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The Effect of Principal's Leadership and Participation of the Industry World on the Quality of State Vocational Schools

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Keywords:
Principal's leadership; Industrial participation, Quality of school

Abstract

The quality of students graduating from vocational high school can be improved if the principal's leadership and increased industrial participation are supported. The purpose of this study is to analyze. This study employs a quantitative approach and path analysis techniques in conjunction with a survey method. The data collection instrument is a questionnaire. Instruments were thoroughly tested prior to their use in research. Validity and reliability tests are conducted on the instruments. The data analysis in this study was conducted using both descriptive and inferential statistical techniques. This study was conducted at seven State Vocational High Schools in Serang City. Principals' leadership and industrial participation, according to research, have a direct effect on school quality. The principal's leadership directly impacts the school's quality. Industry involvement has a direct positive effect on the quality of education. Principal leadership has a positive effect on labor participation directly. This research implies a shift in perspective regarding the quality of State Vocational Schools in Serang City, particularly at the leadership level as a manager accountable for the graduates' quality. School leaders ensure that collaboration with industry is demonstrated through participation in the development of industry-related curricula.

Kata kunci:
Kepemimpinan; Partisipasi industry; Mutu sekolah

Abstrak

Mutu siswa dari SMK dapat tercapai jika didukung oleh kepemimpinan kepala sekola dan peningkatan partisipasi industri. Penelitian ini bertujuan untuk menganalisis. Penelitian ini menggunakan metode survey dengan pendekatan kuantitatif dan teknik analisis jalur. Teknik pengumpulan data melalui instrumen berbentuk kuesioner. Intrumen diuji terlebih dahulu sebelum dipergunakan dalam penelitian. Pengujian instrumen tersebut meliputi uji keabsahan *(validity)* dan uji kehandalan *(reliability)*. Analisis data dalam penelitian ini dilakukan menggunakan teknik statistik deskriptif dan statistik inferensial. Penelitian ini dillakukan di Kota Serang di 7 (Tujuh) Sekolah Menengah Kejuruan Negeri di Kota Serang. Temuan hasil penelitian kepemimpinan kepala sekolah dan partisipasi industri berpengaruh langsung terhadap mutu sekolah. Kepemimpinan kepala sekolah berpengaruh langsung positif terhadap Mutu Sekolah. Partisipasi industri berpengaruh langsung positif terhadap Mutu Sekolah. Kepemimpinan kepala sekolah berpengaruh langsung positif terhadap partisipasi industri. Implikasi dari penelitian ini menekankan pada adanya perubahan orientasi terhadap mutu

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SMK Negeri di Kota Serang, terutama pada level pimpinan sebagai manajer yang bertanggung jawab terhadap pengelolaan mutu lulusan. Pimpinan sekolah memastikan bahwa kerjasama dengan dunia industri diwujudkan dalam bentuk keterlibatan dalam pengembangan kurikulum yang berorientasi pada industri.

INTRODUCTION

Achieving a high standard of education is critical to a nation's survival. As a result, all nations strive to sustainably improve the quality of their education in order to compete with other countries. According to Suryadi (2005: 189), the government seeks to improve the quality of education in order to develop human resources who possess expertise and skills, can work professionally, and can produce high-quality work in order to participate in and contribute to nation-building.

Human resources are deemed insufficient in Indonesia and fall short of expected levels. Indonesia is ranked 67th out of 125 countries on the 2019 Global Talent Competitiveness Index (GTCI). According to UNESCO's 2016 Global Education Monitoring (GEM) Report, education in Indonesia ranks tenth out of fourteen developing countries, while the critical component of education, teachers, ranks fourteenth out of fourteen developing countries. Additionally, the capabilities or competencies possessed by school graduates indicate the quality of human resources. This demonstrates that low-quality schools affect the low level of competency of school graduates. The low level of competence of school graduates, particularly in vocational schools, is evident in the absorption of less-than-optimal graduates. As the open unemployment rate for vocational high school (SMK) graduates was 19.74 per cent in February 2017, it increased to 23.15 per cent in August 2017. In February 2018, the rate decreased by 2.42 per cent to 20.73 per cent, but increased by 4.01 per cent to 24.74 per cent in August 2018. This indicates that while Indonesia's open unemployment rate increased from 2017 to 2018, the unemployed remain relatively high at the vocational high school (SMK) level.

The school itself has the task of developing the competencies and abilities of each student optimally by the needs of the community. School quality is a measure achieved by schools in meeting consumer expectations (Kemal et., 2019). Therefore, improving the quality of schools is a must in responding to the complex challenges faced by every school. Various problems in vocational schools need to be seen as the results of observations that have implications for developing learning quality strategies to improve the quality of vocational schools (SMK).

