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Mediating effects of total quality management between entrepreneurial and market orientations, and international performance: from the developing-country context

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Abstract

Purpose – This study aims to examine the direct effect of entrepreneurial orientation (EO) and market orientation (MO) on the international performance of apparel small and medium enterprises (SMEs). It also examines the mediating impact of total quality management (TQM) on the relationship between EO, MO and SMEs' international performance.

Design/methodology/approach – The research has used a cross-sectional survey method to collect data from apparel SME owners and senior-level managers in Bangladesh. Data have been collected from 360 exporting firms, and the partial least squares structural equation modeling method has been applied for the final analysis.

Findings – This research has revealed a positive association among EO, MO and SMEs' international performance. It has also found a positive mediating effect of TQM on the relationships between EO, MO and SMEs' performance.

Practical implications – The results of this study will provide guidelines for the apparel industry executives to apply strategic orientations and TQM to enhance their firms' performance.

Social implications – TQM fosters a culture of accountability and collaboration, enhancing employee morale and stakeholder trust across diverse regions. It enables SMEs to meet global quality standards, improving customer satisfaction and competitiveness.



Originality/value – This pioneering study examines the impact of EO, MO and TQM on the international performance of apparel SMEs in a developing country, with TQM as a mediating factor. Grounded in dynamic capability theory, it offers both theoretical and practical contributions to international entrepreneurship and strategic management literature.

Keywords Market orientation, International performance, Entrepreneurial orientation, TQM, Small and medium enterprises (SMEs), Bangladesh

Paper type Research paper

Introduction

In the globalized era, small and medium enterprises (SMEs) – comprising nearly 99% of businesses – are crucial to the economic growth of emerging economies through internationalization, which drives employment and competitiveness, despite facing challenges such as limited finances, complex regulations and innovation constraints (Li, Lu, & Yin, 2023; Islam, Islam, Hossain, & Olalere, 2023; Chandra, Paul, & Chavan, 2020).

Apparel SMEs in Bangladesh make up 20% of GDP and employ 4.4 million people, yet struggle in foreign markets because of weak entrepreneurship, poor management, limited market information, limited product diversification and low technological readiness (BGMEA, 2024; Islam et al., 2023). Enhancing global competitiveness requires technological upgrades (Shankar & Narang, 2020).

Quality management is vital for global sustainability, requiring customer focus and continuous improvement (CI) to boost competitiveness and productivity (McAdam, Miller, & McSorley, 2019; Aladwan & Forrester, 2016). In Bangladesh's apparel industry, challenges include untrained staff, weak quality control, limited employee empowerment, poor technical training and a lack of leadership for transformative change, which hinder performance and innovation (Barua, 2021; Kumar Saha, Ng, & Fung, 2024).

Entrepreneurial orientation (EO) fosters innovation, risk-taking and adaptability, driving international growth (Hossain, Alam, Muwazir, Alsiehem, & Azizan, 2025). Market orientation (MO) helps firms meet global customer needs and succeed in diverse markets (İpek, Bıçakcıoğlu-Peynirci, & Hizarcı, 2023). Total quality management (TQM) boosts competitiveness, efficiency and CI, supporting long-term global performance (Imran, Jian, Haque, Urbański, & Nair, 2018).

International performance is often assessed within the first five years of cross-border activity and reflects how well firms meet foreign market goals through specific strategies (Gerschewski, Rose, & Lindsay, 2015; Knight & Cavusgil, 2004). Performance measures include subjective and objective indicators, with studies showing positive correlations between them (Hult et al., 2008). Various frameworks assess performance via profitability, sales, strategic goals and export satisfaction (Zou, Taylor, & Osland, 1998; Styles, 1998). Recent research integrates financial and non-financial metrics, often using Gerschewski et al. (2015) indicators for exporting SMEs (Hossain et al., 2023; Knight, Moen, & Madsen, 2020).

