THE IMPACT OF POWER DISTANCE AND INDIVIDUALISM ON TOTAL QUALITY MANAGEMENT: AN EMPIRICAL RESEARCH ON INDONESIAN MANUFACTURING FIRMS

DidikWahjudi
Mechanical Engineering Department, Petra Christian University,
Surabaya, Indonesia, e-mail: dwahjudi@petra.ac.id

Moses L. Singgih
Industrial Engineering Department, Sepuluh Nopember Institute of Technology,
Surabaya, Indonesia, e-mail: moseslsinggih@ie.its.ac.id

Patdono Suwignjo
Industrial Engineering Department, Sepuluh Nopember Institute of Technology,
Surabaya, Indonesia, e-mail: patdono@ie.its.ac.id

Imam Baihaqi
Industrial Engineering Department, Sepuluh Nopember Institute of Technology,
Surabaya, Indonesia, e-mail:ibaihaqi@ie.its.ac.id

ABSTRACT

Power distance is reported to be the most important culture dimension for effective implementation of total quality management (TQM), while low individualism stimulates the company to focus on its long-term customers. Indonesia is characterized by very high power distance and very low individualism. However, Indonesia has a very unique cultural setting because it has many subcultures. This study investigates the impact of power distance and individualism on TQM implementation among Indonesia manufacturing firms. As many foreign companies move their operations to Indonesia, they need to know how to cope with this situation. Data from 152 managers and directors representing 152 organizations are analyzed using structural equation modelling (SEM). The results show that individualism affects TQM implementation positively, while power distance has no correlation with TQM implementation. The contribution of this study is providing direction for improvement to Indonesian manufacturing firms that want to implement TQM. The implication of this finding is that top management need to set up an atmosphere that can improve level of individualism of their employees through people empowerment.

Keywords: organisational culture, total quality management, structural equation modelling

1. INTRODUCTION

The implementation of total quality management (TQM) has been widely reported to be influenced by national culture at organization level (Flynn and Saladin, 2006; Jung et al., 2008; Kull and Wacker, 2010). Power distance is identified to be supportive towards TQM implementation (Jung et al., 2008). Individualism has been reported to have mixed impact on firm performance. Collectivism (the opposite of individualism) is reported to provide fertile ground for TQM (Rad, 2006). Other study conducted by Kessapidou and Varsakelis (2002) finds that Greek companies that affiliate with companies from individualistic countries perform better than those

that affiliate with companies from collectivistic countries. As previous researches are conducted in countries that have more homogeneous culture, little is known about how power distance and individualism will affect the implementation of TQM in multiethnic country, like Indonesia. Indonesia has a very high score on power distance, but it has very low score on individualism (The Hofstede Centre, 2014). However, the national culture of Indonesia may not reflect the local culture because Indonesia is multiethnic country (Hofstede et al., 2010).

This paper tries to clarify the impact of power distance and individualism on TQM implementation among Indonesian manufacturing firms. This knowledge is increasingly important because there are growing number of multinational companies (MNCs) that is predicted to move their operations to Indonesia (The World Bank Office Jakarta, 2012). These MNCs try to reap Indonesia's large domestic consumption, fast growing number of middle class, incredible natural resources, and strategic location (Drysdale, 2012). To answer this research question a survey on 152 managers and directors of Indonesian manufacturing firms was conducted. The rest of the paper is structured as follows. Literature review on total quality management, power distance, and individualism is provided in Section 2. Research framework and research hypotheses are articulated in Section 3. Section 4 discusses the research methodology used in the study. In Section 5, data analysis and discussion of findings are presented. Finally, conclusions, limitations, and recommendations for future research are provided in Section 6.

