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Impact of Total Quality Management-Based People Management Practices on Administrative Innovation In Service Smes

Abdul Talib Bon and Esam M.A. Mustafa

Faculty of Technology Management and Business, Universiti Ton Hussien Onn Malaysia,
Jalan Kluang, 86400 Parit Raja, Johor, Malaysia

Abstract: This paper investigates the impact of Total Quality Management-based People Management practices TQM-PM on Administrative innovation in service Small and Medium Sized Enterprises (SMEs) in Malaysia. Data was obtained from managers of 191 SMEs from different service subsectors. The Confirmatory Factors Analysis (CFA) technique was applied to validate the measurement model. Structural Equation Modeling (SEM) was used to test the hypotheses. Results of SEM model showed Employee involvement and Training have positive impact on administrative innovation, while Employee empowerment showed no impact. Findings of this study help managers of service SMEs to focus on the TQM-PM as administrative innovation resource.

Key words: Employee involvement · Employee empowerment · Training · Administrative innovation · Service · SMEs · TQM

INTRODUCTION

Role of human in operation of services firms is critical more than in none service firms. The criticality emerges from three elements characterized operation in services: first, the direct interaction and communication between employees and customers [1], second, the significant role of customers in producing services [2] and third, the unique characteristics of service it self such as intangibility and perishability [3]. Therefore, in firms apply TQM, people management practices has significant impact on innovation [4-7], specially in services firms [8, 9].

Since service is deeds, process and performance [10], operation in service firms relies significantly on process and administrative practices. Thus, administrative innovation is significantly crucial in services firms compared to none services firms such as manufacturing firms.

Empirical studies [7, 11] have proved the positive impact of TQM-PM on technological and none technological innovations in manufacturing firms. However, studying the relationship between TQM-PM practices and innovation in service firms is scarce and studying the impact of TQM-PM practices on administrative innovation in service firms is scarcer. This study addresses this gap through hypothesizing a theoretical framework on the relationship between TQM-PM practices and administrative innovation in service SMEs then empirically testing it.

Theoretical Background: Administrative innovation is defined as new approaches and practices to motivate and reward organizational members, devise strategy, devise structure of tasks, devise structure of units and modify the organization's management processes [12-14]. Administrative innovation in services firms is associated with the internal process of creating and delivering a service.

TQM-PM practices are dominate practices in service firms TQM in Malaysia [15]. TQM-PM practices consist of employee relation and training [16, 17]. Employee relations consist of employee involvement and employee empowerment [18, 19].

Employee Involvement and Innovation: Employee empowerment in TQM refers to making an employee able to resolve quality problem with himself, supporting him

Corresponding Author: Abdul Talib Bon, Faculty of Technology Management and Business, Universiti Ton Hussien Onn Malaysia, Jalan Kluang, 86400 Parit Raja, Johor, Malaysia.

with necessary infrastructure for that purpose and rewarding him for the good performance [18]. Employee participation in TQM process increases their loyalty, commitment and creativity which support innovation [20-22]. Employee involvement practices have been empirically proved to have positive impact on administrative innovation [23]. Ooi *et al.,* (2012) [6] found a positive relationship between employee involvement and innovation performance in manufacturing companies in Malaysian. Hoang *et al*., (2006) [5] found a positive relationship between employee involvement and level of newness and number of new products in manufacturing and service companies in Vietnam. Based on this discussion, the following relationship is hypothesized:

H1: Employee involvement has positive impact on administrative innovation.

Employee Empowerment and Innovation: Employee empowerment refers to involving the employees in decisions making process, strategies and performance evaluation [19]. Employee empowerment plays a significant role in enhancing firms' performance [24]. Empowering employee increases their creativity because they deal with quality problems with them self [25]. Ooi *et al*., (2012) [6] found employee empowerment (included in people management practices) has a positive relationship with innovation performance in manufacturing firms in Malaysia. Results of Trivellas and Santouridis [26] showed a positive relationship between employee empowerment and innovation performance in (SMEs) in Greek. Hoang *et al*., (2006) [5] results showed employee empowerment has positive impact on level of newness and number of new products in manufacturing and service companies in Vietnam. Based on this discussion, the following relationship is hypothesized:

H2: Employee empowerment has positive impact on administrative innovation.

Training and Innovation: Training refers to training employees on TQM tools, principles and process [18, 27].

