

Innovative Work Behavior Development Through Technopreneurship Leadership in Vocational Schools: An Mixed Method Explanatory Research

Ima Rahmawati^{1*}, Hana Lestari², Johar Permana³, Aan Komariah³, Taufani Chusnul Kurniatun³

¹Management Education Departement, Institut Agama Islam Sahid, Indonesia

²Elementary Education Departement, Institut Agama Islam Sahid, Indonesia

³Administration Education Departement, Universitas Pendidikan Indonesia, Indonesia

*Corresponding email: dafenta.ima13@gmail.com

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Abstract: Objectives: This study explores the development of innovative work behavior through technopreneurship leadership. **Methods:** Explanatory mixed method with quantitative data collection in the form of questionnaires through a survey of 267 permanent teachers of foundations at private vocational schools in Bogor City and analyzed descriptively. Meanwhile, qualitative data collection in the form of interviews, observations, and documentation were analyzed using the Atlas Ti application. **Findings:** The results of this study indicate that to be able to develop innovative work behavior it is necessary to be supported by the ability of leaders in digital understanding and entrepreneurial skills in developing work programs in vocational schools. So with the abilities possessed by technopreneurship leaders, they will be able to influence the creation of a creative and innovative environment. **Conclusion:** Technopreneurship's leadership ability makes a new model of leadership in the future, especially in the development of innovative work behavior.

Keywords: innovative work behavior, technopreneurship leadership, vocational teachers.

Abstrak: Tujuan: Penelitian ini mengeksplorasi pengembangan perilaku kerja inovatif melalui kepemimpinan jenis baru yakni kepemimpinan technopreneurship. **Metode:** Adapun metode yang digunakan yakni Explanatory mixed method dengan pengumpulan data kuantitatif berupa kuisioner melalui survei terhadap 267 guru tetap yayasan pada sekolah vokasi swasta di Kota Bogor dan dianalisis secara deskriptif. Sedangkan pengumpulan data secara kualitatif berupa wawancara, observasi dan dokumentasi yang dianalisis dengan menggunakan aplikasi Atlas Ti. **Temuan:** Hasil penelitian ini menunjukkan untuk dapat mengembangkan perilaku kerja inovatif perlu didukung oleh kemampuan pemimpin dalam pemahaman digital dan kemampuan enterpreneurship di dalam pengembangan program kerja di sekolah vokasi. Sehingga dengan kemampuan yang dimiliki oleh pemimpin yang technopreneurship akan dapat berpengaruh terhadap penciptaan lingkungan yang kreatif dan inovatif. **Kesimpulan:** Dengan kemampuan kepemimpinan technopreneurship menjadikan model baru dalam kepemimpinan di masa depan terutama dalam pengembangan perilaku kerja inovatif.

Kata kunci: perilaku kerja inovatif, kepemimpinan technopreneurship, guru vokasi

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■ INTRODUCTION

Vocational schools are educational institutions designed to create graduates who are skilled and ready to use in the world of work. Of course, this means that competent education managers are needed to prepare human resources who are committed to innovation in quality and relevant vocational education with the demands of the Business and Industry World (DUDI) which continues to develop (Tokhibin & Wuradji, 2013). So that vocational schools in this case strive to be able to develop quality human resources and be able to adapt to these global changes.

An important factor in being able to develop teachers for innovative work behavior in schools is the support of the principal. This is because to be able to mobilize existing resources in schools, it needs to be influenced by the ability of the principal in managing vocational schools according to the needs of the community so that they can be accepted in the industrial and business world (Spreitzer, Perttula & Xin, 2005; Maris et al., 2016). One of the skills needed now is digital understanding and entrepreneurship skills so that they can compete with other vocational schools (Martiah, 2017; Saimima et al., 2022). Of course, this ability can motivate teachers to have innovative work behavior to be able to create and implement novel ideas developed in schools, which will be useful in creating productive, creative, and innovative graduates. Thus, a school organization must innovate continuously to be able to compete and survive for a long time (Cefis & Marsili, 2006; Slåtten & Mehmetoglu, 2015; Masharyono & Senen, 2015). Innovative work behavior itself is defined as individual behavior that aims to reach the introduction stage or attempt to introduce new and useful ideas, processes, products, or procedures in work, groups, or organizations (Janssen, 2000; Kleysen & Street, 2001; Bartos, 2003; De Jong & Den

Hartog, 2010; Afsar & Masood, 2018; Rahmawati, et al., 2020).

