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# TQM, Entrepreneurial Orientation, Innovation, and Organizational Performance in Indonesian Palm-Oil Industry

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## ABSTRACT

The purpose of this research was to examine the effect of total quality management and entrepreneurial orientation toward organizational performance with the mediating effect of innovation among Crude Palm Oil (CPO) producing companies located in East Barito and West Kotawaringin districts, Kalimantan Island, Indonesia. The sample was determined by quota-sampling method. This research was conducted by taking 8 palm-oil-producing companies as research subjects. Data processing technique used the Partial Least Square (PLS) method by SmartPLS 3<sup>rd</sup> version software. The results of this research show that total quality management has no positive effect on organizational performance, total quality management has positive effect on innovation, innovation has positive effect on organizational performance, total quality management has positive effect on organizational performance mediated by innovation, and entrepreneurial orientation has positive effect on organizational performance.

**Keywords:** TQM, Entrepreneurial Orientation, Innovation, Organizational Performance

## 1. INTRODUCTION

Indonesia is the largest palm-oil-producing country in the world. Nevertheless, Indonesia still has not been able to control its selling price in the world trade market. Palm oil plantations and industries have been ruling and contributing positively to the National and Regional Economy in Indonesia. Therefore, every plantation and palm oil industry in Indonesia is required to use and maintain the competitive advantage of Indonesia as the world's largest producer of palm oil by providing the best organizational performance. All industries and palm-oil plantations in Indonesia need some efforts to improve their organizational performance. The high performance of palm-oil plantations can increase the competitive advantage in the face of increasingly dynamic global competition. Being able to achieve the high performance of palm-oil plantations explains that these plantations can obtain and allocate their resources appropriately. Therefore, the performance achieved by agribusiness companies in Indonesia must be maintained and improved.

In Indonesia, the research related to organizational financial performance has been done a lot, but not so with organizational performance measured non-financially. Several studies related to the organizational non-financial performance, among others, [1] found a positive and significant relationship between leadership and process management which is part of the effect of total quality management towards organizational performance. [2] found a positive and significant relationship between total quality

management and non-financial performance. [3] found a positive and significant effect of total quality management and entrepreneurial orientation towards firm performance. [4] found a positive and significant effect of customer orientation towards organizational performance through customer relationship practice, [5] found a positive and significant effect of total quality management and entrepreneurial orientation towards firm performance., [6] found a positive and insignificant effect of innovation and total quality management on organizational performance, [7] found a positive and significant relationship between innovation and firm performance, [8] found a positive and significant relationship between total quality management and firm performance, of which total quality management can indirectly affect firm performance through innovation, and [9] found a positive and significant effect of total quality management and innovation on performance.

However, several other studies have generated different studies from the above research. [10], [11], [12] did not find any positive and significant relationship between total quality management and organizational performance. Meanwhile, [13] and [14] did not find any positive and significant effect of entrepreneurial orientation towards organizational performance.

Various organizations have realized the role of quality in meeting consumer needs that will drive the organization to success in the market today [15]. [2] described Total Quality Management (TQM) as a management concept that seeks continuous improvement in every function and process within an organization to meet consumer needs better than do its competitors. TQM becomes a critical factor in

determining the success of a company in maintaining its business continuity in today's competitive economic environment [2].

An entrepreneur's view aims to reform the processes that take place by adopting the new and more creative ways [16]. [17] explained that the development of strategic management concepts raises a new concept, namely Entrepreneurial Orientation (EO). EO can be explained as a company's strategic orientation that influences practices, processes, and decision-making that directs an organization to innovate or do new things. An entrepreneurial vision understood without the philosophy of quality management is not sufficient to bring a company to success [5].

Companies must continually improve their quality and innovation in the face of increasingly fierce competition in the market [18]. [19] explained that innovation is an approach to bring improvements to the working area of a company. Innovation regulates how to manage the employees and a business. As explained by [20], there are various forms of innovation that can be done by a company. Companies can conduct the research and development to better understand the needs of their consumers in terms of products. Innovations carried out by the company aim to increase productivity and cut production costs in terms of the production process. When being viewed in terms of management system, companies innovate to improve the way the employees are managed and organized.

