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Retracted: The mediating role of total quality management between entrepreneurial orientation and SMEs export performance

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A B S T R A C T

The purpose of this study was to investigate the mediating role of total quality management (TQM) between entrepreneurial orientation (EO) and SME export performance in the manufacturing sector of Pakistan. This study was originated from the fact that only a few studies have examined on how the firm's intangible resources and capabilities such as EO and TQM drive SMEs' export performance. Some questionnaires in Likert scale were used to collect the data and 364 usable responses were received from the owner/managers of exporting SMEs. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used for the data analysis. The findings reveal significant relationship between EO and TQM with SME export performance. Furthermore, this study found the complementary mediating role of TQM between EO and SME export performance of manufacturing sector of Pakistan. This study has implications for owner/managers of SMEs. The results offer a better understanding regarding EO and TQM implementation to SMEs owner / managers. Thus, owner/managers of SMEs can take better decisions for the implementation of TQM practices. Furthermore, to the best of researcher's knowledge, this study is the first work, which examines Pakistan`s SMEs export performance in association with the TQM as the mediating factor between EO and SME export performance.

1. Introduction

Exports play an important role in country's economy, influencing the level of economic growth, employment and the balance of payments (Ahmad et al., 2017; Fatemah & Qayyum, 2018). The manufacturing sector of Pakistan is playing an important role in exports development. The exports of manufacturing sector has been in low level for the last few years (Economics, 2016). According to the report of Lahore Chamber of Commerce and Industry, manufacturing sector growth has decreased from 5.6 percent to 5.0 percent, which has also affected the performance of export-oriented manufacturing sub-sectors such as sports goods, surgical, apparel, cutlery and furniture industry (LCCI, 2017). Since many SMEs are working in these sectors, hence this declining performance of manufacturing also affected the SMEs export performance. Declining in exports causes trade deficit and the failure to fulfil trade quota has become a burden on the economy (Hamza, 2016; Munir, 2016). The firms of manufacturing sector are seeking

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different ways to increase the value and the quality of their products, which can increase the exports of manufacturing sector. Overall, manufacturing SMEs current business scenario is under high competition pressure due to more sophisticated market and changing customer preferences. As a result, manufacturing SMEs has received wide attention for the scope of further research by several authors and practitioners (Mishra, 2016). Also, entrepreneurial orientation (EO) and its influence on firm export performance have received substantial attention in exports context (Chen et al., 2016). Because of the changes in the business environment due to dynamic nature of exports market, EO is gaining more importance due to significant effect on firm export performance and providing the sustainable competitive advantage (Thanos et al., 2016). EO can reform the production process, adopting innovation practices and new outlet for products, etc. (Zehir et al., 2015). Basically, EO should lead to firms' higher exports performance and SMEs with strong EO will obviously perform better (Sahoo & Yadav, 2017). However, the successful implementation of EO depends on manager's knowledge, attitude, commitment and experience (Wiklund & Shepherd, 2003). There are many studies reported the significance (Hernandez-Perlines, 2018; Sok et al., 2017; Thanos et al., 2016) and non-significance effects on SME export performance (Feder, 2015; Frishammar & Andersson, 2009). Thus, the problem of poor SME export performance through EO is due to the lack of other strategies and practices (Al-Dhaafri et al., 2016; Sahoo & Yadav, 2017).

The current study perspective is that, while EO determines specific strategic decisions and resource allocation for the organization (Wiklund & Shepherd, 2005), effective operationalization of EO requires alignment with operational context (Gupta & Batra, 2015). For example, firm entrepreneurial vision, capabilities and activities alone will not be enough to achieve success, unless there is a TQM philosophy in the organization (Sahoo & Yadav, 2017). Furthermore, the concept of TQM is getting the attention of manufacturing SMEs day by day (Imran et al., 2018). The manufacturing, SMEs should use the most effective way to enhance the customer's confidence through a quality management system (Pearson, 2015). Hence, TQM can help SMEs entrepreneurs and managers manage their operations and production efficiency and maintain the top class manufacturing system (Konecny & Thun, 2011). SMEs compared with large firms are very slow to adopt the TQM practices due to high expense and operational cost (Pearson, 2015). In respect to Pakistan' SMEs context, management does not have enough expertise and organizational capabilities which can imply poor strategies planning and human resources management resulting in reluctance for adopting TQM (Imran et al., 2017). Nevertheless, SMEs without effective TQM system is expected to be more effective (Lages et al., 2009). Therefore, in this highly competitive business environment, implementation of the best TQM practices and transferring the EO into feasible strategic activities to fulfil the firm's objectives are essential (Al-Dhaafri et al., 2016).

