

## The Influence of Quality Management Practices and Digital Innovation on Organizational Performance Mediated by Competitiveness Strategy and Moderated Industrial Collaboration in Vocational Higher Education in Indonesia

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### Abstract

Vocational education is one of the government's focuses in producing superior human resources, this needs to be pursued, among others, by practicing quality management and digital innovation so as to improve organizational performance. This study aims to determine the effect of quality management practices and digital innovation on organizational performance mediated by industrial competitiveness and collaboration strategies at vocational tertiary institutions in Indonesia. This study uses a quantitative research method with a descriptive approach. Data collection techniques in this study using questionnaires, and literature study. The research data were then analyzed using the SPSS program. The research results show that quality management practices has a positive and significant effect on organizational performance, competitiveness strategy mediates the positive and significant effect of quality management practices on organizational performance, industry collaboration moderates the positive and significant effect of quality management practices on organizational performance, digital innovation has a positive and significant effect on organizational performance, competitiveness strategy mediates the positive and significant influence of digital innovation on organizational performance, and industry collaboration moderates the positive and significant effect of digital innovation on organizational performance.

**Keywords:** *Quality Management Practices, Digital Innovation, Organizational Performance, Competitiveness Strategy, Industry Collaboration.*

### INTRODUCTION

Improving the capabilities and skills of human resources for the younger generation of prospective workers is the responsibility of the world of education, both formal and non-formal education. Education is an integral part that cannot be separated from the process of preparing qualified, tough and skilled human resources. In other words, through

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education, qualified prospective workers will be obtained so that they are more productive (Maemunah, 2021; Innotata & Joung, 2022).

In the world of work-oriented education delivery system in Indonesia, there are two terms of education used, namely: vocational education and vocational education. In Article 15 of the Law on the National Education System Number 20 of 2003, it is explained that vocational education is secondary education that prepares students especially to work in certain fields, while vocational education is higher education that prepares students to have jobs with certain applied skills that are maximally equivalent to undergraduate programs (Asri et al., 2022; Setyawan, 2022).

The Vocational Program is an educational program at the higher education level that aims to prepare personnel who can define expertise and skills in their fields, are ready to work and able to compete globally. In general, vocational education (diploma program) aims to prepare students to become members of society who have the ability of professional experts to apply, develop and disseminate technology and/or arts and seek their use to improve people's lives (European Education Commission, 2021; Zeng, Phan & Matsui, 2015).

Juridically, the purpose of vocational education in Indonesia has been stated in the Minister of Education and Culture Decree No. 0490/U/1990 which reads as follows.

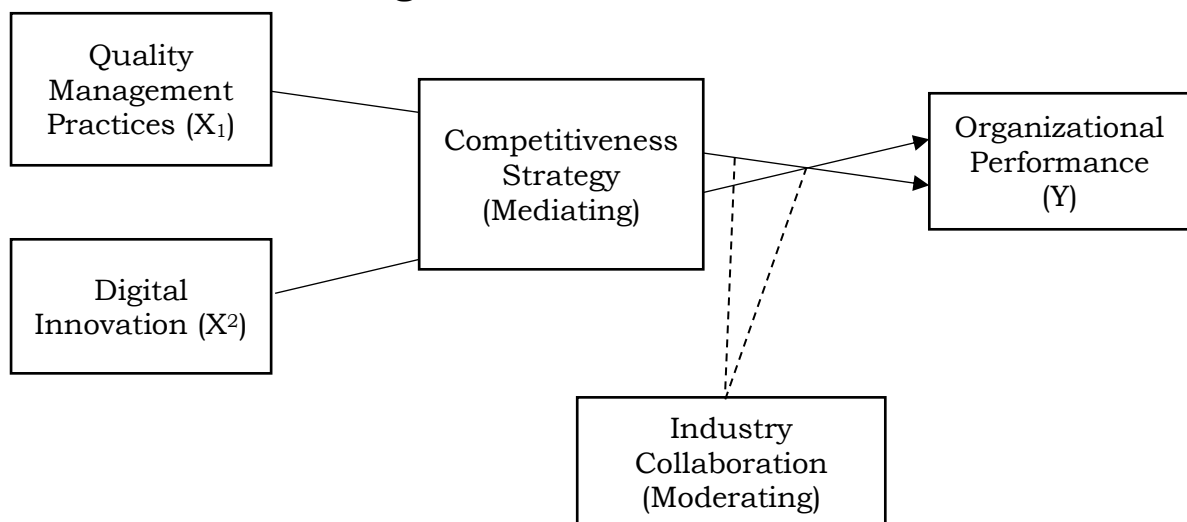
1. Preparing students to continue on to a higher level of education and/or expand basic education.
2. Improving the ability of students as members of society in establishing reciprocal relations with the social, cultural and surrounding environment.
3. Improving students' abilities to be able to develop themselves in line with developments in science, technology, and the arts.
4. Prepare students to enter the workforce and develop a professional attitude.