School quality should be a primary concern in the development of schools. It is unavoidable that some schools continue to be mired in the issue of quantity rather than quality education, according to In-Law. No. 20 of 2003, vocational education aims to prepare students, particularly for work in specific fields. School administration must implement a system that encourages students to be more prepared for work and interested in the world of work. As a result, the learning pattern in Vocational Schools is industry-based, as students can gain real-world work experience in an industrial environment. Additionally, it is reaffirmed in the 2015-2035 national industrial development master plan/RIPIN. Indonesia aspires to be a prosperous industrial nation, with industry serving as a pillar and driver of the national economy. As a result, human resources must be planned in accordance with the company's needs and the industry's development.

Therefore, the participation of the industrial world in the vocational education process is vital. The industrial world's participation is cooperation in borrowing practical infrastructure (resource sharing) for education and training for students and education staff and inviting several expert technicians as guest trainers. In line with what Eyal said in (Arifin. Z, 2017: 3), vocational education must develop networks of cooperation in developing organizations and achieving educational goals. Therefore, in improving the quality, especially in SMK, it cannot be separated from internal and external support such as the industrial world. The support and cooperation built with the industrial world is one strategy to overcome the limitations of existing resources and accommodate market

needs related to a competent workforce. Johan (2019) recommend implementing Fieldwork Practices in Industry for a minimum of 6 months. so that the process of teaching and learning activities and experience in the industry can be fulfilled. In other words, industrial participation is indispensable in the learning system in vocational or vocational schools—the following research conducted by Tunggara (2015) shows that schools have not placed the world of business and industry at every stage of education quality management, starting from planning, implementation, monitoring, and evaluation follow-up improvements. Therefore, this study recommends that vocational high school and the business and industrial world create a quality team together in quality improvement with structured roles and responsibilities. A hypothetical model can be used as an alternative concept for partnership management.

Rahmadhany's research (2020) shows that industry plays a role in planning, organizing, implementing, and supervising the curriculum, infrastructure, and fields related to automotive educators. Furthermore, cooperative relationships with the community, especially industry, have great benefits and facilities for developing moral, material, and community support as a learning resource (Murniati, Nasir, & Azizah, 2016: 271). According to research by Tunison (2013: 565), it was found that the community involvement process used by schools to create partnerships itself leads to more robust and more positive relationships between schools and community organizations that represent Aboriginal families. Schools and communities have a solid relationship to achieve education effectively and efficiently.

Principals are faced with the challenge of implementing planned, directed, and sustainable educational development to improve the quality of education (Mayasari et al., 2020). For this reason, the principal must have a vision, mission, and education management strategy as a whole and be oriented to the quality of education. The principal's critical role as a leader in the school carries out a leadership function, namely creating conducive working relationships both internally and externally. One of the principal's external roles is to carry out communication or relations with the industry. The leadership of principals who have high managerial abilities will be able to improve collaboration with industry and impact the high absorption of graduates in the world of work to improve the quality of schools. Azizah and Khairuddin (2015: 156) shows how the ability of school principals to establish cooperative relationships with industry includes: formulating the school's vision and mission, preparing joint curricula, and collaborating with industry, which is illustrated by the existence of the agreement of the two parties in the form of an MoU in the implementation of internships, guest speakers, performance of competency tests, hearings and other seminars. It indicates that the principal's leadership is very influential on industrial participation. In line with the above opinion, an organization, especially a school, must have a principal who has a strong lead character and competence to move and direct the resources in the school to be active and creative to achieve school goals and programs.

Principal leadership is the central pillar in implementing TQM in schools to improve school quality. It is shown by Sumaryono's research (2018), which shows that school principals' leadership positively affects the quality of Catholic high school education in Bali. Ikram (2018) also expressed the same thing, who found that the principal's leadership positively affected school quality. Dynamic and effective leadership will make the organization more alive and qualified. It is where the principal's leadership is shown and is needed to support the achievement of school quality by making policies that focus on improving school quality. Therefore, the success of education in schools is to have influential leaders.

Based on the description of the background above, it can be identified the problems in this study. The first is that human resources in Indonesia are considered inadequate and far from what is desired to achieve goals in education; teachers are one of the crucial factors in achieving national education goals. Second, there is a mismatch between what is learned in school and the needs of the world of work. That has an impact on the low competence of school graduates. The absorption of

graduates has not been optimally resulting in much unemployment. Third, the principal's leadership is rigid, so that he cannot translate his vision and work program correctly to teachers, students, and the community. There are still schools that are more concerned with quantity than quality of education. It is difficult for prospective vocational high school graduates to be accepted because of the low demand for work from the industry. Industry participation is still low and not yet developed. The industry's quality and relevance perception of vocational high school are still not satisfactory. The development of the curriculum and the fulfilment of learning facilities are less rapid with the development of technology and information in the industry. The impact on the competence of graduates is low. Based on identifying the problem above and considering the number of independent variables that affect the independent variables, this research is limited to two independent variables that directly affect school quality: principal leadership and industrial participation. The limitations of research questions are driven by limited resources (such as time and cost), so the scope of this research is limited to teachers of State Vocational High Schools in Serang City.

