

## Student's Creativity in Entrepreneurship

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— *Review of* —  
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### ABSTRACT

This study aims to reveal the degree of student creativity in entrepreneurship and the dominant factors affecting student creativity in entrepreneurship. Entrepreneurship skills should be developed since a person is still young. The times of going to college is considered an appropriate time to develop entrepreneurial skills. Padang State Polytechnic has a program to enhance the entrepreneurial skills by incorporating entrepreneurship courses in curriculum. This study was conducted to State Polytechnic of Padang students who have taken or are taking the course. Creativity measurement is performed with 75 questions from Princeton Creative Questionnaire. Those 75 questions then be extracted with factor analysis to determine which factors that influence student creativity in entrepreneurship.

Based on statistical calculations, level of creativity of students stands at 3.51, it belonging to high level category. Dominant factors, that be obtained by using factor analysis are breaking the rules; positive attitude; and ability to channel stress as factors that encourage student creativity in entrepreneurship. The results of this study need to be discussed further with other studies of creativity in entrepreneurship. Thus the results of this study can contribute to the development of the concept of student entrepreneurship.

Keywords: creativity, entrepreneurship, student entrepreneurship

### INTRODUCTION

The Government of Indonesia has been making efforts to improve the quality of human resources through education towards tight competition characterized economic, though it is difficult. In order to achieve goal, it is necessary to build the inner strength oriented towards the economic development and it needs entrepreneurs (Suhairi 2006 in Mujib 2010). Entrepreneurship is one of the promising alternative to overcome the national problems. National economic development can be greatly influenced by the presence of entrepreneurs. The small group of entrepreneurs is then interpreted as the determinant group that determines the future of country's economy (Rochbini 2002 in Primadona 2012).

The result of the National Socio-Economic Survey (Susenas) conducted by the Central Statistics Agency (BPS) in March 2012 states that the number of poor people in Indonesia as much as 29.13 million or 11.96 percent of the total 244,775,796 Indonesia population. Poor population decreased only 0.53 percent within two years ago. It is a large number compared to other country such as Malaysia.

In 2012, based on BPS survey, unemployment rate ranges on 7.61% to 10.8% of the workforce that are categorized as open unemployment. Other data from the same sources indicate an increase in the number of people that working in the highest education attained for vocational classes, diploma, and university. For workers with diploma education amounted to only 2.79 million people, or approximately 4.66 million people, reaching 4.44 percent . Even those who graduated from college is getting harder to get a job because there is not much expansion on business activities. In 2009, the number of graduates unemployed reached 1.198 million people and since 2005 has always increased, although in 2012 decreased to 493.000 people. Unemployment is caused by lack of soft skills or abilities outside of the main capabilities. In these circumstances the problem of educated unemployment would have a negative impact on social and community stability.

Looking at the fact that the majority of university graduates prefer to be job seekers rather than job creators, it could be due to the learning system being applied in various colleges today, that are more focused on how to prepare students to graduate and get a job quickly, rather than graduates to be ready to create jobs. In addition, entrepreneurial activity is still relatively low. Entrepreneurial Activity is defined as active individuals in starting a new business and expressed in percent of the total active working population. The higher Entrepreneurial Activity Index, the higher the level of entrepreneurship of a country, as expressed by Boulton and Turner, 2005 (Flomandala 2009).

According to Winarno (2012), to reduce unemployment, ability of entrepreneurs needs to be developed, particularly among the young people. Further he said that ideally a state has at least 2 percent entrepreneurs of the total population. While Indonesia still has 400,000 entrepreneurs or about 0.08 percent of the total population. Compared to other countries, Indonesia is far behind in the world, such as America that already has 12% of entrepreneurs , Singapore 7% and Malaysia 6%. Efforts to increase entrepreneurial activity by giving attention to the factors that drive the creativity of students must be increased, so that more college graduates become job creators rather than job seekers. Institutional strengthening program and policy that encourage entrepreneurial activity and accelerating growth of new entrepreneurs on the basis of science and technology is needed. Therefore, entrepreneurs become a potential resources for development, either in number and in quality. Recently, the fact that Indonesian entrepreneurs are still few and their quality can not be said to be great, so Indonesia entrepreneur development is an urgent issue for successful country development. One inhibiting factor is the lack of creativity in making creative ideas that have a high value, so far they are still shackled with the existed ideas and lazy to think of something new.