Training has been identified as one of the critical factors support making a change in firms [19]. Training positively contributes to performance of a firm [28]. Training predicts innovation in small service companies [29]. Kim *et al*., (2012) [23] found positive relationship between training and administrative innovation. Ooi *et al*., (2012) [6] found positive relationship between training and innovation performance. Findings of Hoang *et al.,* (2006) [5] showed a positive relationship between training and level of product newness and number of new products. Training also proved to have positive relationship with innovation performance [30]. Based on this discussion, the following relationship was hypothesized:

H3: Training has positive impact on administrative innovation.

Methodology: Sample of 620 SMEs from different service subsectors (e.g. Distributive Trade, Health care, Accommodation, Food and Beverages, Information and Communication, Financial Services and Education) was selected. The selection criteria were ISO 9001:2000 certification, Malaysian Quality Management Excellence Award (QMEA) certification, or any other local or international business quality management and business excellence certification and operation in Malaysia.

The data was collected using internet and paper based questionnaires method. Employee empowerment and Employee involvement measurement items were adapted from the study of Santos-Vijande and Álvarez-González (2007) [31]. Training and Administrative innovation measurement items were adapted from the study of Kim *et al*., (2012) [23]. A pilot study was conducted to ensure more measurements validity. Based on the pilot study outcomes, some items were slightly reworded.

Respondents of the study were top managers and executives of 191 service SMEs from different subsectors. Number of returned usable questionnaire was 191 represented respond percentage of 30.8% which considered acceptable in organizational level surveys [32].

This study employed techniques of Statistical Package for the Social Sciences (SPSS) in data screening process, CFA technique, using AMOS ver.20 software, was applied to confirm and validate constructs of the proposed theoretical model. Structural Equation Modeling (SEM), using AMOS ver.20 software, was used to test the hypotheses. In CFA analysis, factor loading value should be above. 6 [33] or above. 7 [34]. In addition, multiple indices of goodness of fit (GOF) should be used to assess and validate the measurement model [35]. In this study, Chi-square (CMIN in AMOS) (acceptable value is >.05), normed Chi-square (CMIN/DF) (acceptable range is 1.0 to 3.0), GFI (good fit value is >.90), NFI (good fit value is >.95), CFI (good fit value is >.95) and Root Mean Squared Error Approximation RMSEA (acceptable value is below to 0.1) [34] were used.

RESULTS AND DISCUSSIONS

Respondents' Characteristics: Table 1 shows characteristics of the respondents of the 191 valid questionnaires used in this study. Distributive trade, food and beverage and accommodation subsectors are the higher numbers of respondents (99, 55 and 18 respectively).

Measurement CFA Model: Figure 1 shows the measurement model for the four constructs under investigation namely Employee involvement (EI) Employee empowerment (EE), Training (TR) and administrative innovation (AD). After applying modifications indices given by AMOS, all factors loading were above. 7 except the item TR5 loaded. 69. GOF indices showed acceptable values: CMIN = 187.766 CMIN/DF = 1.174, GFI =. 921, NFI =. 968, CFI =. 995, RMSEA =. 029). Besides GOF indices, values to be considered in the measurement model using CFA in SEM are the Standardized Factors Regression Weights (factor loading), factor loading >.7 is good. Thus, the measurement assumed valid for further analysis.

Assessing Constructs Validities in the Measurement Model: Construct validity is assessed through assessing, convergent validity, multicollinearity (nomological validity) and discriminant validity (unidimensionality) [34-36]. Convergent validity of a construct achieved when AVE value is greater than. 5 and CR value is greater than. 7 [34]. Constructs AVEs show in table 2 are ranged between. 59 and 92. Values of CR are in the same table ranged between. 88 and. 98. Thus convergent validity assumed to be achieved.

Table 1: Respondents characteristics Profile

Subsector	Number
Distributive trade	99
Food and beverage	55
Accommodation	18
Education and training	5
Transport and storage	4
Financial service	3
Health and social work	3
Information and Communication	2
Business service	1
Construction, Architectural and related services	1
Total	191

