Antecedent and Consequence Total Quality Management in Public Sector Performance

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Abstract. The purpose of this study is to examine the Model of Organizational Culture Application as an antecedent variabel of Total Quality Management and the consequences variable on Public Organizational Performance. This study uses population in the government in the City of Cilegon, Banten, with a sample of echelon II, III and IV officials in the Regional Organization of the Environment (OPD) Cilegon City, Banten. The sampling method in this study used purposive sampling. This study uses a path analysis tool with the WarpPLS version 5.0 program to test hypotheses. The results of this study found that there is an influence between organizational culture and Total Quality Management, so that it can improve the performance of public organizations in OPD in the Government of the City of Cilegon.

Keywords: Antecedents Dan Consequences · Organizational Culture · Total Quality Management · Public Organization Performance

1 Introduction

As part of public sector organizations, the performance of government agencies is now becoming a concern. Communities began to question the quality they received from the services carried out by government agencies. Even though the routine and development budgets issued by the government are increasing, it seems that the community is not satisfied with the quality of services provided (Putri, 2014). Whereas the government apparatus is a person who is trusted and given the mandate by the state and citizens to manage their government in order to improve the welfare of the people. Thus, its effectiveness must be assessed based on the extent of the government's ability to improve people's welfare

In a public organization environment, performance is a measure of achievement or success in running an organization that is related to everything that the organization does in a certain period of time. In fact, the problem that is often faced by many organizations, namely employee performance which tends to decline over time which affects the effectiveness of the organization (Tentama, 2015). Measurement of the performance of public sector organizations needs to be done because it is useful as a reference to improve organizational performance in order to be better in the future.

To increase competitive advantage, organizations must implement a quality culture in every work activity and as an important and key factor in maintaining competitive advantage. quality-oriented organization, the main focus is customer / community

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satisfaction. To meet the quality of products or services that can satisfy the customer / community, one appropriate way is to implement Total Quality Management (TQM) practices that are considered to help organizations to meet the desires of customers / communities (Malahayati, 2010). Many authors argue that the successful implementation of TQM is dependent on the prevailing organizational culture, and the need to change the organizational culture and workforce attitudes so that the implementation of TQM is effective. Although the important role of organizational culture has received wide recognition in ensuring the successful implementation of TQM, there are differences in the empirical literature that examines the relationship between organizational culture and the application of TQM practices. Although several previous studies have examined the relationship between TQM practices and organizational performance in developed countries in the west, including the Kaynak study (2003) conducted in the United States and the Baird et al. (2011) in Australia. However, because the cultural diversity in each country is different, this is one factor that is believed to be able to inhibit the practice of TQM. Research and studies on the application of TQM practices, especially when related to organizational culture factors in Indonesia are still limited, given the cultural characteristics in Indonesia that are different from the culture in which TQM was originally applied. Therefore, researchers are interested in examining the relationship between organizational culture and the application of TQM practices in improving the performance of public organizations in the Regional Government Organization (OPD) of Cilegon City Government.

2 Theoritical Framework and Hypothesis Development

2.1 Influence between Organizational Culture and TQM

The first objective of this study is to examine the relationship between organizational culture and TQM. Analysis of the relationship between organizational culture and TQM is problematic with the debate over whether there is a difference between organizational culture and TQM. Although the organizational culture and TQM are closely related, the two things are actually different. Schein (1985) and Powell (1995) both support the distinction between culture and TQM, which states that practices such as TQM may reflect culture in an organization, but organizational culture itself is more embedded in organizations that reflect stable patterns and beliefs and values - values developed in a company (or business unit) over time. Given the inherent nature of culture, and the fact that the culture of an organization reflects a combination of the characteristics of various organizations and adopted practices, it is unlikely that the implementation of one specific management practice such as TQM will have a large impact on the culture of an organization (Hofstede et al., 1990). Instead, it is stated that the prevailing organizational culture can support TQM by providing an environment conducive to the successful implementation of TQM (Powell, 1995). The following hypothesis:

H1a. There is a significant positive influence between the dimensions of organizational culture dengan

TQM requires companies that are constantly looking for ways to improve work processes so as to improve their ability to produce high-quality products / services. Companies that have innovation will be more willing to experiment with new practices such as TQM practices. They will continue to evaluate customer needs and market expectations in order to develop new products and services and improve the current production process (Juran, 1988; Baird et al. 2011). Therefore, companies that are more innovating are more likely to adopt and make extensive use of TQM practices. The research hypothesis is as follows:

H1b. There is a significant positive influence between the dimensions of organizational culture with innovation instruments with a level of use of TQM practices.