Padang State Polytechnic is an university located in West Sumatera, Indonesia. Their students are equipped with the knowledge of entrepreneurship that hopes to create young entrepreneurs who able to compete in business world. All this time, student's creativity in coming up with new ideas are very limited, this is caused by a lack of environmental support to the creativity of the students. For example, there are students who create something creative but receive less response from their environment such as parents, friends or colleagues, teachers and other campus environment.

The question is, could entrepreneurship education that has been given to students improve student's creativity in entrepreneurship. Moreover, the entrepreneurship education provided is not accompanied by action in real world. Students only get entrepreneurship course with very limited hours in class. While, they are expected to be a reliable young

entrepreneurs. Based on the this problems, it is necessary to do research on the factors that encourage student creativity in entrepreneurship in Padang State Polytechnic.

According to Carol Kinsey Goman (2001), the creativity driving factors are capability to channeling stress, techniques to take risks, be positive, be sure that you are creative, ability to use imagination and intuition, and ability break the rules (in the context of ignores small thing to get big thing). According to James L. Adams (1986), creativity inhibiting factors are perceptual barriers, emotional barriers, cultural barriers, environmental barriers and intellectual barriers.

This study will look at how much the level of creativity Padang State Polytechnic students in entrepreneurship and the factors that drives the creativity of students in entrepreneurship at Padang State Polytechnic.

The results of this study aims to:

- a. See the level of creativity of Padang State Polytechnic students in entrepreneurship.
- b. Provide conclusion about what factors that drives the creativity of students in entrepreneurship in Padang State Polytechnic.
- c. Provide conclusions about the dominant factors among the factors driving the creativity of students in entrepreneurship

The benefits of this research are:

- a. Enrichment Instructional Teaching Materials

The results of this study can be targeted in future textbooks especially in entrepreneurship courses. Stakeholders and executives today is the type of "research minded", hence, it's a good reason why the student should be equipped with teaching materials based on the results of research.

- b. Base of Policy Package Recommendation

This study is planned to yield an academic paper on driving factors of student creativity in entrepreneurship in Padang State Polytechnic. Having in mind the driving factors in students creativity in entrepreneurship, they will be improved in the future.

This study is expected to eventually be able to contribute to science, and development and institutional development problem solving.

1. Development of science, technology and arts, be expected the results of this study can enrich scientific treasure especially in the field of entrepreneurship. The results of the research will be teaching materials for the development of science, especially for entrepreneurship courses. Having known driving factors in creativity can be the basis for finding the best way in enhancing student creativity in entrepreneurship. With this research can also add to the findings, especially for the field of entrepreneurship and can be used as recommendations for improving the science of entrepreneurship.
2. Solving problems of development, the results of this research can solve the problem of development, especially in the face of rising unemployment. This research can provide a solution for solving the problem of unemployment that increasing from year to year. Entrepreneurship is the solution to make the country self-sufficient by utilizing other resources in development. The young businessman-entrepreneur can create economically developed countries, because when economic crisis in 1998 businesses that are not affected by the crisis are the Small and Medium Enterprises. The results of this study are expected to be able to create creative human beings and progressive in business and has economic impact in the short term.

- Institutional development, from the results of this study, it can be revealed the dominant factors in creativity and which factors should be developed to be creative and become young entrepreneurs who have high level of creativity, so that the institution can provide policies to improve student creativity. In addition it can also be research findings to enhance entrepreneurship programs on campus. The results can be also as findings for the institution and one of basis for decision making.

## RESEARCH METHODOLOGY

This research is conducted in Padang State Polytechnic. The population are all students of Polytechnic of Padang. The samples are the students in all departments with purposive sampling method. The samples are the second grade students (30 for each department, it is about 20% of 787 students). They are considered as samples, because they take entrepreneurship course.

The data collected in this study consist of primary data and secondary data. Primary data were collected through questionnaire in measuring the level of student creativity in entrepreneurship (Princeton Creative Research, 2008). Secondary data is collected through library research.

To achieve the first objective is to see the level of student creativity, researchers used questionnaire that developed by Creative Research Princeton (2008). Score intervals are defined:

NO	SCORE INTERVAL	REMARK
1	<3	Fair
2	3-4	High
3	>4	Very High

To achieve the second goal which reveal students creativity driving factors in entrepreneurship, be used factor analysis method. Factor analysis is one of the analysis of multivariate (analysis involving many variables). In this study, it will be revealed what are the factors that drives students creativity in entrepreneurship and which dominant factors among them.

Factor analysis is one of multivariate statistical technique. The goal is to classify the data into several groups according to the mutual correlations between variables. In research applications, factor analysis can be used to determine the grouping of individuals according to their characteristics, as well as to test the construct validity. In the factor analysis, there is no dependent and independent variables. Factor analysis process itself trying to find relationship/interrelationship between a number of variables are mutually dependent with each other, so that it can be made of one or a set of variables is smaller than the initial variables. Here, SPSS 19 is used to process the data.

