

The mediating effect of affective commitment to change in the readiness for change – TQM relationship

Haffar, Mohamed; Al-hyari, Khalil Ahmad; Djebarni, Ramdane; Alnsour, Jamal Ahmad ; Oster, Fiona; Al-Shamali, Ahmed ; Alaya, Amer

DOI:

[10.1080/14783363.2022.2054695](https://doi.org/10.1080/14783363.2022.2054695)

License:

Creative Commons: Attribution-NonCommercial (CC BY-NC)

Document Version

Peer reviewed version

Citation for published version (Harvard):

Haffar, M, Al-hyari, KA, Djebarni, R, Alnsour, JA, Oster, F, Al-Shamali, A & Alaya, A 2023, 'The mediating effect of affective commitment to change in the readiness for change – TQM relationship', *Total Quality Management and Business Excellence*, vol. 34, no. 3-4, pp. 326-344. <https://doi.org/10.1080/14783363.2022.2054695>

[Link to publication on Research at Birmingham portal](#)

Publisher Rights Statement:

"This is an Accepted Manuscript version of the following article, accepted for publication in Total Quality Management and Business Excellence. Mohamed Haffar, Khalil Al-Hyari, Ramdane Djebarni, Jamal Ahmad Alnsour, Fiona Oster, Ahmed Al-Shamali & Amer Alaya (2022) The mediating effect of affective commitment to change in the readiness for change – TQM relationship, Total Quality Management & Business Excellence, DOI: 10.1080/14783363.2022.2054695. It is deposited under the terms of the Creative Commons Attribution-NonCommercial License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited."

General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

- Users may freely distribute the URL that is used to identify this publication.
- Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
- User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
- Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.

The mediating effect of affective commitment to change in the readiness for change – TQM relationship

Abstract

A comprehensive review of the literature indicates that the impact of employee readiness for change (ERFC) and employee affective commitment to change (EACC) on total quality management (TQM) implementation is still in its infancy. More specifically, there are limited empirical studies examining the mediating role that EACC plays in the ERFC dimensions-TQM relationship. To address these gaps, we aimed to investigate the relationship between ERFC dimensions and TQM with the mediating role of EACC. A total of 586 questionnaires were distributed to two employees, each within 293 manufacturing organisations in Jordan. The analysis, conducted using structural equation modelling, demonstrated that different dimensions of ERFC impact EACC and TQM distinctively. Our findings offer strong evidence of the pivotal mediating role of EACC in the relationship between ERFC dimensions and TQM. Thus, this study unveils the role of EACC as a mechanism upon which the ERFC—TQM relationship is based.

Keywords: TQM, affective commitment to change, employee readiness for change.

Introduction

The contemporary business environment is shaped by intense competition and the continual evolution of change initiatives. To compete effectively and sustain their operational excellence in such an ever-growing and dynamic global marketplace, organisations are under immense pressure to adapt to numerous global operational changes (Eskildsen & Edgeman, 2012; Edgeman, Neely, & Eskildsen, 2016; Fundin, Bergquist, Eriksson, & Gremyr, 2018).

Total quality management (TQM) is a change strategy that complements other change initiatives in assisting manufacturing organisations to enhance operational performance in the dynamic global business environment (Prajogo & Cooper, 2010; Lee, Ooi, Sohal, & Chong, 2012; Sila & Walczak, 2017; Dahlgaard, Reyes, Chen, & Dahlgaard-Park, 2019; Abimbola, Oyatoye, & Oyenuga, 2020; Hsu, Chen, & Chou, 2021; Yazdani, 2021; Fundin, Backström, & Johansson, 2021).

Although quality management gained popularity in the 1980s and 1990s, TQM has been proven very problematic when it comes to implementation, and this has manifested itself in a high rate of failure (Haffar, Al-Karagouli, & Ghoneim, 2013; Srinivasan & Kurey, 2014; Permana, Purba, & Rizkiyah, 2021). Despite the importance of TQM in manufacturing organisations, the level of TQM implementation in many manufacturing organisations is still low in most developing countries (Lee et al., 2012; Haffar, Al-Karaghouli, Djebarni & Gabadamosi, 2019). In response to the substantial difference in the levels of TQM implementation success reported by organisations worldwide, numerous studies have been conducted to determine the contextual and individual factors that impact TQM implementation (e.g. Haffar et al., 2013; Hietschold, Reinhardt, & Gurtner, 2014; Talapatra, Uddin, Antony, Gupta, & Cudney, 2019; Permana et al., 2021). Significant attention has been paid recently to the critical role of employee affective commitment to change (EACC) and employee readiness for change (ERFC) in TQM implementation (Weeks, Helms, & Ettkin 1995; Shea & Howell,

1998; Soltani, Lai, & Gharneh, 2005; Meirovich, Galante, & Yaniv, 2006; Al-Maamari, Abdulrab, Al-Jamrh, and Al-Harasi, 2017; Tenji & Foley, 2019; Krajcsák, 2019; Bagga & Haque, 2020). Most of these studies are conceptual and small-scale and have treated ERFC as a unidimensional concept. Thus, knowledge on how different ERFC dimensions distinctively influence employee TQM is still minimal, and the complexity of this relationship has not been well investigated in previous studies. In addition, a comprehensive review of the literature indicates that employees' readiness for change may have an indirect impact on TQM implementation via EACC. However, partial studies have examined the holistic relationship between ERFC components, EACC, and TQM. In particular, there is a shortage of studies exploring the mediating role of commitment to change in the relationship between readiness for change and TQM implementation.

Our paper makes the following contributions to address the research gaps identified above. First, in line with the Holt, Armenakis, Field, & Harris (2007) and Haffar et al. (2021) recommendations, this research study goes beyond the majority of previous studies that did not consider the different dimensions of ERFC (self-efficacy, personal valence, management support, and appropriateness), and incorporated them into this study. Second, this study fills an existing gap in the literature by investigating the mediating role of EACC in the relationship between employee readiness for change dimensions and TQM. This helps to clarify the mechanisms through which EACC is influenced by different dimensions of ERFC and impact TQM distinctively. Understanding the complex relationships between TQM, ERFCs and EACC, enhances the likelihood of TQM implementation success in manufacturing organisations. Finally, there has been mounting interest in the context of the emerging market economy of Jordan, a fragile yet calm and shock-absorbing country at the centre of the unstable and highly volatile Middle East (Al Khattab, Anchor, & Davies, 2008; Al-Hyari, 2021). By examining the relationship between ERFC, EACC and TQM in Jordanian manufacturing

organisations (JMOs), this study offers valuable insights for decision-makers to improve JMOs' effectiveness and decrease the flood of refugees to Europe.

Literature review

The relationship between employee readiness for change and affective commitment to TQM induced change

Recently, several scholars have emphasised the importance of building ERFC and employee affective commitment to change (EACC) (Herscovitch & Meyer, 2002; Herold, Fedor, & Caldwell, 2007; Holt et al., 2007; Shum et al., 2008) as they present critical psychological states that are experienced by organisational members who undertake significant organisational changes. Thus, enhancing ERFC and EACC is crucial to increasing successful change implementation. The most broadly quoted definition of the ERFC concept was provided by Armenakis, Harris, and Mossholder (1993, p. 681), who defined it as an employee's "beliefs and intentions regarding the extent to which changes are needed and the organisation's capacity to successfully undertake those changes". Whilst many researchers, including Jones, Jimmieson, and Griffiths (2005) and Armenakis et al. (1993), considered ERFC as a unidimensional concept, the contemporary seminal research conducted by Holt et al. (2007) debated that ERFC is a multifaceted concept consisting of four dimensions related to change. These include "specific efficacy, personal benefit gained from change, management support during change and the appropriateness of the change" (Holt et al. 2007, p. 232).