Past studies paid little attention to the indirect effect of TQM between EO and SME export performance relationship in the manufacturing sector of Pakistan. Therefore, it is more suitable to have a better understanding of the indirect effect of TQM affecting on EO-SME export performance relationship. Therefore, the current study investigates the mediating role of TQM between EO and SME export performance in the context of Pakistan.

2. Literature review

Small and medium enterprises (SMEs) are defined in both developed and developing countries based on different factors such as location, size, age, number of employees, asset value and sales turnover (Rahman, 2001). The Pakistani manufacturing SMEs defined it based on the number of employees and the annual sales turnover and based on that those enterprises whose annual sale turnover are not more than two hundred fifty million PKR with fewer than two hundred fifty employees are called SMEs (SMEDA, 2016). The Pakistan SMEs contribute 78 percent to the non-agricultural labor force, 30 percent in GDP, and 25 percent in export earning, respectively (Dar et al., 2017).

In comparison with neighbouring countries, the contribution of SMEs to Pakistan's GDP is higher than that of India (37.5 percent) and less than China (60 percent) (Thaver & Alamgir, 2014) and Iran (50 percent) (Abdin, 2017). Dar et al. (2017) reported that Pakistan's SMEs are performing low as compared with other developing countries, for instance, Malaysia, Thailand, China, Taiwan and Indonesia. Regardless of the nature of the nation's economy, SMEs make a great contribution to innovation, regional development and social cohesion, which in turn significantly contribute to the GDP, employment and exports (Khalique et al., 2011; Rehman, 2016; Shah et al., 2011).

However, in today's highly competitive business environment, SMEs are seeking strategies to improve their performance specifically in terms of exports contribution. Entrepreneurial orientation (EO) is a managerial capability which firms embark on innovation, proactiveness and risk-taking initiatives to sustain the competitive advantage (Imran et al., 2017). Furthermore, EO behaviors for manufacturing firms are very important to facilitate the implementation of TQM for improvements and increase the manufacturing productivity and competitive advantage (Demirbag et al., 2006; Rahman, 2001). Therefore, for the better understanding of export performance, manufacturing SMEs should build a link between EO and TQM. Likewise, Al-Dhaafri et al. (2016); Sahoo and Yadav (2017) stated that both EO and TQM are the intangible resources and capabilities for firms, which can lead to high firm performance.

2.1 Entrepreneurial orientation and SME export performance

Entrepreneurial orientation (EO) is defined as the firm's level processes, practices and decision-making styles of entrepreneurial firms (Lumpkin & Dess, 1996). Shan et al. (2016) stated that EO is a strategic resource that alive entrepreneurship practices of the firms. Many studies recommended that EO is an important tool to achieve competitive advantage and which can enhance the firm's profitability (Zahra & Covin, 1995). The importance of EO for the survival of SME export performance was acknowledged by many authors (e.g. Imran et al., 2016). There are many studies believed that firms with stronger EO achieve higher export performance (Radulovich et al., 2018; Thanos et al., 2016). Theoretically, EO captures the product and market innovation that assumes the market risk and found the new opportunities for business success (De Clercq & Zhou, 2014). Therefore, EO can be seen as the strategy-making the process that concern the "methods, practices and decision-making styles and intentions and actions of key players functioning in a dynamic generative process"(Lumpkin & Dess, 1996). Wiklund and Shepherd (2003) explained that EO is a managerial behaviour which can allow the firms to overtake the competition by being approachable to innovations, broadmindedness to risk and highly proactive to market opportunities.