Data from the Central Statistics Agency (BPS) states that the Indonesian palm-oil industry have shown increasing performance over the past three years. However, the palm-oil industry in Indonesia still has to face various challenges and obstacles. One of them is facing the competition from Malaysia which also plays a role as the world's palm oil producer. It can be concluded that all efforts to improve the organizational performance are still big things to do in the palm-oil industry.

Factors that can affect the organizational performance of a company have a very broad scope including TQM, EO, innovation, and so on. The inconsistency of previous research results related to the effect of TQM on organizational performance raises a new view of innovation as a mediating variable.

## 2. LITERATURE REVIEW AND HYPOTHESIS

### 2.1. Resource-Based-View Theory

The concept of the Resource-Based-View (RBV) theory was firstly introduced by [21]. [22] explain that the theory of RBV focuses on processing and developing resources owned by a company so that the company becomes more competitive compared to others. The competitive advantage of a company can not only be achieved by utilizing a dynamic business environment, but can also be influenced by the process of developing resources owned by the company.

### 2.2. Disruptive Innovation Theory

The concept of disruptive innovation explains that innovation can act as a driver of growth within the company. The concept of disruptive innovation theory was firstly introduced by [23]. They explained that companies must provide managers free control to optimize the potential of technological innovation in order to reach new markets and create excellence in competitiveness.

### 2.3. Total Quality Management (TQM)

[24] defined TQM as follows: "TQM is as an approach in running a business that seeks to maximize competitiveness through continuous improvement of products, services, people, processes, and organizational environment." [25] explains that TQM is an organizational strategy to provide commitment in increasing customer satisfaction on an ongoing basis to improve the organizational processes.

There are several elements that can support the implementation of TQM within a company, which includes leadership, training, employee empowerment, process management, and customer focus. TQM can help improve performance for the company through continuous process improvements to parties related to their business activities, both from the internal and external sides of the company.

Over the past few years, there has been a lot of research that investigate the effect of TQM on company's performance. The research conducted by [9] found that there is a positive influence of TQM on performance. [15] [26] found a positive and significant effect of TQM on organizational performance. The research conducted by [8] [27] [3] also found a positive and significant effect of TQM on firm performance.

TQM can also create a cultural climate that provides both encouragement and commitment to create an innovative climate that is sustainable in a company [28]. The research conducted by [27] found a positive and significant effect of TQM on business innovativeness. [8] also found that TQM has a positive and significant effect on innovation performance. However, this study contradicts [9] who found no positive influence of TQM on innovation.

### 2.4. Innovation

[29] defined innovation as the process of adopting new ideas or behaviors by a company involving all dimensions in it, such as new products or services, new production technologies, new structures or administrative systems, and new program plans. Innovation can be defined more broadly. Innovation can include the development of every process in a company that ends in offering new products to consumers. Innovation is a process of adopting new ideas to meet the consumer needs that are increasingly developing along with the times.

[6] stated that innovation strategies have a positive influence on the business performance of a company if adequately supported by all elements within the company. [8] found that there is a positive and significant effect of innovation

performance on firm performance. [9] found that innovation has a positive influence on performance. [27] found a positive and significant effect of business innovativeness on financial performance.

The practice of TQM in a company will create the active participation of employees through an innovation process that takes place effectively so that the company's operational activities can be run by the main goals [30]. [8] and [9] found that innovation partly mediates the relationship between total quality management (TQM) and organizational performance. Meanwhile, [27] found that innovation fully mediates the relationship between TQM and organizational performance.

## 2.5. Entrepreneurial Orientation (EO)

[31] explained that EO is an approach to forming strategies that support the entrepreneurial actions and decision-making within an organization. Appropriate decision-making influences a company to see every situation as an entrepreneur.

