

## **Effect of the Continuous Improvement, Employee Involvement and Power Distance on Performance of the Abu Dhabi Agriculture and Food Safety Authority**

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### **Abstract**

The purpose of this paper is to examine the effect of the continuous improvement, employee involvement and power distance on performance of the Abu Dhabi Agriculture and Food Safety Authority. A structured questionnaire with a 5-point Likert scale was used as the survey instrument. Therefore, the data was collected from 406 the Abu Dhabi Agriculture and Food Safety Authority senior employees. Partial Least Square-Structural Equation Modeling (PLS-SEM) was used to test the hypotheses and answer the research question. The results indicated that the results showed that power distance mediates the relationship between continuous improvement, employee involvement) and organizational performance and therefore the performance of the Abu Dhabi Agriculture and Food Safety Authority also influenced by the continuous improvement and employee involvement directly.

**Keywords:** *Continuous Improvement; employee involvement; Power Distance; Organizational performance*

### **Introduction**

One of the main concerns of the government of Abu Dhabi spearheaded by the Abu Dhabi Agriculture and Food Safety Authority is to ensure food safety, food security and sustainable agricultural produce (i.e. including those from imports and exports) and ensure that these products meet the required standard for consumption by the local populace (ADAFSA, 2016). Hence, the ADAFSA was charged with fulfilling this responsibility. In 2015, it was reported in ADAFSA (2016) that the ADAFSA scored 99% in the food safety performance evaluation carried out by the United Arab Emirates' (UAE) Ministry of Environment & Water in conjunction with the Food and Agricultural Organization (FAO) of the United Nations (UN) (ADAFSA, 2016). The evaluation came as part of the Ministry's effort to develop and enhance the food safety situation of the country. It was executed with a team of experts from the FAO (ADAFSA, 2016). Thus, the ADAFSA no doubt excelled in the afore-mentioned performance evaluation in terms of food safety and security. However, in terms of performance measures such as quality performance, employee performance, and society results, there were no reported parameters or scores; therefore, they may not have performed optimally in those areas. It is important to note that the ADAFSA being a food control authority is required to assess their performance in terms of maintaining and upholding a certain measure of quality performance, report on the extent to which their employees perform (employee performance) as well as to measure their social image (society results) and impact to determine how well they essentially perform (Anil, 2019). Assessing the performance of regulatory agencies such as the ADAFSA has often been limited to the specific functions which they perform. However, the performance of regulatory agencies ought to be evaluated using performance parameters that best reflect the agency's mission and

purpose as well as those parameters that assess the quality of outputs, the productivity of employees as well as the social image and impact of the organization (Anil, 2019; Aziz & Morita, 2016).

Furthermore, Al Ameri and Al Ameri (2017) assert that the great optimism and passion for quality improvement in the UAE had created the imperative for all government entities to deliver quality service to the community. Hence, municipalities and government authorities are beginning to implement TQM as a prerogative for continuous quality improvement and attainment of the government's objectives. The call for the ADAFSA to secure and safeguard the Emirate's food and agricultural produce by the government of Abu Dhabi has led to the implementation of TQM by the ADAFSA. Total Quality Management, according to Zehir *et al.* (2012) is a holistic quality improvement approach that firms utilize to improve their performance in terms of quality and innovation. Similarly, Eniola *et al.* (2019) explains that TQM is an integrative organizational-wide management philosophy that is aimed at continuously improving the quality of processes, products, and services by focusing on meeting or exceeding customer expectations. Hence, TQM implementation has been linked to operational performance as well as several indicators of organizational performance, with organizational culture as an intervening variable as reported by some researchers (Ahmad *et al.*, 2013; Al-Dhaafri *et al.*, 2016; Anil, 2019; Aziz & Morita, 2016; Baird *et al.*, 2011).

However, the inconclusive nature of the association between TQM, culture and performance has raised more questions and mixed reactions among academicians (Al-Dhaafri *et al.*, 2016; Anil, 2019; Duarte *et al.*, 2011; Eniola *et al.*, 2019; Kanapathy *et al.*, 2017). For instance, Eniola *et al.* (2019) stressed that various studies have shown that about three-quarters of TQM implementations are problematic and fails to achieve any results, causing severe financial loss as well as threatening the organization's survival. Similarly, Al Ameri and Al Ameri (2017) explained that the implementation of TQM in public service organizations in the UAE was challenging and sometimes fails to achieve the desired results in terms of quality performance as well as organizational-wide performance. The mixed and inconclusive nature of the TQM-Performance relationship has raised questions of compatibility between TQM and performance especially in public and regulatory agencies where quality service and outputs supersede financial profits or gains, as well as questions regarding what elements contribute to the success of this association. As Al Ameri and Al Ameri (2017) pointed out candidly, TQM as a construct is variable, adaptable, and contingent to time and context. Thus, its successful implementation may be dependent on context and some underlying and intervening variables such as culture.