Given the important role of teachers' innovative work behavior about the big goal of improving the quality of Indonesian human resources, it is necessary to encourage the formation of innovative work behavior for each teacher. Of course, the teacher who has innovative behavior is inseparable from his ability to adapt to change. One of them is through the role of the teacher in preparing students to have 21st-century skills, namely students who can think critically and analytically, be creative and innovative, communicative, and collaborative (Lestari & Rahmawati, 2020). The reality that is happening in our education world is that innovation occurs more at the central level. These innovations then become programs that must be implemented in schools. A study conducted by Balitbang of the Ministry of Education and Culture in 2004 revealed that in general the teachers studied had carried out their duties and functions as recommended, such as compiling lesson plans, using varied learning methods, and using learning media. However, this learning behavior is more directed at the implementation of teaching tasks and functions alone, without being accompanied by the development of ideas, ideas, and creative behavior, including in Vocational High Schools (Agung, 2012).

In addition, research conducted by Nur Khayati and Sri Sarjana (2015) states that there are still many teachers who are not innovative, even though teachers can still use the internet to develop innovation. Among the 5.6 million teachers in Indonesia, only about 2% of teachers are innovative, meaning that 98% of teachers are not innovative. The teacher's work behavior, which is far from innovative, will certainly hinder the achievement of learning objectives in schools. Teachers who have innovative work behavior will always have new things to give to students so

that their presence is always awaited by students (Nurdin et al., 2020; Rahmawati et al., 2020). Students are always eagerly looking forward to the next meeting with the teacher concerned. In such a position, the innovative teacher is made a central figure by students in terms of interest and enthusiasm for learning, especially in terms of the subjects the teacher is teaching. Therefore, innovative teachers will automatically have a major contribution in improving the quality of education in schools, especially through a teaching and learning process that is not only teaching but also motivates students to be more creative and innovative (Lestari & Rahmawati, 2020).

Of course, to be able to develop innovative work behavior that focuses on improving the quality of learning and the quality of vocational graduates requires the ability of leaders (school principals) to manage human resources and data sources in vocational schools. Vocational school principals must be innovative and creative in developing their schools, and vocational human resources (teachers, staff, and students) must be adaptive to technology, have an entrepreneurial spirit, and have an independent character so that they can create their income. Of course, this is because the principal is a leader who is most influential in managing tasks, and people (subordinates) have a big share of the innovative behavior of individuals in the organization (De Jong & Den Hartog, 2010; Nurlaela et al., 2021).

This means that a vocational school principal is needed who can integrate entrepreneurship by maximizing the use of technology. This ability is in line with the notion of technopreneurship. Where technopreneurship is a process of integrating technology with entrepreneurial skills. Technopreneurship according to Okorie (2014), is a stage that exists in an organization by focusing on renewing ideas as a form of innovation and finding patterns of problems and how to solve them to increase the

selling power of the organization's products in the market.

Walker and Qian (2012) states that technopreneurship is defined as a collaboration of technology and industrial science with new economic value. Meanwhile, according to Khumalo (2015), a technopreneur is a new model entrepreneur (new age) who is based on technology, is creative, innovative, dynamic, dares to explore opportunities and opportunities, and is passionate about work. In line with the opinion above, technopreneurship refers to the application of technology which is the basis for driving national competitive success (Egge, 2003; Rahmawati et al., 2021). Thus technopreneurship is needed for vocational (vocational) schools, to produce creative, innovative, and competitive graduates (Fowosire et al., 2017). So that graduates from vocational schools can compete both globally and of course be able to create jobs under their competencies.

