becoming technopreneur.
- Self-Efficacy has no significant effect on Technopreneurial Intention. Although the better the confidence of students to operate IT among students, it still unable to increase student interest to become technopreneur.

VI. SUGGESTION

- Family and social environment is needed to be directed towards positive and increasingly quality things because in this research it is proven that it significantly affects student interest to become a technopreneur.
- A conducive academic climate can improve students' attitudes and beliefs in operating IT. Therefore an IT-based learning curriculum and containing IT content is very necessary.
- Further research is needed which is able to add variables that connect the effect of efficacy and attitude of students' productive behavior.

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