There are three components that need to be considered in EO, namely risk taking, innovativeness, and proactiveness. A company with high entrepreneurial capabilities can explore and exploit the existing business opportunities and create competitive advantages compared to other competing companies [32]. [3] found that EO has a positive and significant effect on firm performance. The same result is also true from the research conducted by [15] and [26] who found a positive and significant effect of EO on organizational performance. An entrepreneurial orientation will help a company to survive the ever-changing business environment and manage the company's performance in a better direction.

## 2.6. Organizational Performance

[33] stated that organizational performance is a measure of how efficient and effective an organization can achieve its intended goals. Organizational performance will show that all activities carried out by the company are according with its long-term goals. [34] defined organizational performance as an instrument and measurement used to test and assess the success of a company in creating and delivering values to the external and internal stakeholders.

## 2.7. Hypotheses

### 2.7.1. TQM and Organizational Performance

TQM is a concept that prioritizes the improvements of processes within a company. A company that carries-out TQM in each process can generate higher corporate values to external and internal parties. The increase in company's value felt by various parties illustrates that the company has carried-out business activities in line with its long-term goals. A company that shows progress in achieving its main goals will give the view that it has achieved higher

performance than its competitors. Thus, the research hypothesis can be developed as follow:

H<sub>1</sub>: TQM has a positive and significant effect on Organizational Performance.

### 2.7.2. TQM and Innovation

A company must have innovations to deal with in an increasingly dynamic business environment. A company that carries out effective TQM will include its employees in the strategic decision-making process. These employees contribute their increasingly varied and creative thoughts to the company. A high level of participation from the employees will increase the awareness of the problems that exist within a company by making continuous improvements and solutions that needs innovation in order to cut the problem. TQM can encourage the emerge of innovation within a company. Thus, the research hypothesis can be developed as follow:

H<sub>2</sub>: TQM has a positive and significant effect on Innovation.

### 2.7.3. Innovation and Organizational Performance

Developing new techniques and processes in carrying out certain activities in the company can produce a competitive advantage. New techniques and processes as part of company innovation aim to meet consumer needs. Innovation, which is the competitive advantage of a company, will distinguish one company from another. This innovation can increase the value of the company. High corporate value means that the company has high performance so that it has a good place in the market. Therefore, the research hypothesis can be developed as follow:

H<sub>3</sub>: Innovation has a positive and significant effect on Organizational Performance.

### 2.7.4. TQM, Organizational Performance, and Innovation

Innovations carried-out by a company can include product development, efficient company activity, process development, and technological development. A company needs creative actions in implementing TQM to improve its performance. A company can carry out TQM that focuses on consumer needs through innovation. Product innovation that fits the needs of consumers will give a positive value for the company. A company must innovate in every process of its activities so that the process becomes effective and efficient. The process innovation of the company's activities must be in accordance with the company's goals. The innovation process activities will support the continuous improvement efforts of the company. Continuous improvement efforts done by the company can improve its performance. Every company's decision requires innovation through TQM to achieve high organizational

performance. Thus, the research hypothesis is developed as follow:

H<sub>4</sub>: Innovation significantly mediates the effect of TQM on Organizational Performance.

**2.7.5. Entrepreneurial Orientation and Organizational Performance**

Higher consumer needs make the company must have a view of entrepreneurial orientation (EO). A company must dare to take the risks of uncertainty from every business opportunity. A company must innovate and respond quickly and directly to potential events that occur around. A company can be more superior than other, if the company can take the right action in every opportunity. A company can take advantage of these situations so that it can conduct business activities easily. Therefore, the research hypothesis is developed as follow:

H<sub>5</sub>: EO has a positive effect on organizational performance.