The comprehensive review of the literature indicates that, despite ERFC and EACC being closely related, a clear distinction should be made between them (Herold et al., 2007; Holt et al., 2007). Employee affective commitment represents the emotional attachment to

the organisation (Tekleab & Chiaburu, 2011). Herold et al. (2007) explain that EACC is determined by the individual's attitude toward change in addition to their intention to offer support. The majority of studies suggest that employee readiness for change is one of the key catalysts of EACC (Herold et al., 2007; Holt et al., 2007; Neubert & Cady, 2001; Santhidran Chandran, & Borromeo, 2013). As a case in point, Mahendrati and Mangundjaya (2019) found that employee readiness for change considerably impacts positively their affective commitment to change in Indonesian public organisations.

According to several authors, including Herscovitch and Meyer (2002) and Salvato and Rerup (2011), employees with higher self-efficacy, that is, those who have more confidence in their capability to manage organisation change, would have higher EACC. In a study performed by Santhidran et al. (2013), it was found that if an organisation increases its employees' readiness for change; it will encourage them to be committed to the change. In the same vein, Fatima, Riaz, Mahmood, and Usman (2020) found that the self-efficacy perception has a significant positive impact on affective commitment to change in Pakistani media institutions. On the other hand, the HR practice of rewards is considered an important hygiene factor in endorsing positive employee reactions (ERFC- personal valence) during periods of change (Conway & Monks, 2008; Kinnie et al., 2005). Choi and Ruona (2011) and Neubert and Cady (2001) reported that individuals who anticipate getting personal benefits such as a pay increase or long-term job security as a result of change would be more committed to change initiatives. EACC grows when employees understand the value of a particular change as an efficient solution for their organisation (Fedor, Caldwell, & Herold, 2006; Morin et al., 2016; Neves, 2009). Similarly, many authors (e.g., Fedor et al., 2006) found that organisational members would commit to change willingly instead of showing their commitment to change as an obligation if the top management efficiently communicated the message that the

implementation of particular transformation is suitable for the sustainable profits of the institution. We propose the following hypotheses based on the above arguments:

H1a. The higher the level of perceived self-efficacy, the higher the level of employees' affective commitment to TQM induced change.

H1b. The higher the level of perceived appropriateness, the higher the level of employees' affective commitment to TQM induced change.

H1c. The higher the level of perceived top management support, the higher the level of employees' affective commitment to TQM induced change.

H1d. The higher the level of perceived personal valence, the higher the level of employees' affective commitment to TQM induced change.

The influence of employee affective commitment to change on TQM implementation

Employee affective commitment to change (EACC) is an integral and crucial part of TQM excellence. Various scholars such as Soltani et al. (2005), Mansor, Abdullah, and Azman (2011) consider TQM implementation is vastly reliant on assuring that employees have a high level of EACC. The empirical findings of the Mansor et al. (2011) study indicated employees' commitment to TQM- induced change had a significant favourable influence on TQM implementation. This concurs with research by Soltani et al. (2005), Krajcsák (2019), Bagga and Haque (2020), who reported that EACC fostered employee participation in the implementation of TQM and increased the likelihood of TQM success. It is, thus, reasonable to predict a positive influence of EACC on TQM implementation success:

H2. The higher the level of employee affective commitment to change, the higher the level of TQM implementation success.

The influence of employee readiness for change on TQM implementation

The influence that ERFC exercises on the implementation of TQM programmes has been corroborated by several researchers such as Weeks et al. (1995), Shea and Howell (1998), Meirovich et al. (2006), and Tenji and Foley (2019). To this effect, employees' attitudes impact the cognitive processes with which they engage when determining whether to implement TQM practices or not (Haffar et al., 2013). This argument is supported by the findings of Weiner (2009), who noted that employees with high readiness for change would make more effort to face challenges that may hinder the successful implementation of change.

Individuals who have been trained on the application of TQM will have more faith in their aptitude to cope with TQM implementation (Weeks et al., 1995, Haffar et al., 2019). This is advocated in many studies, such as Shea & Howell (1998) and Ingelsson et al. (2012), who found that employee self-efficacy positively impacts TQM implementation. More recently, Haffar et al. (2019) found that self-efficacy has the most substantial positive influence on TQM implementation in Algerian organisations. Therefore, it is hypothesised:

H3a. Perceived self-efficacy to implement TQM induced change is positively associated with TQM implementation.

The importance of personal benefits in employee readiness for change has been considered in several studies in recent years, such as Bartunek et al. (2006) and Holt et al. (2007). Employees who perceive they will be rewarded due to their contribution to TQM adoption are more likely to embrace changes induced by it (Shea & Howell, 1998, Haffar et al., 2019). Thus, the following hypothesis was developed:

H3b. Perceived personal valence from implementing TQM induced change is positively associated with TQM implementation.

In a similar vein, Gözükara, Çolakoğlu and Şimşek (2019) stress that top-level management support can increase TQM implementation success. Management support for employees' involvement will improve their contribution to the implementation of TQM practices. Thus:

H3c. Perceived top management support to TQM induced change is positively associated with TQM implementation.

Additionally, Choi, Kim and Yoo (2016) stated that when top management emphasises the importance of implementing TQM as a collective vision, their workforce will focus their efforts to implement TQM as a team with a common interest. According to Case and Srikatiana (1998), employees' awareness and insight of the importance of TQM to enhancing performance will improve their inclination and readiness to partake in TQM implementation. Al-Maamari et al. (2017) found that appropriateness positively impacts the implementation of TQM in Yemeni organisations. It is, therefore, sensible to advocate the following hypothesis:

H3d. Perceived appropriateness of TQM induced change is positively associated with TQM implementation.

Mediating effect of employee affective commitment to change on the relationship between employee readiness for change and TQM implementation

There is evidence that ERFC dimensions directly impact TQM, as was discussed in the previous section. However, a thorough examination and systematic analysis of the literature indicate that ERFC dimensions impact TQM through their effect on EACC. That is, the relationships between ERFC dimensions and TQM are mediated by EACC. Social cognitive theory principles are being adopted to explain the mediating role EACC plays between ERFC dimensions types and TQM. The theory assumes that a high level of ERFC will enhance employees commitment to change by putting more power behind the change and showing

greater persistence against the obstacles to change implementation efforts (Weiner, 2009). Therefore, this study hypothesises that EACC, as a self-regulatory mechanism, mediates and transmits the effects of ERFC dimensions on the level of EACC.

H4. EACC mediates the effect of ERFC dimensions on TQM implementation.

Figure 1 depicts the proposed conceptual framework of the current study. This combined conceptual framework was formulated by rationally weaving together the direct influence of ERFC dimensions and the indirect influence (via EACC) on TQM into one comprehensive model.

Figure 1 here

Methodology

The study sample used for this current research is based on a sampling frame provided by the Jordanian Ministry of Industry, Chamber of Commerce, and General Statistics Department. The study was conducted amongst all 293 Jordanian industrial firms involved in applying quality initiatives.

Middle managers are the most significant players in the implementation of TQM and other quality initiatives (Schnider et al., 1996; Vouzas & Psychogios, 2007). Their readiness and commitment are very important to enhance the likelihood of TQM success. Thus, middle managers emerged as ideal participants for this study.

To achieve the aim of the present study, we translated and utilised three measurements that provide robust evidence of validity and reliability. We used the instrument developed by Herscovitch and Meyer's (2002) to measure EACC. A comprehensive review of the instruments used to measure readiness for change components indicated that the Holt et al. (2007) instrument is the most innovative, as not only can it be used to measure ERFC before a

change implementation, but also during the implementation of the change to determine the required actions to make the change successful. Finally, the extent to which TQM practices were used in JMOs was assessed using the widely used and valid measure developed by Samson and Terziovski (1999).