The EO–performance relationship is debated, with studies showing positive, inconsistent or negative links (Rodríguez-Peña, 2023; Hossain et al., 2022; İpek et al., 2023; Zahra & Garvis, 2000). Contextual factors and moderators such as market type and leadership influence this relationship (Rauch, Wiklund, Lumpkin, & Frese, 2009; Lumpkin & Dess, 1996; Hossain et al., 2023; Saleh & Athari, 2023). Few studies from emerging contexts have examined internal strategic capabilities – such as TQM – in this link, with mixed results (Imran et al., 2018; Barua, 2021; Ali, Abdullah, & Gorondutse, 2017; Bello-Pintado, Kaufmann, & Merino Diaz de Cerio,

2018). Covin & Miller (2014) highlight the limited focus on such capabilities, indicating a need for further research in developing countries (Rauch et al., 2009).

The relationship between MO and firm performance is debated, with context-dependent findings and mixed results, especially for SMEs' international performance (Akanpaaba, Agyapong, Mensah, & Akomea, 2023; Falahat, Soto-Acosta, & Ramayah, 2022; İpek et al., 2023). Most research shows a positive link, but studies in emerging economies, particularly South Asia, are limited and often overlook export-oriented MO (Muis, 2020; Falahat et al., 2022). Scholars recommend using moderation analysis to explore contextual factors such as supply chain agility, leadership, innovation, social capital and business strategy (Hwangbo, Shin, & Kim, 2022; Zhao, Peng, Iqbal, & Wan, 2023; Nguyen Van, Le, & Kotaskova, 2023). However, the mediating role of TQM between MO and performance remains underexplored in emerging markets (Fikri, Ratnasari, Ahmi, & Kirana, 2022; Veselinović, Kulenović, Turulja, & Činjurević, 2021).

TQM enhances customer satisfaction by involving all organizational levels in process improvement (Shafiq, Lasrado, & Hafeez, 2019). It seeks competitive advantage through improved reliability, productivity, market share and satisfaction of both customers and employees (Sharma & Gadenne, 2008). While past studies have examined TQM from various strategic orientations (Al-Dhaafri, Al-Swidi, & Yusoff, 2016; Ali et al., 2017; Imran et al., 2018; Bello-Pintado et al., 2018), findings remain inconclusive (Marodin, Chiappetta Jabbour, Godinho Filho, & Tortorella, 2023). A recent South Asian study examines TQM as a mediator between EOs and MOs and international performance, offering new insights into SMEs in emerging contexts. Based on the above discussion, we posit the following research questions:

RQ1. Does TQM mediate between EO and SMEs' international performance?

RQ2. Does TQM mediate between MO and SMEs' international performance?

Theory and hypotheses development

Dynamic capability theory

Dynamic capabilities (DCs) refer to a firm's ability to integrate and reconfigure internal and external expertise to adapt to changing environments (Teece, Pisano, & Shuen, 1997), which is essential for competitive advantage in turbulent markets (Gnizy, E. Baker, & Grinstein, 2014). DC encompasses tacit organizational elements, including absorptive, adaptive and innovative capabilities (Easterby-Smith, Lyles, & Peteraf, 2009), and is positively associated with firm performance, particularly in international business (Hossain et al., 2023). Strategic capabilities such as EO, MO and TQM also foster competitive advantage (Gupta, Drave, Dwivedi, Baabdullah, & Ismagilova, 2020). This study aligns with DC theory.

International performance

International performance is defined as the extent to which firms achieve financial and other objectives through their international strategies (Knight & Cavusgil, 2004). Export performance includes financial, strategic and satisfaction dimensions (Zou et al., 1998), making international performance a multidimensional construct encompassing financial, strategic and overall outcomes. This study follows Gerschwski et al. (2015) in measuring the international performance of apparel SMEs using both financial and non-financial indicators, acknowledging that firms have unique internal goals relative to competitors.

Entrepreneurial orientation and international performance

EO encompasses innovativeness, risk-taking and proactiveness, guiding firms toward strategic DCs that enhance international performance (Hossain et al., 2025; Teece et al., 1997; Rauch et al., 2009; Knight & Cavusgil, 2004; Gerschewski, Lindsay, & Rose, 2016). EO is widely supported in international entrepreneurship literature for its positive impact on performance (Covin & Miller, 2014). Innovativeness involves pursuing new ideas and processes (Lumpkin & Dess, 1996); proactiveness reflects firms' early market actions (Anwar, Clauss, & Issah, 2022); and risk-taking denotes willingness to invest under uncertainty (Lumpkin & Dess, 1996). Empirical studies confirm EO's positive effect on export and firm performance (Hossain et al., 2023; Naskar, Hota, & Gupta, 2025; Ringo, Kazungu, & Tegambwage, 2023), though some report inconsistent or negative results (Rodríguez-Peña, 2023). Based on this, the following hypothesis is proposed:

- H1. EO is positively and significantly associated with the international performance of apparel SMEs.

