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Entrepreneurial Orientation and Firm's Export Performance: Evidence from Surgical Industry

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Abstract: *The surgical industry of Pakistan is observing a decline in export performance. This alarming situation is advising the in-depth investigation of factors related to surgical firm exports. The study is going to investigate the potential factors of firm export performance (FEP) in the surgical industry of Pakistan. This study has used the questionnaire to collect two hundred and four (204) responses from the manufacturing firms of surgical industry through pick and drop method. The reliability and validity of constructs of export market orientation (EMO), entrepreneurial orientation (EO), business network (BN) and FEP were examined through SPSS-25 and SmartPLS-3.2.8 statistical software. The results of the study reveal positive and significant relationship between EO, BN, EMO and FEP. Additionally, the results of the study found the mediating role of EMO between EO, BN and FEP. However, the present study offers the better understanding of EO, BN and EMO for entrepreneur, academics, and practitioners. Thus, the owner/managers of the surgical industry should implement the EO, EMO and BN strategies effectively for higher firm export performance. Future studies could validate the current study research framework in other developing surgical industry to broaden the study scope.*

Keywords: Entrepreneurial orientation; business network; export market orientation; export performance; surgical industry.

Introduction

Surgical industry is the leading industry of Pakistan. The total capital of the industry is around Rs 20 billion. The surgical industry consists of 2300 companies including large, medium and small firms and providing 400000 employments directly and indirectly (PITAD, 2018). Moreover, the industry manufacturing firms are exporting their products around 95% globally. The total export volume of the industry is considered around US$

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350 million in recent years. However, the export performance of the industry is observed to be in declining trend which decrease from US$ 369 million to US$ 358 million (CT, 2017). Besides, this situation is alarming for the industry growth and country economic development. However, in this respect some of researchers rectify some constraints for the low export performance of the surgical industry such as low innovation in products, marketing constraints and international business networking deficiencies (SCCI, 2018).

As we know, exporting activity is considered important for the development of countries' economy (Imran, Aziz, & Hamid, 2017a). The export activity maximizes the country's foreign exchange and revenue reserves. There are numerous studies which investigated the influential contributory factors of firm's export performance such as such as entrepreneurial orientation (Amin, Thurasamy, Aldakhil, & Kaswuri, 2016; Boso, Cadogan, & Story, 2012); business network (Ajayi, 2016; Shneor et al., 2016) and export market orientation (Cadogan, Boso, Story, & Adeola, 2016; Singh & Mahmood, 2013). In other words, in-depth investigation of these factors can help to overcome the low innovation, marketing constraints and international business network deficiency issues.

However, entrepreneurial orientation (EO) is a managerial capability which embark the firm on innovation, pro-activeness and risk-taking initiatives to sustain the competitive advantage, which leads to higher export performance (Imran, Aziz, & Hamid, 2017b). Likewise, EO behaviours for manufacturing firms are real important to help the execution of export market orientation for improving and sustaining the competitive advantage. In addition, Firm are largely dependent on business network for access to international markets (Musteen, Datta, & Butts, 2014). Along with EO and BN, the export market orientation (EMO) identify the needs and wants of international customer's, according to their desires and try to fulfill their requirement through products which leads to higher export performance (Cadogan et al., 2016). Hence, after reviewing the relevant literature, it is plausible to say that EO, EMO and BN are important variables for firm export performance.

Moreover, the past studies reported the significant relationship between EO and Firm's export performance (Feder et al., 2015; Imran, Aziz, & Hamid, 2017c) and some of studies found no relationship between EO and Firm' export performance. Besides, some of studies found the significant relationship between BN and SNEs' export performance (Faroque, Morrish, & Ferdous, 2017) and contrary to that some of studies found insignificant relationship as well. Moreover, the relationship between EO, BN and firm export performance is not clear yet. However, some of studies suggested the introduction of third variable to clarify and validate the relationship between EO, BN and Firm' export performance. Another point is that RBV posits that resources such as entrepreneurial orientation and business networks are the firm intangible resources, which can provide the sustainable competitive advantage to the firms (Weerawardena & Coote, 2001). However, the recent literature criticized that RBV is static in nature. Therefore, recent studies suggested that researcher should introduce the dynamic capability which deploy, reconfigure and develop the static resources according to dynamic business environment (Teece, 2007). As per past studies reported that firms which participated in international markets facing dynamic business environment. However, past studies reported the market orientation as a dynamic capability, which can convert the static resources of firm into dynamic

nature according to dynamic business environment, which is the demand of international markets. Therefore, the current study proposes the mediating role of EMO between EO, BN and Firm's export performance to expand the relationship. Moreover, there are limited studies, which investigated the mediating role of EMO between EO, BN and firm export performance, specifically in the context of Pakistan.