Referring to the formulation of the problem above, the objectives to be achieved in this study are as follows: (1) Knowing the influence of the principal's leadership on the quality of SMK, (2) Knowing the effect of industrial participation on the quality of SMK, and (3) Knowing the influence of the principal's leadership on the quality of the industry participation.

METHODS

This research was conducted in Serang City at 7 (Seven) State Vocational High Schools. The research time starts from the preparation of the proposal until the research. It is carried out with a period of 3 months. The method used in this research is a survey with a quantitative approach and path analysis techniques. Research data were collected through sampling from the population. This study intends to find the effect of three variables, namely two independent variables: Principal Leadership (X1) and Industrial Participation (X2), and the dependent variable is School Quality (Y). Testing the research hypothesis was carried out using path analysis techniques. Furthermore, the constellation of research problems is described in the form of a path diagram showing the influence between variables as follows: X1 = Principal's Leadership, X2 = Industry Participation, and Y = School Quality.

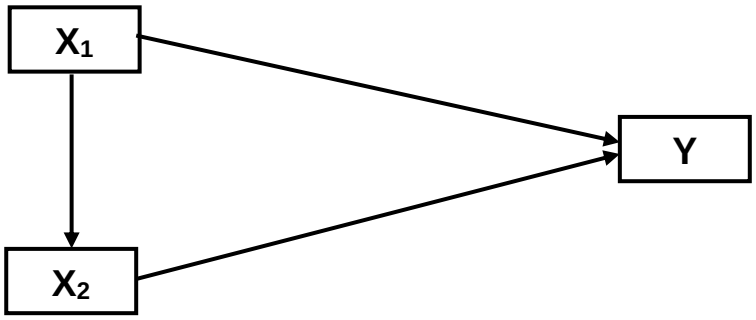


Figure 1. Path Analysis

Table 1. Total Population of State Vocational Schools in Serang City

No	School	Total number of teachers		Headmaster	Accreditation
		M	F		
1	SMKN 1 Kota Serang	24	89	1	A
2	SMKN 2 Kota Serang	49	55	1	A
3	SMKN 3 Kota Serang	24	34	1	B
4	SMKN Pertanian	24	43	1	A
5	SMKN 5 Kota Serang	28	33	1	A
6	SMKN 6 Kota Serang	22	13	1	B

7	SMKN 7 Kota Serang	24	37	1	B
	Total		499	7	-

(Source: Serang City Dapodikdasmen 2020/2021)

To make it easier to do research, researchers need research samples that are part of the population. Sugiyono (2011: 81) says that: "the sample is part of the number and characteristics possessed by the population." Meanwhile, according to Arikunto (2010: 109), the sample is part or representative of the population being studied. The sample taken in this study is part of the population taken as a data source representing the entire population.

Data analysis in this study was carried out using descriptive statistical techniques and inferential statistics—the use of descriptive statistics to explain the measurement data for each variable. The technique used in these descriptive statistics is calculating the median score, mode, standard deviation, average. It presents the distribution of data in frequency distribution tables and histograms. Inferential statistics for testing the research hypothesis use path analysis techniques. Path analysis is used to test the hypothesis of this study using = 0.05. Normality tests and multiple regression tests (linearity, correlation, and regression) were carried out before hypothesis testing.

Based on the research hypothesis that has been stated in the previous discussion. Statistical hypotheses are formulated to be tested through this research. The first hypothesis is that there is a direct positive influence of the principal's leadership (X1) on school quality (Y): H_o: $\beta_{31} \leq 0$; H_1: $\beta_{31} > 0$. The second hypothesis is that there is a direct positive influence of industrial participation (X2) on school quality (Y), namely H_o: $\beta_{32} \leq 0$; H_1: $\beta_{32} > 0$. The third hypothesis is that there is a direct positive influence of the principal's leadership (X1) on industrial participation (X2): H_o: $\beta_{21} \leq 0$ H_1: $\beta_{21} > 0$. Information: H_o = Hypothesis Zero, H_1 = Research Hypothesis, β_{31} = The coefficient of the influence of the principal's leadership on school quality, β_{32} = The coefficient of the influence of industrial participation on school quality. β_{21} = The coefficient of the influence of the principal's leadership on industrial participation.

FINDINGS AND DISCUSSION

The data obtained in this study were based on filling out the questionnaire filled out by 90 respondents who were used as research samples. The data of this study consisted of measurements of three variables, namely school quality (Y), principal leadership (X1), and industrial participation (X2). The description of each variable is presented successively, starting from the variables X1 and X2, Y. The summary of the research data is shown in Table 2.