Market orientation and international performance

MO is a firm culture that enables responsiveness to changing customer needs, competitors' actions and market trends and is essential for sustaining competitiveness in foreign markets (Kolbe, Frassetto, & Calderon, 2022; İpek et al., 2023). MO involves gathering market information and adapting accordingly, fostering innovation and new product development (Baker & Sinkula, 2007). It is a key resource for enhancing firm performance internationally (İpek et al., 2023; Acosta, Crespo, & Agudo, 2018). Studies show a positive impact of MO on export performance in SMEs (İpek et al., 2023; Akanpaaba et al., 2023), with MO serving as a dynamic capability that converts market knowledge into internal resources (Hou, 2008; Correia, Dias, & Teixeira, 2021). However, some findings report no effect on international performance (Falahat et al., 2022). Based on this, the following hypothesis is proposed:

- H2. MO is positively and significantly associated with the international performance of apparel SMEs.

Mediating role of total quality management between entrepreneurial orientation and small and medium enterprises' international performance

In competitive markets, EO must align with operational effectiveness, including TQM, to enhance firm performance (Hossain et al., 2025; Imran et al., 2018). TQM emphasizes customer focus, employee empowerment, process efficiency and CI, relying on strong management leadership (Luo, Liu, Zhao, & Flynn, 2023). Entrepreneurial capabilities support process and quality improvements consistent with TQM principles (Khalfallah, Ben Salem, Zorgati, & Lakhal, 2022; Kumar, Choinsne, de Grosbois, & Kumar, 2009). TQM is essential for efficient production in SMEs and aligns with DC theory by enabling adaptation to change (Hassiss, Othman, & Saleh, 2023; Su & Linderman, 2016). It also facilitates EO implementation by ensuring defect-free operations (Sharma & Kodali, 2008). Studies show that entrepreneurial leadership positively influences TQM, which in turn mediates its impact on performance (Sawaeen & Ali, 2020; Khalfallah et al., 2022). EO and TQM jointly contribute to competitive advantage and improved export performance (Imran et al., 2018; Veselinović et al., 2021; Saha, Talapatra, Belal, & Jackson, 2022). Thus, this study hypothesizes that TQM mediates the relationship between EO and SME manufacturing performance:

H3. TQM positively and significantly mediates the relationship between EO and the international performance of apparel SMEs.

Mediating role of total quality management between market orientation and small and medium enterprises' international performance

MO reflects a firm's commitment to delivering quality products that meet customer expectations (Jaworski & Kohli, 1993), while TQM is a key managerial approach focused on CI and superior customer value (Le, 2022). TQM and MO are complementary strategies for enhancing customer satisfaction (Laukkanen, Tuominen, Reijonen, & Hirvonen, 2016). TQM emphasizes ongoing quality improvements across operations, boosting customer satisfaction and loyalty (Helmold, 2023; Nguyen & Nagase, 2019). Studies confirm TQM's positive impact on firm and export performance (Fikri et al., 2022; Bhaskar, 2020; Imran et al., 2018). MO, as a dynamic capability, helps firms absorb market knowledge to drive performance (Hernández-Linares, Kellermanns, & López-Fernández, 2021; Liu, Wang, Niu, & Mo, 2024). Therefore, this study proposes that TQM may mediate the relationship between MO and the international performance of apparel SMEs. Thus, the hypothesis is as follows:

H4. TQM positively and significantly mediates the relationship between MO and the international performance of apparel SMEs.

Methodology

A study on Bangladeshi apparel manufacturing SMEs used a self-administered questionnaire to survey owners and senior managers of firms with 50–250 full-time employees and at least 5 years of international market experience (OECD, 2022). Various firms – including garment, knitwear, sweater and sportswear manufacturers – were selected from the BGMEA database (Hossain et al., 2025; BGMEA, 2024). Using simple random sampling, 750 SMEs were chosen to ensure diverse representation in firm size, operations and internationalization. Efforts were made to minimize selection bias by including firms with varying levels of international market experience (see Table 1).