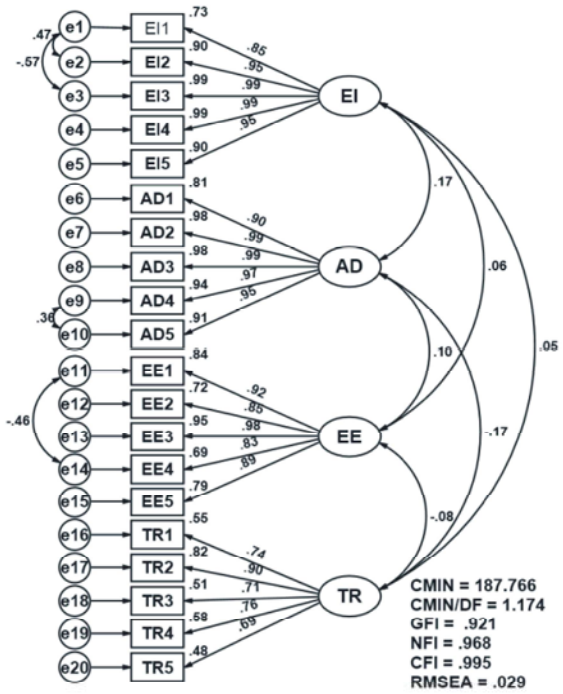

Fig. 1: Measurement CFA model

Multicollinearity does not exist when all correlations between constructs below. 85 [37]. Correlation matrix shows in table 2 ranged between. 06 and. 17. Thus, no multicollinearity exists between the constructs.

Discriminant validity is assessed through comparing the Squared Interconstructs Correlation estimates (SIC) with the AVE of the construct [34]. AVE of the constructs should be larger than their corresponded SIC with the other factors. Table 3 presents the SIC of the three constructs. As it seen in the table 3 there is no SIC value bigger than its corresponded AVE. Thus, discriminant validity assumed to be achieved.

Hypotheses Testing: Figure 2 shows a SEM model developed from the measurement model to test the hypotheses. Comparing GOF indices between SEM model and CFA shows no difference. Therefore, SEM constructs validities assumed to be achieved. Two of the three hypothesized relationships were supported. Table 4 shows significant paths between EI and AD and significant path between TR and AD (Critical Ratio = 2.607 and-2.407 respectively). While the hypothesized relationship between EE and AD was not supported.

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Table 2: Convergent validity, construct reliability and multicollinearity assessment

	CR	AVE	EE	EI	AD	TR
EE	0.95	0.80	0.89			
EI	0.98	0.90	0.06	0.95		
AD	0.98	0.92	0.10	0.17	0.96	
TR	0.88	0.59	-0.09	0.05	-0.17	0.77

Table 3: Discriminant validity assessment

	CR	AVE	EE	EI	AD	TR
EE	0.95	0.80	0.89			
EI	0.98	0.90	0.00	0.95		
AD	0.98	0.92	0.01	0.03	0.96	
TR	0.88	0.59	0.01	0.00	0.03	0.77

Table 2: Convergent validity, construct reliability and multicollinearity assessment

	CR	AVE	EE	EI	AD	TR
EE	0.95	0.80	0.89			
EI	0.98	0.90	0.06	0.95		
AD	0.98	0.92	0.10	0.17	0.96	
TR	0.88	0.59	-0.09	0.05	-0.17	0.77

Table 3: Discriminant validity assessment

	CR	AVE	EE	EI	AD	TR
EE	0.95	0.80	0.89			
EI	0.98	0.90	0.00	0.95		
AD	0.98	0.92	0.01	0.03	0.96	
TR	0.88	0.59	0.01	0.00	0.03	0.77

Table 4: Hypotheses testing

Relationship	C.R.	P	Hypotheses		
EI	→	AD	2.607	.009**	Supported
EE	→	AD	1.065	.287	Not Supported
TR	→	AD	-2.407	.016*	Supported

**P-value* < 0.01 **P-value* < 0.05 (two tailed)

the other factors. Table 3 presents the SIC of the three constructs. As it seen in the table 3 there is no SIC value bigger than its corresponded AVE. Thus, discriminant validity assumed to be achieved.

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DISCUSSION

The positive relationship between Employee involvement and administrative innovation shows in this study supported the findings of Kim *et al*., (2012) [23] and Ooi *et al*., (2012) [6]. and contradicted findings of Singh and Smith [38]. Employee involvement consists of employee participation in strategies and polices of the organizations, participation in TQM activities and voicing up opinions and suggestions. If managers in the surveyed SMEs do not consider involvement aspects no positive impact would be showed on administrative innovation. Hence, the positive relationship between employee involvement and administrative innovations implies positive and effective TQM-based employees' involvement in those surveyed SMEs. Furthermore, it implies that when SMEs managements implement TQM they do consider employee's participation and opinions.