Research has shown that both organizational culture (Al-Dhaafri *et al.*, 2016; Anil, 2019; Aquilani *et al.*, 2017; Eniola *et al.*, 2019; Haffar *et al.*, 2019) and corporate culture (ALNasser *et al.*, 2013; Jabnoun & Sedrani, 2005) are positively and significantly correlated with performance and TQM, however much has not been reported about the mediating role of national culture dimension (power distance) in the relationship between TQM and performance especially in the context of a regulatory authority like the ADAFSA. ALNasser *et al.*, (2013) in their study, categorized TQM into soft and hard categories, and investigated the effects of national culture on TQM and organizational performance. They found that national culture had a positive and significant effect on both organizational performance and TQM (ALNasser *et al.*, 2013). However, the study was limited in the absence of a theoretical lens to explain how

national culture mediates TQM and performance as well as the absence of a rigorous methodology to conceptualize all the variables measured.

### **Power distance**

Power distance “represents the degree of inequality in the distribution of power within societies to be considered socially acceptable and is derived from the fact that power in institutions and organizations is not evenly distributed (Taras, 2017). Societies with high power distance accept large differences in power within the organization. According to Hofstede *et al* (2010) power distance is the extent to which the less powerful members of organizations within a country expect and accept that power is distributed unequally; also, that distribution of power is explained based on the actions of the members that have more power. In addition, the concept of power distance can be brought to an organizational approach by defining it as the measure of power inequality between bosses and subordinates, perceived by the less powerful individuals, the subordinates. As Mead (1998) affirmed, if there is a small power distance, managers are more likely to ask for support and consult their subordinates when decisions have to be made, they both cooperate, employees have little fear of disagreeing with supervisors, and the distance between each other is reasonably small thus follower will rather easily approach and contradict their leaders or and supervisors, whereas in some cases when the distance of power is large follower might perform better.

### **Hypothesis of the study**

Aziz and Morita (2016) examined the relationship between national culture, organizational culture, TQM implementation, and performance in Indonesian firms. Findings from the study revealed that there was a positive correlation between national culture and organizational culture and that this impacted TQM implementation and performance positively. Aziz and Morita (2016) further stressed that many companies fail to successfully implement TQM because they do not recognize that the implementation may seem to go against the direction, values, and culture of their companies and employees., therefore national culture can determine the degree of success or failure for TQM implementation and how this in turn and impacts the overall performance of the organization. Therefore, this study aims to investigate the effect of the continuous improvement, employee involvement and power distance on performance of the Abu Dhabi Agriculture and Food Safety Authority; using power distance as the mediating variable; thus, the following research hypothesis were created;

H<sub>1</sub>: There is a relationship between continuous improvement and Abu Dhabi Agriculture and Food Safety Authority performance.

H<sub>2</sub>: There is a relationship between employee involvement and Abu Dhabi Agriculture and Food Safety Authority performance.

H<sub>3</sub>: Power distance mediates the relationship between continuous improvement, employee involvement and Abu Dhabi Agriculture and Food Safety Authority performance.

### **Methodology**

The variable measured in this study were continuous improvement, employee involvement, power distance and organizational performance. Thus, the items of each construct was adopted from previous studies; for the total quality management 10 items corresponding to the selected 2 dimensions (continuous improvement and employee involvement) of the construct were adopted from Ahmad *et al* (2013); Aziz & Morita (2016). Similarly, the scale for national culture dimension (power distance) as used in this study was adapted from the study of Aziz and Morita (2016). The scale contains a total of 3 items. In addition, a total of 10 items were selected to measure the organizational performance construct as operationalized in this study. The selected scales were adapted from the scales of Anil (2019). Thus, to answer the raised objective of this study a structured questionnaire with a 5-point Likert scale was used as the instrument for data collection from the total of 406 respondents from senior employees of the Abu Dhabi Agriculture and Food Safety Authority (ADAFSA). Therefore, the collected data was coded thru the Statistical Program for Social Science (SPSS). Hence, Partial-Least Square Structural Equation Modelling (PLS-SEM) was used to test the created hypothesis of the study.