Furthermore, after a comprehensive literature review, the current study concludes that EO has been operationalized into three dimensions such as innovation, risk-taking and proactiveness. Therefore, EO is essential for manufacturing SMEs that if SMEs have the ability on innovation, risk-taking and proactiveness, they will get a sustainable competitive advantage which leads to higher export performance. This statement leads to the following hypothesis:

H_1: Entrepreneurial orientation (EO) positively influences on SME export performance.

2.2 Total quality management and SME export performance

Total quality management (TQM) is a philosophy and most large firms use it in practice (Yusof & Aspinwall, 2000). In respect of SMEs, the fear of losing the contract with large firms brings quality into their system (Singh et al., 2008). TQM has been widely adopted by SMEs in different countries to process and manage the organization through quality, improvement in productivity, meeting customer needs and giving a competitive edge (Pfau, 1989). The past works related to the TQM in the context of SMEs are growing (Abdullah & Abidin, 2012). However, most of the literature discussed the TQM relationship

with firm performance in local market context (Corredor & Goñi, 2011). Additionally, the previous studies reported that TQM had been positively related to quality performance (Valmohammadi & Roshanzamir, 2015); operational performance (Ng & Jee, 2012); innovation performance (Yusr, 2016); competitive advantage (Munizu, 2013); organizational learning (Yazdani et al., 2016) and financial performance (Mehralian et al., 2016; Ngambi & Nkemkiafu, 2015). On another hand, Ahmad et al. (2015) stated that most of the researchers found a high impact of TQM on firm performance in the manufacturing industry.

Therefore, the current study believes that TQM can be the influential contributor in manufacturing SME export performance in Pakistan. Thus, the following hypothesis is proposed:

H_2: Total quality management (TQM) positively influences on SME export performance.

2.3 Entrepreneurial orientation and total quality management

EO was empirically supported by many studies with SME export performance (Hernandez-Perlines, 2018; Ribau et al., 2017; Thanos et al., 2016) and TQM was found a contributory role in SME export performance (Imran et al., 2018). Amazingly, limited studies investigated the combined effect of EO and TQM with SME export performance. According to Al-Dhaafri et al. (2016); Sahoo and Yadav (2017) stated that EO and TQM are the most important strategies and practices to sustainable competitive advantage, which leads to high export performance. Furthermore, Al-Dhaafri et al. (2016) found a positive link between EO and TQM in Dubai police department. In another study, the researcher found the positive influence of EO with TQM in manufacturing SMEs in India context.Therefore, past studies create some motivation for investigating the relationship between EO and TQM in different context such as in manufacturing SME export performance in Pakistan. Hence, the following hypothesis proposed:

H_3: EO positively influences on TQM in manufacturing SMEs of Pakistan.

2.4 Mediating role of TQM between EO and SME export performance

The past studies found the positive relationship between EO and SME export performance in a different context (Hernandez-Perlines, 2018; Ribau et al., 2017; Thanos et al., 2016). On the other hand, some of the studies found either no or mix relationship between EO and SME export performance (Feder, 2015; Felzensztein et al., 2015; Frishammar & Andersson, 2009). However, there is a variation in previous studies' findings. Subsequently, few researchers have suggested that the relationship between EO and SME export performance may be complex (Bianchi et al., 2017; Imran et al., 2016; Imran, Aziz, et al., 2017; Monteiro et al., 2017). Supporting this argument, several internal and external factors were found between the EO and SME export performance such as marketing capability (Sok et al., 2017), international business networks (Bianchi et al., 2017), organizational resources (financial, relational, informational) dynamic capability (Monteiro et al., 2017). Al-Dhaafri et al. (2016) conducted a study in UAE and found the partial mediation of TQM between EO and Dubai police department performance. One more study conducted in India found the role of TQM between EO and manufacturing SMEs performance (Sahoo & Yadav, 2017). Based on these studies, the current study believes that TQM will play the mediating role between EO and manufacturing SME export performance in the context of Pakistan. Therefore, the following hypothesis proposed:

H_4: Total quality management (TQM) mediates the relationship between EO and SME export performance.