In addition, technopreneurship also triggers teachers to work more innovatively through the ability to be able to motivate, be independent, and proactive. An innovative teacher can provide a new, creative breakthrough, able to maximize the learning process (Basu & Green, 1997; Selvarani & Venusamy, 2015). So that later vocational students will have an innovative attitude that has an impact on the ability of graduates to be able to see job opportunities in society and have career opportunities.

This is in line with the opinion of Purnomo & Triyono (2018) which states that the Vocational School Principal must be a leader who can integrate entrepreneurship with technology (technopreneurship), with the following characteristics: (a) N-Ach (Need for achievement) high; (b) Having high conceptual and problem-solving skills; (c) Have broad insight and way of thinking; (d) High self-confidence and tolerance; (e) Moderate risk-takers. Moderate

risk-taking; (f) Realistic; (g) Moderate Interpersonal skills; and (h) Sufficient emotional stability. This means that a vocational leader who has these characteristics will be able to adapt to the school environment and the changes that will occur in the future so that the leader can mobilize school resources to achieve predetermined goals (Soetopo et al., 2019; Rahmawati et al., 2021).

Principal's technopreneurship leadership is defined as a leader's ability to manage school resources through innovative thinking on technology and business opportunities that are oriented towards work-based management to achieve predetermined goals (Egge, 2003; Markman, Phan, Balkin & Gianiodis, 2005; Peterson, Walumba, Bryon & Myrowitz, 2009; Okorie, 2014; Cristina, 2016; Fowosire et al., 2017; Sakti & Prasetyo, 2017; Suradi, 2017). Thus the principal who is unable to adjust his leadership pattern according to the ongoing climate, namely conformity to the needs of the vocational market, of course, will affect the situation of teaching and learning activities in schools (Harrison & Leitch, 2010; Gurr, 2015; Evers et al., 2016). clearly shows that the principal is required to have a high ability to adapt to change. Therefore, in carrying out his managerial duties, a principal must be able to carefully analyze and plan the career level of the teacher he leads, because the teacher is the spearhead of change towards improving school performance.

If the principal is not able to develop innovative work behavior for teachers in schools, it will result in a weak vision and mission that is not implemented properly. Of course, in this case, the development of innovative work behavior for teachers requires the ability of the right principal to work programs that are carried out in vocational schools. For this reason, the principal's technopreneurship leadership is considered important to be researched related to the development of innovative work behavior for teachers in vocational schools.

■ METHODS

The approach used in this study is a correlational approach using a research method, namely sequential explanatory mixed methods research design (Creswell, 2010). The sampling technique applied in this study was a cluster random sampling technique, where the total number of private vocational schools in six sub-districts in Bogor City was 96. After being counted through the first stage (50% of 96 Private Vocational High School), 49 Private Vocational High School were selected. The private sector with a total population of respondents is 801 teachers. While determining the sample size using the Slovin formula (Siregar, 2013), so there is a total sample of 267 teachers from 801 teachers as a population, while as many as 30 teachers were used as respondents to test the instrument.

Table 1. Number of research samples

No.	Private Vocational High School	Total Teacher	Sampling	Total Sampling
East Bogor				
1	Bina Budi Luhur	8	$8/801 \times 267 = 2,7$	3
2	Gumati Mulya	5	$5/801 \times 267 = 1,7$	2
3	Sirojul Huda 1	6	$6/801 \times 267 = 2$	2
4	Sirojul Huda 2	8	$8/801 \times 267 = 2,6$	3
5	YZA 1	8	$8/801 \times 267 = 2,6$	3
6	YZA 2	7	$7/801 \times 267 = 2,3$	2