**3. RESEARCH METHODOLOGY**

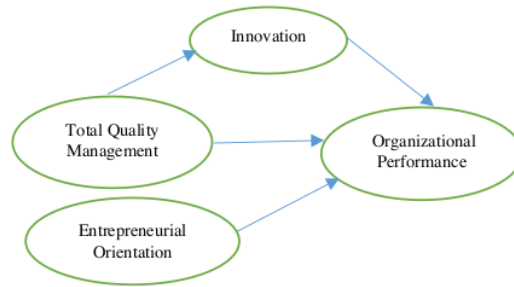
The quantitative study in this research used primary data. This research focused on Indonesian Sustainable Palm Oil (ISPO) CPO producing companies in East Barito and West Kotawaringin, Central Kalimantan Province, Indonesia. The number of palm-oil producing companies in East Barito and West Kotawaringin Regencies used in this research is eight companies.

This study used the non-probability sampling with a quota sampling method. Questionnaires were distributed to 8 palm-oil-producing companies located in East Barito and West Kotawaringin districts. The number of eligible data was 80 respondents from 8 companies.

This research used organizational performance as an endogenous variable, with TQM and EO as exogenous variables, and innovation as a mediating variable that can connect the variable of TQM and organizational performance. The variable of TQM is divided into five dimensions which are leadership, training, employee empowerment, process management, and customer focus. Meanwhile, the variable of EO is also divided into three dimensions which are risk-taking, innovativeness, and proactiveness. Data in this research was processed by using Smart PLS 3<sup>rd</sup> version software.

This research consists of descriptive statistics and data analysis using PLS. This research conducted the tests of outer-model (validity and reliability), inner-model (coefficient of determination or R<sup>2</sup>), cross-validated redundancy (Q<sup>2</sup>), path coefficients, effect size (f<sup>2</sup>), Goodness-of-Fit (GoF), mediation effect, and hypotheses (t-statistics), and multicollinearity effect.

The path equation for the measurement model in this study is described as follow;



**Figure 1** Research Framework

The variable of TQM has five dimensions, which are leadership (TQM1), training (TQM2), employee empowerment (TQM3), process management (TQM4), and customer focus (TQM5).

- TQM1 :  $\beta_1TQM + \epsilon_1$  (1)
- TQM2 :  $\beta_2TQM + \epsilon_2$  (2)
- TQM3 :  $\beta_3TQM + \epsilon_3$  (3)
- TQM4 :  $\beta_4TQM + \epsilon_4$  (4)
- TQM5 :  $\beta_5TQM + \epsilon_5$  (5)

The variable of Innovation has five indicators, which are the number of new processes (I1), new management approaches (I2), responsiveness and adaptation (I3), new process method (I4), and creative and innovative thinking (I5)

- I1:  $\beta_{_6}I + \epsilon_6$  (6)
- I2:  $\beta_{_7}I + \epsilon_7$  (7)
- I3:  $\beta_{_8}I + \epsilon_8$  (8)
- I4:  $\beta_{_9}I + \epsilon_9$  (9)
- I5:  $\beta_{_10}I + \epsilon_{10}$  (10)

The variable of EO has three dimensions, which are risk-taking (EO1), innovativeness (EO2), and proactiveness (EO3).

- EO1:  $\beta_{_11}EO + \epsilon_{11}$  (11)
- EO2:  $\beta_{_12}EO + \epsilon_{12}$  (12)
- EO3:  $\beta_{_13}EO + \epsilon_{13}$  (13)

The variable of organizational performance has five indicators, which are customer complaint (OP1), customer satisfaction (OP2), product suitability (OP3), acquisition-time efficiency (OP4), and product-finishing efficiency (OP5).

- OP1:  $\beta_{_14}OP + \epsilon_{14}$  (14)
- OP2:  $\beta_{_15}OP + \epsilon_{15}$  (15)
- OP3:  $\beta_{_16}OP + \epsilon_{16}$  (16)
- OP4:  $\beta_{_17}OP + \epsilon_{17}$  (17)
- OP5:  $\beta_{_18}OP + \epsilon_{18}$  (18)

The structural equation of the research model is as follow:

- I:  $\beta_{_19}TQM + \epsilon_{19}$  (19)
  - OP:  $\beta_{_20}I + \beta_{_21}EO + \beta_{_19}TQM + \epsilon_{20}$  (20)
- ( $\beta$ : Coefficient,  $\epsilon$ : Error)

#### 4. RESULTS

Descriptive statistics describes the summary of respondents' responses such as the mean, standard deviation, minimum and maximum values. This study used eighty respondents. The results of descriptive statistics show that seventy-seven respondents were males and the remaining three respondents were females. Respondents in this study were mostly in the age-group over forty years-old and had last education of undergraduate-level. Respondents have worked mostly in a span of more than ten years. Respondents served mostly as directors and worked in the production department. Respondents answered almost all indicators related to the TQM, EO, innovation, and organizational performance variables.