2. LITERATURE REVIEW

2.1. Total Quality Management

TQM has been widely accepted as one of the most popular and the most frequently recommended management approach (Kumar et al., 2009). TQM implementation is reported to improve financial performance (Kaynak and Hartley, 2008; Kumar et al., 2009; Wang et al., 2012), quality performance (Kaynak and Hartley, 2008; Su et al., 2008), customer satisfaction (Agus et al., 2000; Wang et al., 2012), operational performance (Brah and Lim, 2006; Lakhal et al., 2006), business performance (Su et al., 2008; Gadenne and Sharma, 2009), market performance (Fening et al., 2008; Kaynak and Hartley, 2008), employee satisfaction (Brah et al., 2002; Jun et al., 2006), and innovation performance (Prajogo and Sohal, 2006; Hung et al., 2010). However, there were other studies that identified the failure of TQM implementation. TQM implementations failed to deliver the expected long-term advantage (Erickson, 1992). Only one-third of TQM implementation reaped success (Ackoff, 1993). There was no evidence that the implementation of TQM improved financial performance of SMEs in Australia (Watson et al., 2003).

2.2. Relationship between TQM and Organizational Culture

Some authors considered TQM as one form of organizational culture (Haffar et al., 2013; Harvey and Stensaker, 2008). However, most authors identify organizational culture as one of the critical success factors for TQM implementation (Baird et al., 2011; Jung et al., 2008; Kull and Wacker, 2010). This confusion happens because there is no clear boundary between TQM and organizational culture (Zeitz et al., 1997). Two arguments why TQM is not a form of organizational culture are given by Prajogo and McDermott (2005). First, TQM only deals with behaviors, while organizational culture concerns with attitudes, beliefs and situational interactions. Second, TQM implementation will be successful if the organization underscores open communication. So, it can be implied that TQM is not a part of organizational culture. On the contrary, organizational culture can be deemed as the environment that is needed for successful implementation of TQM.

Organizational culture can be classified into two categories, the internally-developed organizational culture and the one influenced by its national culture (Robbins and Judge, 2013). Some studies have reported the relationship between organizational culture influenced by its national culture and TQM implementation (Jung et al., 2008; Kull and Wacker, 2010; Lagrosen, 2003; Mathews et al., 2001). There are two national culture frameworks that are frequently utilized in this area of studies, GLOBE framework (House et al., 2004) and Hofstede's framework (Hofstede et al., 1990; Hofstede et al., 2010). However, Hofstede's framework is more recommended because of its popularity (Rarick and Nickerson, 2008), survey comprehensiveness (Smith and Dugan, 1996), and convergent validity (Wiengarten et al., 2011). Hosftede's framework has six culture dimensions, i.e. power distance, individualism vs. collectivism, masculinity vs. femininity, uncertainty avoidance, long-term orientation, and indulgence vs. restraint (Hofstede et al., 2010). Of these six dimensions, power distance is identified to have the strongest influence on TQM implementation (Jung et al., 2008), while collectivism (the opposite of individualism) is claimed to be more favorable for TQM implementation (Rad, 2006; Vecchi and Brennan, 2009).

Indonesia is a unique country with more than seventeen thousand islands (Central Intelligence Agency, 2014). This uniqueness is reflected in Indonesia's national culture. National culture of Indonesia is characterized by high power distance and low individualism (The Hofstede Centre, 2014). Power distance is defined as the attitude of less powerful members of the society toward unequally distributed power (Hofstede et al., 2010). As a high power distance country means that Indonesian workers would expect to be clearly directed and controlled by their boss or manager. Individualistic society is characterized by loose ties among individuals. Indonesia is a collectivistic country, where people live 'in groups' that look after them in return for their loyalty (Hofstede et al., 2010). However, as a multiethnic country, national culture of Indonesia may not represent the local culture (Hofstede et al., 2010). It is still unknown whether the high power distance and collectivistic culture support the implementation of TQM as in the more homogeneous culture.