To ensure transparency and replicability, potential sampling biases were mitigated by stratifying the sample by firm characteristics. Although the sampling was random, a balance was maintained between firms with extensive and emerging international exposure. Stratification by years in operation, export engagement and product category helped prevent over-representation of highly internationalized SMEs.

This study used a structured mail survey to ensure reliable responses (Dillman, 2000), including pre-notification, questionnaire distribution and follow-up reminders. The survey emphasized clarity, anonymity and university affiliation to enhance data quality and response rate. Out of 750 questionnaires, 388 were returned; after excluding 28 incomplete responses, 360 valid responses were included, yielding a 48% response rate – consistent with survey research standards (Baruch & Holtom, 2008). Social exchange theory guided efforts to boost respondent participation (Im & Rai, 2008).

Cultural adaptation and survey validation

The survey underwent a three-step process to ensure cultural and linguistic accuracy. First, three bilingual experts independently translated and back-translated the items to ensure semantic equivalence (Brislin, 1970). Second, a pretest with 20 Bangladeshi SME managers helped refine unclear or culturally inappropriate items. Third, a pilot test with 50 respondents confirmed the instrument's reliability and validity. Furthermore, the terminology was

Table 1. Demographic profile of the respondents

Demographic info	Category	Frequency	%
Gender	Male	262	72.78
	Female	98	27.22
Education	Graduate/BA	49	13.61
	Post-graduate/MA/MBA	283	78.61
	Doctorate/PhD	28	7.78
Work experience	Less than 5 years	28	7.78
	5–10 years	42	11.67
	11–15 years	108	30.00
	16–20 years	98	27.22
	More than 20 years	84	23.33
Company	Garment manufacturing	80	22.22
	Knitwear manufacturing	86	23.89
	Sweater manufacturing	107	29.72
	Sportswear manufacturing	87	24.17
Position	Manager	80	22.22
	Manager/GM	80	22.22
	Director	100	27.78
	Managing Director	100	27.78
Department	Production	65	18.06
	Supply chain	72	20.00
	Operations	72	20.00
	Marketing	79	21.94
	Research & development	72	20.00
Export age of the firm	5–10 years	87	24.17
	11–15 years	94	26.11
	16–20 years	93	25.83
	More than 20 Years	86	23.89
Employee	Below 100	35	9.72
	101–150	123	34.17
	151–200	115	31.94
	201–250	87	24.17

Source(s): Authors' analysis

adjusted to align with local business practices to improve comprehension while retaining construct consistency.

Measures of construct

A five-point Likert scale (1 = strongly disagree to 5 = strongly agree) was used for all responses. EO was measured using 10 items from [Ibeh \(2004\)](#), MO using five items from [de Guimarães, Severo, & de Vasconcelos \(2018\)](#) and TQM using seven items from [Chenhall \(1997\)](#). IP was assessed using 11 items from [Gerschewski et al. \(2015\)](#), capturing both subjective and objective indicators.

Control variables

The study included two control variables: export experience and firm size. Export experience, measured in years, influences international performance ([Brouthers & Nakos, 2005](#)), while firm size affects outcomes because of greater resources and networks ([Suárez-Ortega & Álamo-Vera, 2005](#)).

Common method variance

The research followed Podsakoff, MacKenzie, Lee, & Podsakoff (2003) to assess common method bias. This study conducted a full collinearity assessment using variance inflation factors (VIFs) (Kock & Lynn, 2012) to detect common method bias. The test shows that the VIF threshold is below 5 in the factor-based partial least square analysis. Therefore, this research is free of common method variance. Moreover, to assess nonresponse bias, a *t*-test was conducted (Armstrong & Overton, 1977). The results for early and late responses were not significant ($p > 0.05$), indicating that the study is free of non-response bias.

