

Affecting Factors of Technopreneurship Intentions Islamic Higher Education Students

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Keywords: Affecting Factors, Technopreneurship Intentions, Development of Technology.

Abstract: This research is to see what affects the technopreneurial intention of students in Islamic universities. A sample size of 145 students from Islamic universities through a survey using the Linkert scale. Data collection was done by simple random sampling technique. The data were analyzed using the Structural Equation Model (SEM) method with the SmartPLS application. In this study, five constructs are proposed, namely: Technopreneur Intention (TI), Technopreneur Education (TE), Perceived Selfefficacy (PS), Innate Innovativeness (II), and Facilitating Condition (FC). Based on the results of the analysis, of the six hypotheses proposed there are four hypotheses that have a significant effect with $p < 0.001$ (H1, H2, H3, and H6) and two hypotheses that are not significant with $p > 0.5$ (H4 and H5).

1 INTRODUCTION

Natural wealth is no longer a benchmark in the progress of a nation. The development of technology has changed the paradigm of society in various fields of life. It makes life easier and can increase human productivity. One of the significant things that are influenced by technology in business activities. Time and cost-efficient business processes, knowledge management, database systems, and cloud computing (Sulianta et al., 2019; Abdulgani and Mantikayan, 2018).

In Indonesia, the productive population growth is very rapid, reaching 70 percent 2020 of the 270 million Indonesian population. A productive population is the main contributor to increasing economic growth (Mahmud, 2022). According to the 2020 survey, 53.73 Indonesians have used the internet and 90.75 percent have used cell phones (B.P.S., 2020). On the other hand, according to the news portal, Ekonomi.bisnis.com on March 19, 2022, Indonesian entrepreneurs are only 3.4% and it takes 14% to become a developed country (Hafiyyan, 2022). Of course, this is a supporting factor and an opportunity to give birth to young, innovative technopreneurs (Salhie and Al-abdallat, 2022). Technopreneurs become an important factor in improving a country's economy (Pratiwi et al., 2022; Khan et al., 2019)

and stimulate innovation that increases business profits (Pradhan et al., 2020). Therefore, there is government support through the Communications and Information Technology by opening various Digital Talent Scholarship certified training in the field of technology to improve productive age skills.

Technopreneur is the use of technology in developing business by creating new businesses with various innovations. The creation of new business models with various innovations and scientific collaborations (Machmud et al., 2020) produces a variety of services and goods that did not exist before (Abdulgani and Mantikayan, 2018). Technopreneur as business development by combining entrepreneurship with technological advances (Salhie and Al-abdallat, 2022). As a foundation for technopreneurs, entrepreneurs play a role in growing business innovations in technology. It is also a big responsibility for universities in creating young technopreneurs.

Technopreneur is a challenge for students who are creative, innovative, and literate about technological developments (Koe et al., 2021). Supported by education that pays attention to student creativity and thinks critically in creating products and innovations. Technopreneurs play a role in sustainable economic development and the growth of new businesses with increasingly fierce competition (Yordanova et al., 2020). Besides being the responsibil-

ity of the government by providing certified training, it is also the responsibility of higher education to be able to create technopreneurs who can create business innovations (Hidayat et al., 2018), including Islamic higher education. With the rapid advancement and use of technology, support from the government is an opportunity for students to become a technopreneur. Because in this research the target audience is Islamic university students, so the purpose of this research is to see the background of the intention of Islamic university students to start becoming technopreneurs during the study period or after completing their studies. For that, it can be seen the development of young Islamic technopreneurs in the future.

2 RELATE WORK

2.1 Technopreneur Intention

Technopreneur intention comes from the intention to start entrepreneurship by producing an innovative business (Singhry, 2015). Several studies on technopreneur intention have been carried out by previous researchers. The study of Rosly, et al. (Rosly et al., 2015) looked at the effect of creativity on the interest in technopreneurship of 226 science and technology students at UiTM Shah Alam, Malaysia. By distributing the survey, it was found that students intentions to become technopreneurs were influenced by creativity and as a consideration in identifying student technopreneur competencies. Another study was conducted by Koe, et al. (Koe et al., 2021) on 138 Bumiputra students who examined technopreneur interests related to self-efficacy and Individual Orientation. This study obtained a positive influence on students technopreneur intentions. On the other hand, innovation does not affect students intentions to become technopreneurs.