2.3. Influence of Power Distance on TQM Implementation

Organizations with high power distance tends to centralize control and power in a few hands and expects the lower level workers to obey (Mathews et al., 2001). Previous study argues high power distance organizations to be more successful in implementing TQM (Flynn and Saladin, 2006; Jung et al., 2008). Workers and managers in high power distance firms can accept directions and instructions from top management better. In high power distance culture, firms adopt high degree of centralization. Lower level workers do not have strategy of their own. This environment makes it easier for them to support strategy set by the top management (Vecchi and Brennan, 2009). Moreover, power distance has been identified to be positively correlated with leadership, process management, and business performance of Malcolm Baldrige criteria (Flynn and Saladin, 2006). Other studies revealed that power distance had no significant effect on TQM implementation (Kull and Wacker, 2010; Lagrosen, 2003). On the contrary, Rad (2006) claimed that firms with high power distance were more likely to fail in TQM implementation because of the centralized decision-making. Power distance causes different motives in implementing TQM (Mathews et al., 2001). In high power distance culture the initiative to implement TQM comes from top management, while in low power distance cultures firms are inclined to adopt self-assessment and benchmarking tools instead of management control.

2.4. Influence of Individualism on TQM Implementation

The impact of individualism on TQM implementation has been adequately documented. Organization with collectivistic culture (low score on individualism) is reported more fruitful for TQM implementation (Rad, 2006). Furthermore, collectivistic organization is more dedicated in implementing quality management practices (Vecchi and Brennan, 2009). Lagrosen (2003) indentifies that collectivistic organizations is more focused on long-term customer. This situation occurs because collectivistic organization emphasizes on long-term success, which is evidenced by strong adoption of strategic planning (Flynn and Saladin, 2006; Vecchi and Brennan, 2009). Collectivistic culture also focuses on group success, instead of individual success. Employee empowerment is very strongly embraced in this culture (Yoo et al., 2006). On the other hand, individualism has positive correlation with process management (Jung et al., 2008) and business performance (Jung et al., 2008), but negative impact on information and analysis (Jung et al., 2008).

3. RESEARCH FRAMEWORK AND HYPOTHESIS

Prior studies show that power distance supports the success of TQM implementation. In addition, collectivistic culture is more supportive towards the implementation of TQM. Of these findings, we argue that:

H_1: Power distance is positively correlated with TQM implementation.

H_2: Individualism is negatively correlated with TQM implementation.

The research framework is shown in Figure 1 below.

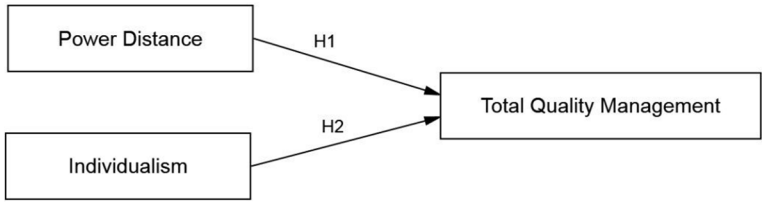

Figure 1. Research framework

4. RESEARCH METHODOLOGY

4.1. Sample and Procedures

This survey was conducted on manufacturing firms in Indonesia. Target respondents were managers or directors to make sure they were knowledgeable about the subject. Unit of analysis was at strategic business unit, which means a firm with two or more similar plants in different locations would be treated as a single entity. Survey was mainly conducted online using Google Docs application. Prospective respondents were invited to participate through emails. Each email was kept track to make sure only one respondent from one company participates in the survey.

4.2. The Questionnaire

Survey instrument of this study comprised of three parts. The first part inquired about company profile and respondent's profile. In the company profile respondents described their firms in terms of business sector, number of employees, main market, and quality program. Next, they clarified their position and employment duration. Information about company profile was used for control variables, while respondent's profile was used to make sure that they were qualified respondents. The second part consisted of indicators of TQM elements. The TQM model

used in this study was the one proposed by Samson and Terziovski (1999), adopting the six criteria of Malcolm Baldrige National Quality Award (2011). However, supplier partnership construct was supplemented as proposed by Arumugam et al. (2008). So, the seven constructs used in the TQM model were leadership, strategic planning, customer focus, information & analysis, people management, process management, and supplier relationship. The third part contained indicators for power distance (PDI) and individualism (IDV). For power distance, indicators developed by Yoo et al. (2011) was utilized, while individualism indicators were adopted from Robert and Wasti (2002). Five-point Likert scale was used for all indicators of TQM elements, power distance, and individualism, where 1 = strongly disagree and 5 = strongly agree.