Data analysis and findings

Partial least squares structural equation modeling (PLS-SEM) is increasingly used for non-parametric data analysis and latent variable modeling, accommodating multiple independent and dependent variables while accounting for measurement errors (Hair, Hollingsworth, Randolph, & Chong, 2017). Initially proposed by Wold (1982), it estimates causal relationships in path models using regression-based algorithms. PLS-SEM supports both reflective and formative models; however, this study used only reflective indicators. A key advantage of PLS-SEM is its effectiveness with small samples and non-normal data. Although our sample size was sufficient, non-normality was evident, as several items exceeded the ± 2 thresholds for skewness and kurtosis, justifying the use of PLS-SEM over CB-SEM (Hair et al., 2017). Following Chin's (1998) two-step approach, data were analyzed using SmartPLS 3.2.9 and SPSS v23. First, the measurement model was assessed for construct validity, reliability, convergent and discriminant validity. Second, the structural model was evaluated to test hypotheses and model fit (Hair et al., 2017).

Results of the study

Assessment of measurement model

The researcher has used Cronbach's alpha (CA) and composite reliability (CR) to examine the internal consistency. The values of CA ranged from 0.809 to 0.940, exceeding the 0.70 threshold, and the values of CR ranged from 0.867 to 0.949, also exceeding the 0.70 threshold recommended by Hair et al. (2017). Convergent validity was assessed using factor loadings (FL) and the average variance extracted (AVE). The FL ranged from 0.713 to 0.885, meeting the threshold values recommended by Hair et al. (2017). Similarly, the AVE for all constructs exceeded 0.50 (50%), as recommended by Hair et al. (2017). The lowest AVE was 0.566, which was above 0.50. Once we had confirmed adequate convergent validity and the constructs' reliability and validity, we assessed discriminant validity, as explained below. The results are presented in Table 2 and Figure 1.

The discriminant validity of the constructs used is assessed by the heterotrait-monotrait ratio (HTMT). Henseler, Ringle, & Sarstedt (2015) argued that the HTMT method ensures discriminant validity when the correlation values between each pair of variables are less than 0.90. HTMT values are presented in Table 3, which reveal that the height correlation was 0.491, below 0.90, thus confirming adequate discriminant validity.

Assessment of structural model

In the PLS-SEM method, six criteria are used to assess the inner model (Hair et al., 2017). Initially, it is vital to focus on latent collinearity to assess the inner model. Moreover, the values of R^2 (variance of DV), f^2 (effect size) and Q^2 (predictive relevance) are essential for assessing the relevance and significance of the model's relationship. Furthermore, this study has applied the bootstrapping method with 5,000 resamples to obtain *t*-values for the path

Table 2. Construct validity and reliability

Construct	Item	F.L	CA	CR	AVE
EO	EO1	0.799	0.940	0.949	0.650
	EO10	0.837			
	EO2	0.748			
	EO3	0.771			
	EO4	0.826			
	EO5	0.770			
	EO6	0.817			
	EO7	0.833			
	EO8	0.810			
FIP	EO9	0.847			
	FIP1	0.745	0.925	0.936	0.572
	FIP10	0.740			
	FIP11	0.751			
	FIP2	0.753			
	FIP3	0.746			
	FIP4	0.777			
	FIP5	0.738			
	FIP6	0.820			
MO	FIP7	0.760			
	FIP8	0.713			
	FIP9	0.775			
	MO1	0.776	0.809	0.867	0.566
	MO2	0.727			
	MO3	0.748			
	MO4	0.778			
	MO5	0.732			
TQM	TQM1	0.885	0.896	0.919	0.618
	TQM2	0.751			
	TQM3	0.804			
	TQM4	0.719			
	TQM5	0.786			
	TQM6	0.784			
	TQM7	0.766			

Note(s): CA = Cronbach's alpha; AVE = average variance extracted; CR = composite reliability

coefficients and assess the inner model's fit. The results of the different criteria, such as R^2 , predictive relevance (Q^2), effect size (f^2) and collinearity (inner VIF), are shown in [Table 4](#).

[Table 5](#) presents the results of the proposed hypothesis, in which the first prediction ($H1$) concerned the direct relationship between EO and FIP. It is revealed that EO has a statistically significant positive effect on FIP, as the p -value (0.000) is less than 0.05, the t -value (3.919) is greater than 1.96, and the β -value (0.241) is positive. Similarly, the second proposed hypothesis ($H2$) between MO and FIP revealed a significant positive relationship because the p -value (0.000) is less than 0.05, the t -value (4.913) is higher than 1.96 and the β -value (0.307) is positive. It confirms that MO has a significant positive effect on FIP. All the mentioned results are presented in [Table 5](#) and [Figure 2](#). However, after adding control variables such as export experience and firm size (model-02), there were no significant changes, as the same result was observed.

