



# Entrepreneurial Process of Vocational High School Students: An Evaluation of Compliance to Measure Opportunities

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**Abstract.** Issues surrounding Vocational High School graduates (hereinafter VHS) still revolve around the poor competitiveness of the graduates, one of which is showcased by their lack of skills and experience in conducting entrepreneurial process. Putting an emphasis on this problem hence becomes crucial in order for the opportunity for intervention to be right. Therefore, this study was conducted with the aim of evaluating the compliance of the attainment of VHS students' entrepreneurial process. This study was conducted through a survey involving 21 state vocational schools in West Nusa Tenggara Province, Indonesia, selected by cluster sampling. Respondents obtained include 428 active students. Meanwhile, the research instrument was developed from indicators of entrepreneurial process that had met validity and reliability requirements. All data were analyzed comparatively and had undergone compliance analysis. The results of the study show that there is a discrepancy between expectations and reality for the students' entrepreneurial process. In other words, VHS students still haven't possessed skills and experience in the entrepreneurial process. This implies that there is a need for entrepreneurial learning interventions which take into account the dimensions and phases of the entrepreneurial process.

**Keywords:** Entrepreneurial Process · Compliance Evaluation

## 1 Introduction

One of the final objectives of learning entrepreneurship at the level of VHS is to generate graduates who can engage in the entrepreneurial process, that is, the graduates who possess the skills and experience to run a business/enterprise. The entrepreneurial process is related to the pursuit of opportunities through the creation of economic and social value [1] and/or to the identification, evaluation and exploitation of opportunities [2]. More specifically, entrepreneurial process includes all functions, activities, and actions for identifying opportunities and creating organizations in pursuing said opportunities [3], in order to create economical added value through innovation [4]. On that basis, Baron [5] then identified five aspects of entrepreneurial process relevant to the success

in running a business/enterprise, namely: opportunity recognition, resource acquisition, social network development, effective response to a highly dynamic environment, and stress tolerance.

The question, then, is whether the experience of this entrepreneurial process has been brought about in entrepreneurial learning in VHS? The results of previous studies suggest that it has not [6]. Appropriate intervention must be conducted with the identification of the correct entrepreneurial process skills as well. Therefore, an evaluation on the attainment of entrepreneurial process skills becomes urgent. This is so that it is the skills needed in the entrepreneurial process can be easily identified/known. The entrepreneurial process itself has different phases [7], so the skills and learning interventions required certainly will also be different. The study of Brixy et al. [8] is concerned with one phase of entrepreneurship. Hence, it has not shown how entrepreneurial process skills are obtained. Pysiäinen et al. [9] also confirmed that many entrepreneurial process skills have not specified how they are used differently across all phases of the entrepreneurial process.

On that basis, Gürol and Atsan [10] emphasized the importance of identifying each student's entrepreneurial process skills. Based on the results of the study in Indonesia, there hasn't been a specific study related to vocational students' entrepreneurial process, especially, related to entrepreneurial process phases. Studies are directed more towards identifying entrepreneurial characteristics [11] and entrepreneurial intentions [12] from various variables. Thus, an identification of students' entrepreneurial process is very important in determining the form of entrepreneurial learning intervention at the level of VHS.

## **2 Methods**

### **2.1 Type of Research**

This study is a part of research and development phase of the Design Based Research (DBR) model from Reeves [13], especially the practical analysis phase of VHS entrepreneurship. At this stage, the study was conducted using a survey method [14] on the attainment of the students' entrepreneurial process. The students' entrepreneurial process was presented in two dimensions, namely "expectations" and "reality". The level of attainment of the students' entrepreneurial process is obtained by comparing expectations and reality.

### **2.2 Research Sample**

This survey was conducted at 21 State Vocational High Schools in 7 Regencies/Cities in West Nusa Tenggara Province, Indonesia, taken by cluster sampling. The cluster was selected based on the issues of each Regency/City area (regional advantage) and the location of the school (city, suburbs, and remote areas). From each school, a minimum of 15 respondents were taken from the active students of class XI and XII by accidental sampling. In this study, 428 active students were recruited as respondents.