Based on data from the National Statistics Agency in 2011, there were 82.1 million Indonesian workers filled with unskilled workers (workers who do not have skills or competence in their field). The majority of these unskill workers are graduates of public schools. While the group above it is filled with skill workers (workers with skills or competence in their field) of 20.4 million people. And the top composition is expert workers (experts) with 4.8 million people (Rusmala, 2018). Seeing these conditions, Indonesia will find it difficult to compete with other countries in the era of globalization and intense competition now and in the future. Based on this fact, it is the responsibility of the world of education, especially vocational education, to be able to produce competent graduates. Therefore the competencies that will be developed through the learning process must refer to the competencies needed by the industrial world. One of the courses in higher education which is very important and strategic for the formation of competencies is practical courses. Therefore it is

considered very important to always improve the quality of the practical learning process

In Indonesia, even though the main goal of vocational education is the work industry, this does not rule out the possibility if someone wants to continue their education to a higher level. Therefore, every institution that organizes vocational study programs must continue to provide basic provisions for students to continue their studies to a higher level of education. Vocational education is one of the government's focuses in producing superior human resources, this needs to be pursued, among others, by practicing quality management and digital innovation so as to improve organizational performance (Wood, 1999; Khin & Ho, 2018; Abbas, 2020; Jackson et al., 2016). The importance of this role makes researchers interested in finding out more by conducting research with the title "The Influence of Quality Management Practices and Digital Innovation on Organizational Performance Mediated by Competitiveness Strategies and Moderated Industrial Collaboration at Vocational Colleges in Indonesia".

### Framework of thinking



### Research Hypothesis

H<sub>1</sub>: Quality Management Practices has a positive and significant effect on Organizational Performance

H<sub>2</sub>: Competitiveness Strategy mediates the positive and significant effect of Quality Management Practices on Organizational Performance

H<sub>3</sub>: Industry Collaboration moderates the positive and significant effect of Quality Management Practices on Organizational Performance

H<sub>4</sub>: Digital Innovation has a positive and significant effect on Organizational Performance

H<sub>5</sub>: Competitiveness Strategy mediates the positive and significant influence of Digital Innovation on Organizational Performance

H<sub>6</sub>: Industry Collaboration moderates the positive and significant effect of Digital Innovation on Organizational Performance

## METHOD

### Research Methods

This research uses quantitative research methods. According to Sugiyono in (Irbah et al., 2022) the Quantitative research method is a research method based on positivism (concrete data), research data in the form of numbers that will be measured using statistics as a calculation test tool, related to the problem under study to produce a conclusion. The descriptive approach in this study is intended to create an objective picture or description of a situation by using numbers, starting from data collection, data interpretation as well as the appearance and results. Data collection techniques in this study used questionnaires and literature study with secondary data collection through appropriate journals, articles and previous research dengan penelitian.

### Population and Sample

The population in this study is 1128 vocational tertiary institutions in Indonesia (Kementerian Riset Perguruan Tinggi, 2019). This research took 30 samples from the population based on suggestions from Kerlinger and Lee who suggested a minimum sample size of 30. The sampling technique in this study was random sampling, because it allows researchers to obtain respondents according to the number produced. While collecting data for this study using a questionnaire in the form of Google Docs which was distributed to several social media platforms.