West Bogor

1	Bina Sejahtera 3	13	$13/801 \times 267 = 4,3$	4
2	Bina Sejahtera 4	15	$15/801 \times 267 = 5$	5
3	Infokom	29	$29/801 \times 267 = 9,7$	10
4	Informatika Pesat	18	$18/801 \times 267 = 6$	6
5	IT Yasiba	10	$10/801 \times 267 = 3,3$	3
6	Kehutanan Bakti Rimba	12	$12/801 \times 267 = 4$	4
7	PGRI 1	32	$32/801 \times 267 = 10$	10
8	Tunas Bangsa Sejahtera	4	$4/801 \times 267 = 1,3$	1
9	YKTB 1	20	$20/801 \times 267 = 6,7$	7
10	YKTB 2	26	$26/801 \times 267 = 8,7$	9
11	YKTB 3	10	$10/801 \times 267 = 3,3$	3

North Bogor

1	Analisis Kimia YKPI	12	$12/801 \times 267 = 4$	4
2	Bina Warga 1	18	$18/801 \times 267 = 6$	6
3	Bina Warga 2	3	$3/801 \times 267 = 1$	1
4	Farmasi	18	$18/801 \times 267 = 6$	6
5	Farmasi Tunas Mandiri	11	$11/801 \times 267 = 3,7$	4
6	Kamandaka	12	$12/801 \times 267 = 4$	4
7	Nusantara	11	$11/801 \times 267 = 3,7$	4
8	Pembangunan	51	$51/801 \times 267 = 17$	17
9	PGRI 3	44	$44/801 \times 267 = 14,7$	15

South Bogor

1	Bhakti Insani	22	$22/801 \times 267 = 7,3$	7
2	Bhakti Taruna 1	16	$16/801 \times 267 = 5,3$	5
3	Bhakti Taruna 3	8	$8/801 \times 267 = 2,7$	3
4	Bina Informatika	27	$27/801 \times 267 = 9$	9
5	Dasa Semesta	19	$19/801 \times 267 = 6,3$	6
6	PUI	6	$6/801 \times 267 = 2$	2
7	Saga Mulia	19	$19/801 \times 267 = 6,3$	6
8	Yasbam	18	$18/801 \times 267 = 6$	6

Central Bogor

1	Bina Sejahtera 1	23	$23/801 \times 267 = 7,7$	8
2	Bina Sejahtera 2	17	$17/801 \times 267 = 5,7$	6
3	PGRI 2	23	$23/801 \times 267 = 7,7$	8
4	Taruna Andiga	29	$29/801 \times 267 = 9,7$	10
5	Yatek Baru	7	$7/801 \times 267 = 2,3$	2

Tanah Sereal

1	Analisis Kimia Nusa Bangsa	24	$24/801 \times 267 = 8$	8
2	Dwi Putri Husada	10	$10/801 \times 267 = 3,3$	3

Tanah Sereal				
1	Analisis Kimia Nusa Bangsa	24	$24/801 \times 267 = 8$	8
2	Dwi Putri Husada	10	$10/801 \times 267 = 3,3$	3
3	Mekanika	8	$8/801 \times 267 = 2$	2
4	Permata 2 Bogor	12	$12/801 \times 267 = 4$	4
5	Tri Dharma 1	17	$17/801 \times 267 = 5,7$	6
6	Tri Dharma 2	36	$36/801 \times 267 = 12$	12
7	Tri Dharma 3	7	$7/801 \times 267 = 2,3$	2
8	Tri Dharma 4	26	$26/801 \times 267 = 8,7$	9
Population		801	Sample	267

The quantitative data collection in this study used a questionnaire using a Likert scale which was first validated and tested for reliability. The validation test in this study used the one-shot method in the SPSS Ver 23 program where the questionnaire was given once to the respondent and then the data was analyzed. Decision-making is valid whether or not the indicators are based on the r-count value compared to the r-table value or the probability value (p-value). The indicator is declared valid if the correlation coefficient (r-count) > r-table or the p-value < 0.05. The r-table for $n = 30$ ($df = 28$) is 0.361. The results of the validity test show that several indicators are invalid so that these indicators can be excluded from the questionnaire. For the innovative work behavior variable instrument, 21 valid items were obtained and 1 item dropped, namely item 1. As for the valid principal technopreneurship leadership variable instrument, there were 27 items, while the non-valid data (drop) was 1, namely the 21st item