Researchers examined the mediating effect of TQM using the bootstrapping method. Initially, p -values and lower and upper limits (LL and UL) of the 95% bias-corrected

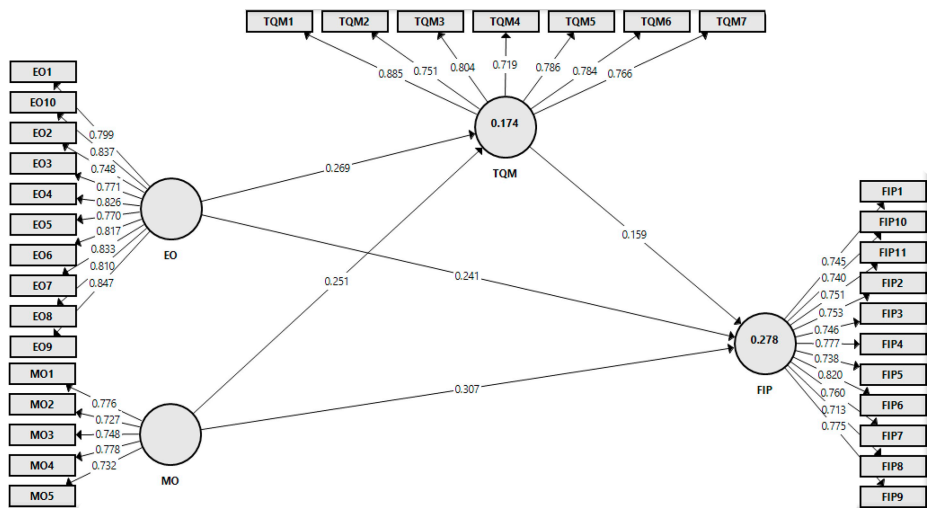


Figure 1. Measurement model

Table 3. Discriminant validity – HTMT

Constructs	EO	FIP	MO	TQM
EO	0.806			
FIP	0.383	0.756		
MO	0.288	0.429	0.752	
TQM	0.342	0.342	0.328	0.786

Source(s): Authors’ calculation

Table 4. Assessment of the structural model

Assessment measure	Variable type	FIP	TQM	Assessment criterion
R-square	Endogenous variables	R square	R-square adjusted	0.26: Substantial, 0.13: Moderate, 0.02: Weak (Hair et al., 2017)
	FIP	0.278	0.272	
	TQM	0.174	0.170	
Effect size (F-square)	Exogenous variables	FIP	TQM	0.26: Substantial, 0.13: Medium effect, 0.02: Weak effect (Hair et al., 2017)
	EO	0.068	0.081	
	MO	0.112	0.070	
	TQM	0.029		
Collinearity (inner VIF)	Exogenous variables	FIP	TQM	VIF ≤ 5.0 (Hair et al., 2017)
	EO	1.178	1.090	
	MO	1.166	1.090	
	TQM	1.211		
Predictive relevance (Q-square)	Endogenous variables	CCR	CCC	A value greater than 0 indicates predictive relevance (Hair et al., 2017)
	FIP	0.153	0.471	
	TQM	0.104	0.491	

Note(s): CCR = construct cross-validated redundancy; CCC = construct cross-validated communality

Table 5. Hypotheses testing result

Hypotheses	Model-01			Model-02		
	OS/Beta	SD	<i>p</i>	OS/Beta	SD	<i>p</i>
<i>H1</i> : EO → FIP	0.241	0.057	0.000	0.241	0.077	0.000
<i>H2</i> : MO → FIP	0.307	0.064	0.000	0.304	0.065	0.000
Firm size → FIP				0.028	0.045	0.528
Firm size → TQM				−0.008	0.049	0.864
Export experience → FIP				−0.021	0.044	0.636
Export experience → TQM				−0.034	0.046	0.460