## RESULT AND DISCUSSION

### Quality Management Practices Has a Positive and Significant Effect on Organizational Performance

**Table 1 Hypothesis Test Results H1**

|   | Model                        | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig  |
|---|------------------------------|-----------------------------|------------|---------------------------|-------|------|
|   |                              | B                           | Std. Error | Beta                      |       |      |
| 1 | (Constant)                   | 5.835                       | 4.158      | .471                      | 1.403 | .171 |
|   | Quality Management Practices | .575                        | .204       |                           | 2.825 | .009 |

a. Dependent Variable: Organizational Performance

Based on the results of this analysis, it was obtained a significance t value of  $0.009 < 0.05$  and a calculated  $t_{\text{value}}$  of  $2.825 > t_{\text{table}} 0.684$ , then  $H_0$  was rejected  $H_a$  was accepted. So partially it can be concluded that Quality Management Practices ( $X_1$ ) has a positive and significant effect on Organizational Performance (Y).

## Competitiveness Strategy Mediates the Positive and Significant Effect of Quality Management Practices on Organizational Performance

**Table 2 Hypothesis Test Results H2**

|   | Model                        | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig   |
|---|------------------------------|-----------------------------|------------|---------------------------|-------|-------|
|   |                              | B                           | Std. Error | Beta                      |       |       |
| 1 | (Constant)                   | 0.391                       | 4.158      |                           | .122  | .1906 |
|   | Competitiveness Strategy     | .575                        | .144       | .771                      | 6.825 | .000  |
|   | Quality Management Practices | .985                        | .122       | .894                      | 3.673 | .001  |

a. Dependent Variable: Organizational Performance

Based on the results of the study, it was obtained data from Unstandardized Coefficients Competitiveness Strategy (Med) on Organizational Performance (Y) of 0.575 with a significance of 0.00 So that there is a positive influence of Competitiveness Strategy (Med) on Organizational Performance (Y). Meanwhile, the variable Quality Management Practices ( $X_1$ ) on Organizational Performance (Y) is 0.985 with a significance of  $0.001 < 0.05$  so that there is an effect of Quality Management Practices on Organizational Performance (Y) after entering the variable Competitiveness Strategy (Med) into the equation.

## Industry Collaboration Moderates the Positive and Significant Effect of Quality Management Practices on Organizational Performance

**Table 3 Hypothesis Test Results H3**

|   | Model                        | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig   |
|---|------------------------------|-----------------------------|------------|---------------------------|-------|-------|
|   |                              | B                           | Std. Error | Beta                      |       |       |
| 1 | (Constant)                   | 0.391                       | 4.158      |                           | .122  | .1906 |
|   | Quality Management Practices | .575                        | .144       | .771                      | 6.825 | .000  |
|   | Industry Collaboration       | .985                        | .122       | .894                      | 3.673 | .002  |
|   | X1M                          | -0.84                       | 0.040      | -1.186                    | 3.241 | 0.043 |

a. Dependent Variable: Organizational Performance

Based on the research data, the significance value of the interaction variable between Quality Management Practices ( $X_1$ ) and Industry Collaboration (Mod) is  $0.000 < 0.05$ , so it can be concluded that the Industry Collaboration (Mod) variable moderates the influence of Digital Innovation ( $X_2$ ) on Organizational Performance (Y).

### Model Summary

| Model | R    | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1     | .684 | .838     | .835              | .465                       |

a. Predictors: (Constant), Quality Management Practices, Industry Collaboration, X1M

Based on the research data, it was obtained that the R Square value was 0.838, which means that the influence of the Moderation Variable Industry Collaboration was 83%. So it can be concluded that after the Industry Collaboration moderation variable can strengthen the effect of Digital Innovation ( $X_2$ ) on Organizational Performance (Y).

Based on the research data, the significant value of the interaction variable between Quality Management Practices ( $X_1$ ) and Industry Collaboration (Mod) is  $0.000 < 0.05$ , so it can be concluded that the Industry Collaboration variable moderates the effect of the Quality Management Practices ( $X_1$ ) variable on Organizational Performance (Y).