2.2 Technopreneur Education

The research of Sherkat and Chenari (Sherkat and Chenari, 2022) which examined 205 students to see the effectiveness of entrepreneur education on students' intentions to become entrepreneurs. In this study, it was found that there was a positive relationship between entrepreneurial education and students' intentions to become entrepreneurs. In addition, there is also a study by Porforio, et al. (Porfirio et al., 2022) which examined 1750 students regarding the relationship between education and entrepreneurial intentions. In this study, it was found that entrepreneurship education is an important as-

pect of student entrepreneurial intentions. Other studies also obtained positive results regarding student entrepreneurship education (Baber, 2022).

2.3 Facilitating Condition

Baber (Baber, 2022) found that there is a positive relationship between entrepreneurial intentions and the condition of the facilities owned. Adequacy of resources with adequate infrastructure affects entrepreneurial intentions because it will facilitate business processes (Rahman et al., 2020). Facilitating Conditions is one of the factors that influence entrepreneurial intentions (Islam and Khan, 2021).

2.4 Innate Innovativeness

Innovation is concerned with accepting and developing new ideas (Midgley and Dowling, 2021). Innate innovation is considered a global innovation that is different from specific innovations and applies to certain categories (Steenkamp et al., 1999). Related to innovation has been researched by Salhieh and Al Abdallat (Salhieh and Al-abdallat, 2022). This study found that innate innovation showed a direct effect on students technopreneur's intentions. Another study also found the same result, that innovation is one of the factors that drive the entrepreneurial intentions of Zimbabwean women (Mandongwe and Jaravaza, 2020). However, regarding innovation to technopreneur intentions, the author still lacks literature, because research is more directed at entrepreneurship in general.

2.5 Perceived Selfefficacy

A positive perception can increase a person's confidence in carrying out tasks (Murnieks et al., 2014) so that they can face various challenges in running a business. High or low self-affection will affect women in entrepreneurship. There are many studies related to the relationship between self-efficacy and interest in entrepreneurship. There is a significant relationship between self-efficacy and entrepreneurial intention (Tu and Wang, 2017; Wu and Rudnak, 2022; 27, 2020). Similarly, the research study of Machmud, et al. (Machmud et al., 2020) obtained significant results between the self-efficacy and technopreneurs intentions of students. There is also a study by Koe, et al. (Koe et al., 2021) with the same results. In this study, it was found that self-affection had a significant positive effect on the intentions of technopreneurs for undergraduates in Malaysia.

3 METHODOLOGY

3.1 Data Collection

Data was obtained by distributing online questionnaires to students who were still carrying out lectures. The questionnaire consists of two parts, the first is about the demographic data of the respondents, and the second is a 5-point linker scale survey with 1 indicating strongly disagree to 5 indicating strongly agree. Students are selected according to the various levels of the semester they are currently facing. Questionnaires were distributed from July 20, 2022, to August 4, 2022, which were filled out by 146 correspondents consisting of IT students from various Islamic universities. Which consists of 71 men and 74 women. Of 146 respondents 145 data could be processed, due to incompleteness so the data could not be processed. This is related to research using SmartPLS with a small sample size. Research conducted by Zhang et al. with 144 samples (Zhang et al., 2010), Fang and Chiu’s study with 142 samples (Fang and Chiu, 2010) and another study by Tamjidyamcholo et al. with 142 samples (Tamjidyamcholo et al., 2014).

3.2 Research Framework and Hypothesis

The following is a proposed concept against the intentions of student technopreneurs. It consists of 5 constructs, namely: Technopreneur Intention (TI), Technopreneur Education (TE), Perceived Self-efficacy (PS), Innate Innovativeness (II), and Facilitating Condition (FC).