3. Research methodology

3.1 Population, sample size, and respondent

This study was conducted in the context of manufacturing SMEs of Pakistan. Registered companies in Pakistani exporter directories were taken as the study population. We have included companies in this

study sample frame which were meeting basic criteria such as meeting the definition of SMEs and involve in manufacturing and export operations. The criteria were used by Ibeh (2004) and Okpara and Kabongo (2009) in different countries' context. According to recommended criteria, we have identified 6994 exporters from top eight manufacturing export-orientated sub-sectors such as textiles (2072), surgical (1100), sports goods industry (1000), leather industry (905), jam and jewelry (448), cutlery (218), automobile parts (332), pharmaceutical (600), an industry (169) and furniture industry (150).

The study used the Krejcie and Morgan (1970) table to determine the sample size. By referring the Krejcie and Morgan (1970) sample size table, three hundred sixty-four (364) SMEs were selected as a sample size for the study. Moreover, Beh and Shafique (2016) stated that manufacturing SMEs of Pakistani response rate was 46%. The sample size of the study was increased by 54% for maximum response rate and we have tried to control the non-response error (Salkind, 2012; Saunders et al., 2009). Moreover, according to Sekaran and Bougie (2016) for maximum response rate that researcher should make reminder phone calls and send reminder e-mails must be performed and these techniques were adopted for good response in the current study. Furthermore, we have adopted the stratified sampling technique. In this sampling method, the number of sampling units drawn from each stratum was proportionate to the population size of the stratum (Eriksson & Kovalainen, 2015). The study sample was divided into ten (10) strata such as textiles/apparel (167), surgical (88), sports goods (80), leather/footwear (73), pharmaceutical (48), Jam/ jewelry (36), auto parts (28), cutlery (18), electrical goods (14) and Furniture (12). Moreover, within strata we have used the simple random sampling method to select the respondent from each group mentioned earlier and distributed the questionnaire through the drop and pick method. The firm-level was taken as a unit of analysis and taken the response from firm owners/export managers, several studies used this technique (Calantone et al., 2004; Cavusgil & Zou, 1994). A total of 572 questionnaires distributed to manufacturing SMEs, only 364 firms participated in the survey with a response rate of 64.54%. This response was acceptable and similar as previous studies (Beh & Shafique, 2016; Hassan et al., 2017; Hussain et al., 2015; Khalique et al., 2015).

3.2 Measures of variables

Measures of the variable were adapted from past studies. The total quality management in this study contains five dimensions, where the leadership, strategy, people, resources, and process contained 6, 6, 6, 5 and 7 respectively (Shafiq et al., 2017).