### Digital Innovation Has a Positive and Significant Effect on Organizational Performance

**Table 4 Hypothesis Test Results H4**

| Model              | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig  |
|--------------------|-----------------------------|------------|---------------------------|-------|------|
|                    | B                           | Std. Error | Beta                      |       |      |
| 1 (Constant)       | 2.041                       | 3.2948     | .667                      | .620  | .541 |
| Digital Innovation | .809                        | .171       |                           | 4.741 | .000 |

a. Dependent Variable: Organizational Performance

Based on the results of this analysis, a significance t value of  $0.000 < 0.05$  was obtained and a calculated  $t_{\text{value}}$  of  $4.741 > t_{\text{table}}$   $0.684$ , then  $H_{01}$  was rejected,  $H_{a1}$  was accepted. So partially it can be concluded that Digital Innovation ( $X_2$ ) has a positive and significant effect on Organizational Performance (Y).

### Competitiveness Strategy Mediates the Positive and Significant Influence of Digital Innovation on Organizational Performance

**Table 5 Hypothesis Test Results H5**

| Model                    | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig  |
|--------------------------|-----------------------------|------------|---------------------------|-------|------|
|                          | B                           | Std. Error | Beta                      |       |      |
| 1 (Constant)             | 0.747                       | 3.758      | .                         | .150  | .788 |
| Competitiveness Strategy | .711                        | .179       | .635                      | 3.964 | .000 |
| Digital Innovation       | .875                        | .140       | .894                      | 3.623 | .005 |

a. Dependent Variable: Organizational Performance

Based on the research results, the Unstandardized Coefficients Competitiveness Strategy power on Organizational Performance is  $0.711$  with a significance of  $0.000 < 0.05$  so that there is a positive influence of Competitiveness Strategy on Organizational Performance. Meanwhile, the Digital Innovation variable on Organizational Performance is  $0.875$  with a significance of  $0.005 < 0.05$  so that there is an effect of Digital Innovation on Organizational Performance after entering the Organizational Performance variable into the equation.

### Industry Collaboration Moderates the Positive and Significant effect of Digital Innovation on Organizational Performance

**Table 6 Hypothesis Test Results H6**

| Model                  | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig    |
|------------------------|-----------------------------|------------|---------------------------|--------|--------|
|                        | B                           | Std. Error | Beta                      |        |        |
| 1 (Constant)           | 0.391                       | 4.158      |                           | .122   | .1.906 |
| Digital Innovation     | .5709                       | .899       | 3.068                     | 6.609  | .000   |
| Industry Collaboration | .985                        | .122       | .894                      | 3.673  | .001   |
| X2M                    | -.343                       | 0.059      | -4.285                    | -5.799 | 0.000  |

Based on the research data, the significance value of the interaction variable between Digital Innovation and Industry Collaboration is  $0.000 < 0.05$ , so it can be concluded that the Industry Collaboration (Mod) variable moderates the effect of the Digital Innovation ( $X_2$ ) variable on Organizational Performance (Y).

#### Model Summary

| Model | R    | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1     | .864 | .793     | .785              | .680                       |

a. Predictors: (Constant), X2M, Digital Innovation, Industry Collaboration

Based on the research data, it was obtained that the R Square value was 0.793, which means that the influence of the Moderation Variable Industry Collaboration was 79%. So it can be concluded that after the Industry Collaboration moderation variable can strengthen the effect of Digital Innovation ( $X_2$ ) on Organizational Performance (Y).

## CONCLUSION

Based on this research it can be concluded that quality management practices has a positive and significant effect on organizational performance. Competitiveness strategy mediates the positive and significant effect of quality management practices on organizational performance. Industry collaboration moderates the positive and significant effect of quality management practices on organizational performance. Digital innovation has a positive and significant effect on organizational performance. Competitiveness strategy mediates the positive and significant influence of digital innovation on organizational performance. Industry collaboration moderates the positive and significant effect of digital innovation on organizational performance.

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