5. RESULTS AND DISCUSSIONS

Of the 505 invited respondents 152 completed the survey, a response rate of 30.1%. Almost two-third of the respondent came from food industry (19.1%), chemicals industry (17.8%), rubber and plastic industry (11.8%), and fabricated metal industry (10.5%). Table 1 shows the profile of the surveyed firms and the representing respondents. Most of them are medium (51-250 employees) and large firms (more than 250 employees). Almost two-third of the firms implemented one quality program, while about one-fourth had more than one quality program. It was surprising that 12.5% of them did not have quality program at all. More than 80% of responding firms have implemented their quality program for at least 1 year.

Table 1. Profile of the surveyed firms and respondents

	Frequency	Percentage
Firm size:		
Less than 50 employees	14	9.2%
51-250 employees	51	33.6%
More than 250 employees	87	57.2%
Quality program:		
None	19	12.5%
Only one program	97	63.8%
More than one program	36	23.7%
Duration of quality program:		
Less than 1year	26	17.1%
1-3 years	22	14.5%
More than 3 years	104	68.4%
Respondent's title:		
President Director/CEO	8	5.3%
Director	25	16.4%
General Manager	11	7.2%
Plant/ Operatios Manager	42	27.6%
Quality Assurance Manager	9	5.9%
Others	57	37.5%
Duration of employment:		
Less than 1year	16	10.5%
1-5 years	45	29.6%
5-10 years	34	22.4%
More than 10 years	57	37.5%

More than 55% of the respondents were president directors, directors, general managers, or plant managers. The rest worked as QA managers, finance managers, production managers, or PPIC managers. About 60% of the respondents have worked in the firms for more than five years. Thus, they were quite knowledgeable about the firms' situation. Only 10.5% of the respondents just joined that company. However, they joined as senior managers, which required them to know and adapt to the new environment quickly.

The first thing performed on the raw data was data screening (Hair et al., 2010). Identification using SPSS software revealed no missing data. Next, data were examined for the existence of univariate and multivariate outliers (Hair et al., 2010). Bivariate outliers detection was not performed because it was cumbersome to handle large number of variables (Hair et al., 2010). For univariate detection with a sample of 152, cases with *z* scores greater than 4.0 would be considered outliers (Hair et al., 2010). Only case number 72 and 139 were identified as outliers. Multivariate outliers were assessed using Mahalanobis distance (D^2) divided by the number of variables involved during the confirmatory factor analysis (CFA). A conservative *p-value* of 0.001 is recommended by Hair et al. (2010) to identify multivariate outliers. Cases number 47, 81, 124, and 132 were identified through this assessment and removed from further analysis.

5.1. Measurement Model

Confirmatory factor analysis was conducted on the seven elements of TQM, power distance, and individualism. Table 2 provides the scale validity and reliability for the seven elements of TQM, power distance, and individualism. All constructs showed good validity with all factor loadings exceed 0.45, the threshold value recommended by Hair et al. (2010). Furthermore, all constructs also exhibited good reliability, exceeding the value of Cronbach's α of 0.7 except for power distance. Improving reliability by deleting more items from power distance cannot be done because it dropped the reliability even further. The four items were kept because the Cronbach's alpha was slightly below the threshold value of 0.7. All measurement models satisfied requirement for well-fitted model recommended by Hair et al. (2010), that is models with number of indicators ≤ 12 and number of observations < 250 should have CFI at least 0.97 and value of RMSEA at most 0.08.

Data reduction was performed on the seven TQM elements to reduce the number of variables to a manageable number, while maintaining the characteristics of the original variables (Hair et al., 2010). Composite scores were used to verify the hypotheses, instead of the summated scale, because it represented all variable loadings on the factor (Hair et al., 2010). The resulted second-order measurement model for TQM is shown in Figure 2. The model showed good fit with CMIN/DF = 1.603, CFI = 0.990, and RMSEA = 0.065. This second order was used in the structural analysis to identify relationship between power distance, individualism, and TQM.

