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Mastery of information technology and self-efficacy in enhancing technopreneurship readiness among vocational school student

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ABSTRACT

This study aims to analyze the contribution of information technology mastery and self-efficacy in fostering technopreneurship readiness among vocational students. Technopreneurship is a business field that utilizes information technology and presents a viable solution to unemployment. Meanwhile, vocational school graduates have a significant opportunity to pursue technopreneurship. To support these graduates' readiness in the field of technopreneurship, it is necessary to equip them with information technology and self-efficacy skills. With these skills, vocational school graduates have the opportunity to become independent workers and create new jobs based in the field of information technology. The rapid development of information and communication technology high lights the importance of students' mastery of this field. These skill sarenecessary for students to compete, beresponsible, and exhibit creativity and innovation. Additionally, self-efficacy refers to anindividual's belief and confidence in their ability to influence their environment. It is a crucial factor in determining students' readiness to work. By enhancing their self-efficacy, students can be motivated to establish new businesses based on information technology. There fore, this research employed a correlational quantitative method, focusing on vocational students in Buleleng Regency, with a sample size of 167. Regression analysis was used to analyze the data with two predictors. The finding sindicated that the mastery of information technology and self-efficacy significantly contributed to the technopreneurship readiness of vocational students.

1. Introduction

In the advancedera of information and communication technology, technology has replaced some of the jobs that were previously done by human workers [1], [2]. This is one of the reasons for the limited employment opportunities, which in turn leads to an increasing unemployment rate. In Indonesia, vocational education has been provided at the senior high school level. However, the graduates from the vocational high school are currently unemployed. Essentially, a vocational senior high school is a vocational education institution that specializes in preparing students with the necessary knowledge and skills to pursue their desired careers. The institution aims to develop students' entrepreneurial abilities, particularly in the field of technology (technopreneurship) which is essential for the creation of their own job opportunities [3]. Thus, their entrepreneurial skills should have been trained since they were in school.

The central role of education in vocational school is to prepare students for independent work, including entrepreneurship, or to fill existing job vacancies. These vocational school graduates are equipped to be middle level workforce or independent workers (entrepreneurs). For training its

graduates to be entrepreneurs, vocational school equips the students with the necessary skills and abilities. These skills are crucial for students to succeed in the workforce and enable them to start their own businesses [4].

Technopreneurship is a business incubator that leverages technology as an entrepreneurial opportunity for the younger generation. It serves as a new breakthrough strategy to address the growing problem of intellectual unemployment [5]. Technopreneurship combines technology and entrepreneurship skills to generate profits through independent business processes [6]. This field of entrepreneurship incorporating information technology becomes a business opportunity [7]. In particular, the entrepreneurial process of technopreneurs begin sthrough innovation [8].

Technopreneurship program aims to improve the entrepreneurial culture by collaborating cultures, innovation, entrepreneurship, creativity, and conceptions of business incubators [9]. Technopreneurship will be crucial in the development of globalization as commercial and economic activities depend on the mastery of ICT [10]. The presenceofnew technopreneurs enhances the capacity of business incubator units [11]. Encouraging entrepreneurship and developing the necessary skills, creativity, innovation, motivation, attitudes, and behaviors is crucial in pursuing technopreneurship opportunities [12].

As there is still a shortage of technopreneurs in Indonesia, vocational high school graduates have the opportunity to become technopreneurs [13]. To address the challenges of unemployment and take advantage of the opportunity to become a technopreneur, vocational education aims to equip graduates with the ability to independently create business opportunities, including technology-based entrepreneurship (technopreneurship).

Technopreneurship readiness is crucial for vocational students' success in the workforce. Their work preparedness is essential for meeting their goals and expectations after graduation [14]. The readiness to become a technopreneurship is influenced by various factorsformed through the learning process and interaction with the environment. A technopreneurp resents an innovative nature with a mastery of information and communication technology [15]. Besides, technopreneurship readiness is also influenced by students' self-efficacy, related to their ability to master information and communication technology, specifically computers and the internet. Therefore, mastery of self-efficacy is also essential to foster readiness for entrepreneurship among vocational school graduates.

The development of information technology has brought significant changes to the world of work. As a result, students are required to master competencies following the demands of the industry and those outlined in the Multimedia Expertise Competency Standards [16]. Graduates with Multimedia Expertise Competency are expected to possess the necessary skills necessary for being successful technopreneurs. With information technology skills,vocational high school graduates are equipped with the skills to compete and innovate in technology-based entrepreneurship. In today's era, it is essential to have a strong command of information technology, particularly in the areas of computer technology and the internet, to succeed in IT-based entrepreneurship. Therefore, students must possess the knowledge and skills in the field of technology, including computers and the Internet.

Self-efficacy is an internal influencing condition for students' readiness to work [17]. Cultivation of self-belief can help individuals become more entrepreneurial, enabling them to identify market opportunities and develop resilience when faced with obstacles or difficulties [18]. Besides, self-efficacy also positively and automatically contributes to readiness for information technology-based entrepreneurship , as belief in one's abilities isrelated to the attainment of the desired goals [15]. Therefore, fostering self-efficacy in vocational students is necessary to generate confidence in their ability to open and run a business independently. Possessing self-efficacy also demonstrates the students' ability to overcome future challenges [19]. Thus, self-efficacy is important in motivating and enabling students to build new businesses after graduation [20], particularly those utilizing computer and internet technology.

2. Method

This research explores the contribution of technology mastery and self-efficacy to the technopreneurship readiness of vocational students.To achieve this purpose, a correlational quantitative research design was employed, with an emphasis on explaining the influence between the

independent and dependent variables.The research was conducted involving vocational students in Buleleng Regency, with a total sample size of 167 respondents.