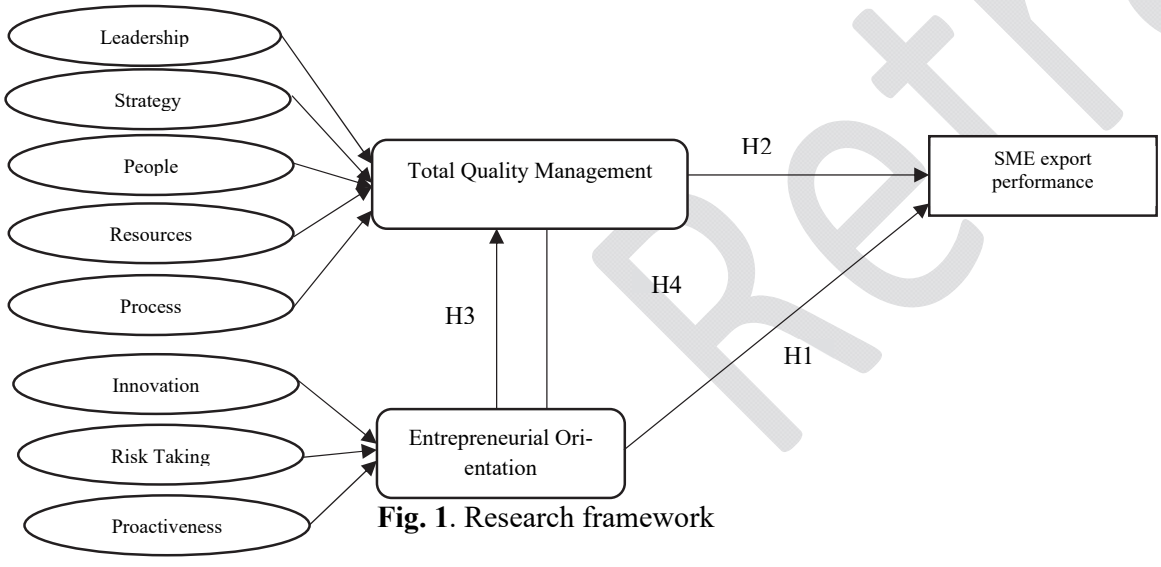

Fig. 1. Research framework

Meanwhile, entrepreneurial orientation was adapted from the Boso et al. (2012) study, which consists three dimensions such as innovation (6 items), risk-taking (4 items) and proactiveness (3 items). In addition, we have adopted the modified version of Zou et al. (1998) export performance (EXPERF) scale

with 9 items (Shoham et al., 2008). A seven-point Likert scale was used to ensure the high statistical variability among responses, which range from 1(Strongly disagree), 2 (Disagree), 3 (Somewhat disagree), 4 (Neutral), 5 (Somewhat agree), 6 (Agree), 7 (Strongly agree) (Choi & Eboch, 1998). The details of the construct dimensions with items can be seen in Table 1 and Fig. 1.

Table 1
The scale of SME export performance and total quality management

Dimensions	Total Quality Management
Leadership	Managers of our company view the cost as more important in comparison to the quality of products.
	Managers of our company present themselves as role models for the employees.
	Managers of our company ensure that employees are aware of the company's long-term plans.
	Managers of our company do not want to give authority to employees for them to take decisions about their jobs.
	Managers of our company continuously acquire and update their knowledge that is valuable for the organization.
	Managers of our company encourage and participate in continuous improvement initiatives.
Strategy	In our company, the views of customers (the people/companies who buy or want to buy your company's products) are considered important while designing new products.
	In our company, the views of suppliers are considered while shaping the company's objectives.
	In our company, the performance of competitors and best-in-class companies is assessed and analyzed.
	In our company, systematic measurement of losses (such as production losses, the losses due to rejection of finished products, etc.) is carried out.
	In our company, information systems are in place to capture information about customers and markets.
	In our company, periodically (e.g. after every three months, six months, or one year), organizational performance is evaluated against the set objectives and targets.
People	In our company, formal processes are used regularly (attitude surveys, employees' briefing, etc.) to find out employees' opinions and views.
	In our company, specific quality training is offered to employees.
	In our company, employees are encouraged to update their knowledge and skills.
	In our company, teamwork is a common practice within the organization.
	In our company, employees have easy access to the relevant information.
	In our company, encourage the employee's opinions, suggestions about any of the activities of the organization.
Resources	In our company, suppliers are encouraged to develop long-term partnerships with the organization.
	In our company does not give preference to quality over cost while making purchase agreements with suppliers.
	In our company, performance of the suppliers is evaluated periodically.
	In our company, updated information and resources are provided to all employees to perform their jobs.
	In our company tries to reduce the harmful effect of its activities on the environment. (Partnership and resources)
Process	In our company, proper procedures are established to perform different jobs.
	In our company, employees are aware of the parameters (temperature, pressure, etc.) of different processes, which are needed to
	In our company, performance of production processes is monitored.
	In our company, development and innovation of production processes are emphasized.
	In our company, the research and development (R&D) department is continuously working on the development and improve-
	In our company, production processes are capable of producing products according to design specifications.
	In our company, proper systems are in place to deal with customer complaints.
Dimensions	**Entrepreneurial Orientation**
Innovation	Our company has produced more new products for our export markets than our key export market competitors during the past five years.
	On average, each year we introduce more new products in our export markets than our key export market competitors.
	Industry experts would say that we are more innovative when it comes to introducing new products in our export markets.
	Relative to our main export competitors, the products, we offer in our export market(s) are Revolutionary.
	Relative to our main export competitors, the products, we offer in our export market(s) are Inventive
	Relative to our main export competitors, the products, we offer in our export market(s) are Creative.
Risk Taking	Top export manager of our company, in general, tend to invest in high-risk export projects.
	This company shows a great deal of tolerance for high risk export projects.
	Our export strategy is characterized by a strong tendency to take risks.
	Taking risk is part of our export business strategy.
Proactiveness	Our company seeks to exploit anticipated changes in our export market ahead of our competitors.
	Our company acts opportunistically to shape the export environment in which we operate.
	Our company consistently tries to position ourselves to meet emerging export market demands.
Dimensions	**SME export performance**
Financial	Our firm export has been very profitable.
	Our firm export has generated a high volume of sales.
	Our firm export has achieved rapid growth.
Strategic	Our firm export has improved our global competitiveness.
	Our firm export has strengthened our strategic position.
	Our firm export has significantly increased our global market share.
Satisfaction	The export performance of our firm has been satisfactory.
	Our firm export has been successful.
	Our firm export has fully met our expectation.

