

Relevance of Graduates Competence to the Needs of the Labor Market

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Abstract: This research examines the relevance between graduates' competencies and competencies needed in the labor market, especially those in Batam. The respondents studied were Alumni of The Applied Business Administration Study Program. The analytical approach used is a descriptive static analysis and multiple correlation analysis. This study showed that the level of relevance between graduate competencies to competency needs in the labor market is 71% which means it falls into the "relevant" category.

1 INTRODUCTION

Financial conditions can determine the level of welfare of a country's people. Financial growth can be improved by opening opportunities and jobs so that the labor force can be absorbed to the maximum. The government's expected financial target can be achieved if growth in the industrial sector can also reach the target as desired. Therefore, the efforts that must be made to achieve the growth target in the industrial sector is the fulfillment of a superior and competent workforce following the needs of the growing industry. However, in reality there is a gap between competence and the needs of industry, especially in Indonesia today.

Recorded in the central statistics data by the Central Bureau of National Statistics in 2020 as of August, that there are 52% of the poor working group of 138.22 million people in the workforce in Indonesia (Badan Pusat Statistik Nasional, 2020). The workforce in Indonesia is still dominated by elementary to junior high school graduates where the level of quality and competence can be said to be relatively low or below current industry standards. Based on McKinsey Global Institute data in 2012 that listed in study by Handayani (2015), the number of labor availability is greater than the number of labor needs, the difference in the number of labor availability with the number of labor needs is at the smallest number at the college education level of two million people. This proves that the chances of availability of college graduates are higher than other graduates of the education level. The

educational background becomes one of the main factors that influence the size of competence of a workforce to be accepted to work.

Vocational education as one of the educational institutions that have an essential role in preparing competent human resources for companies or industries. Vocational education is prepared to print skilled personnel who are ready to work with various competencies and able to adapt to the development of the industry. There are various departments and skills courses provided by vocational education that are expected to be a solution for prospective workers to meet the needs of a growing industry.

Competence is the main factor that a graduate needs in entering the world of work. Work competency is the ability possessed by a workforce to complete a job well. Graduate competencies need to be designed according to competency needs in the labor market, so it is important to analyze the competency level of graduates as an effort to increase the level of absorption of graduates themselves under the needs of the world of work so that evaluations of graduate development can be obtained for the better in the future. This can also help the government reduce the number of unemployed graduates which has an impact on reducing poverty in Indonesia.

2 LITERATURE REVIEW

The Research by Dhruba Borah, Khaleel Malik, & Silvia Massini entitled "Teaching-Focused

University–Industry Collaborations: Determinants And Impact On Graduates' Employability Competencies”, aims to explore research on teaching-focused university-industry collaboration (UIC) by studying the determinants of university participation in collaboration as well as the impact of teaching-focused UIC on graduate employability.

Another research conducted by Pauceanu, AM, Rabie, N., & Moustafa, A, entitled "Employment Under The Fourth Industrial Revolution", aims to identify the perspectives of higher education students on their work competencies and compare them with the job skills of the labor market as requested by the employer.

The Research by Supriati & Tri Handayani with the title "Relevance of Higher Education Graduates in Work Placement", aims to determine the level of relevance of graduates in work placements and determine competency relevance factors in work placements. Another study by Yelli Eka Sumadhinata & Pipin Sukandi entitled "Analysis of the Relevance of Graduate Competencies to Work Needs", has the aim of knowing the size of graduate competencies needed by the world of work.

Titik Handayani researched "The Relevance of Higher Education Graduates in Indonesia to the Need for Manpower in the Global Era", and this research examines the relevance of university graduates in Indonesia and the need for manpower in the global era. Another research conducted by Anas Arfandi with the title "Competency Relevance of Graduates of Diploma Three in Civil Engineering in the World of Work", has the objectives of: (1) describing the relevance of the graduate's field of work with educational background; and (2) mapping the relevance of D3 Civil Engineering competencies in the world of work with D3 Civil Engineering competencies at FT UNM.

The Research conducted by Mercedes Teijeiro, Paolo Rungo & Me Jesus Freire entitled “Graduate Competencies and Employment: The Impact of Matching Firms' Needs and Personal Attainments”, aims to study the working conditions of graduates and the relationship between universities and the labor market and the role of competence in the relationship between the two variables. Another study by Ali Muhson, Daru Wahyuni & Endang Mulyani with the title "Analysis of the Relevance of Higher Education Graduates with the World of Work", examines the level of relevance (suitability) of graduates of Economics Education at UNY.