**Table 1.** Classification of Conformity [15]

Interval	Classification
-4 to -2.4	Highly Unconformable
-2.4 to -0.8	Barely Conformable
-8 to 0.8	Adequately Conformable
0.8 to 2.4	Conformable
2.4 to 4	Highly Conformable

### 2.3 Research Instrument

Data related to the entrepreneurial process were adapted from indicators developed by Baron [5], including: opportunity recognition, resource acquisition, social network development, effective response to a highly dynamic environment, and stress tolerance. The questionnaire was formulated in the form of a 5-point Likert scale (1 = strongly disagree/very bad to 5 = strongly agree/very good). Each instrument item is presented in two aspects, namely the “reality” and “expectations” of the respondent, and then the two are compared. If the entrepreneurial process obtained meets expectations, it can be concluded that students already are already experienced in entrepreneurship, and vice versa.

### 2.4 Data Analysis Technique

The data were analyzed comparatively and the conformity between expectations and reality were also analyzed. The highest conformity occurs when the reality exceeds expectations (reality: 5, while expectation: 1. Hence, the difference is 4). On the other hand, the lowest occurs if it is far from expectations (reality: 1, while expectations: 5. Hence, the difference is -4). With this range, the intervals are as follows: (highest score-lowest score/number of groups) or  $(4 - (-4)/5 = 1.6)$  [15] (Table 1).

## 3 Result and Discussion

### 3.1 Result

#### 3.1.1 Validity and Reliability Test Results

The study’s entire instrument testing involved 40 students apart from the research sample as respondents. The validity test analysis uses person correlation analysis, while the reliability test uses Cronbach’s alpha test—both for the “reality” and “expectations” aspects. The results of the validity test show that the five instrument items meet the validity requirement, because the probability value is less than 0.05. The results of Cronbach’s alpha test were also above 0.700 (Table 2) as is the criteria from Nunnally [16]. Hence, it was concluded that they met the reliability requirement.

**Table 2.** Result of Instrument Reliability Test (N: 40)

Variable	Number of items	Cronbach $\alpha$	
		Reality	Expectation
Entrepreneurial Process	5	.815	.878

**Table 3.** Result of Data Normality Test (N: 428)

Variable	Reality or Expectation Score	N	Mean	Sd	Kolmogrov-Smirnov		Conclusion
					Statistics	Sig.	
Entrepreneurial Process	Reality	428	15.93	6.112	.103	.000	not normally distributed
	Expectation	428	21.25	7.087	.193	.000	not normally distributed

**Table 4.** Result of Comparative Test for the Entrepreneurial Process Attainments' Expectations and Reality (N: 428)

Variable	Reality or Expectation Score	n	Z value	Sig.
Entrepreneurial Process	Reality	428	-6,068	.000
	Expectation	428		

### 3.1.2 Analysis Requirement Test Results

For analysis requirements test, the study only includes normality test with Kolmogorov-Smirnov test formula. The results show that the probability value of students' entrepreneurial process is less than 0.05 (Table 3). Thus, the entrepreneurial process data is not normally distributed.

### 3.1.3 Entrepreneurial Process Attainment Analysis

As stated above, the entrepreneurial process attainment variable in this study refers to indicators like: opportunity recognition, resource acquisition, social network development, effective response to a highly dynamic environment, and stress tolerance [5]. In this study, the analysis for the attainment of the entrepreneurial process also involved 428 respondents from active students. Because the requirement for data normality was not met, a comparative analysis was performed using the Mann Whitney U Test analysis. The test results show that there are differences for the entrepreneurial process, and that is between reality and expectations (Table 4).

**Table 5.** Result of Conformity Test for Entrepreneurial Process Attainment (N: 428)

No	Component	Reality Mean	Expectation Mean	$\sum$ Gap	Category
1	Having a positive attitude in 'reading' market opportunities, 'reading' product opportunities, etc.	3.21	4.21	-1.00	Barely Conformable
2	Having a positive attitude in employing potential human resources to achieve success	3.06	4.12	-1.06	Barely Conformable
3	Having a positive attitude towards synergy and cooperation/collaboration in achieving profit	3.12	4.50	-1.38	Barely Conformable
4	Always optimistic about various opportunities and challenges	3.31	4.17	-0.86	Barely Conformable
5	Having a positive attitude in using resources to overcome mental and emotional disturbances that arise due to a response from market	3.23	4.25	-1.02	Barely Conformable
	Total	3.18	4.25	-1.06	Barely Conformable

The results of the comparative test above are confirmed based on the results of the conformity analysis. The results of the analysis suggest that the entrepreneurial process obtained by the students is not as expected (Table 5).