5.2. Structural Model

Structural relationship analysis was conducted on power distance, individualism, and TQM. To test the hypothesis we utilized the second order TQM model and first order model of power distance and individualism. Three control variables were included in the model, namely firm size, quality program, and quality program duration. However, only quality program influenced TQM implementation. The insignificant control variables were removed from the model. The structural model between power distance, individualism, and TQM exhibited good fit, with CMIN/DF = 1.714, CFI = 0.941, and RMSEA = 0.070. The structural model is shown in Figure 3. Power distance did not have correlation with TQM implementation. However, individualism had strong

positive correlation with TQM at $p < 0.001$, while quality program correlated with TQM at $p < 0.01$.

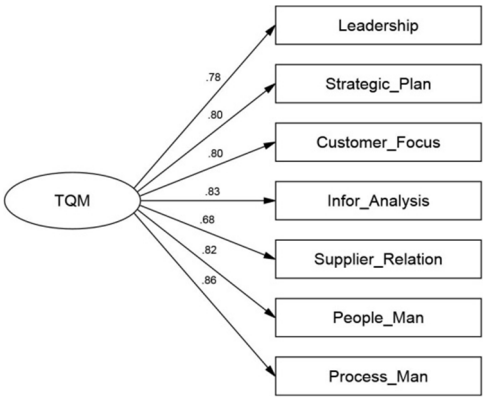

Figure 2. Second-order measurement model for TQM

Table 2. Scale validity and reliability for TQM elements, power distance, and individualism

Scales	Items	Loading	Cronbach's α	Scales	Items	Loading	Cronbach's α
Leadership	le_1	0.68		Customer Focus	cf_1	0.65	
	le_3	0.61			cf_2	0.79	
	le_4	0.83	0.892		cf_3	0.62	0.864
	le_5	0.83			cf_4	0.74	
	le_6	0.75			cf_5	0.62	
	le_7	0.80			cf_6	0.82	
Strategic	sp_1	0.71		People	pem_1	0.72	
Planning	sp_2	0.84		Management	pem_2	0.75	
	sp_3	0.59	0.828		pem_3	0.71	
	sp_4	0.68			pem_4	0.75	0.906
	sp_5	0.70			pem_5	0.76	
Information &	ia_1	0.71			pem_6	0.64	
Analysis	ia_2	0.63			pem_7	0.77	
	ia_3	0.86	0.868		pem_8	0.79	
	ia_4	0.87		Process	prm_1	0.74	
	ia_5	0.66		Management	prm_2	0.70	
Supplier	sr_1	0.49			prm_3	0.55	0.851
Relationship	sr_2	0.51			prm_4	0.79	
	sr_3	0.68	0.761		prm_6	0.53	
	sr_4	0.62			prm_7	0.79	
	sr_5	0.72					
Power Distance	pd_1	0.48		Individualism	idv_1	0.88	
	pd_2	0.68	0.668		idv_2	0.71	0.825
	pd_3	0.61			idv_3	0.62	
	pd_4	0.57			idv_4	0.74	

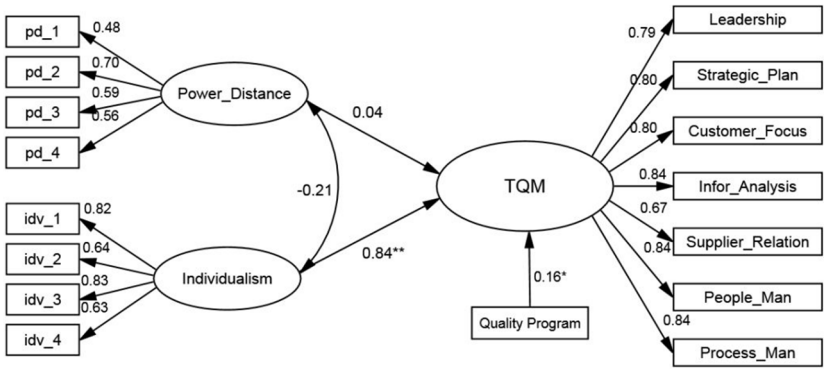

Figure 3. Structural relationship between power distance, individualism, and TQM
* = significant at p < 0.01, ** = significant at p < 0.001