We conducted a pilot study with 12 middle managers from representative Jordanian manufacturing organisations, which helped us ensure that the questions measured what they were assumed to and that all respondents interpreted the items in the same way. The questionnaire was also piloted with bilingual academic experts in business management in Jordan, who confirmed the equivalence between both the Arabic and English versions.

Two questionnaires were distributed in person to two middle managers (quality managers, production managers, operations, sales managers, or human resources managers) in each participating organisation to maximise the response rate. Effectively, 586 questionnaires were distributed to 293 Jordanian manufacturing organisations. This approach was thought to be the most efficient approach for collecting primary data within the context of Jordan. This method yielded a high response rate, thus reducing the need to check for non-response bias (Trentin et al., 2012). 398 questionnaires were completed and of these, 393 questionnaires were useable. Thus, the usable response rate was 67.06%, a reasonably good response rate for organisational research (Baruch and Holtom, 2008). The findings of the current study can thus be generalised to all JMOs.

The descriptive statistical analysis indicates that the majority of the participants were male at 66%. Concerning respondents' work positions, 59.7% of them were production managers, 17.3% were operations managers, 20.6% were quality managers, and 2.3% of the respondents held other work positions. 90.24 % of the respondents had at least a bachelor's degree, indicating that the data collected is credible. 77.5 % of the respondents had more than

10 years of experience, while 63 % had more than 15 years of work experience, further reinforcing the credibility of the data.

To test whether the data are normally distributed or not, skewness and kurtosis tests were calculated (Lomax & Hahs- Vaughn, 2012). As shown in Table 1, these values were within the recommended range (-2 to +2). This indicates that our data were normally distributed. As the current study is based on collected data at one point in time using a self-reported survey, a set of procedures and statistical remedies were used to validate the distinctiveness of the constructs to decrease the possible influence of common method bias (CMB). We segmented and randomised the order of the questions related to the independent, mediating and dependent variables into diverse sections in the questionnaire as advised by Podsakoff et al. (2012) to avoid learning process bias during the completion of the questionnaire. Moreover, two respondents from each company completed the questionnaires. Using multiple raters is more difficult in empirical studies. Still, it can provide a greater degree of methodological rigour, leading to a higher level of confidence in the findings and a decrease in the effect of systematic response bias (Boyer & Verma, 2000). Following Trentin et al. (2012), an average was taken to get a single score for each organisation. Then the inter-rater reliability of the two responses was assessed by computing the correlation between the two raters for all items. The findings indicated that the inter-rater coefficients were all higher than the cut-off value of 0.2, as recommended by Boyer and Verma (2000). We concluded that both participants perceive all items in similar ways, reducing significantly the risk that the results are due to single respondent's biases.

Additionally, we conducted a t-test to compare between early and late responses. The findings indicated no statistical differences at $p < 0.05$, which suggests a non-response bias issue. Harman's single factor test was also used. Results showed that the one-factor model did not fit the data adequately and that all variables did not load onto a general factor, indicating

that CMV was not evident in the dataset (Podsakoff et al., 2012). To further ensure that common method bias did not cause any concern, the unmeasured latent method construct (ULMC) technique was used as recommended by Williams & McGonagle (2016). According to this test, we added a ULMC factor to the baseline 5 factors model and compared the fitting index of both models. The results indicated that there are no significant variances between the base model ($\chi^2 / df = 2.052$, CFI=0.953, SRMR= 0.047, and RMESA= 0.074) and the new model with added ULMC) ($\chi^2 / df = 2.050$, CFI= 0.952, SRMR= 0.045, and RMESA= 0.071). Thus, there is no CMB problem in this study.

Reliability and validity

Cronbach's alpha was utilised to measure the reliability of scales. All α coefficient of the constructs exceeded the .7 thresholds (Hair et al., 2010), ranging from 0.796 to 0.943, confirming the scales reliability. Confirmatory factor analysis (CFA) was utilised for evaluating the construct validity of each construct by examining how well the individual item measured the scale, and hence indicator loadings were calculated. As Table 1 illustrates, all standardised factor loadings of indicators for the underlying constructs were greater than the cut-off value of 0.50, ranging from 0.610 to 0.909. In addition, coefficients alpha ($\alpha = 0.7$), composite reliability (CR. = 0.6), and the average variance extracted (AVE) of all the constructs exceeded the 0.5 recommended threshold values suggested by scholars (Hair et al., 2010). Thus, convergent validity was supported. The findings also supported the conclusion of many previous studies, such as Prajogo and Cooper (2010), who found that TQM six first-order latent variables can be operationalised as a second-order latent construct.

Table 1 here

The discriminant validity test was conducted to determine the distinction between the constructs utilised in our study. Discriminant validity is supported if the square root of the AVE for each construct is higher than the correlation between the construct and any other construct in the model (Hair et al., 2010; Zaid, Migdadi, Alhammad, & Al-Hyari, 2017; Collier, 2020). The average variance extracted (AVE) for all the constructs was greater than 0.50, and the square root of AVE was greater than each squared correlation coefficient, as shown in Table 2. Hence, all the constructs fulfilled this condition, and thus the discriminate validity was supported.

Table 2 here

Results of structural equation modeling analyses

Structural equation modeling (SEM) was used to test the formulated hypotheses. There is no agreement amongst scholars on the adequate sample size threshold for studies that use SEM for multivariate data analysis. According to various studies (e.g. Kline, 2011; Comrey & Lee, 1992), a fair sample size in research where SEM is used is 200 respondents. In our study, 393 questionnaires were completed and useable. This met the threshold mentioned above for using SEM for data analysis and hypotheses testing in our research. In addition, the number of cases (N) / number variables (V) ratio equals 35.72 that exceeds well the value of 20:1 as recommended by Hair et al. (2010). We also calculated the number of cases (N) per free parameter (T) ratio for all models (Sila, 2007). Table 3 illustrates the N/T ratio values for all models ranging from 7.72 to 43.7, which are greater than the 5:1 ratio recommended by Bentler and Chou (1987). To assess the models' fit, we further calculated the root-mean-square error of approximation (RMSEA), CFI and SRMR (Sila, 2007). Table 3 demonstrates that the RMSEA values for all models are less than 0.08, the SRMR values ranged from 0.038 to 0.045

and the CFI values from 0.945 to 0.971, suggesting a reasonable fit. Moreover, the ratio (χ^2/df) – χ^2 per degrees of freedom for all models is less than the threshold of 5, indicating a good fit to the data as Sila (2007) suggested.

Table 3 here

Following a review of many recent research studies (e.g. Arya, Mirchandani & Harris, 2019), we adopted the four steps recommended by Howell (2009) to test the mediation relationships.

(1). We first tested a model containing direct paths from ERFC dimensions to TQM, without the presence of the mediator (i.e. EACC). This model fitted the data well ($\chi^2 = 48.21$, $\chi^2 /df = 3.21$, RMSEA = 0.075, SRMR= 0.044, CFI = 0.952). Self-efficacy, personal valence and management support were positively related to TQM: 0.226** ($p < 0.01$), 0.243** ($p < 0.01$), 0.198** ($p < 0.01$) respectively, supporting Hypotheses H3a, H3b and H3c. However, the effect of appropriateness 0.088 ($p > 0.05$) is not significant.