The difference in the research that the author will do with previous studies, lies in the focus of research which emphasizes the relevance of competence and

different research objects, namely graduates of the Applied Business Administration study program at the Batam State Polytechnic in the last six years, starting from from 2015 to 2020.

2.1 Work Competencies

Competence is the ability possessed by each individual in the form of knowledge and skills to be able to do a job in order to achieve optimal performance. According to research of Muksin & Kurniawati (2019), competence is the ability to behave, think and act consistently as a manifestation of the value of knowledge and skills possessed by a person in carrying out work. While work competence is the ability possessed by a workforce to complete a job. According to UU RI No. 13 Year 2013 About Employment, competence is the work ability of each individual covering aspects of knowledge, skills and work attitudes in accordance with established standards. Rauner, et al., added that professional work competencies refer to skills based on a person's specific intelligence and oriented to freedom from workers in interacting between humans and machines. In detail, the most needed work competencies in the era of technological development are as follows. (World Economic Forum, 2020)

Table 1: Job Competency Classification.

No	Kind	Classification	Required Competencies
1	Hard-Skill	Problem Solving	Analytical thinking and innovation
			Complex problem solving
			Critical thinking and analysis
			Creativity, origanility and initiative
			Reasoning, problem-solving and ideation
		Technology use and development	Technology use, monitoring and control
			Technology design and programming
2	Soft-Skill	Self-management	Active learning and learning strategies
			Resilience, stress tolerance and flexibility
		Working With people	Leadership and social influence

The world of work has competency standards in an effort to maintain professional work competencies that must be met by the workforce under the field of work. Competency profile in a job is dynamic which continues to grow following the demand for jobs and skills required.

2.2 Competency of Business Administration Graduates

Applied Business Administration Study Program is a branch of administrative science that integrates the administrative capabilities of work and tasks with the ability to manage resources in a work system. Similar to other study programs, the Business Administration Study Program has a standard of competence that refers to the provisions of the Ministry of Technology.

The standard of competence that each study program has in vocational higher education has been regulated in the Regulation of the Ministry of Technology. Through competency standards, the government becomes easier in controlling the quality between universities and each other.

Competence of graduates of the Business Administration Study Program obtained from the learning outcomes formulated in the Batam State Polytechnic curriculum (Politeknik Negeri Batam, 2021) which has referred to SN-Dikti (Permenristekdikti No. 44, 2015) and has a level under the level of Indonesian National Qualification/KKNI (Perpres No.8 Year 2014).

2.3 Labor Market Needs

The market is known as a meeting place for the demand and supply of a product that has added value. In, the existence of the market is characterized by the sale and purchase of goods and services as the output of a production, as well as the concept of the labor market where labor is part of the production factor. Labor as input in the production process that will produce the output of goods and services. Based on data from the BPS Indonesia, there are a total of 128,454,184 Indonesians of productive age who work by main occupation. These figures are described in detail in the following graph. (Badan Pusat Statistik Nasional, 2020).

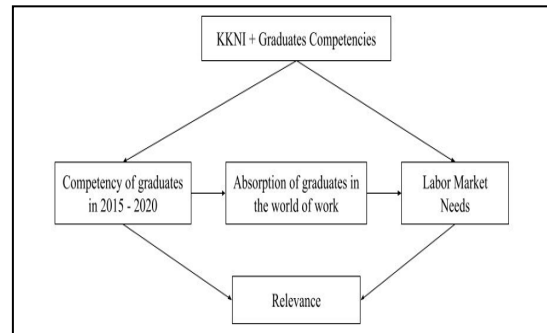


Figure 1: Graph of Population Aged 15 Years Old and Over Employed by Main Occupation.

2.4 Framework

Based on the literature study from the results of previous research, graduate competencies that refer to the formulation of learning outcomes according to the Indonesian National Qualifications Framework (KKNI) will produce competent graduates according to the needs of the labor market. However, there is a need for research on the reality that occurs in every graduate about how the size of the competency level that graduates has is under the competencies needed in the world of work. In addition, there is a need for a study of the level of relevance of graduates in certain fields of science that are absorbed in the labor market. Therefore, it will be analyzed in this study. The following is the framework of thought formulated in this research.