6. DISCUSSIONS OF FINDINGS

The impact of power distance and individualism on TQM implementation was examined in this study. It was identified that power distance had no correlation with TQM implementation. Our finding is in line with the finding of Kull and Wacker (2010) and Lagrosen (2003) that claim power distance do not affect TQM implementation. However, this finding is contradictory to the findings of Flynn and Saladin (2006) and Jung et al. (2008) that report the positive correlation between power distance and TQM implementation. This situation can be attributed to the lack of support from the top management towards TQM implementation. Leadership is identified to be the major contributor to the failure of TQM implementation (Beer, 2003; Tatikonda and Tatikonda, 1996; Whalen and Rahim, 1994). Kull and Wacker (2010) argues that the impact of power distance on TQM implementation can be obscured by their emphasis on short-term success, i.e. cost and schedule. When top management does not have strong vision for quality, he will not have strong commitment to the TQM implementation. In addition, he will not develop organizational structure that support TQM implementation (Tatikonda and Tatikonda, 1996). In this case, high power distance will not convert into intensive TQM implementation.

Individualism was identified to have strong positive correlation with TQM implementation. However, this is on the contrary to the claim of Rad (2006), arguing collectivism (the opposite of individualism) is a good soil for TQM implementation. Rad (2006) conducted his research in Iran, a country that is ranked 38th among 76 countries (Hofstede et al., 2010), while Indonesia, ranked 71st, is a very collectivistic country. Only Colombia, Venezuela, Panama, Ecuador, Guatemala scores lower on individualism than Indonesia (Hofstede et al., 2010). Implementation of TQM requires continuous improvement that requires frequent change to the process and operations. In a strong collectivistic country like Indonesia, we argue a higher level of individualism is necessary to facilitate change. Similarly, positive relationship between innovation that requires change and individualism is reported by Rinne et al. (2012).

The existence of formal quality management program improves the intensity of TQM implementation. Variance in TQM implementation (R^2) improved from 0.69 to 0.72 by introducing quality program as control variable. Adoption of formal quality programs improved the relationship between individualism and TQM implementation. This finding is consistent with the claim of Prajogo and Brown (2004) that argues firms with formal TQM program in place adopt TQM at higher level of intensity compared to those that do not have TQM program.

Theoretical implication of this study is that in a very collectivistic country like Indonesia individualism is necessary for intensive TQM implementation. In a collectivistic country people

emphasize on in-group values and norms. To change the collective group values and norms is more difficult than to change one individual's values and norms. But, once the group adopts the change it will last longer because they will support each other to maintain the values and norms. Thus, to start a new initiative it is easier in an individualistic society. Managerial implication of this finding is providing direction for improvement to Indonesian manufacturing firms that want to implement TQM. Especially managers need to be aware of how a country's culture significantly impacts QM effectiveness. Top management needs to set up an atmosphere that can improve level of individualism of their employees such as by providing training on problem solving and basic statistics, encouraging them to propose process improvement, and providing reward and recognition for quality improvement suggestions. In addition, top management should have strong quality vision that will help to translate their power and authority into effective TQM implementation.

7. CONCLUSIONS, LIMITATIONS, AND RECOMMENDATION

In this study we have explored the relationship of power distance, individualism, and TQM implementation. The relationship between power distance and TQM implementation were not identified. This may be due lack of quality visions among the top management and unsuitable organizational structure for TQM implementation. On the contrary to other studies, the positive correlation between individualism and TQM implementation is identified. It means TQM implementation is more intensive when the level of individualism is higher. Two identified limitations of this study are the cross-sectional nature and the perceptual model we used. Three recommendations for future research are as follows. Future research should consider exploring the relationship between individualism and each TQM elements. Since the inability of power distance to support TQM implementation is may be caused by lack of leadership for quality, it is recommended to verify the role of leadership as the moderating between power distance and the rest of TQM elements. Finally, future study may consider confirming this finding about individualism in a very collectivistic culture like Pakistan, Colombia, Venezuela, Panama, Ecuador, and Guatemala.

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