Source: Shafiq et al. (2017); Boso et al. (2012); Shoham et al. (2008)

4. Data analysis and results

Smart-PLS statistical analysis software has been used for structural equation modeling (SEM) assessment. The current study employed the second-order reflective-formative hierarchical model, type II with the two-stage approach (Becker et al., 2012). In the current study, TQM and EO were taken as a higher order formative construct as formed by first-order reflective constructs, such as leadership, strategy, people, process, resources, innovation, risk taking, proactiveness. The endogenous variable (SME export performance) of the study was treated as first order reflective construct.

4.1 Measurement model validation

Based on PLS (SEM), the assessment of measurement model has been analyzed properly by using Smart-PLS 3.2.7 (Ringle et al., 2015). To conclude the measurement model discriminant validity, reliability and convergent validity of the measurement of constructs were observed and keenly examined. The individual items reliability was examined through their loading and all items were reported greater than 0.7 loading. Further, constructs reliability was examined through Cronbach alpha, composite reliability (CR), and average variance extracted (AVE). Table 2 shows all results of CR, AVE and Cronbach alpha, their values are higher than threshold values such as Cronbach alpha (.07), CR (0.7) and AVE (0.5) (Hair et al., 2014).

Table 2
Finding of the measurement model (First Order, Reflective)

Constructs	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Leadership (LDR)	0.82	0.87	0.52
People (PPL)	0.82	0.86	0.50
Process (PRS)	0.86	0.89	0.55
Resources (RES)	0.76	0.83	0.51
Strategy (STR)	0.82	0.86	0.52
Innovation (INO)	0.81	0.86	0.50
Risk Taking (RSK)	0.8	0.87	0.62
Proactiveness (PRO)	0.88	0.92	0.80
Export Performance (EP)	0.92	0.93	0.60

Moreover, discriminant validity was analyzed to determine the model external consistency, based on the Fornell-Larcker Criterion, according to Fornell and Larcker (1981) that AVE of the latent variable should be higher than the squared correlations between the latent variables. Thereby confirming the discriminant validity and the result can be seen in the Table 3.

Table 3
Fornell-Larcker Criterion

	EP	INO	LDR	PPL	PRO	PRS	RES	RSK	STR
EP	0.78								
INO	0.59	0.71							
LDR	0.48	0.38	0.72						
PPL	0.32	0.24	0.42	0.71					
PRO	0.41	0.2	0.16	0.14	0.9				
PRS	0.38	0.18	0.42	0.54	0.25	0.74			
RES	0.11	0.22	0.25	0.18	0.15	0.1	0.71		
RSK	0.59	0.64	0.45	0.22	0.21	0.25	0.11	0.79	
STR	0.21	0.23	0.42	0.6	0.08	0.46	0.33	0.17	0.72

Note: EP = export performance; INO = innovation; LDR = leadership; PPL = People; PRO = proactiveness; PRS = process; RES = Resources; RSK = risk taking; STR = strategy

4.2 Measurement model for formative constructs

The formative measurement model was evaluated through multicollinearity among items and analysis of their weights (Hair Jr et al., 2016). Maximum variance inflation factor (VIF) value for each formative indicator was computed and observed less than threshold value 5 (Hair et al., 2014). Secondly, we have checked the significance of weights with a resampling procedure (bootstrapping with 5000 resamples)

and observed the presence of several non-significant formative indicators. Further, the researchers decided to keep these items, because when an indicator's weight is not significant, but the corresponding item loading is relatively high (i.e., ≥0.50), or statistically significant, the indicator should generally be retained (Hair Jr et al., 2016). The results can be seen in the Table 4.