The test shows that there is no high correlation among exogenous variables in this research model, because each variable has a VIF value less than five. In testing the outer-model, thirty-eight out of forty indicators have met the validity and reliability tests. The convergent validity test result shows that all indicators used in this research have a factor-loading value greater than 0.7 and the AVE value is higher than 0.5. The determinant validity test result shows that the AVE root value of each dimension and variable has a greater value when being compared to the correlation value of the construct below it. The cross-loading test shows that each dimension and variable in this study has a greater cross-loading value compared to the values of cross-loading dimensions and other variables. Thus, the criteria of determinant validity in this study have been fulfilled. The reliability test shows that every dimension and variable in this study has a Cronbach's Alpha and composite reliability value greater than 0.7. Therefore, every dimension and variable in this study has met the reliability criteria.

##### 4.1. Inner-Model Tests

These include the tests of coefficient of determination ( $R^2$ ), cross-validated redundancy ( $Q^2$ ), path coefficients, and effect size ( $f^2$ ).

In the Coefficient of Determination Test result (Table 1), the obtained  $R^2$  value of innovation variable is 0.327, which means that TQM explains as much as 32.7% of variation in the Innovation variable (mediating variables) and the remaining 67.3% of variation in the Innovation variable is explained by other variables outside this study. The  $R^2$  value of the Organizational Performance variable is 0.535, which means TQM, Innovation, and EO explain as much as 53.5% of variation in the organizational performance (endogenous variable), while the remaining 46.5% of variation in the organizational performance is explained by other variables not included in this research.

**Table 1: Coefficient-of-Determination Test Result ( $R^2$ )**

Variable	$R^2$
Innovation	0.327
Organizational Performance	0.535

Sources: Data processed by PLS

The results of Cross-Validated Redundancy ( $Q^2$ ) test in Table 2 show that all dimensions and variables used in this research have  $Q^2$  values above zero so that each indicator used is relevant for measuring this research model.

**Table 2: Cross-Validated Redundancy Test Results ( $Q^2$ )**

Variable	Dimension	Cross-Validated Redundancy ( $Q^2$ )
TQM	Leadership (TQM1)	0.490
	Training (TQM2)	0.479
	Employee Empowerment (TQM3)	0.493
	Process Management (TQM4)	0.480
	Customer Focus (TQM5)	0.486
Innovation	-	0.172
EO	Risk-Taking (EO1)	0.513
	Innovativeness (EO2)	0.487
	Proactiveness (EO3)	0.501
OP	-	0.266

Sources: Data processed by PLS

The results of Path-Coefficient Test of each dimension in the variable and each variable in the relationship with another variable in this research model show positive coefficients which can be seen in Table 3.

**Table 3: Path-Coefficient Test Results**

Research Model	Path Coefficient
Variable → Dimension	
TQM → Leadership (TQM1)	0.895
TQM → Training (TQM2)	0.857
TQM → Employee Empowerment (TQM3)	0.871
TQM → Process Management (TQM4)	0.856
TQM → Customer Focus (TQM5)	0.823
EO → Risk-Taking (EO1)	0.857
EO → Innovativeness (EO2)	0.930
EO → Proactiveness (EO3)	0.848
Variable → Variables	
TQM → OP	0.051
TQM → Innovation	0.572
Innovation → OP	0.476
EO → OP	0.266

Sources: Data processed by PLS

The results of Effect Size ( $f^2$ ) Test (in Table 4) show that the effect of TQM on Organizational Performance is small. The effect of TQM on Innovation is large. The effect of Innovation on Organizational Performance is medium, and the effect of EO on Organizational Performance is small [35]. This means that by eliminating the TQM and EO variables, it will only have a small effect on the organizational performance variable. The result will be different, if the Innovation variable is deleted. The elimination of Innovation variable can have a large effect on

the variable of TQM as well as its moderating effect on the organizational performance variable.