Table 2. Summary of Research Descriptive Statistics

No	Item	X_1	X_2	Y
1	Average	150,40	137,68	144,58
2	Standard Error	2,392	1,931	1,802
3	Middle value	153,5	136	145
4	Mode	181	133	148
5	Standard Deviation	22,70	18,32	17,10
6	Variant Sample	515,16	335,64	292,27
7	Reach	83	98	84
8	Minimum Value	100	72	91
9	Maximum Value	183	170	175
10	Amount	13536	12391	13012
11	Lots of Data	90	90	90

The use of parametric statistics works with the assumption that the data for each research variable analyzed forms a normal distribution. The process of testing the analytical requirements in this study is a requirement that must be met so that the use of regression techniques included in the parametric statistics group can be applied for testing hypotheses.

The requirement for path analysis is that the estimation between exogenous variables and endogenous variables is linear; thus, the requirements that apply to regression analysis automatically also apply to the requirements of path analysis. The requirements for path analysis are that the research sample comes from a normally distributed population. The influence between the variables in the model must be significant and linear. In this regard, before testing the model, it is necessary to test the two requirements that apply in the path analysis.
The analysis tests carried out are:

1) Normality Test
2) Significance Test and Regression Coefficient Linearity

a. Normality Test and Estimated Error

The data used in the preparation of the regression model must meet the assumptions that come from a population that has been declared usually distributed. The assumption must state that the estimated error regression model must fall into the normally distributed category. The normality test comes from the estimated error data that has been analyzed.The Liliefors test technique is used in testing the normality requirements, which have a rejection criterion that H_o is declared not normally distributed if L_{count} is more diminutive than L_{table}. Based on the data processing results carried out and sourced from research data, it can be seen that $|F(Z_i) - S(Z_i)|$. The maximum which L_{count} concludes for the three regression estimation errors is smaller than the L_{table} value. The H_o rejection limit listed in the Liliefors table at $\alpha = 0{,}05$ and $n > 30$ is $\frac{0{,}886}{\sqrt{n}}$

Based on the results of processing the calculation of the normality test, the following results are obtained (1) Normality Test of the Estimated Regression Error Y over X1. Based on the calculation, it is obtained that L_{count} = 0,057 this value is smaller than the value of L_{table} ($n = 90$; $\alpha = 0{,}05$) of 0,093. Seeing the L_{count} value is smaller than L_{table} so that the distribution of school quality data on the leadership of the principal will form a normal curve, (2) Normality Test for Y Regression Estimated Errors on X2 Based on the calculations obtained L_{count} = 0.061 this value is smaller than the L_{table} value ($n = 90$; $\alpha = 0{,}05$)of 0.093. Seeing the L_{count} value is smaller than L_{table} so that the distribution of school quality data on industrial participation will form a normal curve (3) Normality Test of Regression Estimated Error X2 over X1 Based on the calculations obtained L_{count} = 0.072, this value is smaller than the value of L_{table} ($n = 90$; $\alpha = 0{,}05$)of 0.093. Seeing that the value of L_{count} is smaller than L_{table}, the distribution of industrial participation data on school principals' leadership will form a normal curve.

Based on the above analysis, it can be concluded that the null hypothesis H_o, which states that the sample comes from a normally distributed population, cannot be rejected; in other words that all selected samples come from a normally distributed population. The recapitulation that has been done can be seen in the table below:

Table 3. Normality Test Results for Estimated Regression Error

Estimated Error	n	L_{count}	L_{table}		Description
			$\alpha = 5\%$		
Y over X1	90	0,057	0,093	Normal	Normal
Y over X2	90	0,061	0,093	Normal	Normal
X2 over X1	90	0,072	0,093	Normal	Normal

b. Test of Significance and Linearity of Regression Coefficient

The regression model obtained was tested for significance and linearity using the F test in the ANOVA table before using the regression equation to conclude hypothesis testing. Correlation analysis was carried out later by reviewing the significance and level of the relationship between pairs of endogenous and exogenous variables.

1. School Quality (Y) on Principal Leadership (X1)

a) Regression Equation Significance Test

Based on the regression equation calculation between the school's quality and the principal's leadership, the regression constant $a = 95{,}366$ and the regression coefficient $b = 0{,}327$. the regression equation for the quality of the school on the leadership of the principal is $\hat{Y} = 95{,}366 + 0{,}327X_1$. Before the regression equation model is analyzed further and used in concluding, first, the

significance and linearity test of the regression equation is carried out. The results of the calculation of the significance and linearity tests in the ANOVA table are shown in table 4 below:

Table 4. ANOVA Regression Equation $\hat{Y} = 95,366 + 0,327X_1$

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4908.789	1	4908.789	20.470	.000[b]
	Residual	21103.167	88	239.809		
	Total	26011.956	89			

a. Dependent Variable: School quality
b. Predictors: (Constant), Principal Leadership