The reliability test that will be used in this study is to use the SPSS Ver 23 facility, namely the Cronbach Alpha statistical test. The following table shows the results of reliability testing for all indicators on the dimensions used in the study which are acceptable, as well as for the overall level of measurement as stated by Ghozali (2006) which states that a constructor variable is

declared reliable if the Cronbach alpha value is > 0.60 (Ghozali, 2006). Based on this test, it was found that the two variables tested were declared reliable, namely the innovative work behavior variable of 0.882 and the technopreneurship leadership variable of 0.927.

In addition, qualitative data collection was obtained through interviews, observation, and documentation. The interview method used is a structured interview. Data from interviews with private vocational high school principals, teachers, and vice-principals, both manual and digital data will be recorded and stored. Interviews were conducted to collect data from the background, motives, beliefs, opinions, the behavior of the informants. The next observation in this research consists of various flexible steps in line with what will be faced in the field and of course in line with the research focus that has been determined in advance. As for the documentation in this study, it contains everything related to research variables such as resumes, transcripts, notes, print media, social media, placards, activity journals, and others. The data used were taken based on the school's documentation archives, electronic newspapers, and documentation taken when researchers made visits to the field.

The data analysis used includes descriptive data analysis for the quantitative stage, while

qualitative data analysis includes data reduction, data display, and verification which is assisted by the use of the Atlas Ti application (Drijvers, 2012; Friese, 2014; Evers & Silver, 2014).

RESULTS AND DISCUSSION

Based on the calculations and findings in the study, in general, the conditions of these factors can be seen in the following table:

Table 2. Descriptive statistics

Variable	N	Min	Max	Sum	Mean	Median	Std. Deviation
Innovative Work Behavior (Y)	267	59	95	21299	79.77	80.00	6.75
Technopreneurship Leadership (X)	267	84	135	30485	114.18	116.00	9.58

Based on the data in table 2, shows that the innovative work behavior variable has a theoretical range between 59 and 95 with an average value of 79.77 and a standard deviation of 6.75. While the average value of the innovative work behavior variable is 79.77 d” 80.00 median value, it can be said that vocational teachers generally have high enough innovative work behavior or are considered normally distributed. The standard deviation value shows a deviation of 6.75 from the average value of the respondents’ answers to statements about innovative work behavior which is 79.77.

Meanwhile, the principal technopreneurship leadership variable has a theoretical range between 84 and 135 with an average value of 114.18 and a standard deviation of 9.58. While the average value is 114.18 d” 116.00 median value, so it can be said that the principal of vocational schools generally has high technopreneurship leadership criteria or is considered normally distributed. The standard deviation value shows a deviation of 9.58 from the average value of the respondent’s answer to the statement about the principal’s technopreneurship leadership, which is 114.18.

Table 3. Recapitulation of research indicator analysis results

Variable	Indicator	Sim.	Average Score of Research Results	Percentage of Average Score (%)
Innovative Work Behavior (Y)	Ability to identify opportunities to take advantage of learning resources	Y.1	4.27	85.39
	Ability to organize	Y.2	4.22	84.39
	Ability to influence colleagues, leaders, and the learning environment	Y.3	4.17	83.35
	Ability to implement the learning process	Y.4	4.15	83.08
Technopreneurship Leadership (X)	<i>Able to motivate</i>	X.1	4.32	86.37
	<i>Visionary</i>	X.2	4.24	84.72
	<i>Innovativeness</i>	X.3	4.23	84.62
	<i>Independen</i>	X.4	4.21	84.14
	<i>Persistence</i>	X.5	4.21	84.27

<i>Achievement Oriented</i>	X.6	4.17	83.33
<i>Risk Taking</i>	X.7	4.25	84.92
<i>Proactiveness</i>	X.8	4.20	84.08

Based on the table above, the indicator that has the highest average score on the innovative work behavior variable is the ability to identify opportunities to take advantage of learning resources, namely 4.27. The indicator that has an average score lower than the average score as a whole is the ability to implement the learning process which is 4.15. While the indicator that has the highest average score on the Principal's technopreneurship leadership variable can motivate, which is 4.32. The indicator that has an average score lower than the average score as a whole is achievement-oriented, which is 4.17.