Table 4
Findings of Measurement Model for Formative constructs

Constructs	Indicator	Outer loading	OL T-Value	Outer Weights	OW T-Value	VIF
Total Quality Management (TQM)	Leadership	0.80	34.85**	0.43	7.76**	1.37
	Strategy	0.74	12.56**	0.20	5.80	1.80
	People	0.77	18.50**	0.27	10.20	1.85
	Resources	0.40	3.78**	0.15	3.19	1.16
	Process	0.75	18.20**	0.31	9.21**	1.56
Entrepreneurial Orientation (EO)	Innovation	0.86	39.23**	0.48	19.50**	1.73
	Risk Taking	0.86	40.04**	0.48	17.72**	1.73
	Proactiveness	0.52	6.81**	0.32	7.05**	1.05

Note: OL= outer loading, OW= outer wrights, **p<.01, *p<.05, ns= not significant

4.3 Structural Model Assessment

After the assessment of measurement model, the structural model was assessed to draw the conclusion. The structural model was evaluated through path coefficient, the coefficient of determination (R^2) and effect size (F).

In path coefficient, assessment evaluated the direct and indirect relationship between constructs to accept and reject the study proposed hypothesis. However, for the direct relationship, assessment was performed (with 5000 sub-sampling for 364 responses) to determine the beta-values and t-values. However, in the current study, three (03) direct relationships were analyzed and were supported by three-direct relationship hypotheses. Table 5 shows all the direct relationship results. The hypothesis was accepted based on t-value observed greater than the threshold value of 1.96.

Table 5
Findings of structural model (Direct effect results)

	Beta	Standard Deviation	T Values	P Values	Decision
H1: EO -> SME EP	0.71	0.03	24.75**	0.00	Supported
H2: TQM -> SME EP	0.21	0.04	5.01**	0.00	Supported
H3: EO -> TQM	0.44	0.05	8.83**	0.00	Supported

Note: **p<0.1, *p<0.05, ns= not significant (p>.05) (Two Tail)

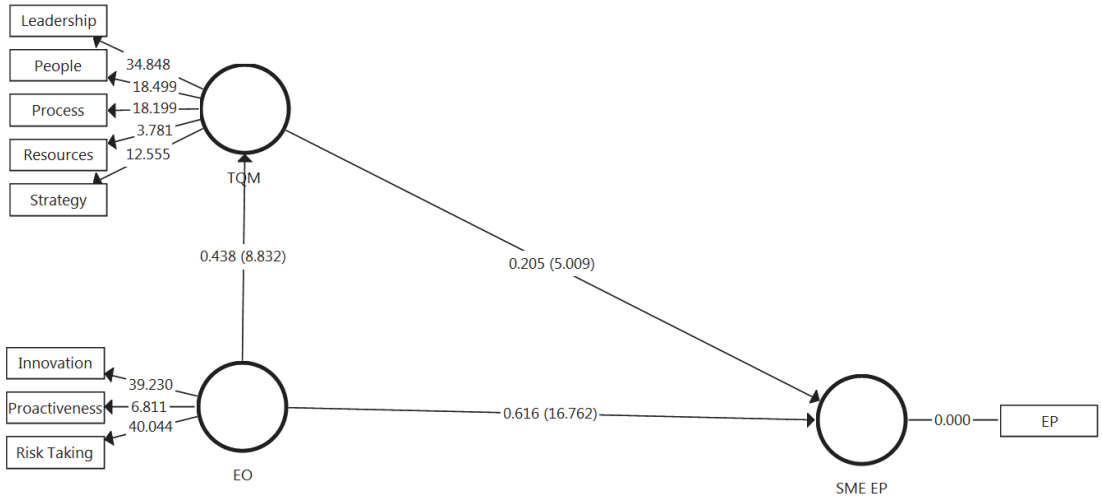

Fig. 2. PLS-SEM Bootstrapping

Hair et al. (2014) stated that PLS (SEM) bootstrapping technique for mediation analysis is considered appropriate. Thus, this study has examined the mediating role of EMO by using the bootstrapping technique at 5000 sub-sampling to determine the t-value. However, Table 6 shows the results of mediation role of export market orientation between total quality management and SME export performance.