**Table 4: The Results of Effect Size (f<sup>2</sup>) Test**

Research Model	f <sup>2</sup>
TQM → OP	0.004
TQM → I	0.485
I → OP	0.197
EO → OP	0.061

Sources: Data processed by PLS

#### 4.2. Goodness-of-Fit Test

Calculating the value of Goodness-of-Fit (GoF) was conducted manually by firstly searching the average value of AVE in reflective measurements and the average value of R<sup>2</sup> of endogenous variables in this research model.

**Table 5: The Results of AVE and R<sup>2</sup> Average Value**

Variable	Dimension	AVE	R <sup>2</sup>
TQM	Leadership (TQM1)	0.658	
	Training (TQM2)	0.701	
	Employee Empowerment (TQM3)	0.691	
	Process Management (TQM4)	0.702	
	Customer Focus (TQM5)	0.769	
Innovation	-	0.596	0.327
EQ	Risk-Taking (EO1)	0.749	
	Innovativeness (EO2)	0.604	
	Proactiveness (EO3)	0.741	
OP	-	0.567	0.535
Mean		<b>0.678</b>	<b>0.431</b>

Sources: Data processed by PLS

Based on the average calculation of AVE and R<sup>2</sup> in Table 5, the calculating of GoF value is as follow:

$$GoF = \sqrt{AVE \times R^2}$$

$$GoF = \sqrt{0.678 \times 0.431}$$

$$GoF = 0.5406$$

The GoF value of 0.5406 in this research model is relatively large, because it is greater than 0.36 [36], so this research model is considered globally valid.

#### 4.3. Mediation-Effect Test

The test of mediation effect was conducted by observing the effect of TQM on organizational performance with innovation as mediating variable. The significant indirect-effect value (t-statistic > 1.96 with α = 5%) indicates that there is an effect of Innovation as a mediating variable in the relationship between TQM and Organizational Performance. In addition, the significant indirect-effect can also be seen from the size of p-values. The p-values less than 0.05 (with a significance level of 5%) show that the indirect effect is significant (Table 6).

**Table 6: Mediation-Effect Test Results**

Research Model	t-Statistics	p-Values
TQM → I → OP	3.359	0.001
TQM → OP	6.464	0.000

Sources: Data processed by PLS

The results of mediation-effect test through bootstrapping in Table 6 show that the indirect effect of TQM on Organizational Performance through Innovation is significant. The result of t-statistics is 3.359 (greater than 1.96) and the p-value is 0.001 (less than 0.05). After the removal of Innovation variable, the direct effect of TQM on Organizational Performance is also significant. The result of t-Statistics is 6.464 (greater than 1.96) and the p-value is 0.000 (less than 0.05). This means that the Innovation variables can significantly affect the relationship between TQM and Organizational Performance. Thus, the existence of Innovation variable in this research model is categorized as partial mediation.

#### 4.4. Hypothesis Tests

The hypothesis tests were conducted by observing the value of t-Statistics in each variable. The confidence-level used in this study is 95%, and the hypothesis was accepted if the t-Statistics is greater than 1.96. The acceptance of the hypothesis can also be determined by p-Values which has to be greater than 0.05 (5%). The table below shows the results of hypothesis tests.