If observed from the weight of the highest indicator assessment in table 3, the ability to be able to motivate achieves the highest score. This is in line with the qualitative results, where most of the Vocational High School Principals have supported teachers in terms of competency development. Such as facilitating training and supporting teachers in participating in subject teacher consultation activities. Apart from that, most of the principals of vocational schools have other types of businesses besides managing schools. This motivates teachers to develop entrepreneurship in schools. The development of quality education in vocational schools requires leadership skills in terms of management and entrepreneurial skills. Schools are required to make progress from time to time. Therefore, a warm relationship must be built between the teacher and the principal to create a conducive and comfortable work atmosphere. Likewise, the material environment and school managerial management need to be discussed to make the school an educational environment capable of producing new creative breakthroughs, innovative teacher performance behavior, discipline, and

student morale. So that if the school community is in a favorable condition, it allows them to be more able to produce creative and innovative ideas to create healthy competencies that exist between teachers (Hartinah, 2011). Thus the quality of education in vocational schools in the achievement of educational output, namely graduates who can be highly competitive in their era.

Besides, other things are proven by creating good communication. Supporting teachers to be able to convey creative ideas in improving learning. In line with the opinion of Abdulwahed (2017), where the Principal is the motivator, which means that the Principal must have skills in managing and creating a conducive work climate that supports improving school quality. Meanwhile, the acquisition of the lowest score in the Principal's technopreneurship leadership variable is achievement-oriented ability. This is due to the finding that in some schools, the Principal has not fully paid full attention to the achievements obtained by teachers. This is in line with the qualitative results, which found that in some vocational schools no promotion system supports teacher achievement.

Meanwhile, for the innovative work behavior variable, it was found that the lowest indicator weight was based on table 8, namely the ability to implement the learning process. This is due to findings in several schools where the educational background of the teacher is not appropriate (linear) with the subjects being taught, especially in productive subjects. The innovative work behavior of teachers is one of the components in developing the quality of learning and the quality of graduates in vocational schools. Because teachers are individuals who can

understand the climate in the classroom and as class managers during the teaching and learning process, teachers who have innovative behavior will be able to understand what behaviors and actions need to be taken (Putri et al., 2019).

Of course, in developing learning through programs implemented in vocational schools, of course, good and sufficient accuracy is needed from the teacher or people around who are involved with predetermined and implementable goals. Teachers must have high fighting power and a great sense of responsibility. Teachers must also be able to move as counselors, assessors, and facilitators who are responsible for applying morality to their students to convey quality knowledge to students. So that it takes the development of innovative work behavior for teachers to have an impact on high school quality. The aspects that influence teachers have innovative work behavior, including individual aspects, psychological aspects, and also organizational aspects (Coulombe, 2015). Thus, most of the vocational teachers already have an overview of innovative work behavior. However, to be able to improve the innovative work behavior development program through the headmaster's technopreneurship leadership requires qualifications that are under the expertise program possessed by each vocational school.

Therefore, in developing innovative work behavior and teacher self-confidence, the role of a leader is needed. This is supported by research which indicates that the leadership style or leadership model is one of the important factors to be able to influence the innovative work behavior of individuals in organizations (Scott & Bruce, 1994; Jung et al., 2003; Amabile, 2004; De Jong & Den Hartog, 2007). This is because leaders directly influence the behavior of their subordinates in many ways, such as role models,

goal definition, reward allocation, and resource distribution (Redmond et al., 1993). De jong & Kemp (2003) argued that leaders can also indirectly influence members by encouraging them to try various ways without worrying about getting punished if the results of their efforts have no impact or the results are negative. The existence of this function makes the leader has an important effect on the creativity of subordinates (Redmond et al., 1993).