The hypothesized relationship between Employee empowerment and innovation was rejected. In other words, results of the analysis in this study show that

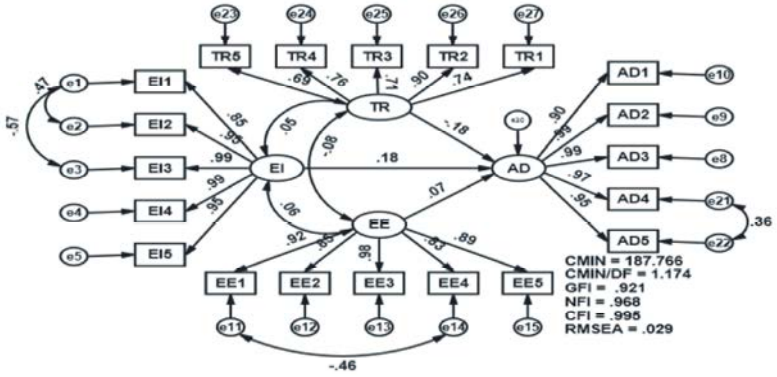

Fig. 2: SEM model

employee empowerment has no impact on the administrative innovation. These finding contradicted the findings of Kim *et al*., (2012) [23] regarding the relationship between employee empowerment and administrative innovation. This finding also contradicted the findings of Ooi *et al*., (2012) [6] and Trivellas and Santouridis [26] regarding the impact of employee empowerment on the innovation performance. This finding supported the findings of Singh and Smith (2004) [38].

Possible explanation of the absence of the positive relationship between employee empowerment and administrative innovation in the surveyed SMEs can be built around the unique characteristics of service. For example, intangibility of service and customers role in producing the service make the employees deal with unexpected customers reactions. These reactions need quick in time decisions that can not be made with the employees.

Although empowerment is theoretically connected to innovation, practically employees are empowered for limit missions [25, 39]. This view is totally supported through the current findings. Intangibility and high dependability on customers limit the need for highly empowered employee and increase the need for highly skilled employees [40, 41]. In other words, in service SMEs the best way to empower the employee is to training them on concepts, philosophy and process of TQM. This view is supported by the current findings on the relationship between training and administrative innovation [42].

Another possible explanation of the absence of the positive relationship between employee empowerment and administrative is that the surveyed SMEs do not use effective reward systems. In other words, managers in the surveyed SMEs do not recognize and appreciate good accomplished missions.

The positive relationship between training and administrative innovation shows in this study supported the findings of Kim *et al*., (2012) [23] and Ooi *et al*., (2012) [6]. And contradicted findings of Singh and Smith [38]. This finding implies that providing employees with sufficient TQM training reflects directly on the internal administrative process. Another possible explanation of this positive relationship can be linked to the role of top employees (department managers, supervisors and senior executives). Top employees decide or suggest decisions on process then run and manage those decisions. Therefore, trained top employee gives outcomes in term of administrative innovations.

Trained front-desk employees (or generally any employee deals directly with customers and represents his organization) is another possible explanation of the positive relationship between training and administrative innovation in surveyed SMEs. Direct communication between employees and customers makes the employees observers. In this case, intentionally or unintentionally, the employees raise complains and suggestions on behalf of the customer to decision makers, that is because customers might not complain or complement directly or precisely.

Implications: Managerial implication of the current findings can be summarized as follow:

- Managers of service SMEs should support TQM-PM to make administrative innovations in their organizations.
- Managers of service SMEs need to make more effort in empowering their employee when implementing TQM to positively impact their administrative changes. For example giving their employee more space and trust allow them make in time decisions.
- Training is effective strategy under TQM implementation; managers should keep updating and enhancing training schemes.
- Training is an effective empowerment tool.
- Employee involvement is good for positive administrative changes; managers can use involvement to overcome the resistant to change which most threat of making changes.

CONCLUSION

Through analyzing data collected from managers of 191 service SMEs from different service subsectors, this paper investigated the impact of TQM-based people management practices (namely Employee involvement, Employee empowerment and training) on Administrative innovation in service SMEs in Malaysian. CFA technique was applied to validate the four-construct measurement model (EI, EE, TR and AD). SEM was used to test the hypotheses. Results of SEM showed Employee involvement and Training have positive impact on administrative innovation and showed Employee empowerment has no impact. Findings of this study help managers of services SMEs to focus on the TQM-PM as administrative innovation resource. More, managers should keep in employee's involvement practices. They

need to pay more attention to employee's empowerment. Furthermore, managers can use training as an effective empowerment.

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