(2). We tested the influence of the ERFCs on EACC (H1a- H1d). The results in Table 3 show that the direct impacts of two ERFC components, particularly self-efficacy ($\beta = 0.328$ **, $p < 0.01$) and personal valence ($\beta = 0.395$ **, $p < 0.01$), are significant. Hence, H1a and H1d are supported. (3). We found that the influence of the mediator (EACC) on TQM to be significant ($\beta = 0.364$ **, $p < 0.01$). Hence, H2 is supported. (4). Using the results presented in figures 2 and 3, a comparison of Model 4 and Model 5 indicates that, after the inclusion of the mediators (EACC), the direct path from the independent variables (ERFC1- change efficacy and ERFC4- personal benefit) to the dependent variable (TQM) became non-significant (changing from a statistically significant 0.226** to an insignificant 0.098 and from a significant $\beta = 0.243$ **, to an insignificant 0.105 respectively), thus satisfying the fourth condition. To examine the nature

of the mediation effect, we compared two competitive models, namely the M4 model (which indicates complete mediation) with the M5 model (partial mediation model), to see which model fits better to the data (Frazier et al., 2004; Prajogo & Sohal, 2006).

The two models represent a similar causal link: ERFC1- change efficacy and ERFC4- personal benefit \longrightarrow EACC \longrightarrow TQM. The M4 model (Fig. 2) assumes that EACC fully mediates the influence of ERFC1- change efficacy and ERFC4- personal benefit on TQM implementation, whilst the second model M5 (M5: this is M4 including an additional direct path from ERFC1- change efficacy and ERFC4- personal benefit to TQM) suggests only partial mediation of ERFC1- change efficacy and ERFC4- personal benefit. As such, the second model adds two paths that directly link ERFC1- change efficacy and ERFC4- personal benefit to TQM to assess the proportion of direct effect of ERFC1- change efficacy and ERFC4- personal benefit on TQM other than what is generated through EACC (see Fig. 3).

Figure 2 here

The full mediation model (M4) shows that the direct paths from ERFC1- change efficacy and ERFC4- personal benefit (predictor variables) to EACC (mediator), and from the EACC (mediator) to TQM (dependent variable), are significant and go in the expected directions. The partial mediation model statistics show satisfactory fit indices, but the full mediation model statistics reveal a better fit to the data as shown by the goodness of fit indices. In addition, we have used a chi-square difference test, known as a likelihood ratio test, to determine the significance level of the difference between the two models (Prajogo & Sohal, 2006).

Figure 3 here

We tested the significance level of the difference between the two models by calculating the discrepancy ($\Delta\chi^2$) of the χ^2 values (79.57 and 41.16) with the discrepancy (Δdf) of the degree of freedom (39 and 15). The result was $\Delta\chi^2$ of 38.41 with Δdf of 24 is greater than the value of 36.42 ($p < 0.05$) as indicated in the Chi-square table of critical values. Therefore, one can conclude that the two models are considerably different to each other and that the full mediation model (M4) shows a better fit.

In addition, EACC as a mediator diminishes the strength of the influence of ERFC1- change efficacy and ERFC4- personal benefit on TQM after including EACC and the direct effect from ERFC1- change efficacy and ERFC4- personal benefit to TQM became nonsignificant. Taken together, these findings support the full mediation hypothesis. This indicates that EACC fully mediated the relationship between ERFC1- change efficacy / ERFC4- personal benefit and TQM. Hence, H4a and H4d are supported. **To further validate the significance of the mediating role of EACC, the bias-corrected bootstrap was utilised to evaluate the mediating effect values along with their 95% confidence interval (CI). As shown in Table 4, the findings indicated that self-efficacy positively impacts TQM via employee affective commitment to change ($\beta = .27$, 95% CI = .21 to .33), which is a full mediation. In addition, the positive relationship between personal valence and TQM is mediated by employee affective commitment to change ($\beta = .18$, 95% CI = .12 to .25). These findings indicated that EACC plays a complete mediating role between personal valence and TQM implementation.**

Discussion

The majority of previous studies, such as Jones et al. (2005) and Meirovich et al. (2006), viewed ERFC as a unidimensional concept. However, this study is one of the few that draws on the pivotal study of Holt et al. (2007) and considers ERFC as a multidimensional construct. The

results of our investigation indicate that both personal valence and self-efficacy have a positive impact on EACC. This supports authors who considered ERFC an important moderator of EACC levels (Santhidran et al., 2013; Mahendrati and Mangundjaya, 2019; Fatima et al., 2020).

Previous studies, such as Haffar et al. (2013), treated ERFC as a unidimensional construct and concluded that it positively influences the implementation of TQM. However, the empirical findings of this study highlight three ERFC components, namely management support, personal valence, and self-efficacy, as strong predictors of TQM implementation. It is evident that personal valence had a more substantial influence on TQM implementation than self-efficacy and top management support. To this effect, our findings show that various ERFC components have different impacts on and TQM. These findings are consistent with Holt et al. (2007), who found that the components of employee readiness for change should be distinguished. TQM implementation was expected to be influenced positively by ERFC-appropriateness. It was expected that employees who perceived that TQM implementation would benefit the organisation would be more willing to get involved in its implementation. Our hypothesis, however, was not supported. This contradicts the findings of Neves (2009), who concluded that employees' perception of change appropriateness influences the implementation of change positively. Accordingly, the effect of appropriateness perception on TQM may be affected by other factors within Jordanian organisations. Organisational members in Jordanian organisations seem to be more interested in rewards that benefit them personally from the implementation of TQM and give less consideration to the value of TQM for their organisations.

Our findings further reveal that EACC channels ERFCs impact TQM. This implies that the enhancement in TQM implementation success is not a direct result of a high level of employee's personal valence and self-efficacy perception but instead of EACC transmitting the

influence of both ERFC self-efficacy and ERFC personal to TQM. By doing so, this study unveils the role of employee affective commitment to change as a mechanism upon which the ERFC—TQM relationship is based. Thus, we concluded that organisations should prepare employees to be ready for TQM-induced change and then get them to commit to the TQM implementation effort, which will, in turn, increase employees' willingness to change existing behaviour and behave in a way consistent with TQM principles. This supports the work of scholars like Jones et al. (2005) and Haffar et al. (2019) by demonstrating that employees must be psychologically ready to be successful in change implementation.

Practical implications

The findings of our study suggest many practical implications for policymakers and practitioners engaged in implementing TQM by highlighting the significant role of ERFC and EACC in enhancing TQM implementation success. This article also suggests that industrial institutions can achieve TQM implementation success by focusing on employees' development. Thus, we encourage the top management in JMOs to appreciate the significance of ERFC and EACC. They should cultivate employees' positive attitudes towards the implementation of TQM. While doing this, they need to emphasise the advantages of human resource improvements by providing their employees with training on implementing TQM principles and practices. This would inevitably lead to strengthening organisational members' perception of their self-efficacy and, consequently, their affective commitment to TQM implementation efforts.

Organisational leaders should pay great attention to their employees' involvement and behave to show that they value such involvement and would reward for it. To this effect, they should reward employees fairly based on their level of participation in the organisational change process. This approach will reinforce employees' motivation towards implementing

TQM more effectively. By doing so, JMOs could offer products that meet international quality standards and criteria. Consequently, this would increase the exports of the Jordanian industrial sector and create more job opportunities not only for Jordanians but also for Syrian, Iraqi and Palestinian refugees. This will consequently reduce refugees' influx to Europe and the rest of the world.

Limitations and future research directions

Despite our study's valuable findings and implications, it has some limitations that inform future research directions. Firstly, the present study collected data using self-report surveys, which may raise the issue of common method variance (Podsakoff et al., 2012). However, a self-reporting approach is considered reasonable when dealing with psychological variables (Morin et al., 2016). Moreover, the result of Harman's single-factor test implied that CMV did not apply to the instruments used in this study and had no significant impact on our findings. Nevertheless, future research should seek to use multiple sources to assess the variables and reduce common method bias.

Secondly, we employed a cross-sectional research design, which limited our study to track possible changes in the relationship between the variables of this study over a specific timeframe. Thus, we recommend future studies to replicate this study using a longitudinal research design to trace the development of the influence of ERFC dimensions and EACC on TQM implementation over a longer time.