Based on the results of the analysis as shown in Table 3 and 4 above, it is extremely clear that entrepreneurial learning at the level of VHS has not been able to 'catalyze' the formation of students' entrepreneurial skills and experiences of. Learning remains stagnant, focusing only in the presentation of theories and concepts, and not in practicing entrepreneurship. In addition, the entrepreneurial substance is not based on regional economic advantages. Thus, it is only natural that the entrepreneurial process skills and experiences have yet to be integrated in entrepreneurial learning. Under these conditions, there is very little opportunity to produce competitive graduates, especially graduates who are able to found business start-ups through a creation of existing opportunities.

### 3.2 Discussion

This study discovered that students (prospective entrepreneurs) have yet to possess the skills and experiences for entrepreneurial process. They do not yet: have a positive attitude in reading market opportunities and product/service opportunities; have a positive

attitude in using potential human resources to achieve success; synergize and cooperate/collaborate to achieve profits; be optimistic about various opportunities and challenges; etc. This is even though to be involved in creating an entrepreneurial business, the entrepreneur (prospective entrepreneur) must have the skills, knowledge, and experience in entrepreneurship [17]. The results of the study show that skills and experience in entrepreneurial process have a significant impact on businesses management [17]. If one is to refer to the human capital theory, then skills are the direct or observable application of knowledge as a consequence of education and practical experience gained [18].

Therefore, skills and experience in entrepreneurial process are obligatory if one aims to create competitive graduates. Certainly, the key lies in the renewal of entrepreneurial learning in schools and universities through the use of experiential/practice-based learning models as suggested earlier [19–21], although the implementation is not yet optimal [6, 22]. Practice-oriented entrepreneurial learning can channel the entrepreneurial process, starting from opportunity recognition/identification; opportunity evaluation; opportunity exploitation; new business and established entrepreneurial phase [23]. The process involves not only the creation of entrepreneurial products, but also aspects of marketing strategy, business management, financial management, human resource management, and aspects related to the social and interpersonal skill management. The skills mentioned above should be possessed by prospective entrepreneurs to start or own a business venture through the designing of appropriate entrepreneurial learning interventions.

## 4 Conclusion

Skills and experience in the entrepreneurial process have yet to be materialized in vocational high school students. Students do not yet have a positive attitude in reading market opportunities, reading product opportunities, using potential human resources to achieve success, synergizing and cooperating and collaborating to gain profits, etc. Almost all dimensions of the entrepreneurial process are still categorized as lacking by most of the respondents. These conditions are understandable, because entrepreneurship learning has not focused on the attainment of these skills. A school environment which focuses on entrepreneurship is not yet spotted, even though VHS was first established with the aim of producing competitive graduates. The implication is that it is crucial for this study to be used as a reference in designing and implementing the entrepreneurship learning process. In addition, a comprehensive study on every aspect of the entrepreneurial process based on each phase of entrepreneurship at the level of VHS is also deemed important.