The factor analysis steps are:

- Determination of research variables. Research variables here are the raw data that be assumed as the result of metrics measurement that obtained from the original data directly from the questionnaire. The sample size for factor analysis of more than 100 respondents or four - five the number of variables.
- Creating a correlation matrix . Correlation matrix is a matrix containing the correlation coefficients of all pairs of variables in the study. A good factor analysis should have a high correlation (on average greater than 0.3). To test the suitability of the use of factor analysis, be used the KMO method (Kaiser - Meyer - Olkin).

3. Factor Extraction. Extraction is to determine the number of factors being extracted or specify how many factors to be used further.
4. Factor matrix before rotated. It is used to explore the possibilities of grouping variables into a number of factors that have been extracted.
5. Determine the weight factor . Weight factor is size that represent variable of each factor .

## RESULT AND DISCUSSION

Based on questionnaire data processing, it can be concluded that the level of student's creativity is 3.51, belong to highcategory. The questionnaires with 150 statements were filled by 150 respondents, they are the students of Padang State Polytechnic.

Factor analysis is used to know factors that drives student's creativity students in entrepreneurship in Padang State Polytechnic. Data from questionnaire can be processed by factor analysis should be required by inter variables correlation value greater than 0.5. In this study, this condition is fulfilled with 0.598 as construct validity result (KMO test) with 0.05 significance level. Meanwhile, Bartlett's Test shows 0,000 significance level. Thus it can be said that all the elements are fulfilled the requirements, so that variables can be predicted and analyzed further.

**Table 1 KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,598
Bartlett's Test	Approx. Chi-Square	7114,607
	Df	2850
	Sig.	,000

To see how many variables that can still be used in the next process using component matrix. This point is to find out from the 75 variables, how many variables are extracted. From all 75 variables were entered in the process, 23 variables are extracted by processing component matrix. Table 2 shows the extracted variables that formed.

**Table 2 Total Variance Explained Extraction Process**

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	10,454	13,756	13,756
2	7,083	9,320	23,076
3	4,012	5,279	28,355
4	3,145	4,139	32,493
5	2,887	3,799	36,292
6	2,792	3,673	39,965
7	2,412	3,173	43,139
8	2,316	3,047	46,186
9	2,170	2,855	49,040
10	2,046	2,692	51,732
11	1,887	2,482	54,214
12	1,799	2,368	56,582
13	1,719	2,262	58,844
14	1,593	2,096	60,941
15	1,483	1,952	62,892
16	1,407	1,851	64,743
17	1,371	1,803	66,547
18	1,296	1,706	68,252
19	1,185	1,559	69,811
20	1,161	1,527	71,339

21	1,110	1,461	72,799
22	1,063	1,398	74,198
23	1,032	1,357	75,555

Extraction Method: Principal Component Analysis.

The next step is to determine whether the independent variables can be grouped into one or a few factors. All extracted variables will be simplified into a few components or making it into a few factors. To see which of the 23 variables are still able to be analyzed, we see from the results of the Anti-Image Matrices (in the form of processing SPSS attachment that uses  $a$  value). If a value  $> 0.5$ , then the variable was still able to continue to obtain the dominant factors. In processing the results shown that of the 23 variables that have values greater than 0.5 are 11 variables. Those are variable V1, V3, V5, V9, V10, V11, V12, V14, V18, V19 and V23.

- Variable 1 Just a waste of time for me if I ask something that I know there is no hope for answers
- Variable 3 Before addressing important issues, I equip myself with learning about it
- Variable 5 I was very disturbed when someone blocking me
- Variable 9 I often find it difficult to agree to do something that have been set
- Variable 10 I thing I have more problems than that I can handle and more jobs than that time available
- Variable 11 At a certain moment I am too interested in something
- Variable 12 I often get the best ideas when I 'm notdoing something special
- Variable 14 In a state of stress, I become confused and chaotic
- Variable 19 I like to learn something in my own way out of thedepends on book
- Variable 18 I sometimes was removed for breaking the rules anddoing something I should not to
- Variable 24 I'm more excited with my own ideas rather than other's

The next step is to determine whether the independent variables can be grouped into one or several factors. Based on the results of Communalities, it can be seen that there are 11 variables formed and able to explain the variable.