Thirdly, the present study's findings are limited to JMOs and should not be generalised to other sectors in Jordan. However, we believe that our study provides a basis for future studies in different sectors in Jordan and other counties in the Middle East.

Conclusions

A comprehensive review of the literature indicates that the impact of employee readiness for different change dimensions on employees' affective commitment to change and TQM implementation is still in its infancy. There is a great need for it to be comprehensively examined. In particular, one can observe that there are partial research studies examining the mechanics of this relationship between ERFC dimensions and TQM implementation. Only one study looked at this relationship recently in Algerian organisations (Haffar et al., 2019). However, multiple regression analysis was used to examine the relationship between the constructs due to the small population and sample size (118 respondents only). However, we used SEM as the number of returned questionnaires met the required threshold of SEM ($N > 200$) for data analysis and hypotheses testing. In our study, 586 questionnaires were distributed in Jordanian manufacturing organisations, and of these, 393 questionnaires were completed. This met the threshold mentioned above for using SEM in our study. SEM is more powerful than regression analysis as it allows the analysis of the mediation relationships simultaneously and provides less contradictory findings than regression analysis in terms of identifying mediation effects (Hair et al., 2010; Ramli et al., 2018). The analysis of our data, using SEM, demonstrated that different dimensions of ERFC impact EACC and TQM distinctively. Our findings extend preceding literature on causes of EACC by displaying statistically that ERFC-self efficacy and ERFC-personal valences add decent value to the explanation of employees' affective commitment to TQM induced change and consequently enhance the likelihood of the efficient application of TQM. Additionally, the findings imply that EACC plays a full mediator role to attenuate the positive relationships between ERFC-self efficacy/ERFC-personal valence and TQM. By doing so, this study unveils the role of EACC as a mechanism upon which the ERFC—TQM relationship is based.

We believe that both concepts of ERFC and EACC and their influences on organisational excellence have been attracting significant attention recently and will possibly continue to do so in the coming years. Advanced comprehension of how ERFC and EACC impact TQM has many implications for organisations and policymakers alike.

References

- Armenakis, A. A., Harris, S. G., & Mossholder, W. (1993). Creating readiness for organisational change. *Human Relations*, 46 (6), 681–703
- Abimbola, B.O., Oyatoye, E.O., & Oyenuga, O.G. (2020). Total Quality Management, Employee Commitment and Competitive Advantage in Nigerian Tertiary Institutions. A study of the University of Lagos. *International Journal of Production Management and Engineering*, 8(2), 87-98
- Al Khattab, A., Anchor, J., & Davies, E. M. M. (2008). The institutionalisation of political risk assessment (IPRA) in Jordanian international firms. *International Business Review*, 17(6), 688–702
- Al-Maamari, Q. A., Abdulrab, M., Al-Jamrh, B.A. & Al-Harasi, A. H. (2017). The Relationship between Total Quality Management Practices and Individual Readiness for Change at Petroleum Exploration and production Authority in Yemen. *International Journal of Business and Industrial Marketing*; 2 (6), 48-55
- Arya, B., Mirchandani, D. A., & Harris, M. M. (2019). Personality & pay satisfaction, exploring the influence of organisational justice & gender in South Africa. *The International Journal of Human Resource Management*, 30 (2), 1466-4399.
- Al-Hyari, K. (2021). The Influence of TQM on Export Performance of Manufacturing SMEs in Jordan. *Jordan Journal of Business Administration*, 17 (4), 505-529
- Bagga, S. K. & Haque S. N. (2019). Total Quality Management as a change driver for influencing affective commitment to change: An empirical study in IT organisations of Delhincr region. *Journal of Critical Reviews*, 7 (5), 971-980
- Bartunek, J. M., Rousseau, D. M., Rudolph, J. W., & DePalma, J. A. (2006). On the Receiving End: Sensemaking, Emotion, and Assessments of an Organizational Change Initiated by Others. *Journal of Applied Behavioral Science*, 42 (2), 182–206.
- Boyer, K K, & Verma R. (2000). Multiple raters in survey-based operations management research, A review & tutorial. *Production & Operations Management*. 9 (2), 128-140
- Bentler, P. M., & C. Chou, (1987). Practical issues in structural modeling, *Sociological Methods and Research*, 16 (1), 78–117.
- Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, 61, 1139–1160
- Comrey, A. L. & Lee, H. B. (1992). *A First Course in Factor Analysis*. (2nd ed). New York Lawrence Erlbaum Associates, Inc.
- Coyle-Shapiro, J. A. M. (2002). A psychological contract perspective on organisational citizenship behaviour. *Journal of Organisational Behavior*, 23 (1), 927-947
- Collier, J. E. (2020). *Applied Structural Equation Modeling Using AMOS*. 1st edition, Pub. New York Routledge

Choi, M., and Ruona, W.E.A. (2011). Individual Readiness for Organisational Change and Its Implications for Human Resource and Organisation Development. *Human Resource Development Review*, 10 (1), 46–73

Choi, Y., Kim, J. Y., & Yoo, T., (2016). A study on the effect of learning organisation readiness on employees' quality commitment: the moderating effect of leader–member exchange. *Total Quality Management and Business Excellence*, 27 (3-4), 325–338

Dahlgaard, J., Reyes, L., Chen, C., & Dahlgaard-Park, S. (2019). Evolution and future of total quality management: management control and organisational learning. *Total Quality Management & Business Excellence*, 30 (1), 1-16

Edgeman, R., Neely A., and Eskildsen J. (2016). Paths to sustainable enterprise excellence. *Journal of Modelling in Management*, 11 (4), 858-868

Fatima, M, Riaz, A., Mahmood, H., Z., and Usman, M (2020). Linking employees change-related self-efficacy, change readiness and commitment to change, *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, ISSN 2309-8619, Johar Education Society, Pakistan (JESPK), Lahore, Vol. 14, Iss. 1, pp. 334-367

Fedor, D. B., Caldwell, S. and Herold, D. M. (2006). The effects of organisational changes on employee commitment: A multi-level investigation. *Personnel Psychology*, 59 (1), 1-29

Frazier, P. A., Tix, A. P. & Barron, K. E. (2004). Testing moderator & mediator effects in counseling psychology research. *Journal of Counseling Psychology*, 51(1), 115–134

Fundin, A., Bergquist, B., Eriksson, H., & Gremyr, I. (2018). Challenges and propositions for research in quality management. *International Journal of Production Economics*, 199, 125-137

Fundin, A., Backström, T., & Johansson, P. E. (2021). Exploring the emergent quality management paradigm. *Total Quality Management & Business Excellence*, 32 (5-6), 476-488

Gözükara, I., Çolakoğlu, N. & Şimşek, O. F. (2019). Development culture & TQM in Turkish healthcare, importance of employee empowerment & top management leadership. *Total Quality Management & Business Excellence* 30 (11-12), 1302-1318

Haffar, M., Al-Karaghoul, W., Djebarni, R., & Gbadamosi, G., (2019). Organisational culture and TQM implementation: investigating the mediating influences of multidimensional employee readiness for change. *Total Quality Management & Business Excellence*, 30 (11-12), 1367-1388

Haffar, M., Al-Karaghoul, W. & Ghoneim, A. (2013). The mediating effect of individual readiness for change in the relationship between organisational culture & TQM implementation. *Total Quality Management & Business Excellence*, 24 (5-6), 693-706

Haffar, M., Al-Hyari, K., Djebarni, R., Al-Shamali, A. Aziz, M. A. & Al-Shamali S. (2021). The myth of a direct relationship between organizational culture and TQM: propositions and challenges for research. *TQM Journal*. In press

Hair, JF, Black, W.C., Babin, B.J. & Anderson., R. E. (2010). *Multivariate Data Analysis, With Readings*, Pearson Education Inc, Upper Saddle River, NJ

Herold, D.M., Fedor, D.B. & Caldwell, S.D. (2007). Beyond change management: A multilevel investigation of contextual and personal influences on employees' commitment to change. *Journal of Applied Psychology*, 92 (4), 942-951.