Table 6
Findings of structural model (Indirect effect results)

Hypothesis	Beta	SD	T-Value	P Value	2.5%	97%	Results
H4: TQM -> EO -> SME EP	0.09	0.02	4.60**	0.00	0.06	0.13	Mediation

Note: **p<0.1, *p<0.05, ns= not significant (p>.05) (Two Tail)

Once determined the significance of the mediation effects, the researchers can determine the types of mediation. The current study used the new proposed criteria of Hair Jr et al. (2016), Nitzl et al. (2016) and Zhao et al. (2010) to identify the mediation type. According to this criterion used in the Fig. 2, we have determined the mediation type, and found the complementary mediation between EO and SME export performance.

4.4 The coefficient of determination (R^2) and effect size (f^2)

R^2 is a major part of a structural model evaluation and the value of R^2 considered as 0.25 (weak), 0.50 (moderate), and 0.70 (strong) respectively (Hair et al., 2014). In our case, the EO and TQM explained 53% to SME export performance in the manufacturing sector of Pakistan and called moderate contribution, and the results can be seen in the Table 7. Furthermore, the effect of size has been explained as the exogenous variable contribution into endogenous variable R^2 values. The values of f^2 are considered as small (0.02), medium (0.15) and large (0.35) respectively (Cohen et al., 2013). The current study found the effect size as EO-SME EP (0.657) large, EO-TQM (0.238) medium, TQM-EP (.073) small respectively. The effect size values can be seen in Table 7.

Table 7
Values of R^2 and effect size f^2

Exogenous Variable	f^2		R^2	
	TQM	EP		
EO	0.238	.657	TQM	0.192
TQM		0.073	EP	0.533

5. Discussion and conclusion

The results of the present study have shown that entrepreneurial orientation (EO) and total quality management (TQM) explained 53% variance of the SME export performance in the manufacturing sector. The current study has found a positive direct and indirect relationship between EO and SME export performance. The significant results of EO with SME export performance is consistent with previous studies (Hernandez-Perlines, 2018; Ribau et al., 2017; Thanos et al., 2016). However, according to the current study, EO is found a valuable and contributory resource for SME export performance in the manufacturing sector of Pakistan. Moreover, the present study has found a positive and direct relationship between TQM and SME export performance in furniture industry of Pakistan and is consistent with the past studies (Imran et al., 2018), furthermore, the current study has revealed the mediating role of TQM between EO and SME export performance. These results are consistent with Al-Dhaafri et al. (2016); Sahoo and Yadav (2017), further, they argued that TQM practices are focused on efficient process management aspects of the organization, which leads to higher firm performance. Therefore, the current study results have revealed that TQM is a contributory variable in SME exports setting of Pakistan.

This study contributes to literature and helping the companies that understand how the process of EO currently produces better export performance through total quality management. The current study results allow companies that adjust their efforts to align EO and TQM with export performance outcomes. However, the findings of the current study have suggested to Government of Pakistan and policymakers

should consider resources and capabilities such as both EO and TQM, which are very useful for the success of SMEs in the international market. Moreover, based on the findings of this study it has been empirically established that TQM plays the main role between EO and SME export performance in the context of Pakistan. Therefore, SME owners/managers need to acknowledge the importance of TQM in enhancing firm export performance. However, it is also important to give full concentration on EO, which would be beneficial for TQM implementation, and in turn, TQM will better perform in the manufacturing SMEs, which will lead to higher SME export performance.

Future recommendations: current study's framework could be examined in different country context and different industries such as services industry, to generalize the results. Secondly, this is a cross-sectional study, and we should validate this study in longitudinal methodology. Finally, other mediators can also be investigated between EO-SME export performance relationships.

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