Based on the results of the significance test of the school quality regression equation (Y) on the leadership of the principal (X1) presented in Table 4, it is known that F_{count} 20,470 is more than F_{table} (0.05;1;87) = 3.95, so that the regression equation $\hat{Y} = 95,366 + 0,327X_1$ is declared significant at the significant level α = 0,05.

b) Regression Equation Linearity Test

This test aims to determine the relationship between the independent variable of the principal's leadership (X1) and the dependent variable. The results of the linearity calculation of the school quality regression equation (Y) on the principal's leadership are presented in table 5. Based on the table, it is known that the value of $F_{count} < F_{table}$ is 0.902 < 3.95, which means that the regression equation $\hat{Y} = 95,366 + 0,327X_1$ is stated to be linear at the significance level α = 0,05.

Table 5. ANOVA Test of Linearity of Regression Equation $\hat{Y} = 95,366 + 0,327X_1$

			Sum of Squares	df	Mean Square	F	Sig.
School quality * Principal leadership	Between Groups	(Combined)	15635.206	48	325.733	1.287	.205
		Linearity	4908.789	1	4908.789	19.395	.000
		Deviation from Linearity	10726.417	47	228.222	.902	.636
	Within Groups		10376.750	41	253.091		
	Total		26011.956	89			

2. School Quality (Y) On Industrial Participation (X2)

a) Regression Equation Significance Test

From the results of the calculation data for the preparation of the regression equation model between the quality of schools on industrial participation, the regression constant $a = 61,972$ and the regression coefficient $b = 0,600$, so the regression equation for school quality on industrial participation is $\hat{Y} = 61,972 + 0,600X_2$. Before the regression equation model is analyzed further and used in concluding, first, the significance and linearity test of the regression equation is carried out. The results of the calculation of the significance and linearity tests in the ANOVA table are shown in table 6 below:

Table 6. ANOVA Regression Equation $\hat{Y} = 61,972 + 0,600X_2$

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10753.511	1	10753.511	62.019	.000[b]
	Residual	15258.445	88	173.391		
	Total	26011.956	89			

a. Dependent Variable: School quality
b. Predictors: (Constant), Industry participation

Based on the results of the significance test of the school quality regression equation (Y) on industrial participation (X2) presented in Table 6, it is known that F_{count} 62,019 is more than F_{table}

(0.05;1;87) = 3.95, so that the regression equation $\hat{Y} = 61{,}972 + 0{,}600X_2$ was declared significant at the significant level α = 0,05.

b) Regression Equation Linearity Test

This test aims to determine the relationship between the independent variable of industrial participation (X2) and the dependent variable. The results of the linearity calculation of the school quality regression equation (Y) on industrial participation are presented in table 7. The results of the linearity calculation of the school quality regression equation (Y) on industrial participation are presented in table 4.9. Based on the table, it is known that the value of $F_{count} < F_{table}$ is 1.522 < 3.95, which means that the regression equation $\hat{Y} = 61{,}972 + 0{,}600X_2$ is stated to be linear at the significance level α = 0,05.

Table 7. ANOVA Test of Linearity Regression Equation $\hat{Y} = 61,972 + 0,600X_2$

			Sum of Squares	df	Mean Square	F	Sig.
School Quality * Industry Participation	Between Groups	(Combined)	19961.222	45	443.583	3.226	0.000
		Linearity	10753.511	1	10753.511	78.198	0.000
		Deviation from Linearity	9207.712	44	209.266	1.522	0,084
	Within Groups		6050.733	44	137.517		
	Total		26011.956	89			

3. Industrial Participation (X2) On the Leadership of The Principal (X1)

a) Regression Equation Significance Test

Based on the calculation of the regression equation between industrial participation in the leadership of the principal, the regression constant $a = 103{,}807$ and the regression coefficient $b = 0{,}225$. so that the regression equation for industrial participation on the principal's leadership is $\widehat{X_2} = 103{,}807 + 0{,}225X_1$ before the regression equation model is analyzed further and used in concluding, first, the significance and linearity test of the regression equation is carried out. The results of the calculation of the significance and linearity tests in the ANOVA table are shown in table 8 below:

Table 8. ANOVA Regression Equation $\widehat{X_2} = 103,807 + 0,225X_1$

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2325.386	1	2325.386	7.429	.008[b]
	Residual	27546.270	88	313.026		
	Total	29871.656	89			

a. Dependent Variable: Industry Participation (X2)
b. Predictors: (Constant), Principal Leadership (X1)

Based on the results of the significance test of the industrial participation regression equation (X2) on the leadership of the principal (X1) presented in Table 8, it is known that F_{count} 7.429 is more than F_{table} (0.05;1;87) = 3.95, so the regression equation $\widehat{X_2} = 103{,}807 + 0{,}225X_1$ is significant at the significant level α = 0,05.

b) Regression Equation Linearity Test

This test aims to determine the relationship between the independent variable of the principal's leadership (X1) and the dependent variable of industrial participation (X2). The results of the linearity calculation of the industrial participation regression equation (X2) on the principal's leadership are presented in table 9. Based on the table, it is known that the value of $F_{count} < F_{table}$ is 1.414 < 3.95, which means that the regression equation $\widehat{X_2} = 103{,}807 + 0{,}225X_1$ is stated to be linear at the significance level α = 0,05.