The percentage of the description of the principal's technopreneurship leadership at Bogor City Vocational School has reflected the ability of technopreneur leadership in developing innovative work behavior for vocational teachers. This is supported by qualitative findings on the dimensions of innovative thinking, most of the principals have supported the facilitation of teachers in developing innovative behavior. Namely by installing wifi in schools, encouraging teachers to take part in training, and facilitating events to introduce student learning products. Of course, the Principal has pushed towards change. In addition to other findings that support the ability of school principals in technopreneur leadership, it was found that most of the Principals had built good communication between school members. This builds the creation of trust between members of the organization in achieving school goals. The findings in the study also showed that the majority of school principals already have a school principal training certificate. Meanwhile, the facts in the field also show that the adaptability to IT is different. In this case, there were still school principals who were not yet proficient in applying IT in the school management process.

Meanwhile, in the business thinking dimension, it was found that most of the Principals had other types of businesses besides managing schools. Of course, most of the Principals have built good partnership relationships. However, a

small number of principals were still found to be less able to make maneuvers in their activities. This means, some school principals still do not dare to take risks with the calculation of management policies in schools.

Thus, if the two dimensions of technopreneur leadership are analyzed, the ability of technopreneurship leadership will be analyzed in the development of innovative work behavior for vocational teachers, including the following:

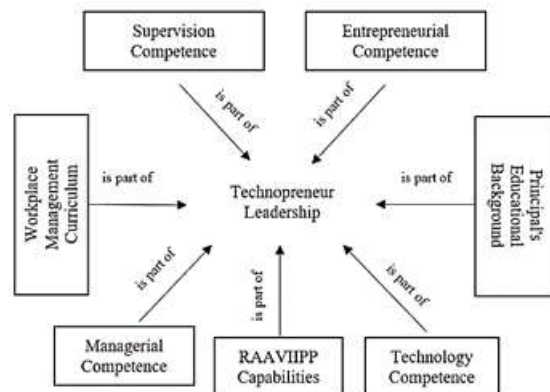


Figure 1. Analysis of the leadership of vocational school principal technopreneurship with the IT atlas application

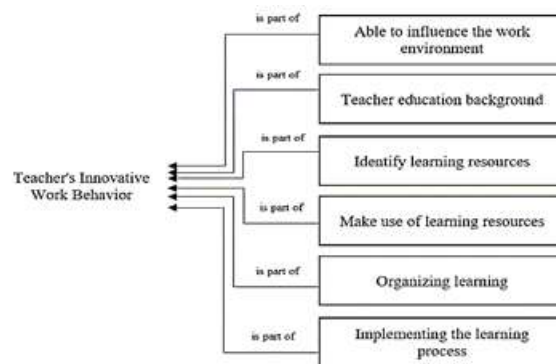


Figure 2. Analysis of vocational teacher innovative work behavior with the IT atlas application

Meanwhile, qualitative data analysis for innovative work behavior variables

The Principal's technopreneurship leadership is also considered capable of developing his organization in a more innovative direction by integrating digital understanding and entrepreneurial values through increasing creativity, trust, and cooperation with the community. This means that the principal's technopreneurship leadership is a leader who is proactive in finding and taking advantage of

existing opportunities to achieve predetermined organizational goals. This shows that the technopreneurship leader can bring organizational change to a more adaptive direction both in terms of technology and other changes needed by society. One of the efforts is through the development of the Teaching Factory (TEFA) program. The Teaching Factory (TEFA) program is a combination of the concept of education with entrepreneurship-based learning under the expertise programs available by each school

(Kurniawan, 2017). Through the TEFA program, the Principal gives teachers the freedom to behave innovatively in the learning process that supports a culture of quality in the creation of industrial work in schools. Of course, the principal also plays a role in balancing school financial resources through risk-taking abilities, so that it can provide creative space for students and teachers in creating entrepreneurship in schools (Wijaya, 2013; Bednall et al., 2018).