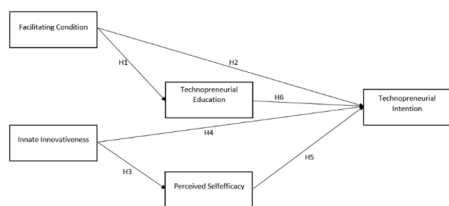


Figure 1: Research Framework.

From the framework concept proposed above, the following hypothesis is obtained:

- H1: The condition of the facilities (FC) owned has a significant effect on technopreneur education (TE) on technopreneur intention.
- H2: Facility condition (FC) has a significant effect on technopreneur intention (IT)
- H3: Innate innovation (II) has a significant effect on perceived self-efficacy (PS) on technopreneur

intention

- H4: Innate innovation (II) has a significant effect on technopreneur intentions (TI)
- H5: Perceived self-efficacy (PS) has a significant effect on technopreneur intentions (TI)
- H6: Technopreneur education (TE) has a significant effect on technopreneur intentions (TI)

4 RESULTS AND DISCUSSION

Data analysis in this study was carried out using Structural Equation Modeling (SEM) using the SmartPLS application. SEM can provide solutions in solving multi-regression problems with factor analysis between constructs based on the proposed theory (31, 2010). This research provides quite interesting results. Some results follow the proposed hypothesis, some results do not follow the hypothesis. In the process of analyzing the results shown in Figure 2, there are 27 factors, namely Facilitating Condition (4), Technopreneur Education (6), Innate Innovativeness (8), Technopreneur Intention (4), and Perceived Self-efficacy (5). The achievement of the standard factor of each variable is on the threshold of 0.50 to achieve the validity of all variables (31, 2010; 32, 2014), so that all proposed variables can be accepted.

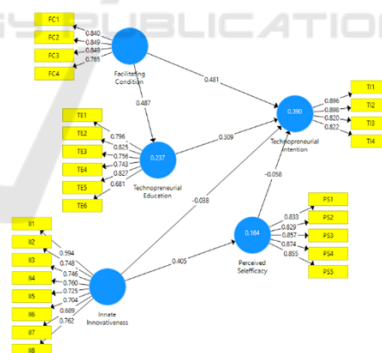


Figure 2: Result of Construct.

In table 1 all the proposed constructs have Cronbach’s alpha above 0.7, ranging from 0.846 to 0.904 which is considered quite reliable and satisfactory so that the results of the analysis can be accepted (Salhieh and Al-abdallat, 2022; Sherkat and Chenari, 2022; 32, 2014; Hair et al., 2012). Minimum validity is met with the average variance extracted (AVE) value of no more than the minimum value of 0.5.

Table 2 shows the standard deviation, t-value and p-value. This analysis shows that all proposed hypotheses are acceptable.

Table 1: Validity and Reliability.

Construct	CA	Rho	A	CR	AVE
Facilitating	Condition	0.846	0.850	0.896	0.683
Innate	Innovativeness	0.871	0.888	0.894	0.515
Perceived	Selfefficacy	0.904	0.904	0.929	0.722
Technopreneur	Education	0.864	0.864	0.899	0.598
Technopreneur	intention	0.882	0.822	0.919	0.739

Table 2: Validity and Reliability.

Impact	O	M	STD EV	T	P	Decision
FC-TE	0.487	0.497	0.054	9.018	0.000	Significant
FC-TI	0.481	0.479	0.110	4.380	0.000	Significant
II-PS	0.405	0.433	0.063	6.379	0.000	Significant
II-TI	-	-	0.082	0.463	0.643	Insignificant
PS-TI	-	-	0.105	0.551	0.582	Insignificant
TE-TI	0.309	0.316	0.080	3.871	0.000	Significant

In table 2, we can see the results of each of the proposed hypotheses. Hypotheses 1 and 2 (H1 and H2) which show that facilities have a significant influence on technopreneurs' education and technopreneurs' intention were obtained with a p-value of <0.001 . This result is in line with Baber (Baber, 2022) who found that facilitating conditions influence technopreneurs' intentions. However, this result is different from the study of Singhry and Rahman (Singhry and Rahman, 2016) which found that the facilities owned were not a factor in technopreneurs' intention.