Herscovitch, L., and Meyer, J.P. (2002). Commitment to organisational change: extension of a three component model. *The Journal of Applied Psychology*, 87 (3), 474-487.

Hietschold, N., Reinhardt, R. & Gurtner, S. (2014). Measuring critical success factors of TQM implementation successfully—a systematic literature review. *International Journal of Production Research*, 52 (21): 6254-6272.

Holt, D. T., Armenakis, A.A, Field, H. S. and Harris, S. G. (2007). Readiness for Organisational Change: The Systematic Development of a Scale. *The Journal of Applied Behavioural Science*, 43 (2), 232-255

Hsu, S. H., Chen, Y., & Chou, Y. C. (2021) Topic analysis of studies on total quality management and business excellence: an update on research from 2010 to 2019. *Total Quality Management & Business Excellence*. Ahead of Print

Ingelsson, P., Eriksson, M. Lilja, J. (2012). Can selecting the right values help TQM implementation? A case study about organisational homogeneity at the Walt Disney Company. *Total Quality Management and Business Excellence*. 23 (1), 1–11.

Jones, R. A., Jimmieson, N. L. and Griffiths, A. (2005). The Impact of Organisational Culture and Reshaping Capabilities on Change Implementation Success: The Mediating Role of Readiness for Change. *Journal of Management Studies*, 42 (2), 361-386

Krajcsák, Z. (2019). Leadership strategies for enhancing employee commitment in TQM. *Journal of Management Development*, 38 (6), 455-463

Kline R. B. (2011). Principles and practice of structural equation modelling [M]. New York: Guilford Press.

Lomax, R. G. & Hahs-Vaughn, D. L. (2012). *An Introduction to Statistical Concepts* (3rd ed), Routledge

Lee, V., Ooi, K., Sohal, A. S and Chong , A. Y. (2012). Structural relationship between TQM practices and learning organisation in Malaysia's manufacturing industry. *Production Planning & Control*, 23 (10-11), 885-902

Luo, W., Jiwen, L., Diether, S. R., G., Zhang, K. & Feng, Y. (2016). How does leader communication style promote employees' commitment at times of change?. *Journal of Organisational Change Management* 29 (2), 242 – 262.

Mahendrati, H. A. & Mangundjaya, W. (2019). Individual Readiness for Change and Affective Commitment to Change: The Mediation Effect of Technology Readiness on Public Sector. *Advances in Social Science, Education and Humanities Research*. 43(1) , 52-59

- Meirovich, G., Galante, I. and Yaniv, K.M. (2006). Attitudes Towards TQM and the Communication Process between Managers and Subordinates. *Journal of Applied Management and Entrepreneurship*, 11 (1), 74-86
- Meyer, J. P., Stanley, D.J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, & normative commitment to the organisation. *Journal of Vocational Behavior*, 61 (1), 20–52.
- Neubert, M.J., and Cady, S.H. (2001). Program commitment: a multi-study longitudinal field investigation of its impact and antecedents. *Personnel Psychology*, 54 (2), 421-48
- Neves, P. & Caetano, A. (2009). Commitment to change: contributions to trust in the supervisor and work outcomes. *Group and Organisation Management*, 34 (6), 623-644
- Permana, A., Purba, H.H., & Rizkiyah, N.D. (2021). A systematic literature review of Total Quality Management (TQM) implementation in the organisation. *International Journal of Production Management and Engineering*, 9(1), 25-36
- Podsakoff, M. P., MacKenzie, S. B., & Podsakoff, N. P (2012). Sources of method bias in social research & recommendations on how to control it. *Annual Review of Psychology*, 63 (1), 539–569
- Prajogo, D. I. & Sohal A. S. (2006). The relationship between organization strategy, total quality management (TQM), and organization performance—the mediating role of TQM. *European Journal of Operational Research*, 168, 35–50
- Prajogo, D. I & Cooper. B. K. (2010). The effect of people-related TQM practices on job satisfaction, a hierarchical model. *Production Planning & Control*, 21 (1), 26-35
- Ramli, N. A., Latan, H., & Nartea, G. V. (2018). Why Should PLS-SEM Be Used Rather Than Regression? Evidence from the Capital Structure Perspective. In book: *PLS-SEM: Recent Advances in Banking & Finance*. 1st Ed. Cham- Springer International
- Schneider, A. P. Brief, R.A., and Guzzo, R (1996). Creating a climate and culture for sustainable organisational change. *Organisational Dynamics*, 24, 7 - 19
- Salvato, C. & Rerup, C. (2011). Beyond Collective Entities, Multilevel Research on Organisational Routines & Capabilities. *Journal of Management* , 37 (2), 468-490.
- Samson, D. & Terziovski, M. (1999). “The relationship between total quality management practices & operational performance. *Journal of Operations Management*. 17 (4), 393-409
- Santhidran, S, V. G., Chandran, R. & Borromeo, J. (2013). Enabling organisational change – leadership, commitment to change & the mediating role of change readiness. *Journal of Business Economics & Management* 14 (2), 348-363
- Shea, C. & Howell, J. (1998). Organisational Antecedents to the Successful Implementation of Total Quality Management. *Journal of Quality Management*, 3 (1), 3-24

- Sila, I. (2007). Examining the effects of contextual factors on TQM & performance through the lens of organisational theories, an empirical study. *Journal of Operations Management*, 25 (1), 83–109.
- Sila I., & Walczak. S. (2017). Universal versus contextual effects on TQM, a triangulation study using neural networks. *Production Planning & Control*, 28 (5), 367-386,
- Srinivasan, A. & Kurey, B. (2014). Creating a culture of quality. *Harvard Business Review*, 92 (4), 23-25
- Soltani, E., Lai P. G. & Gharneh, N. S. (2005). Breaking Through Barriers to TQM Effectiveness, Lack of Commitment of Upper-Level Management. *Total Quality Management*, 16 (1), 1009–1021
- Su, S., Baird K. and Blair, B. (2009). Employee organisational commitment: the influence of cultural and organisational factors in the Australian manufacturing industry. *The International Journal of Human Resource Management*, 20 (12), 2494-2516
- Trentin, A., Forza, C. & Perin, E. (2012). Organisation design strategies for mass customisation, an information-processing-view perspective. *International Journal of Production Research*. 50 (14), 3860–3877
- Tenji, T. & Foley, A. (2019). Testing the readiness of an organisational culture profile to a TQM implementation. *The TQM Journal*, 31 (3), 400-416.
- Vouzas, F. & Psychogios, A.G. (2007). Assessing managers' awareness of TQM, *The TQM Journal*, 19 (1), 62-75.
- Weeks, B., Helms, M. M. & Etkin. L. P. (1995). Is your organisation ready for TQM? An assessment methodology. *The TQM Magazine*, 7 (5), 43–49
- Weiner, B. J. (2009), A theory of organisational readiness for change. *Implementation Science*, 4 (1), 1-9
- Williams, L.J. & McGonagle, A.K. (2016). Four research designs and a comprehensive analysis strategy for investigating common method variance with self-report measures using latent variables. *J. Bus. Psychol.*, 31 (1), 339–359.
- Yazdani, B. (2021). TQM, employee outcomes and performance: the contingency effect of environmental uncertainty. *International Journal of Quality & Reliability Management*, ahead-of-print No. ahead-of-print
- Zaid, M.K., Migdadi, M.M., Alhammad, F.A., & Al-Hyari, K.A. (2017). An empirical examination of total just-in-time impact on operational performance: insights from a developing country. *International Journal of Supply Chain and Inventory Management*. 1 (4), 286-305