**Table 7: The Results of Hypothesis Tests**

Hypothesis	t-Statistics	p-Values
H <sub>1</sub> : TQM → OP	0.590	0.556
H <sub>2</sub> : TQM → I	7.353	0.000
H <sub>3</sub> : I → OP	4.079	0.000
H <sub>4</sub> : TQM → I → OP	3.359	0.001
H <sub>5</sub> : EO → OP	2.174	0.030

Sources: Data processed by PLS

Table 7 shows that the t-Statistics generated in the effect of TQM on Organizational Performance is 0.590, which is less than 1.96 and the p-Value is 0.556, which is greater than 0.05. This means that TQM does not have positive and significant effect on Organizational Performance. Thus, H<sub>1</sub> is rejected.

The result of this test is not in line with the research conducted by [26] [5] [9]. TQM is a commitment and involvement of all parties in a company to improve the quality for all aspects of activities carried-out. A company that meets the market needs, means that it can achieve the overall organizational performance improvement through quality improvement. However, the result of this study shows the positive effect of TQM, but not significant, on company's performance. This is in line with the research conducted by [12] and [10].

The management's attitude towards quality affects the level of acceptance of TQM implementation by employees in a company. The implementation of TQM will be less effective if the management cannot support its commitment and

involvement in quality over a long-period. The practice of TQM in companies tends to be done only in parts of production area within the companies. However, the implementation of TQM practices in the areas outside of production can also have an impact on improving the companies' performance.

Companies tend to rank their competitive advantages through superior product offerings. However, good corporate performance can also be achieved by empowering ideal human resources within the company.

[12] stated that the implementation of TQM is less effective when management understands the concept of costs and benefits inappropriately. When employees make efforts to improve the quality, the company does not give compensation to cut unnecessary costs. Thus, the company should give awards to employees, because it can give benefits to the company in the future.

Employees who feel honored or respected will improve their performance and this will have implications for improving the company's performance. In this study, the management of palm-oil-producing companies should understand about the concept of TQM and should not carry it out in certain production areas only.

Table 7 shows that the t-Statistics generated in the effect of TQM on Innovation is 7.353 (greater than 1.96) and the p-Value is 0.000 (less than 0.05). This means that TQM has positive effect on Innovation, so  $H_2$  was accepted. This research has the same result with the study conducted by [27] and [8].

Innovation is an effort to develop the systems and processes within a company based on new ideas. The implementation of TQM in companies will make them tend to direct the main focus of production in order to meet the customer demands.

Companies can meet the customer needs that are increasingly developing from time to time by innovating. Companies that are able to offer the products according to market demand will be able to support their business continuity. The increased satisfaction, motivation, and work commitment experienced by employees within a company, effective leadership, employee empowerment, and quality training will encourage them to provide more creative ideas. Innovative thinking can also be obtained through employee involvement in the decision-making process.

The implementation of TQM within a company can create an atmosphere of organizational culture that is open and responsive to innovative business ideas. The practice of TQM within a company also encourages the company to continually improve the process to be more effective and efficient. Employees must give their best results, of which this will make them think in new ways.

The implementation of TQM in palm-oil-producing companies will encourage the initiatives to innovate. Palm-oil-producing companies are the same as other manufacturing companies in making efforts to achieve efficiency in the production process. This kind of efficiency can be achieved through innovation in processes, strategies, activities, and technology supported by a conducive TQM climate within the companies.

Table 7 shows that the t-Statistics generated in the effect of Innovation on Organizational Performance is 4.079 (greater than 1.96) and the p-Values is 0.000 (less than 0.05). This means that innovation has a positive and significant effect on organizational performance, so  $H_3$  was accepted. The result of this hypothesis test is the same as those of the research conducted by [6] [8] [9].

Organizational performance is the performance achieved by a company. This performance includes meeting the market demand, increasing customer satisfaction, increasing production effectiveness and efficiency, reducing customer complaints, and so on.

Companies strive to always create and offer products that meet customer needs and exceed their expectations through innovation. Innovative ideas encourage companies to make the process implementation more efficient. This can happen because innovation can lead them towards saving the costs or resources owned by the companies.

Companies that work in creative ways can give added-values in the eyes of customers. This will encourage them to position better in the market, as well as encourage the customers to prefer some companies to others.