Hypothesis three (H3) shows a significant effect of innate innovativeness on perceived self-efficacy. This means that the innovations that emerge in the students' ideas have a significant effect on their own beliefs in creating innovative new business opportunities. However, the fourth hypothesis (H4) of innate innovativeness did not show a significant impact on students' technopreneur intention with $p = 0.643$. Although this innate innovativeness has a significant impact on confidence in entrepreneurship, it is not a factor in technopreneur intention.

In the fifth hypothesis (H5), $p = 0.582$, which means that it does not significantly affect perceived self-efficacy on technopreneur intention. Although having the confidence to start and opportunities are not factors that influence technopreneur intention. Meanwhile, in the sixth hypothesis (H6), that technopreneur education has a significant effect on technopreneur intention. So that the education provided related to technopreneurs becomes a factor that affects the technopreneur intention of students.

So, from the results of the hypothesis analysis, the results that affect the intention of Islamic students to become a technopreneur are the existence of supporting facilities to become a technopreneur accompanied by education or courses on technopreneurs (H1, H2, and H6) as well as the innate interests of the students concerned. effect on self-efficacy

(H3). Meanwhile, Innate Innovativeness and Perceived Self-efficacy do not affect students' intentions to become technopreneurs.

For this reason, Islamic higher education institutions need to improve their curriculum related to technopreneurs and provide supporting facilities that can foster interest and improve students' technopreneur abilities. As for the students themselves, it is necessary to increase creativity and innovation so as to open up great opportunities to become technopreneurs.

5 CONCLUSIONS

This study looks at the factors that influence students' intentions to become a technopreneur. There are 5 constructs proposed in this study, namely: Technopreneur Intention (TI), Technopreneur Education (TE), Perceived Self-efficacy (PS), Innate Innovativeness (II), and Facilitating Condition (FC). From these five constructs, six hypotheses were proposed. Data was obtained by distributing online surveys to students. From the results of the analysis found several significant factors that affect the intention of technopreneur students. There are 4 hypotheses that can be accepted (H1, H2, H3, and H6) and reject the 2 proposed hypotheses (H4 and H5). The results of this study found that Facilitating conditions had a significant effect on Technopreneur education and technopreneur intentions. However, innate innovativeness and perceived self-efficacy have no significant effect on Technopreneur intention. The limitations of this study cannot be avoided with limited data and variables so that it can be developed in further research with more complete data, more samples, and better constructs and hypotheses.

REFERENCES

- (2010). *Multivariate data analysis: A global perspective*, volume 7. Pearson prentice hall, new jersey.
- (2014). Partial least squares structural equation modeling (pls-sem): An emerging tool in business research. *Long Range Planning*, 26:106–121.
- (2020). Emotional competence, entrepreneurial self-efficacy, and entrepreneurial intention: A study based on china college students. *Front. Psychol*, 11:1–13.
- Abdulgani, M. and Mantikayan, J. (2018). Exploring factors that affect technopreneurship: A literature review. *CCSPC RD Journal*.
- Baber, H. (2022). Entrepreneurial and crowdfunding intentions of management students in south korea.