2.2 Effects between TQM and Performance

Several research results conclude that TQM as one of the best practice approaches to improve company performance (Callystha and Devie, 2013; Munizu, 2013; Idris, 2011). In the opinion of Prayhoego and Devie (2013) that a good application of TQM will be able to improve company performance, that the concept of TQM generally describes a system that is collective (whole), where the system is related to the implementation of quality management in order to achieve good organizational performance. Furthermore according to Nasution (2004) states that TQM influences organizational performance consisting of product design processes, process flow management, statistical quality control, long-term relationships with customers, employee attitudes and company performance on competitive advantage. The implementation of TQM that can affect company performance is by applying the elements of TQM as stated by Goetsch and Davis (Tjiptono and Diana, 2001), namely customer focus, obsession with quality, scientific approach, long-term commitment, teamwork, improvement system on an ongoing basis, improvement and training, controlled freedom, unity of purpose, and the involvement in employee empowerment. The research hypothesis is as follows:

H2. There is a significant positive effect between TQM and Organizational Performance.

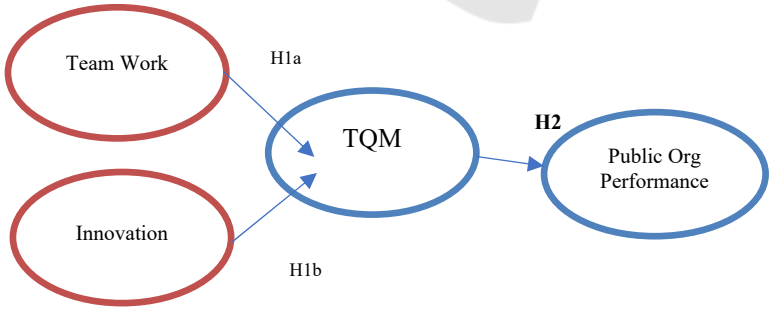

Fig. 1. Theoretical Model.

3 Methodology

This type of research is explanatory research. The quantitative method in this study was used to empirically examine antecedent and consequence Total Quality Management (TQM). This study uses population in the government in the City of Cilegon, Banten, with a sample of echelon II, III and IV officials in the Regional Organization of the Environment (OPD) Cilegon City, Banten. Criteria for selection of the sample in the study is aimed at the sample (purposive sampling). To test the models and hypotheses used analysis of Structural Equation Modeling (SEM). This study uses a path analysis tool with the WarpPLS version 5.0 program to test hypotheses..

In this study data analysis using the Partial Least Square (PLS) approach using WarpPLS software. PLS is a structural equation model (SEM) based on components or variances. According to Ghozali (2016) PLS is an alternative approach that shifts from a covariance-based SEM approach to variant-based. Covariance-based SEM generally tests causality / theory while PLS is more predictive model. PLS is a powerful analysis method (Wold, 1985; Ghozali, 2016) because it is not based on many assumptions. For example, the data must be normally distributed, the sample does not have to be large. Besides being able to be used to confirm theories, PLS can also be used to explain the presence or absence of relationships between latent variables. PLS can simultaneously analyze constructs formed with reflexive and formative indicators. This cannot be done by SEM which is based on covariance because it will become an unidentified model.

4 Result and Discussion

4.1 Outer and Inner Model Testing

In testing the reliability value of a construct the value used for Cronbach's Alpha and Composite Reliability is where both values are greater than 0.7 (> 0.7) for confirmatory research and greater than 0.6 (> 0.6) for exploratory research is still acceptable. (Hair et al., 2010, 2011; Pirouz 2006,; Ghozali 2016). Furthermore, the average variances extracted (AVE) value of the construct must be above 0.5 (> 0.5). (Bagozzi and Baumgartner, 1994; Ghozali, 2016).