Table 1. Construct Reliability and Convergent Validity Coefficients

First-order variables	latent	No. of items	Standardised Factor Loading (min-max)	α	CR	AVE	$\sqrt{\text{AVE}}$	Mean	SD	Skewness	Kurtosis
ERFC- Personally Beneficial		7	.628-.809	.904	.906	.579	0.760	2.42	.858	-0.023	-0.46
ERFC- Management Support		6	.638-.856	.868	.874	.584	0.764	2.89	.792	0.12	-0.67
ERFC- Self Efficacy		6	.734-.869	.925	.927	.680	0.824	2.24	.694	-0.35	0.59
ERFC-Appropriateness		7	.805-.909	.943	.944	.737	0.858	3.02	.778	-0.031	-0.71
EACC		6	.610-.866	.895	.888	.574	0.757	2.65	.745	-0.119	0.36
Leadership (<i>tqm1</i>)		7	.718-.825	.908	0.894	0.628	0.792	3.09	.783	0.22	-0.42
Customer focus (<i>tqm2</i>)		7	.620-.888	.871	0.869	0.576	0.758	2.91	.822	0.41	0.55
People Management (<i>tqm3</i>)		9	.637-.793	.890	0.874	0.539	0.734	2.88	.714	0.28	-0.61
Strategic Planning (<i>tqm4</i>)		7	.616-.743	.796	0.763	0.523	0.723	3.02	.766	0.16	-0.44
Process management (<i>tqm5</i>)		6	.726-.807	.846	0.838	0.565	0.751	3.14	.773	0.34	0.28
Information Analysis (<i>tqm6</i>)		6	.650-.806	.863	0.854	0.541	0.735	3.00	.772	0.29	0.47
Second-order latent variable											
TQM		6		.912	.916	.706	0.840	3.06	.774	0.25	-0.33
		lead (<i>tqm 1</i>)	.869								
		cust (<i>tqm 2</i>)	.880								
		peop (<i>tqm 3</i>)	.906								
		plan (<i>tqm 4</i>)	.884								
		proc (<i>tqm 5</i>)	.789								
		info (<i>tqm 6</i>)	.747								

* SFL: standardised factor loading; Cronbach coefficient: α ; CR: composite reliability; AVE: average variance extracted; $\sqrt{\text{AVE}}$: square root of AVE

Table 2. Correlation between TQM, ERFC and EACC

	1	2	3	4	5	6	7	8	9	10	11	12
Self- efficacy	0.824											
Appropriateness	.208**	0.858										
Management support	.212**	.120*	0.764									
Personal valence	.247**	.202**	.304**	0.760								
EACC	.421**	.238**	.282**	.476**	0.757							
tqm1	.305**	.283**	.348**	.477**	.376**	0.792						
tqm2	.448**	.234**	.320**	.521**	.393**	.685**	0.758					
tqm3	.473**	.244**	.368**	.507**	.474**	.473**	.551**	0.734				
tqm4	.412**	.252**	.362**	.449**	.440**	.546**	.541**	.655**	0.723			
tqm5	.404**	.239**	.342**	.451**	.505**	.463**	.596**	.581**	.572**	0.751		
tqm6	.365**	.288**	.200**	.353**	.319**	.374**	.338**	.437**	.534**	.558**	0.735	
TQM	.476**	.265**	.301**	.549**	.506**	.613**	.649**	.663**	.677**	.585**	.550**	0.840

*Sig<.05, ** sig<.01

Note: The bold numbers on the diagonal are the square root of the AVEs.

Table 3. SEM results for hypotheses testing (N=393)

Model Specifications and Fit Indices	χ^2	<i>df</i>	χ^2 / df	GFI	RMSEA	CFI	SRMR	N/t
M1	48.21	15	3.21	0.936	0.075	0.952	0.044	9.85
M2	19.66	6	3.15	0.918	0.076	0.945	0.042	43.7
M3	38.43	9	3.38	0.931	0.074	0.954	0.045	20.7
M4 Full Mediation	79.57	39	2.04	0.946	0.051	0.971	0.038	14.5
M5 Partial Mediation	41.16	15	2.57	0.940	0.065	0.966	0.041	7.72

	Model 1	Model 2	Model 3	Model 4	Model 5
ESE → TQM	0.226**				0.098
EA → TQM	0.088				
EMS → TQM	0.198**				0.079
EPV → TQM	0.243**				0.105
ESE → EACC		0.328**		0.218**	0.202**
EA → EACC		0.113			
EMS → EACC		0.104			
EPV → EACC		0.395**		0.256**	0.214**
EACC → TQM			0.364**	0.268**	0.211**

*Sig<.05, ** sig<.01, n.s. denotes non-significant

Notes.: χ^2 = model chi-square; *df* = degree of freedom; χ^2 / df = GFI =goodness-of-fit index; RMSEA = root-mean-square error of approximation; CFI = comparative fit index; SRMR= standardised root mean square residual.

ERFC1- self efficacy= ESE, ERFC2-Appropriateness= EA, ERFC3-managemet support= EMS, ERFC4- personal valence=EPV, employee affective commitment to change=EACC

Table 4. Bias corrected bootstrap tests for mediating effects

Path	Standardised β	Standardised 95% CI	
		Low	High
Self Efficacy- EACC- TQM	0.27***	0.21	0.33
Personal Valence- EACC- TQM	0.18**	0.12	0.25