## Results

The hypotheses in this study were examined and tested using two different types of analysis; namely measurement and structural analysis. The validity and reliability as well as Discriminant validity based on Fornel and Larcker criterion were run to validate the data and therefore measurement model was presented. Then structural model run present the hypothesis results based on path Coefficients and t-Statistic analysis.

### *Measurement Model analysis*

Table 1: Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Continuous Improvement	0.794	0.853	0.540
Employee Involvement	0.792	0.856	0.543
Organizational Performance	0.949	0.957	0.763
Power Distance	0.779	0.871	0.692

Table 1 clearly shows that all the Cronbach alpha values and Composite Reliability are greater 0.6, and this indicates that the results are acceptable. If the alpha coefficient of any construct was less than 0.6, it indicates that the Cronbach alpha values are not acceptable margin and should be reassessed. The Cronbach alpha outcomes show that the all the five variable have very good reliability, as shown in table above. Therefore, as shows in Table 1, also all the measured constructed had AVE scores greater than the threshold value of 0.50.

Table 2: Discriminant validity based on Fornel and Larcker criterion

	Continuous Improvement	Employee Involvement	Organizational Performance	Power Distance
Continuous Improvement	<b>0.735</b>			
Employee Involvement	0.123	<b>0.737</b>		

Organizational Performance	0.201	0.184	<b>0.873</b>	
Power Distance	0.210	0.441	0.475	<b>0.832</b>

Discriminant validity is the extent to which a particular measurement model is different from other models and measure what it is expected to measure (Hussin, Rahman, & Memon, 2013). Thus, the result shows that Discriminant validity was therefore established from the Fornell and Lacker criterion since the square root of the AVEs for the constructs continuous improvement, employee involvement, organizational performance and power distance were higher than their respective highest correlation as shown in each column in Table 2.

Table 3: Heterotrait-Monotrait ratio (HTMT)

	Continuous Improvement	Employee Involvement	Organizational Performance	Power Distance
Continuous Improvement				
Employee Involvement	0.173			
Organizational Performance	0.191	0.200		
Power Distance	0.235	0.533	0.527	

Additionally, the Heterotrait Monotrait ratio criterion was also used to establish discriminant validity. As shown in the Table 3 Discriminant validity is established since all the ratios were below the threshold values of HTMT<sub>.90</sub> as indicated by Kline (2015).

Table 4: Cross loadings

	Continuous Improvement	Employee Involvement	Organizational Performance	Power Distance
CI1	<b>0.643</b>	0.054	0.048	0.100
CI2	<b>0.854</b>	0.077	0.220	0.221
CI3	<b>0.795</b>	0.081	0.153	0.195
CI4	<b>0.710</b>	0.115	0.124	0.094
CI5	<b>0.649</b>	0.157	0.117	0.082
EI1	0.032	<b>0.767</b>	0.149	0.328
EI2	0.008	<b>0.751</b>	0.057	0.290
EI3	0.050	<b>0.711</b>	0.128	0.261
EI4	0.311	<b>0.730</b>	0.205	0.408
EI5	-0.051	<b>0.724</b>	0.099	0.292
EP1	0.260	0.195	<b>0.933</b>	0.496
EP2	0.125	0.116	<b>0.884</b>	0.384
EP3	0.032	0.152	<b>0.761</b>	0.286
SR1	0.249	0.184	<b>0.939</b>	0.483
SR2	0.132	0.111	<b>0.865</b>	0.374
SR3	0.034	0.153	<b>0.766</b>	0.298

SR4	0.258	0.198	<b>0.945</b>	0.492
PD1	0.192	0.433	<b>0.423</b>	<b>0.870</b>
PD2	0.230	0.372	<b>0.420</b>	<b>0.861</b>
PD3	0.078	0.276	<b>0.334</b>	<b>0.760</b>

Lastly, the factor loadings criterion was also used to measure discriminant validity. Table 4. shows that all indicator loadings loaded highly on their own respective constructs as indicated by bold text compared to other indicators, representing that there is no issue of high cross-loading between other indicators, therefore, the discriminant validity is established.