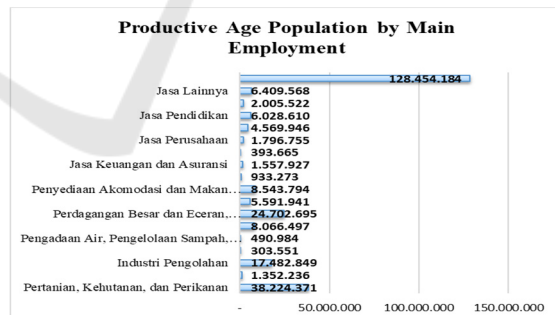


Figure 2: Research Framework.

2.5 Hypothesis Development

Hypothesis is a statement of two or more variables, the relationship between variables is temporary, speculative or still weak. The weak point in this case is not the relationship between the variables which is weak, but the statement made in the hypothesis is true or not (Ansori, 2020). From the framework of thinking that is applied, the following hypotheses are built:

H0: There is no relevance/relationship between the competence of graduates and the competence of labor market needs kebutuhan

H1: There is a relevance/relationship between the competence of graduates and the competence of labor market needs

3 RESEARCH METHOD

3.1 Population and Sample

The population in this study is Alumni of Applied Business Administration Study Program, Batam State Polytechnic from 2015-2020. The samples used in the study were alumni of ABT Study Program who were respondents where numbered 170 people.

3.2 Data Collection and Measurement Techniques

The data collection techniques used in this study are by: (1) Questionnaire/Questionnaire, and (2) Documentation. While the data measurement techniques used are validity test and reliability test. Validity test is conducted to find out the extent to which the measuring instrument that has been compiled actually measures what needs to be measured (Sumadhinata & Sukandi, 2016). In determining whether or not an item will be used, it is usually done a correlation coefficient significance test at a significance level of 0.05. If r calculates $\geq r$ table, the instrument or question items are significantly correlated to the total score (declared valid).

While reliability tests are used to determine the extent to which measurement results remain consistent when re-measured against the same symptoms. The criteria used for determining items are valid and have acceptable reliability values based on the following table.

Table 2: Standard Criteria for Validity and Reliability of Research Instruments.

Category	Reliability	Validity
<i>Good</i>	0.8	0.5
<i>Acceptable</i>	0.7	0.3
<i>Marginal</i>	0.6	0.2

3.3 Descriptive Statistical Analysis

The research method used is a method of descriptive quantitative statistical analysis, which is an analysis whose data can be calculated to produce quantitative

interpretations that include the level of availability of graduates as well as the level of competence of labor market needs. While determining the level of relevance of competence to the needs of the labor market is calculated through the following equations. (Wagiran, 2015).

$$\frac{\text{number of graduates in each category}}{\text{total number of graduates}} \text{Percentage (\%)} = x 100\% \tag{1}$$

The percentage obtained will be interpreted into four categories based on normal distribution rules as in the following table.

Table 3: Standard Guidelines for Relevance of Graduate Competencies to Labor Market Needs.

Interval	Category
81,25% < x < 100%	Highly Relevant
62,50% < x < 81,25%	Relevant
43,75% < x < 62,50%	Less Relevant
25,00 < x < 43,75%	Irrelevant

3.4 Normality Test

Normality test is used to see whether the distribution of data is normally distributed or not. The normality test in this study can be detected by the Kolmogrov-Smirnov Test on SPSS 20 with the decision criteria being if the value of sig > 0.5 then the data is normally distributed and if sig < 0.5 then the data is not normally distributed. A good regression model when it has a normal value, the normality test is carried out on the residual value not on each variable (Seytoningrum, 2002).

3.5 Correlation Analysis

Correlation analysis is one way to determine whether there is a linear relationship between variables. In this study, correlation analysis was used to determine the level of relationship between graduate competencies and competency needs in the job market. The basis for decision making in multiple correlation analysis is as follows:

- If the value of Sig. F < 0.05, then correlated
- If the value of Sig. F > 0.05, then there is no correlation

Meanwhile, to be able to provide an interpretation of the correlation coefficient found is large or small, it can be guided by the provisions listed in the following table:

Table 4: Interpretation Guidelines for Correlation Coefficients.