Table 9. ANOVA Test Linearity Regression Equation $\widehat{X_2} = 103,807 + 0,225X_1$

			Sum of Squares	df	Mean Square	F	Sig.
Industry Participation (X2) * Principal Leadership (X1)	Between Groups	(Combined)	19363.822	48	403.413	1.574	0.070
		Linearity	2325.386	1	2325.386	9.073	0.004
		Deviation from Linearity	17038.436	47	362.520	1.414	0.130

	Within Groups	10507.833	41	256.289
	Total	29871.656	89	

c. Testing Hypothesis

Hypothesis testing in this study was conducted to explain the direct influence of principal's leadership on school quality, industrial participation on school quality, principal's leadership on industrial participation. Before conducting the path analysis, the correlation coefficient between variables is calculated; the results are summarized in the following table:

Table 10. Output and Interpretation of SPSS Results from Simple Correlation Coefficient between Variables Correlations

		Principal leadership	Industry participation	School quality
Principal leadership	Pearson Correlation	1	.279**	.434**
	Sig. (2-tailed)		.008	.000
	N	90	90	90
Industry participation	Pearson Correlation	.279**	1	.643**
	Sig. (2-tailed)	.008		.000
	N	90	90	90
School quality	Pearson Correlation	.434**	.643**	1
	Sig. (2-tailed)	.000	.000	
	N	90	90	90

**. Correlation is significant at the 0.01 level (2-tailed).

Table 11. Simple Correlation Coefficient Matrix Between Variables

Matriks	Correlation Coefficient		
	X_1	X_2	Y
X_1	1	0,279	0,434
X_2	0,279	1	0,643
Y	0,434	0,643	1

From table 12, it can be seen that the correlation coefficient between principal leadership and industrial participation r_{12} is 0.279. The correlation between principal leadership and school quality r_{13} is 0.434. The correlation between industrial participation and school quality r_{23} is 0.643.

Table 12. Structural 1 Output and Interpretation of SPSS Output Path Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	40.557	11.756		3.450	0.001
	Principal Leadership (X1)	0.208	0.060	0.277	3.448	0.001
	Industry Participation (X2)	0.528	0.075	0.566	7.055	0.000

a. Dependent Variable: School Quality (Y)

1) First Hypothesis

Principal leadership has a direct positive effect on school quality $H_0: \beta_{31} \leq 0 : \beta_{31} > 0$ H_o is rejected, if $t_{count} > t_{table}$. From the path analysis calculations, the direct influence of the principal's leadership on school quality has a path coefficient value of 0.277 and a t_{count} value of 3,448 with a t_{table} value of 1.99. Therefore, if tcount is greater than ttable, H_o is rejected, and H_1 is accepted. Thus, the principal's leadership has a direct positive effect on school quality and can be accepted.

2) Second Hypothesis

Industry participation has a direct positive effect on school quality, $H_0: \beta_{32} \leq 0$, $H_1: \beta_{32} > 0$, H_o is rejected, if $t_{count} > t_{table}$. From the results of path analysis calculations, the direct influence of industrial participation on school quality has a path coefficient value of 0.566 and a t_{count} value of 7.055 with a t_{table} value of 1.99. Therefore, if tcount is greater than ttable, H_o is rejected, and H_1 is accepted. Thus, industrial participation has a direct positive effect on school quality and can be accepted.

3) Third Hypothesis

Principal leadership has a direct positive effect on industrial participation : $\beta_{21} \leq 0$, $H_1: \beta_{21} > 0$. H_o is rejected, if t $t_{count} > t_{table}$. From the results of path analysis calculations, the direct influence of

principal's leadership on industrial participation has a path coefficient value of 0.279 and a t_{count} value of 2.726 with a t_{table} value of 1.99. Therefore, t_{count} is greater than t_{table}, then H_o is rejected, and H_1 is accepted. Thus, the principal's leadership has a direct positive effect on industrial participation and can be accepted.