**Table 3 Communalities of Variables**

	Initial	Extraction
V1	1,000	,497
V3	1,000	,600
V5	1,000	,694
V9	1,000	,649
V10	1,000	,542
V11	1,000	,438
V12	1,000	,549
V14	1,000	,551
V18	1,000	,501
V19	1,000	,569
V23	1,000	,317

Extraction Method: Principal Component Analysis.

The result are , factors are able to explain variable 1 (Just a waste of time for me if I ask something that I know there is no hope for answers) as much as 0.497 or 49.7 %; to explain variable 3 (Before addressing important issues, I equip myself with learning about it) as 0.60 or 60 %, and so on, to V 23 (I'm more excited with my own ideas rather than other's) as 0.317 or 31.7 %.

In order to determine how many factors that may be formed, it can be seen in table of Total Variance Explained.

**Table 4 Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,589	32,623	32,623	3,589	32,623	32,623	2,205	20,045	20,045
2	1,284	11,669	44,292	1,284	11,669	44,292	1,932	17,560	37,604
3	1,033	9,395	53,687	1,033	9,395	53,687	1,769	16,083	53,687
4	,913	8,298	61,986						
5	,819	7,443	69,428						
6	,789	7,169	76,597						
7	,705	6,410	83,007						
8	,646	5,871	88,878						
9	,491	4,465	93,343						
10	,403	3,664	97,007						
11	,329	2,993	100,000						

Extraction Method: Principal Component Analysis.

Component range from 1 to 11 representing the number of independent variables. Note the initial eigenvalues column that with SPSS we specify with value 1. Variance can be explained by factor 1 is  $3.589/11 \times 100\% = 32.623\%$ , factor 2 is  $1.284/11 \times 100\% = 11.669\%$  and factor 3 is  $1.033/11 \times 100\% = 9.395\%$ . Because the Eigenvalues have been specified as 1, then the total value to be taken is that greater than 1, therefore we accept component 1, 2 and 3.

Once we know that the maximum factor that could be formed are 3 factors. Furthermore, we determine which independent variable that will be entered into the factor 1, factor 2, and factor 3. More detail can be seen in Component Matrix table and Rotated Component Matrix table.

**Table 5 Component Matrix**

	Component		
	1	2	3
V1	-.638	.157	-.254
V3	-.269	.661	.301
V5	.754	-.226	.271
V9	.460	-.197	.631
V10	.675	-.283	-.082
V11	.585	.099	-.293
V12	.471	.564	-.093
V14	.600	-.143	-.412
V18	.503	.443	.228
V19	.640	.275	-.288
V23	.535	.175	.023

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

It can be seen that the correlation between variables with independent factors to be formed are for example V1: factor 1 correlation is -0.638: factor 2: 0.157 and factor 3: -0.254, and so on. Thereafter, to be more clear which variables will enter into certain factors, it can be seen in Rotated Component Matrix table.

**Table 6 Rotated Component Matrix**

	Component		
	1	2	3
V1	-,235	-,611	-,261
V3	,252	-,114	-,724
V5	,253	<b>,712</b>	,350
V9	,009	<b>,805</b>	-,035
V10	,238	,412	,562
V11	<b>,510</b>	,092	,412
V12	<b>,737</b>	,048	-,053
V14	,366	,079	<b>,641</b>
V18	<b>,598</b>	,344	-,159
V19	<b>,674</b>	,079	,329
V23	,465	,282	,147

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Determination of input variables to a certain factor follows the correlations between variables and the factor, i.e the correlation is high ( $> 0.5$ ). Thus, the variable factor and its members are:

Factor 1 is formed from: variable 11, variable 12, variable 18, and variable 19

Factor 2 is formed from: variable 5 and variable 9

Factor 3 is formed from: variable 14

According to Goman (2001) and above analysis, it can be explained that the driving factors of Padang State Polytechnic student's creativity in entrepreneurship are:

Factor 1: breaking the Rules

Factor 2: positive attitude

Factor 3 : able to channel stress

## CONCLUSION

Based on the results of processed data, level of creativity in entrepreneurship of Padang State Polytechnic students present in high levels (3.51). Factors that drive creativity of Padang State Polytechnic students in entrepreneurship are breaking the rules, positive attitude, and ability to channel stress. These factors are formed from 75 statements that can be reduced to 3 dominant factors with factor analysis. The 3 dominant driving factors of students creativity need to be discussed further, especially in factor naming.

This study can be a reference for further research on the level of students creativity in entrepreneurship. The results of the level of student creativity in entrepreneurship can be an input to the lecturer concerned to deliver the course material that can encourage creativity of students, for example by providing practices laboratory to develop entrepreneurial creativity of students.

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