Based on the approach in the reliability test above, the following are presented the values of Cronbach's Alpha, Composite Reliability, Average variances extracted from each construct of this study with confirmatory factor analysis with WarpPLS 5.0.

Table 1. *Score of* Composite reliabiLity Coeffecients, Cronbach Alpha Coefficients *Dan* Average Variances Extracted.

	ITC	**CE**	**PERF**
Composite reliability coefficients	0.905	0.921	0.880
Cronbach alpha Coefficients	0.873	0.905	0.834
Average Extracted	0.615	0.519	0.555

Table 1 shows that the composite reliability value of the construct studied was above the recommended threshold, where the composite reliability value was greater than 0.6 (> 0.6), namely: ITC of 0.905, CE of 0.921, and PERF of 0.880. Cronbach alpha coefficients value of each construct is above the recommended threshold, where the Cronbach alpha coefficients value is greater than 0.6 (> 0.6), namely: ITC of 0.873, CE of 0.905, and PERF of 0.834.

Average variances extracted (AVE) value of each construct is above the recommended threshold, where the AVE value is greater than 0.5 (> 0.5), namely: ITC of 0.615, CE of 0.519, and PERF of 0.555. Based on the value of composite reliability, cronbach alpha coefficient and Average variances extracted from the ITC, CE, and PERF constructs that are above the recommended threshold, then all constructs have met the composite reliability requirements

4.2 Full Model Testing

The results of testing the full research model with WarpPLS 5.0 are presented in Figure 2, table 2 and Table 3.

Table 2. Model *Fit* dan *Quality Indice Full Model.*

Average Path Coefficient (APC)= 0.833, P<0.001
Average R-Squared (ARS) = 0.698, P<0.001
Average adjusted R-Squared (AARS) = 0.696, P<0.001
Average full collineartity VIF (AAVIF)= 4.895, acceptable if <= 5, ideally <= 3.3
Tenenhaus GoF (GoF) = 0.623, small >= 0.1, medium >= 0.25, large >= 0.36

Based on the Model Fit and Quality Indice Full Model output presented in Table 2, it is known that the Average path coefficient (APC) has an index of 0.833 with a p-value <0.001, Average R-squared (ARS) has an index of 0.698 with a p-value < 0.001 and Average adjusted R-squared (AARS) have an index of 0.696. The p-value for APC, ARS and AARS that is recommended as a fit model is 5 0.05 (Ghozali and Latan, 2017; Kock, 2012). Thus it can be concluded that this study is fit. This is also supported by the value of Average full collinearity VIF (AAVIF) = 4,895, less than the value of 5 (acceptable). Thus indicating that there is no multicollinearity problem between indicators and between exogenous variables. The predictive power of the model described by GoF is 0.713, including the large category because it is greater than 0.36.

Table 3. *R-Squared, Adj R-Square* dan *Full Collin VIF.*

	ITC	CE	PERF
R-squared			0.562
Adjusted R-squared		0.802	0.559
Full Collin VIF	4.973	4.962	3.360

Table 3 presents the structural model analysis outputs about R-squared (R2), Adjusted R-squared (Adj. R2), Full Collinearity VIF and Q-Squared (Q2). R2 shows the percentage of endogenous construct variance / criterion can be explained by the construct hypothesized to influence it (exogenous / predictor) (Sholihin and Ratmono, 2014). Adj. R2 is similar to R2 but is used to avoid estimation bias in R2, because the

more predictor variables in the model, R2 will be greater and continue to increase (Ghozali and Latan, 2016). Criteria for R2 and Adj. R2 ≤0.70, ≤0.45 and ≤0.25 show strong, moderate and weak models.