The results of this study show that innovation is an important factor in maintaining competitive advantage and business continuity. Innovation can also increase business expansion for palm-oil-producing companies to face increasingly fierce business competition which is full of uncertainty. Palm-oil-producing companies that can keep up their business continuity signify their high performance.

Table 7 shows that the t-Statistics generated in the effect of innovation in the relationship between TQM and Organizational Performance is 3.359 (greater than 1.96) and the p-Value is 0.001 (less than 0.05). This means that Innovation significantly mediates the effect of TQM on Organizational Performance, thus  $H_4$  was accepted. This result of this research is same as the one conducted by [8].

The implementation of TQM in companies can support the situations in which employees, company discussion forums, and other parts of the organization share relevant knowledge. This exchange of information can lead to the creation of ideas. The role of innovation is carried out on the basis of ideas that can lead to an increase in the overall performance of the companies.

Leadership that increases employees' satisfaction and work commitment through the implementation of TQM can encourage creative breakthroughs that lead to the increased competitiveness of the companies. Quality control in the palm-oil-producing companies as a whole can appear through the leadership that provides motivation, training, and employees' participation in decision-making, by focusing their attention to market needs and increasing the production efficiency. The overall quality control of the company should be accompanied by creative thinking in order to meet the market needs in the future. Without creative thinking, the quality control carried-out by companies tends to be futile and cannot significantly improve their performance.

Table 7 shows that the t-Statistics generated in the effect of EO on Organizational Performance is 2.174 (greater than 1.96) and the p-Value is 0.030 (less than 0.05). Thus, it can



be concluded that EO has a positive and significant effect on Organizational Performance, therefore  $H_5$  was accepted. This result is in line with those of the research conducted by [5] [3] [26].

Entrepreneurial Orientation (EO) is a view that describes a company as an entrepreneur who faces opportunities, challenges, and risks. EO is the willingness of a company to take risks, carry-out innovative actions, and be proactive in all situations that occur around the company. The risk describes uncertainty.

Companies that are dare to take the risks face two possibilities, namely success or failure. Companies can get the success, because they dare to take the risks and opportunities that exist. By this way, those companies can improve their performance. The same thing happens to those that carry-out innovative actions. Innovations carried-out by a company (both in terms of processes, strategies, and products) can create competitive advantages against other companies. The competitive advantage achieved by a company indicates that the company has performed well.

Companies need to respond quickly to situations that occur around. The faster they respond to the situation, the more likely it is that they can create changes in the market and act according to the expectations in the future. This means that their performance will increase as the demand can be fulfilled in the market. Companies can create or maintain their competitive advantages by optimizing their internal resources in form of entrepreneurial orientation.

Palm-oil-producing companies are vulnerable to being affected by technological change or competition. High-cost expenditures to get new technologies that are more efficient or to expand the agricultural land may cause great success or loss. This study shows that the entrepreneurial orientation of palm-oil-producing companies can improve their performance. Therefore, these companies have an open orientation to risks and opportunities in order to further improve their organizational performance.

## 5. CONCLUSIONS

The results of hypothesis tests show that organizational performance is not affected directly by total quality management (TQM) but it is affected significantly and indirectly by innovation as a mediating variable. The hypothesis-test results in this study also show that organizational performance is significantly affected by entrepreneurial orientation (EO).

The limitations in this study are: 1) Data was collected by using an instrument in form of questionnaire that is very susceptible to subjectivity factors; 2) The research subject examined in this study was palm-oil-producing companies located only in two districts, namely East Barito and West Kotawaringin, in Kalimantan Island; and 3) Data collection tends to be carried-out in a relatively short time, so there were only eighty respondents obtained.

Future research may be conducted among service companies or other business-sectors, the data collection period should be extended, and the questionnaire distribution area should be expanded, so that managers can observe the effect of

TQM on organizational performance, along with innovations created by the companies. Future research can include other variables related to the company's internal resources such as human resources management and learning ability. Future research can also discuss more deeply about the effect of each dimension of TQM on company's performance, so that managers can focus on such dimensions in order to improve the company's performance.

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