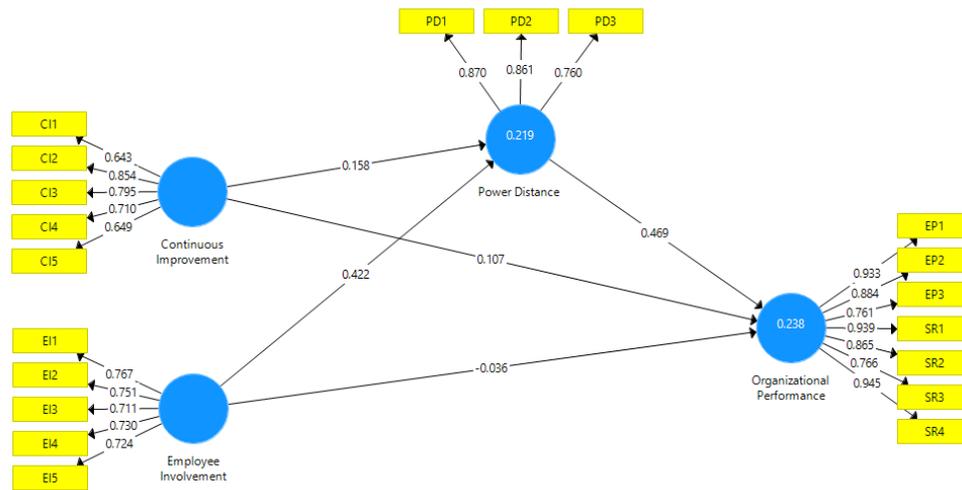


Figure 1: Measurement Model

Figure 1 illustrates the results of the factor loadings of each of the items, thus all the items had values greater than 0.5. After establishing the validity and reliability of the measurement model, it then follows that the structural model needs to be evaluated.

### Structural Model analysis

The structural model provides a means of evaluating the inter-relationships in the measurement model to establish causal connections between the exogenous indicators and the endogenous constructs (Hair et al., 2011).

Table 5: Significance test for the structural model path coefficient, t-statistics and p-values

Hypothesis	Path Coefficients	t-Statistic	P values	Conclusion
Continuous Improvement -> Organizational Performance	0.107	2.353	0.019	Supported

Continuous Improvement -> Power Distance	0.158	4.023	0.000	Supported
Employee Involvement -> Organizational Performance	-0.036	0.734	0.463	Not Supported
Employee Involvement -> Power Distance	0.422	10.180	0.000	Supported
Power Distance -> Organizational Performance	0.469	11.010	0.000	Supported

The direct path coefficients of which all were significant with t-Statistic values exceeding 1.96 and p-values value less than 0.05. All three of the direct effect had a strong positive relationship between continuous improvement, employee involvement and organizational performance. Therefore, it can be said that there is a positive effect of the selected TQM dimensions on the performance of the Abu Dhabi Agriculture and Food Safety Authority as presented in the Table 5.

Table 6: Mediating analysis

Hypothesis	Path Coefficients	t-Statistic	P Values	Conclusion
Continuous Improvement -> Power Distance -> Organizational Performance	0.074	3.701	0.000	Supported
Employee Involvement -> Power Distance -> Organizational Performance	0.198	7.220	0.000	Supported

As presented in Table 6, power distance mediates the relationship between continuous improvement, employee involvement and organizational performance. The result shows that the Path Coefficients of the both path was close to + 1 and the t-Statistic greater than 1.96 respectively. Therefore, the hypothesis was supported.