Based on table 3 it can be seen that R-squared (R2) and Adjusted R-squared (Adj. R2) of this research model tend to be moderate because the barada is above 0.25%. Full ollinearity VIF is used to check whether collinearity problems occur vertically or laterally (Ghozali and Latan, 2017). The criterion for a model that is free from vertical and lateral multicollinearity problems is that the Full Collinearity VIF value must be lower than 3.3. However, values ≤5 are still acceptable (Ghozali and Latan, 2017; Sholihin and Ratmono, 2014; Kock, 2012). ased on table 3 it can be seen that the model used in this study is free from the problem of vertical or lateral colonierity. Because all VIF Full Collinearity values are less than 5. After the tructural model has been declared fit and can be accepted by data quality testing, then an analysis and interpretation of the structural model will be used to test the research hypothesis. Bootstrapping method for research models with SEM Analysis with WarpPLS 5.0 of each construct with the following results: R-squared (R2), Adjusted R-squared (Adj. R2), and Full Collinearity VIF.

Table 4. Path Coefficient, *P-value* dan Effect Size Full Model.

Relationship	*Estimate*	*Effect Size*	*P-Value*	*Decision*
ITC → CE	0.897	0.804	(<0.001)*	H1: Accepted
ITC→PERF	0.750	0.562	(<0.001)*	H2: Accepted

Variation of certain exogenous variables to endogenous variables is called effect size. Effect size measures the contribution of variants from each predictor in the R-Square coefficient model of a particular endogenous variable. Effect sizes can be grouped into three categories, namely weak (0.02), medium (0.15) and large (0.35) (Sholihin and Ratmono, 2014).

Based on table 4 it can be seen that the variable Information Technology Capability (ITC) has the biggest effect size on the Cost Effectiveness (CE) variable, which is 0.804. The effect size of the effect of ITC on the PERF variable of 0.562 is also quite large. Thus it can be concluded that Information Technology Capability (ITC) has a greater role from the perspective of Cost effectiveness (EC) compared to PERF.

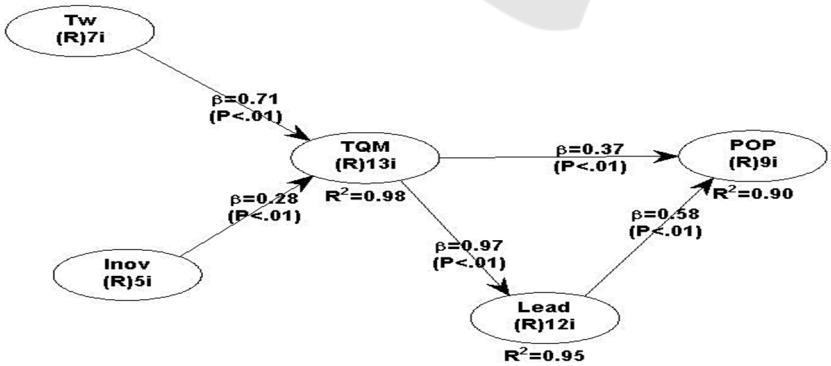

Fig. 2. *Output* WarpPLS 5.0 *Full Model.*

4.3 Hypothesis Testing

Hypothesis 1 states that Information Technology Capability (ITC) has a significant positive effect on Cost effectiveness (CE). To prove this hypothesis, a direct effect test was conducted with WarpPLS version 5.0. Tests performed are model fit testing, path coefficient analysis and p-value. The test results are presented in Figure 2; Table 2; Table 3 and Table 4. Based on table 2 it is known that the model fit criteria have been met, where the APC, ARS, AARS values are below 0.05, the AFVIF value <5 and the GoF value are included in the large category that is above 0.36. Table 4 presents the path coefficients produced are 0.897 and significant with p values <0.001 (α1%). Thus it can be concluded that hypothesis 1 is accepted. This means that Information Technology Capability (ITC) has a significant positive effect on Cost Effectiveness (CE) with a coefficient of determination of 0.804 shown in table 3.

Hypothesis 2 states that Information Technology Capability (ITC) has a significant positive effect on Business Performance (PERF). To prove this hypothesis, a direct effect test was conducted with WarpPLS version 5.0. Tests performed are model fit testing, path coefficient analysis and p-value. The test results are presented in Figure 2; Table 2; Table 3 and Table 4.