- B.P.S. (2020). *Statistik telekomunikasi indonesia 2020*. Badan Pusat Statistik.
- Fang, Y. and Chiu, C. (2010). In justice we trust: Exploring knowledge-sharing continuance intentions in virtual communities of practice. *Comput. Human Behav.*, 26:235–246.
- Hafiyyan (2022). Pengusaha ri baru 3,4 persen, butuh 14 persen untuk jadi negara maju.
- Hair, J., Ringle, C., and Sarstedt, M. (2012). Partial least squares: The better approach to structural equation modeling? qual. *Life Res.*, 45:312–319.
- Hidayat, H., Herawati, S., Syahmaidi, E., Hidayati, A., and Ardi, Z. (2018). Designing of technopreneurship scientific learning framework in vocationalbased higher education in indonesia.
- Islam, M. and Khan, M. (2021). Factors influencing the adoption of crowdfunding in bangladesh: A study of start-up entrepreneurs.
- Khan, A., Kumar, A., and Mohite, J. (2019). Promotion of techno-entrepreneurship programs in different countries: A review.
- Koe, W., Krishnan, R., and Alias, N. (2021). The influence of self-efficacy and individual entrepreneurial orientation on technopreneurial intention among bumiputra undergraduate students.
- Machmud, A., Nurhayati, D., Aprilianti, I., and Fathonah, W. (2020). Effect of self efficacy ict on technopreneurship intention of technopreneurial learning mediation: The case young generation in indonesia.
- Mahmud, M. (2022). *Analisis profil penduduk indonesia*. Badan Pusat Statistik.
- Mandongwe, L. and Jaravaza, D. (2020). Women entrepreneurial intentions in subsistence marketplaces: The role of entrepreneurial orientation and demographic profiles in zimbabwe. *Cogent Business and Management*, 7:1–36.
- Midgley, D. and Dowling, G. (2021). Innovativeness: The concept and its measurement. *Journal of Consumer Research*, 4:229.
- Murnieks, C., Mosakowski, E., and Cardon, M. (2014). Women entrepreneurial intentions in subsistence marketplaces: The role of entrepreneurial orientation and demographic profiles in zimbabwe. *Journal of management*, 40:1583–1606.
- Porfirio, J., Carrilho, T., Jardim, J., and Wittberg, V. (2022). Fostering entrepreneurship intentions: The role of entrepreneurship education.
- Pradhan, R., Arvin, M., Nair, M., and Bennett, S. (2020). The dynamics among entrepreneurship, innovation, and economic growth in the eurozone countries.
- Pratiwi, C., Sasongko, A., Aguzman, G., Wibawa, R., and Pambudy, R. (2022). Characteristics and challenge faced by socio-technopreneur in indonesia.
- Rahman, R., Shah, S., El-Gohary, H., and Abbas, M. (2020). Social media adoption and financial sustainability: Learned lessons from developing countries. *Sustainability*, 12:1–26.
- Rosly, H., Junid, J., and Rahim, H. (2015). The relationship of creativity and technopreneurship intention the relationship of creativity and technopreneurship intention. *International Academic Research Journal of Social Science*, page 8–15.
- Salhieh, S. and Al-abdallat, Y. (2022). Technopreneurial intentions: The effect of innate innovativeness and academic self-efficacy.
- Sherkat, A. and Chenari, A. (2022). Assessing the effectiveness of entrepreneurship education in the universities of tehran province based on an entrepreneurial intention model.
- Singhry, H. (2015). The effect of technology entrepreneurial capabilities on technopreneurial intention of nascent graduates.
- Singhry, H. and Rahman, A. (2016). Antecedents of graduates' technopreneurial behaviors: Co-variance analysis based on the unified theory of acceptance and use of technology 2. *J. Bus. Technopreneursh*, 6:267–298.
- Steenkamp, J.-B., Hofstede, F., and Wedel, M. (1999). A cross-national investigation into the individual and national cultural antecedents of consumer innovativeness. *Journal of Consumer Research*, 63:55–69.
- Sulianta, F., Sapriya, P., and Ed, M. (2019). User generated content platform as a new media for technopreneur writer in industrial age version 4.
- Tamjidyamcholo, A., Baba, M., Shuib, N., and Rohani, V. (2014). Evaluation model for knowledge sharing in information security professional virtual community. *Computer and Security*, 43:19–34.
- Tu, Y. and Wang, H. (2017). A study on the influence of college students' self-efficacy and creativity on entrepreneurial intention. *J. High. Educ.*, 3:95–100.
- Wu, A. and Rudnak, I. (2022). Testing the influence of self-efficacy and demographic characteristics among international students on entrepreneurial intention in the context of hungary. *Sustainability*, 14:1–21.
- Yordanova, D., Filipe, J., and Coelho, M. (2020). The influence of self-efficacy and individual entrepreneurial orientation on technopreneurial intention among bumiputra undergraduate students.
- Zhang, Y., Fang, Y., Wei, K., and Chen, H. (2010). Exploring the role of psychological safety in promoting the intention to continue sharing knowledge in virtual communities. *Int. J. Inf. Manage.*, 30:425–436.