Table 13. Principal Leadership Path Coefficient (X1) on Industry Participation (X2)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	103.807	12.566		8.261	0.000
	Principal Leadership (X1)	0.225	0.083	**0.279**	2.726	0.008

a. Dependent Variable: Industry Participation (X2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.279[a]	.078	.067	17.69253

a. Predictors: (Constant), Principal Leadership (X1)
b. Dependent Variable: Industry participation (X2)

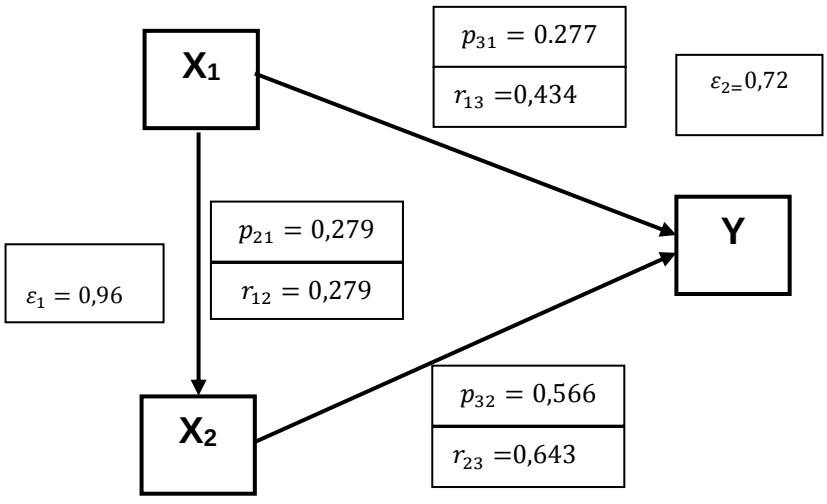
Table 14. Direct influence between variables

Direct Influence	Path Coefficient	t_{count}	t_{table}	
			$a = 0{,}05$	$a = 0{,}01$
X1 Against Y	0.277	3.448	1,99	2.63
X2 Against Y	0.566	7.055	1,99	2,63
X1 Against X2	0,279	2.726	1,99	2,63

Table 15. Summary of Proposed Hypothesis Testing Results

Hypothesis	Statistical Hypothesis	Decision	Conclusion
Principal leadership has a direct positive effect on school quality	$H_0: \beta_{31} \leq 0$ $H_1: \beta_{31} > 0$	H_0 rejected	Positive direct effect
Industry participation has a direct positive effect on school quality	$H_0: \beta_{32} \leq 0$ $H_1: \beta_{32} > 0$	H_0 rejected	Positive direct effect
Principal leadership has a direct positive effect on industry participation	$H_0: \beta_{21} \leq 0$ $H_1: \beta_{21} > 0$	H_0 rejected	Positive direct effect

The summary of the path analysis model can be seen in the following figure:



4) Coefficient of Determination Test Results

Table 16. Output and Interpretation of SPSS Determination Test

Model Summary[b]									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.696[a]	0,484	0,472	12,42170	0,484	40,791	2	87	0,000
a. Predictors: (Constant), Industry participation, Principal leadership									
b. Dependent Variable: School quality									

Based on table 16 above, it appears that the coefficient of determination for the Model (R2) is 0.484.

Coefficients[a]									
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	40,557	11,756		3,450	0,001			
	Principal leadership	0,208	0,060	0,277	3,448	0,001	0,434	0,347	0,266
	Industry participation	0,528	0,075	0,566	7,055	0,000	0,643	0,603	0,543
a. Dependent Variable: School quality									

From the table of coefficients above in model 1, it is obtained successively:

a) (p_{31}) = 0,277; tcount = 3.448, p-value = 0.001/2 = 0.0005 <0.05, or H_o is rejected, which means that the principal's leadership (X1) has a positive direct effect on school quality (Y).
b) (p_{32}) = 0,566; tcount = 7.055, p-value = 0.000/2 = 0.000 <0.05, or H0 is rejected, which means that industrial participation (X2) has a direct positive effect on school quality (Y).

Table 17. Direct and Indirect Effects of Variables X1, X2, on Variable Y

Variable	rxixj	pij	Direct influence	Indirect influence		R2
				X1	X2	
X1	0,279	0,277	0,077	0	0,044	0,121
X2		0,566	0,320	0,044	0	0,364
	Total		0,397	0,044	0,044	0,485

The total influence of the principal's leadership (X1) on the quality of the school (Y) in total, namely direct influence + influence through the correlation of other exogenous variables = (0.077) + (0.044) = 0.121. The effect of industrial participation (X2) on school quality (Y) in total, namely direct influence + influence through the correlation of other exogenous variables = (0.320) + (0.044) = 0.364

So, the total effect of exogenous variables with endogenous variables = (0.121) + (0.364) = 0.485 Thus, it can be concluded that the real influence of the principal leadership variable (X1) and industrial participation variable (X2) on school quality (Y) is 0.485 or 48.5%; this is the magnitude of the value of the index of determination (R2) while the remaining 51,5% comes from outside the two variables.