Based on table 2, it is known that the criteria for model fit have been fulfilled, where the APC, ARS, AARS values are below 0.05, AFVIF values <5 and GoF values are included in the large category above 0.36. Table 4 presents the path coefficients produced are 0.750 and significant with p values <0.001 (α1%). Thus it can be concluded that hypothesis 2 is accepted. This means that Information Technology Capability (ITC) has a significant positive effect on SME's Performance (PERF) with a coefficient of determination of 0.562 shown in table 3.

4.4 Discussion

This section will discuss research findings that have been analyzed and tested in the previous section. The discussion is based on the value of the results of statistical testing with WarpPLS 5.0 software which is based on the building of theory and empirical research referred to and developed in this study. The discussion will be conducted based on the results of data analysis and hypothesis testing proposed in this study and the relationship with the findings from previous studies

4.4.1 Information Technology Capability (ITC) Has a Significant Positive Effect on Cost Effectiveness (CE)

Hypothesis 1 of this study states that Information Technology Capability (ITC) has a positive effect on Cost Effectiveness (CE). The test results using WarpPLS 5.0 show a path coefficient of 0.897 and p-value <0.01. Based on these figures it is concluded that hypothesis 1 can be accepted, meaning that Information Technology Capability (ITC) has a positive effect on Cost Effectiveness (CE).

Chriswan and Mahmudin (2008) stated that information technology offers many opportunities to reduce costs, increase efficiency, increase effectiveness and revenues and can improve cost control. Sophisticated technology and information can help

companies to monitor the activities carried out by their employees, so the company can obtain information more quickly and accurately used in decision making. If a mistake or deviation occurs, the company can immediately take corrective actions so that the effectiveness in the use of operational costs can be identified quickly so that the company's goals can be achieved. Previous research supporting this research was a study conducted by Salim Ridwan (2014) and Ilker Calayoglu & Murat Azaltun (2013) which suggested that information technology significantly influences the effectiveness of cost control in an organization.

Cost control must primarily be aligned with the goals to be achieved by the company, one of the goals to be achieved by the company is to obtain maximum profit by issuing the lowest costs, therefore by controlling the production costs the company hopes to get a large profit. A company in order to compete in a market environment, the company is also required to be able to create a good product innovation, and the price is lower or at least the same as the price offered by its competitors.

4.5.2 Information Technology Capability (ITC) has a significant positive effect on SME's Performance (PERF)

Hypothesis 2 of this study states that Information Technology Capability (KTI) has a positive effect on Business Performance (KIN). The test results using WarpPLS 5.0 show the path coefficient of 0.750 and p-value <0.01. Based on these figures it is concluded that hypothesis 3 can be accepted, meaning that Information Technology Capability (KTI) has a positive effect on Business Performance (KIN).

This hypothesis is supported by previous researchers finding a significant relationship between information technology and performance. Kelley (1994), Siegel and Griliches (1992) state that some of the results of the study found a positive effect of information technology on company performance at the industry level. Diewert and Smith (1994), Hitt and Brynjoltsson (1995), Board and Min (1997), Devaraj and Kohli (2003) indicate that there is a positive relationship between technology and company performance.

However, this research is not supported by Devaraj and Kohli (2003) stating that there are some studies that do not find a significant relationship between information technology and performance. Baily (1986), Roach (1987), Morrison and Berndt (1991), Devaraj and Kohli (2003) find a negative relationship between information technology relatedness variables that are associated with firm performance. In addition, Berndt and Morrison (1995) and Kohli (1999) find that there is no significant relationship between investing in information technology and performance.

The above findings are not consistent with previous studies conducted by Kelley (1994), Siegel and Griliches (1992), Diewert and Smith (1994), Hitt and Brynjoltsson (1995), Council and Min (1997); Devaraj and Kohli (2003). Research conducted by Nengah, (2005) also found that information technology contributes a positive and insignificant value to business process performance and competitive dynamics.

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