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## References

1. Chell, E. (2007). Social enterprise and entrepreneurship: Towards a convergent theory of the entrepreneurial process. *International Small Business Journal*, 25(1). <https://doi.org/10.1177/0266242607071779>
2. Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1). <https://doi.org/10.5465/AMR.2000.2791611>
3. Bygrave, W. D., & Hofer, C. W. (1992). Theorizing about entrepreneurship. *Entrepreneurship Theory and Practice*, 16(2), 13–22. <https://doi.org/10.1177/104225879201600203>
4. Antoncic, B., & Hisrich, R. D. (2003). Clarifying the intrapreneurship concept. *Journal of Small Business and Enterprise Development*, 10(1). <https://doi.org/10.1108/14626000310461187>
5. Baron, R. A. (2008). The role of affect in the entrepreneurial process. *Academy of Management Review*, 33(2). <https://doi.org/10.5465/AMR.2008.31193166>
6. Subhani, A. (2022). The quality of entrepreneurship development service vocational high school: Assessment with SERVQUAL Model. *Journal of Educational and Social Research*, 12(2), 126.
7. Reynolds, P., & Miller, B. (1992). New firm gestation: Conception, birth, and implications for research. *Journal of Business Venturing*, 7(5). [https://doi.org/10.1016/0883-9026\(92\)90016-K](https://doi.org/10.1016/0883-9026(92)90016-K)
8. Brixy, U., Sternberg, R., & Stüber, H. (2012). The selectiveness of the entrepreneurial process. *Journal of Small Business Management*, 50(1). <https://doi.org/10.1111/j.1540-627X.2011.00346.x>
9. Pyysiäinen, J., Anderson, A., McElwee, G., & Vesala, K. (2006). Developing the entrepreneurial skills of farmers: Some myths explored. *International Journal of Entrepreneurial Behavior & Research*, 12(1). <https://doi.org/10.1108/13552550610644463>
10. Gürol, Y., & Atsan, N. (2006). Entrepreneurial characteristics amongst university students: Some insights for entrepreneurship education and training in Turkey. *Education+ Training*, 48(1). <https://doi.org/10.1108/00400910610645716>
11. Deveci, İ., & Çepni, S. (2015). Examining science teacher candidates' entrepreneurial characteristics according to some variables. *International Online Journal of Educational Sciences*, 7(3). <https://doi.org/10.15345/ijoes.2015.03.001>
12. Choo, S., & Wong, M. (2006). Entrepreneurial intention: triggers and barriers to new venture creations in Singapore. *Singapore management review*, 28(2), 47–64.
13. Reeves, T. (2006). Design research from a technology perspective. In J. V. D. Akker, K. Gravemeijer, S. McKenney, & N. Nieveen (Eds.), *In Educational design research* (pp. 52–66). Routledge.
14. Donald, A., Lucy, J., & Christine, K. S. (2010). *Introduction to Research in Education Eight Edition*. Canada. Wdsworth.
15. Djunaidi, M., Setiawan, E., & Hariyanto, T. (2006). Analisis Kepuasan Pelanggan Dengan Pendekatan Fuzzy Service Quality Dalam Upaya Peningkatan Kualitas Pelayanan. *Jurnal Ilmiah Teknik Industri*, 4(3).
16. Nunnally, J. C. (1994). *Psychometric theory 3E* (Vol. 3). Tata McGraw Hill Education.
17. Unger, J. M., Rauch, A., Frese, M., & Rosenbusch, N. (2011). Human capital and entrepreneurial success: A meta-analytical review. *Journal of Business Venturing*, 26(3). <https://doi.org/10.1016/j.jbusvent.2009.09.004>
18. Hayton, J., & McEvoy, G. (2006). Guest editors' note. In *Human resource management* (Vol. 45, no. 3, pp. 291–294).
19. Sukardi, S. (2016). Desain model prakarya dan kewirausahaan berbasis ekonomi kreatif berdimensi industri keunggulan lokal. *Jurnal Cakrawala Pendidikan*, 35(1).

20. Sukardi, S. (2017). Efektivitas Model Prakarya dan Kewirausahaan Berbasis Ekonomi Kreatif Berdimensi Industri Keunggulan Lokal terhadap Keinovatifan Siswa. *Jurnal Cakrawala Pendidikan*, 36(2). <https://doi.org/10.21831/cp.v36i2.12335>
21. Adekantari, P., Su'ud, & Sukardi. (2020). The influence of instagram-assisted project based learning model on critical thinking skills. *Journal of Educational and Social Research*, 10(6). <https://doi.org/10.36941/jesr-2020-0129>
22. Sukardi, Rusdiawan, & Wardana, L. A. (2019). The competitiveness of master of education graduates: Porter's diamond analysis. *International Journal of Emerging Technologies in Learning*, 14(19). <https://doi.org/10.3991/ijet.v14i19.10767>
23. Amorós, J., & Bosma, N. (2014). Global entrepreneurship monitor 2013 global report.

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