Correlation Interval	Relationship Level
0,00 – 0,199	Sangat rendah
0,20 – 0,399	Rendah
0,40 – 0,599	Sedang
0,60 – 0,799	Kuat
0,80 – 1,000	Sangat kuat

3.6 Hypothesis Test

To test the extent of the influence of the independent variables partially on the dependent variable, the t-test is used which is done by comparing the t-count value with the t-table with a significance level of 5% of 5%. The basis for decision making in hypothesis testing (T test) are:

- If Sig. < 0.05 / t-count > t-table, then there is a relevance/relationship between the competency of graduates and the competency of labor market needs
- If Sig. > 0.05 / t-count < t-table, then there is no relevance/relationship between graduate competencies and labor market competencies

4 RESULT

4.1 Validity Test Results

Validity test refers to r-table values, the correlation value used to measure validity (r-count) must be greater than the r-table value in order to be declared valid.

Table 5: Validity Test Results.

Variable	Indicator	r-count	r-table 5% (170)	Desc.
Hard-skill (X1)	X1.1	0.642	0.1497	Valid
	X1.2	0.594	0.1497	Valid
	X1.3	0.707	0.1497	Valid
	X1.4	0.737	0.1497	Valid
	X1.5	0.537	0.1497	Valid
	X1.6	0.664	0.1497	Valid
	X1.7	0.731	0.1497	Valid
	X1.8	0.654	0.1497	Valid
	X1.9	0.687	0.1497	Valid
	X1.10	0.648	0.1497	Valid
	X1.11	0.658	0.1497	Valid
	X1.12	0.577	0.1497	Valid
	X1.13	0.662	0.1497	Valid
	X1.14	0.707	0.1497	Valid
	X1.15	0.688	0.1497	Valid
Soft-skill (X2)	X2.1	0.756	0.1497	Valid
	X2.2	0.771	0.1497	Valid
	X2.3	0.777	0.1497	Valid

Variable	Indicator	r-count	r-table 5% (170)	Desc.
Labor Market Needs (Y)	X2.4	0.766	0.1497	Valid
	X2.5	0.749	0.1497	Valid
	X2.6	0.749	0.1497	Valid
	X2.7	0.665	0.1497	Valid
	X2.8	0.708	0.1497	Valid
	X2.9	0.713	0.1497	Valid
	Y1	0.671	0.1497	Valid
	Y2	0.533	0.1497	Valid
	Y3	0.419	0.1497	Valid

4.2 Reliability Test Results

The criteria of a questionnaire question item are declared reliable if the calculated alpha value is greater than 0.70. The reliability test result of all questionnaire statement items is 0.953, the value is greater than 0.70, so all statement items can be said to be reliable/consistent as following table.

Table 6: Reliability Test Results.

Variable	Cronbach's Alpha	Cut off Cronbach's Alpha	Desc.
X1	0.942	0.7	Reliable
X2	0.969	0.7	Reliable
Y	0.953	0.7	Reliable

4.3 Respondent's Identity

The respondents taken in this study are graduated student of the Polibatam Business Administration Study Program from the 2015-2020 graduation year, which is determined by the number of respondents as many as 170 people. This research was conducted by disseminating questionnaires through Google Form. The characteristics of respondents in this study include alumni status, waiting time to get a job, part of job placement and position in the company as in the following table.

Table 7: Respondent Identity.

No	Category	Sub-Categories	Percentage (%)
1	Graduate Status	Work	87
		Not Working	11
		Entrepreneurial	2
		Continuing Studies	0
2	Waiting Time to Get a Job	< 6 months before graduation	38
		< 6 months after graduation	25

No	Category	Sub-Categories	Percentage (%)
		> 6 months before graduation	12
		> 6 months after graduation	25
3	Work Placements Section	Administration	25
		HRD	12
		Finance	8
		Front-Liner	6
		Technical	5
4	Position In The Company	Other	44
		Owner	2
		Middle Management	6
		First-Line Management	38
		Non-Management	54

4.4 The Level of Availability of Graduates of the Applied Business Administration Program of Polibatam

Graduate data is classified into 4 categories, namely: work, non-employment, entrepreneurship, and continuing studies. Analysis of graduate data using statistics techniques in percentage form based on categories as in the following table:

Table 8: Graduate Availability Levels.

Category	Percentage (%)						Mean
	59	66	59	71	76	45	
Work	59	66	59	71	76	45	63
Not Working	41	34	35	25	19	43	33
Entrepreneurial	0	0	7	4	3	12	4
Continuing Studies	0	0	0	0	1	0	0
Sum	100	100	100	100	100	100	100

Based on table 6, the highest average percentage is in the working category of 63%, so it can be said that graduates of the Applied Business Administration Program Polibatam have been absorbed in the world of work.