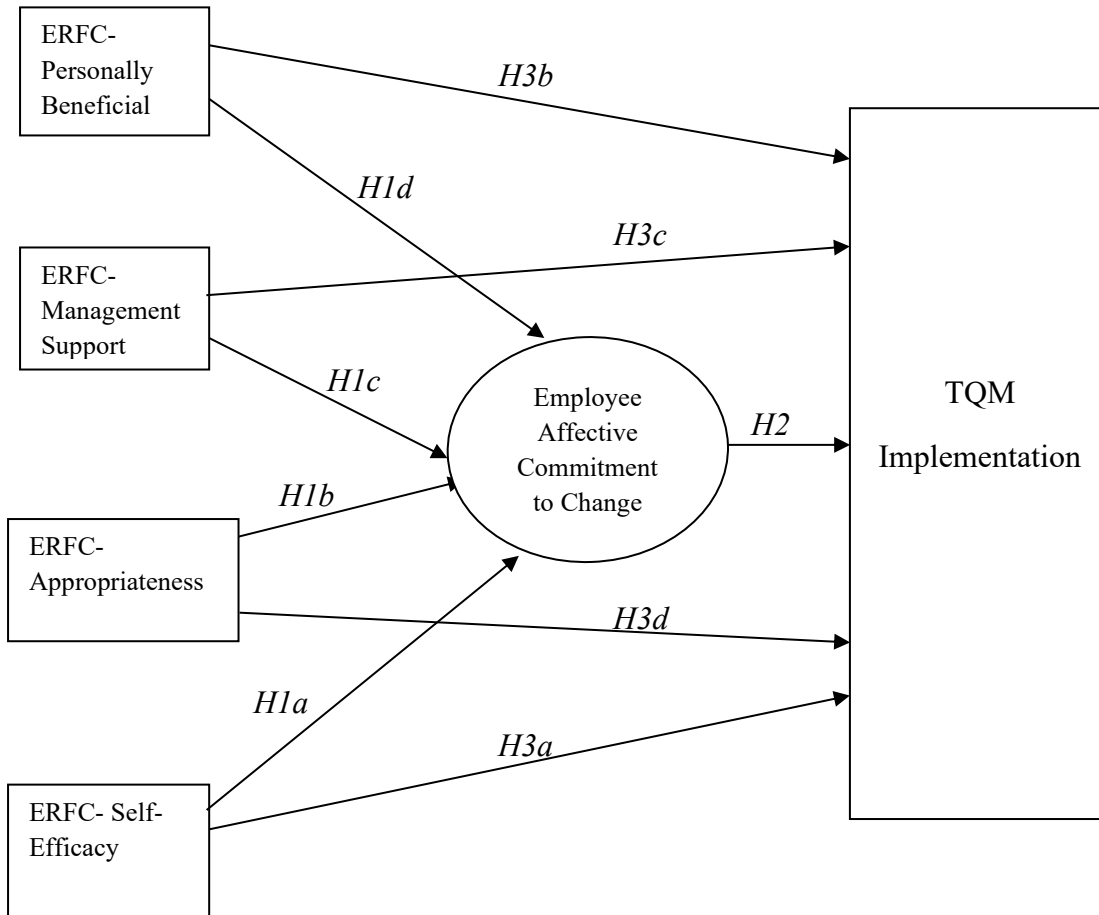
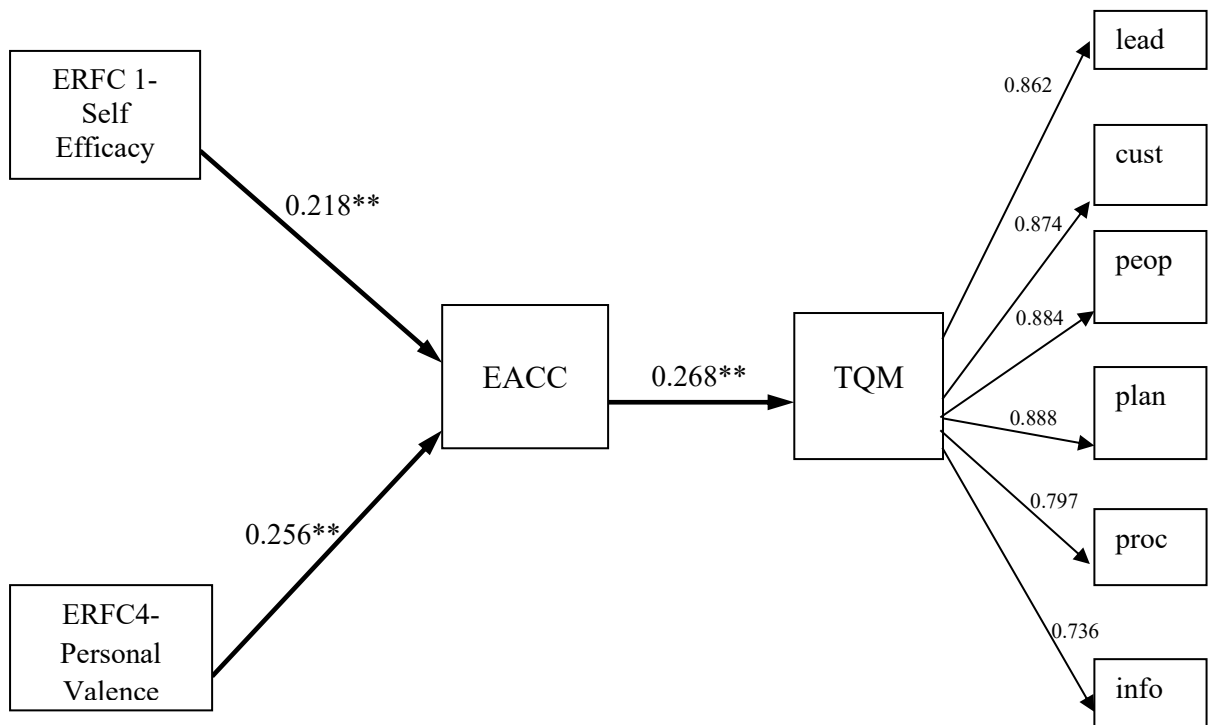


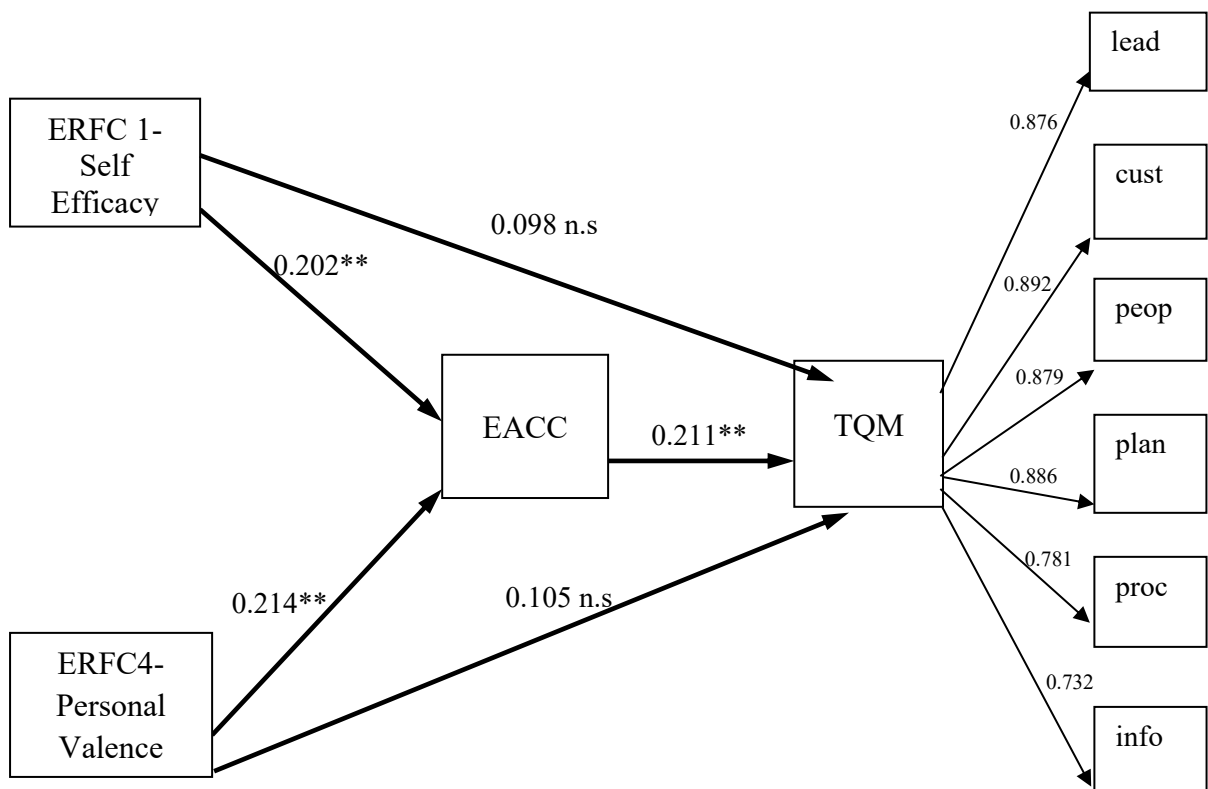
Figure 1 Proposed Conceptual Framework



$\chi^2=79.57$; $df=39$; $\chi^2 / df=2.04$; GFI=0.946; RMSEA=0.051; CFI=0.971; SRMR=0.038; N/t=14.5

*Sig<.05, ** sig<.01

Figure 2. The structural relationship between ERFC dimensions and TQM with a full mediation by EACC



$\chi^2=41.16$; $df=15$; $\chi^2 / df=2.57$; GFI=0.940; RMSEA=0.067; CFI=0.965; SRMR=0.041; N/t=7.72

*Sig<.05, ** sig<.01, n.s. denotes non-significant

Figure 3. The structural relationship between ERFC dimensions and TQM with a partial mediation by EACC