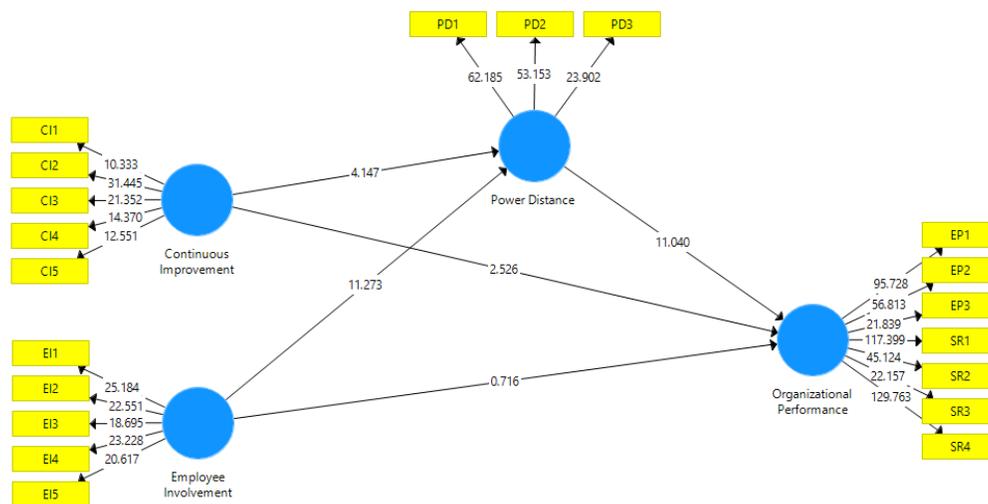


Figure 2: Structural Model

The validity of the structural model is evaluated by using criteria such as path coefficients, t-statistic and p-value; Figure 2, the path coefficient and t-statistic are presented.

## **Discussion and conclusion**

The main objective of this study is to investigate how national culture dimension (power distance) mediate the relationship between TQM dimensions (continuous improvement, employee involvement) and organizational performance. Thus, Abu Dhabi Agriculture and Food Safety Authority was used as the case study. The results showed that power distance mediates the relationship between continuous improvement, employee involvement) and organizational performance and therefore the performance of the Abu Dhabi Agriculture and Food Safety Authority also influenced by the continuous improvement and employee involvement directly. These findings are in line with the results of Al-Ettayem & Al-Zu'bi (2015), Goetsch, & Davis (2013), Hoang, Igel, & Laosirihongthong, (2010), Fotopoulos & Psomas (2010). Likewise, the research results show that there is a positive relationship between (customer satisfaction, continuous improvement, teamwork, top management commitment) and organizational performance (financial) in the Jordanian banking sector, this result is supported by Chen, Liu, Sheu & Yang, (2012). Furthermore, Ghadiri et al., (2013) their findings revealed that the hypothesis test indicate that there was a meaningful relationship between the total quality management and financial performance. Ngambi & Nkemkiafu, (2015); Machimbi, (2017); Al-Damen, (2017); Androwis, Sweis, Tarhini, Moarefi, & Hosseini Amiri, (2018); Worlu & OBI (2019) have agreed that total quality management dimensions positively affect organizational performance. Alghamdi (2018) argued that firms implementing TQM with more advanced performance measurement systems especially those that include financial and non-financial measures have higher performance. Ehsan Jabbarzare (2019) concluded that all of the selected TQM practices (continuous improvement, customer focus, and employee involvement) are significantly correlated with the organizational performance of hotels. This result also supported by Norah Dhafer Al-Qahtani, Sabah Sa'ad Alshehri, (2016) and Chepkech & Cheluget (2017).

Also, the current study findings on the mediating role of the power distance supported by the results of Mardani & Jusoh, (2012) who used two of Hofstede's (1983) national culture dimensions and the six values of total quality management. The sample was collected from 150 managerial personnel of Iranian small and medium enterprises (SME's) in 30 companies. The survey result is an analysis by regressing cultural dimensions on total quality management values. Their results suggest that power distance is the most influential cultural element and impacts all six total quality management values and masculinity has no significant effect on total quality management values except emphasis on total quality management-oriented training Mardani & Jusoh, (2012).

## **Limitation and Recommendation**

The scope of the current study was only limited to a single organization; it is therefore recommended that future research extend with the study's scope with larger samples to include more organizations around the UAE which would help the enhancement and generalization of the outcomes. Also, future research should examine the TQM practices and relationship with innovation performance with other constructs in different settings. In addition, future research should measure the innovativeness of the organization including the product and service innovation within the limitations of the specific organization. Another limitation was that organization performance tenets were

measured by using one question per each tenet. Future research may investigate those TQM practices and performance measures in other UAE industries.

Additionally, the researcher also identified some key areas that further researcher might focus on for instance, further research on the mediating effect of national culture on the relationship between employee motivation and satisfaction among top managers in service-oriented organizations. Besides, further research on the mediating effect of national culture on the relationship between Total Quality Management practices and employee performance of UAE private organizations or and SMEs. Last but not least, further research on the comparison of the mediating effect of national culture on the relationship between Total Quality Management practices and employee performance of UAE public and private organizations. Further research on both mediating and moderating role nation culture on the relationship between TQM practices and organizational performance.

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