Therefore, the Principal's technopreneurship leadership is considered appropriate to be applied in developing innovative work behavior for vocational teachers. This is because the educational leadership needed in the

4.0 era is leadership who has the technological knowledge and understands the needs of the education market (Masharyono & Senen, 2015; Birdi et al., 2016; Martiah, 2017). Leadership technopreneurship Principals have the skills needed in managing vocational schools. The Principal's technopreneurship leadership abilities include: (1) having the ability to motivate members of the organization; (2) visionary; (3) innovative; (4) independent; (5) never give up; (6) dare to take risky decisions; (7) can delegate tasks; and (8) have a proactive attitude towards change (Biedenbach & Müller, 2012; Depositario, Aquino & Feliciano, 2011; Fowosire, et al., 2017).

Table 4. Contribution analysis of variable correlation and coefficient of determination

Correlation Between Variables	Correlation Coefficient	Determination Coefficient	Contribution
X dengan Y	0.887 ^a	0.7868	78.68%

Table 4 shows the magnitude of the coefficient of determination of 0.7868 which is equivalent to 78.68%. This figure can be interpreted that the variable of innovative work behavior contributes to the variable of innovative work behavior of teachers by 78.68%, while the remaining 21.32% is contributed by other factors that support the development of innovative work behavior of vocational teachers. The regression results, which were obtained were 0.887 0.05, which means that technopreneurship leadership has a direct and significant impact on the development of innovative work behavior for vocational teachers at Private Vocational High School Bogor City. So that inadvertently a professional vocational ecosystem will be formed and of course, can build partnerships that are oriented toward work-based management.

In line with research conducted by Basu & Green (1997), Scott and Bruce (1994), Damarich

et al (2011), Sagnak et al (2011), and Rahmawati et al (2020) which state that there is an influence of leadership with innovative work behavior. Principal leadership is one of the organizational factors that encourage the development of innovative work behavior teachers so that it will have an impact on the achievement of organizational goals. Meanwhile, leadership is a person's ability to influence and motivate members to be willing and able to contribute to the achievement of organizational goals, maintain cooperative relationships and group work, and gain support and cooperation from people outside the group or organization (Cheung et al., 2001; Swandari, 2003; Husri dan Chalid Sahuri, 2013; Gurr et al., 2015; Nurlaela et al., 2021; Asima et al., 2021). Leadership also means a person's efforts to influence the behavior of others individually or in groups to carry out activities to achieve goals in certain situations

(Elkhani et al., 2014; Permana et al., 2020; Khofifah, 2020; Rahmawati et al., 2021; Saimima et al., 2022; Lestari, et al., 2022). In other words, the principal's technopreneurship leadership affects the behavior of teachers for entrepreneurship accompanied by an understanding of technology to be able to produce innovative learning to achieve the quality of vocational education.

■ CONCLUSIONS

The development of innovative work behavior for vocational teachers through technopreneurship leadership gave a substantial (strong) contribution of 78.68%. This means that technopreneurship leadership can form an organization to become an innovative organization by increasing creativity, confidence, and public relations through the application of technology in the organizational activities it leads. Technopreneurship leadership The principal is a leader who can find and explore opportunities to achieve success so that later he can bring positive changes in an organization, both technologically and in the face of various environmental changes. Of course, there will be the development of innovative work behavior through the ability of a technopreneurship leader, which has the final impact on improving the innovative performance of vocational teachers. Technopreneurship's leadership ability makes a new model of leadership in the future, especially in the development of innovative work behavior. In addition, the development of this innovative work behavior can create a professional vocational ecosystem. However, of course, the development of this innovative work behavior must also be in line with the principal's ability to understand reliable technology, the adaptability of teachers, and the vocational work environment that is in line with the needs of the vocational market.

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