Note(s): OS = original sample; significant **p* < 0.05

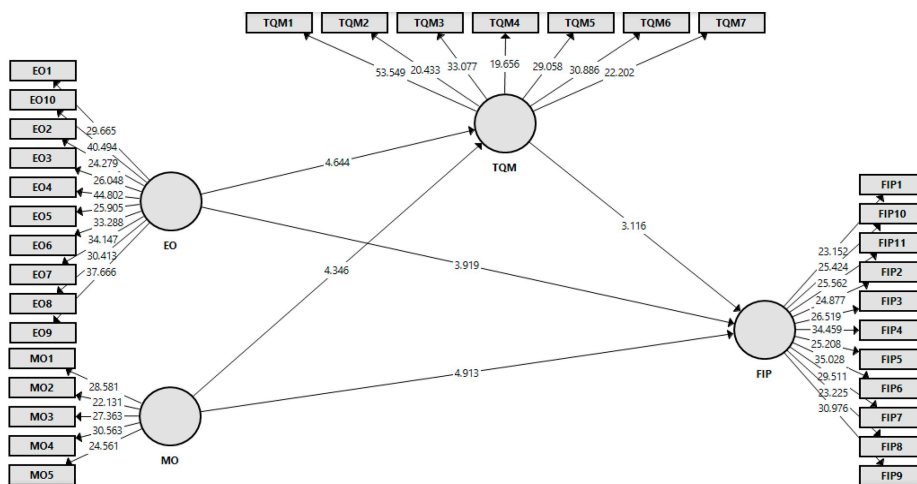


Figure 2. Structural model with inner model *t*-values

confidence interval were assessed to confirm mediation. Then, direct, total indirect and total effects were evaluated for further validation (see Table 6). Both mediating hypotheses were statistically significant. For *H3*, TQM significantly mediated the relationship between EO and FIP ($p = 0.015$), with LL (0.013) and UL (0.082) values indicating no zero between them, confirming mediation (Preacher & Hayes, 2008). Similarly, *H4* revealed a significant mediation effect of TQM between MO and FIP, with a p -value of 0.014; LL (0.015) and UL (0.078) also indicated significance. Variance accounted for (VAF) values were calculated to determine the type of mediation. As all VAF values ranged between 20% and 80%, the mediation in both cases was partial (Hair et al., 2017).

Discussion and findings

This study confirmed that both EO and MO significantly enhance the international performance of SMEs, aligning with previous research (Hossain et al., 2023; İpek et al., 2023; Rauch et al., 2009). Additionally, TQM was found to partially mediate the EO–performance and MO–performance relationships, echoing findings from Imran et al. (2018), Ali et al. (2017) and Fikri et al. (2022).

Table 6. Mediation (indirect effect) results

Hypotheses	A		B		A*B		C		C'		Decision
	Beta	t	Beta	t	Beta	t	Beta	t	Beta	t	
H3: EO → TQM → FIP	0.269	4.644	0.159	3.116	0.043	3.290	0.283	4.743	0.043	2.452	Partial mediation
H4: MO → TQM → FIP	0.251	4.346	0.159	3.116	0.040	3.515	0.347	5.127	0.040	2.455	Partial mediation
Source(s): Authors' calculation											

H1 validated the significant positive influence of EO on SMEs' international performance ($\beta = 0.241, p = 0.000$, Table 5), supporting prior studies (İpek et al., 2023; Hossain & Azmi, 2021; Imran et al., 2018). The direct association supports DC theory (Teece et al., 1997). However, this finding diverges from studies reporting inconsistent or negative EO–performance links (Rodríguez-Peña, 2023; Hossain et al., 2022).

Similarly, *H2* was supported, confirming a strong positive relationship between MO and performance ($\beta = 0.307, p = 0.000$, Table 5), consistent with research by Akanpaaba et al. (2023) and Imran et al. (2018). This positive relationship aligns with DC theory (Hou, 2008). Nevertheless, it contrasts with studies showing mixed or insignificant results (Falahat et al., 2022; İpek et al., 2023).

Regarding mediation, Table 6 confirms that TQM significantly mediates (partial mediation) the relationship between EO and performance ($\beta = 0.043, p = 0.015$), thus validating *H3*. This aligns with earlier findings highlighting TQM's role in enhancing EO-driven performance (Saha et al., 2022; Ali et al., 2017; Imran et al., 2018), although some studies found inconclusive results (Lepistö, Saunila, & Ukko, 2022; Veselinović et al., 2021). The partial mediation supports Rauch et al.'s (2009) assertion that EO may operate through other DC (strategic flexibility, innovation speed).