4.5 Level of Competency Needs in the Labor Market

Business administration competencies required in the labor market are competencies that must be possessed by workers graduates of Applied Business Administration. Therefore, it is necessary to identify the competencies that become the needs of the labor market. The business administration competency item consists of: 15 soft-skill competencies and 9 soft-skill competencies. Here's the percentage of competencies needed in the labor market.

Table 9: Percentage competency of Overall Labor Market Needs.

Competency Type	Number of Competency Items	Category			Sum
		Much Needed	Needed	Less Needed	
Hard-skill	15	51%	29%	20%	100%
Soft-skill	9	74%	26%	0%	100%
Rata-rata		63%	28%	10%	100%

Table 7 shows that the level of hard-skill and soft-skill competency needs in the labor market is 80% and 100% respectively. This shows that overall, the competence of Business Administration graduates in the labor market is high.

4.6 Relevance of Graduate Competency to Competency of Labor Market Needs

The relevance of the competency of Graduates of Applied Business Administration Polibatam with the competence of labor market needs can be known from the results of correlation analysis where it can be known how the relationship of the two variables. Classification of competency mapping graduates of Applied Business Administration Polibatam there are 24 points of competence divided into hard-skill and soft-skillcompetencies. The results of the calculation of correlation analysis of both variables show that hard-skill and soft-skill competency variables against labor market needs variables have correlations / relationships between variables, the value of $Gis. F$ $0.000 < 0.05$. While the degree level of relationship between variables is in the category of strong correlation that is between 0.61 – 0.80.

The large percentage of relevance between the competencies of graduates of the Applied Business Administration polibatam with the competence of

labor market needs can be calculated through a comparison of the number of competencies needed in the world of work to the total competencies of graduates of Applied Business Administration, which is described as follows:

Table 10: Number of Competency Item Scores Required.

Competency Type	Number of Competency Items	Category	Number of Scores Earned
Hard-Skill	15 items	Much Needed	7
		Needed	3
Soft-Skill	9 items	Much Needed	6
		Needed	1
Total	24	Total	17

$$\frac{\text{number of graduates in each category}}{\text{total number of graduates}} \times 100\% = \text{Percentage (\%)} = (17/24) \times 100\% = 71\% \quad (2)$$

The percentage obtained is further interpreted into four categories in the competency relevance guidelines (Table 2). Based on table 2, the competency relevance rate of 71% falls into the "Relevant" category where $62.50\% < x < 81.25\%$. These results show that the competence of graduates of The Applied Business Administration polibatam answer the needs in the labor market.

These findings are important to note as the basis for the realization of a more effective college in printing graduates. The college curriculum is required to always pay attention to the level of relevance to changes in conditions, technology, and changes in labor market demand. In accordance with study by Verawadina et al (2019) that the curriculum needs to integrate new competencies and literacy relevant to the world of work in the era of industrial revolution 4.0. Therefore, college graduates who are able to meet the needs of competence in the labor market have superior value and high competitiveness.

5 CONCLUSIONS AND SUGGESTIONS

5.1 Conclusion

Based on the results of research and discussion that has been described, can be drawn conclusions as follows:

1. The level of availability of graduates of the Polibatam Applied Business Administration Study Program is 63%
2. The level of competence needs of business administration in the labor market that employs graduates of Applied Business Administration Polibatam belongs to the high category where each percentage of the level of hard-skill and soft-skill competency needs is 80% and 100%
3. The level of competency relevance between competencies possessed by graduates of the Polibatam Applied Business Administration Program and the competency needs in the labor market falls into the "relevant" category with a percentage of 71%.

5.2 Suggestions

Based on the results of the study on the analysis of the relevance of graduate competence to the needs of the labor market, the researchers gave 3 suggestions described as follows:

1. To increase the availability of graduates of the Applied Business Administration Study Program Polibatam, universities (Polibatam) should be able to further increase work motivation and career guidance to students so that they can achieve the college's goal to print graduates ready for work.
2. University (Polibatam) need to further improve the quality of competencies of graduates, especially hard-skill competencies that are under the competency needs in the labor market so that graduates can follow the changes that occur in the labor market.
3. University (Polibatam) are expected to maintain the level of relevance between the competence of graduates and work needs, especially in the Applied Business Administration Study Program.

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