Based on the analysis of the research results, the correlation coefficient between the principal's leadership and school quality is 0.434, and the path coefficient is 0.277. Leadership is the science or art of influencing a person or group to act as expected in achieving a goal effectively and efficiently. According to Priansa (2017), the principal is in a professional position in the school in charge of managing all existing school resources and determining a policy in achieving common goals. In other words, leadership is a crucial component in schools to determine the development of the quality of a school. Principal leadership has a direct positive impact on school quality. Based on the second hypothesis testing, it can be concluded that there is a direct positive influence of industrial participation on school quality with a correlation coefficient value (r23) of 0.643 and a path coefficient

value (P32) of 0.566. That implies that industrial participation has a direct positive effect on school quality.

In line with Rahmadhany (2020) research, which shows that industry plays a role in planning, organizing, implementing, and supervising the curriculum, infrastructure, and fields related to automotive educators. According to him, low industrial participation can affect the quality of schools, especially in vocational high schools. Due to the participation of the school industry, it can be helped in adjusting the development of technology and industrial needs that are so dynamic and fast. In other words, industrial participation has a direct positive impact on school quality.

Based on the analysis of the research results, the correlation coefficient between the principal's leadership and industrial participation is 0.279, and the path coefficient is 0.279. That indicates that the principal's leadership directly positively impacts industrial participation. Principals are faced with the challenge of implementing planned, directed, and sustainable educational development to improve the quality of education. For this reason, the principal must have a vision, mission, and education management strategy as a whole and be oriented to the quality of education. The achievement of educational goals is influenced by the policies and skills possessed by the principal as the primary leader in educational institutions in schools. Thus, the principal has an essential role in improving the quality of the school he is leading. One of the principal's external roles is to carry out communication or relations with the industry. According to Prihantoro (2014) research, school principals have a strategic role in improving the quality of good relations with industry. Indirectly, principals who have good managerial competence will organize and communicate with the industry's existing ideas to develop the quality of the schools they lead. Based on the description above, it can be concluded that the principal's leadership has a positive direct impact on industrial participation.

Principal's leadership has a direct positive effect on school quality. Industry participation has a direct positive effect on School Quality. Principal leadership has a direct positive effect on industrial participation. Based on the results of research that has been carried out and taking into account the facts in the field, it can be concluded that there is a direct influence between Principal Leadership and Industrial World Participation on the Quality of Vocational High Schools in Serang City. The implications of this research can be realized by the following efforts: (1) Emphasizing a change in orientation towards the quality of SMK Negeri in Serang City, especially at the leadership level as a manager responsible for quality management, (2) School leaders ensure that cooperation with the industrial world manifested in the form of involvement in the development of industry-oriented curricula, (3) Principals are managers and leaders so they must ensure that planning, organizing and evaluation to create school quality are carried out gradually and sustainably, expanding collaboration that can encourage quality improvement school. Efforts to improve the quality of schools can be made by increasing industrial participation. Efforts need to be made to increase industrial participation in order to have an impact on school quality. Industry involvement can be realized by providing opportunities for students to practice work through fieldwork practices. Provide internships for teachers, assignments for guest teachers, and grants for equipment or products that can be used in the learning process. Instrumental inputs such as new student admissions and curriculum are prepared by involving the industrial world. Encouraging cooperation/partnership with the industrial world must be developed so that it can be implemented, benefits both parties, and makes a significant contribution to improving the quality of schools. There is a need for improvement and improvement in practice because principal leadership focuses on improving school quality by empowering school resources effectively and efficiently. In addition, as principal managers, they must also collaborate with the industrial world to improve the quality of schools. If the industrial world has actively participated in school programs in quality improvement, the school, especially the principal, has used their role very

efficiently and effectively. So one of the factors that need to be considered is increasing industrial participation in the leadership of professional, effective, and efficient school principals.

CONCLUSION

State Vocational High Schools in Serang City must implement an integrated quality management system or Total Quality Management (TQM) to improve school quality. Principals creatively make breakthroughs by involving the business world/industrial world, parents, teachers, and counsellors in preparing school programs and evaluating to improve school quality sustainably. Strategic plans to promote school quality should be implemented and operationalized with clear and measurable time, budget, and allocation of human resources. The Regional Government must evaluate the program and develop a follow-up program through the Banten Provincial Education Office. Collaborate with all parties on an ongoing basis in preparing development plans and aligning quality-oriented curriculum according to the needs of the industrial world in improving the quality of State Vocational High Schools in Banten. The managerial approach in improving school quality is adjusted to the abilities and conditions of the school so that quality achievement can be measured adequately. The collaboration includes preparing an operational implementation plan from the educational strategic plan to the implementation procedure stage so that the directions, goals, and targets to be achieved becomes clear. Research on principal leadership and industrial participation still needs to be refined. Therefore, it is necessary to carry out further specific and detailed research on the dimensions and indicators in this study; besides, it is necessary to examine other factors not included in this study that affect school quality.

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