H4 also received support, with TQM mediating the MO–performance link ($\beta = 0.040, p = 0.014$), consistent with Fikri et al. (2022), Imran et al. (2018) and Ali et al. (2017). This contrasts with Borodako et al. (2022), who emphasized the contextual variability of TQM's mediation effects.

In the Bangladeshi context, TQM has been shown to positively influence sustainable performance (Saha et al., 2022), while Talapatra, Uddin, Antony, Gupta, & Cudney (2019) emphasized strategic, structural and HR-related factors as crucial to its implementation. Nonetheless, Hansen, Deitz, Tokman, Marino, & Weaver (2011) cautioned that other capabilities (e.g. adaptive capability, opportunity recognition) may affect such results (partial mediation).

Theoretical implications

The present research has several theoretical contributions. First, it shows that EO positively influences the international performance of apparel SMEs in a developing context, extending EO–performance literature in international entrepreneurship and strategic management. Addressing calls for research in diverse settings (Rauch et al., 2009; Hossain et al., 2025), the findings confirm EO as a dynamic capability (Teece et al., 1997) that enables firms to seize opportunities in dynamic environments.

Second, this study finds that MO positively affects the international performance of apparel SMEs in an emerging context, adding to the MO–performance literature in strategic management. Responding to calls for research across contexts and industries (Falahat et al., 2022), the results confirm MO as a dynamic capability (Hernández-Linares et al., 2021) that supports continuous market sensing and reconfiguration (Hou, 2008). Third, this study finds that TQM positively mediates the EO–performance relationship in apparel SMEs in an emerging context, thereby contributing to the strategic management literature. This mediation extends EO–performance research (Sawaeen & Ali, 2020) and supports DC theory by positioning TQM as a firm-specific capability that enhances competitive advantage (Imran et al., 2018). Finally, this study identifies a positive mediating effect of TQM between MO and performance in an emerging-market context, offering novel insights for the strategic management literature (Fikri et al., 2022). It further extends DC theory by positioning TQM as a key firm-specific capability that enhances international performance.

Current findings can be lessons for other developing countries: Apparel SMEs in Vietnam can overcome limited capital through incremental innovation; in Cambodia, they strengthen

buyer ties via rapid adaptation; in Pakistan, TQM converts entrepreneurial efforts into performance; and in Sri Lanka, MO-driven responsiveness combined with TQM ensures consistent quality.

Managerial implications

The study suggests that apparel manufacturing practitioners should adopt strategic orientations such as EO and MO to improve the international performance of exporting SMEs. EO involves proactive behaviors, whereas MO involves understanding international customer needs. Application of TQM in apparel SMEs benefits managers. Firstly, the TQM method (top management commitment) integrates all organizational activities to achieve customer satisfaction (by creating quality products), thereby improving overall performance (Ramayah, Samat, & Lo, 2011). Secondly, TQM practices (quality culture and operations; people and customer management; and customer satisfaction orientation) improve firm performance (Ali et al., 2017). Differentiated, high-quality products are crucial for achieving customer focus and sustainable performance (Mohsin, Shamsudin, Jaffri, Idrees, & Jamil, 2024), and managers may implement them. Third, the findings will guide top management in achieving measurable goals, which depend on effective leadership (Al-Dhaafri et al., 2016). Finally, the CI process in TQM helps quality managers reduce scrap and rework costs and enhance productivity (Lizarelli, Toledo, Gambi, & Gonçalves, 2023). In the context of society, TQM practice will ensure the quality of goods and services, thereby delivering social benefits.

Limitations and future research directions

This study has several limitations: It is based on the Bangladeshi apparel industry, so future research could examine similar sectors in other developing countries. It focuses only on EO and MO; future studies may include other orientations, such as learning orientation. While TQM is used as a mediator, future research could explore alternative mediators such as competitive strategy. The study does not test moderating effects; variables such as market dynamism could be examined. Finally, as it uses a quantitative approach, future research could adopt a mixed-method design to gain deeper insights into EO and MO effects on performance in emerging contexts.

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