The data on participants' technology mastery, self-efficacy, and technopreneurship readiness were collected through questionnaires. The collected data was analyzed using descriptive and inferential statistical analysis techniques, including regression analysis with two predictors to calculate coefficients. Coefficient analysis was utilized to measure the impact of the coefficient on each diagram of the causal relationship between the independent variable and the dependent variable [21]. Then, the data were further analyzed using the SPSS application.

3. Results and Discussion

The data were garnered by distributing a questionnaire to 167 vocational students in Buleleng Regency, Indonesia. Each variable in the study has sub-variables, with the information technology mastery variable including three sub-variables, namely computers, the internet, and multimedia. The self-efficacy variable contains three sub-variables: level/magnitude, strength, and generality. Meanwhile, the variable for technopreneurship readiness comprises six sub-variables: independence, responsibility, innovation, creativity, risk tolerance, and initiative.

The collected data was analyzed using SPSS. Simultaneous testing was conducted on the variables of information technology mastery and self-efficacy in relation to technopreneurship readiness. The test results indicate that information technology mastery and self-efficacy have a significant contribution of 41.0% to technopreneurship readiness, as shown in Table 1.

Table.1 Results of Simultaneous Testing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.641(a)	.410	.403	8.581

- Predictors: (Constant), Self-efficacy, Mastery of Information Technology.
- Dependent Variable: Technopreneurship readiness

In the further stage, the constant significance was conducted throughthe F test. The test results are shown in Table 2.

Table.2 Results of F Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8401.104	2	4200.552	57.052	.000(a)
	Residual	12074.800	164	73.627		
	Total	20475.904	166			

- Predictors: (Constant), Self-Efficacy, Mastery of Information Technology
- Dependent Variable: TechnopreneurshipReadiness

Table 2 shows that the test results of the constant test obtained an F value of 57.052 with a probability value (sig) of 0.000. The results indicate a significant contribution of information technology mastery and self-efficacy to technopreneurship readiness.

In addition, a test on each individual data was also conducted using t-test. The t-test results are presented in Table 3.

Table.3 Results of T-Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta	Tolerance	VIF	B	Std. Error
1	(Constant)	22.838	5.230		4.366	.000		
	PenguasaanTeknologiInformasi	.342	.095	.253	3.585	.000	.723	1.383
	Efikasi Diri	.571	.086	.470	6.672	.000	.723	1.383

- Dependent Variable: TechnopreneurshipReadiness.

As presented in Table 3, the obtained coefficient for the information technology mastery is 0.253, signifying its 25.3% contribution toward the technopreneurship readiness with a t-count of 0.470 and a significance level of 0.000. Meanwhile, self-efficacy attainsa 0.470 coefficient, indicatinga 47% contribution toward technopreneurship with a t-count of 6.672 anda significance of 0.000. These results indicate Sig<0.05 importance of these two independent variables. Therefore, mastery of information technology and self-efficacy toward vocational high school students' technopreneurship skills.

In addition, teachers play a crucial role in equipping students with the necessary skills in the field of information technology, particularly for their future information technology careers. Mastery oftechnologyis a determining factor in carryingout technology-based businesses [22]. Technological advancement enables students to be creative and innovative in utilizing technology. Accordingly, proficiency in technology, as well as creativity and innovation, are essential factors for successful technopreneurs [15]. The individual with creativity has greater technopreneurship readiness, along with a higher successrate in entrepreneurship [23]. Therefore, it is essential to ensure that each individual's creativity is nurtured to enhance their readiness for technopreneurship. Additionally, teachers should provide support and guidance during learning and practicum to equip students with the necessary skills to master information technology. The learning process and practicum, supported by adequate computer laboratory facilities and infrastructure, enable students to acquire better knowledge and skills.

Self-efficacy refers to an individual's belief in their ability to perform a specificaction and is a crucial component of self-regulation. It carries a significantrolein motivating individuals and enabling them to overcome obstacles to achieve their desired goals [24]. Self-efficacy also represents individual's level of confidence in their ability to complete a task, including their ability to persevere and succeed [25]. Positive self-efficacy also presents positive effects on an individual's entrepreneurial ability [26]. Self-efficacy has also been reported demonstrating significant possitive influence on entrepreneurial motivation [27]. It correlates with an individual's beliefs about their abilities. Our data analysis indicate that students' self-efficacy significantly contributes to their readiness for technopreneurship.

To promote readiness for technopreneurship, individual's mentoring model can be adopted [28]. Another study also report thatentrepreneurial self-efficacy and personal networksalso affect individual's readiness to be a technopreneur. A study also defined a number of influencing factors for technopreneurship [29]. Technopreneurs can thrive through a partnership between industry, academia, and government, using education, training, and coaching to gain a competitive advantage [30]. Mastery of information technology, including computer and internet skills, is essential for fostering student self-efficacy and motivation in entrepreneurship based on information technology. This, in turn, will lead to readiness for technopreneurship.

4. Conclusion

The analysis results suggest that students' self-efficacy has a positive and significant impact on their readiness for technopreneurship. Additionally, mastery of technology also contributes positively and significantly to technopreneurship readiness. For vocational students, mastery of information

technology is crucial for entrepreneurship skills based on information technology, as it fosters creativity and innovation, enabling them to compete in the business world. Students' mastery of information technology alsocultivatestechnopreneurship readiness, mainly through the use of computers and the internet. It is essential to cultivate confidence and self-assurance in students' ability to master information technology for enhancing theirtechnopreneurship readiness. Students' self-efficacy can be a valuable asset for engaging in entrepreneurship, identifying business opportunities, and developing resilience when facing challenges in the business world. Confidence and self-assurance can significantly impact the decision-making process.

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