In addition, the limited studies have been investigated the combine effect of entrepreneurial orientation, business network, export market orientation and Firm' export performance, especially in the context of Pakistan (Chen, Sousa, & He, 2016). Besides, the resource base view theory suggested that the bundle of resources lead to sustainable advantage which leads to higher export performance (İpek, 2018). Thus, the current study has investigated the influence of entrepreneurial orientation, business network on Firm' export performance with mediating role of export market orientation in the context of Pakistan where the low Firm' export performance is observed.

Entrepreneurial Orientation and Firm's Export Performance

Entrepreneurial orientation (EO) is the crucial capability for any firm, which can bring new opportunities in international markets (Kuivalainen, Sundqvist, & Servais, 2007; Fatima & Bilal, 2019; Usman & Ahmed, 2018). EO can consider the intangible resource of the firm, in which firm can invest and bring entrepreneurial culture. Zhang, Tansuhaj, and McCullough (2009) introduced the EO concept into international markets and stated that EO enables the firms to increase their capabilities and opportunities in international markets. Another study, De Clercq and Zhou (2014) stated that EO is a process to capture the product and market introduction, market risk and seek new opportunities for success of Firm's export performance. However, EO consisted on three interrelated dimensions such as innovation, risk taking and pro-activeness (Miller, 1983). The first dimension namely innovation that refers firm ability to introduce the new products and services to meet the customers futures needs. The second dimension is about firm capability to invest in a project from unknown outcome (Wiklund & Shepherd, 2005). The last dimensions of EO refers to firm behavior to introduce the products and services ahead of competitors and act as future oriented (Altinay, Madanoglu, De Vita, Arasli, & Ekinci, 2016).

The main concern of the current study is to investigate the influence of EO on Firm' export performance. The current study is expecting that higher level of EO will enhance the Firm' export performance for three reasons. First, export-oriented firms can adopt the innovative ideas to produce the products and services ahead of competitors, which leads to higher export performance (Zahra & Garvis, 2000). Second, risk taking firms can take the first mover advantage in international markets, which enables firm to charge high product or service price, control of distribution channels, employ the bargaining power due to how-know and explore the niche markets as well (Karami & Tang, 2019). The first mover advantage giving the competitive advantage which lead to higher Firm's export performance. Third, proactive export-oriented Firm responding to dynamic business environment conditions (Acosta, Crespo, & Agudo, 2018). However, several studies confirmed the above discussed augments empirically (Abiodun & Rosli, 2014; Fernández-Mesa &

Alegre, 2015). Therefore, on the basis of above discussion, the current study proposed the following hypothesis.

H_1: There is a positive relationship between EO and Firm's export performance.

Business Network and Firm's Export Performance

Another important factor of Firm's export performance is reported by many researcher which is business network (Imran et al., 2017a). The business network is exchanging resources such as the market information, technology, knowledge, human and financial capital between partners. According to Brass, Galaskiewicz, Greve, and Tsai (2004), business network intervene the connections among organizations and cooperation between individuals and firms. On the other hand, the survival of firms in foreign markets is totally relaying on organizations cooperation such as business network. Furthermore, past studies presented that business network highly beneficial for Firm' export performance (Ajayi, 2016; Jin & Jung, 2016).

Thus, the current study believed that BN will enhance the Firm's export performance, especially in the context of Pakistan, whereas Firm's export performance will decline. Therefore, the current study proposed the following hypothesis:

H_2: There is a positive relationship between BN and Firm's export performance.

Mediating Role of Export Market Orientation

Export market orientation is considered as dynamic ability to understand the market changes regarding customer needs and wants, this ability providing source of market competitive advantage which attain to superior Firm' export performance. The export market orientation focused on three behaviors such as export market information generation, export market information dissemination and export market responsiveness (Acosta et al., 2018; Cadogan et al., 2016). There are many studies which have found positive links between export market orientation and Firm's export performance, they establish a main contributing resource in Firm's export performance (Chang & Fang, 2015; Chung, 2012).

In addition, most of published studies have been reported the positive relationship between EO, BN and Firm' export performance (Jin & Cho, 2018). Further, some of studies reported the positive link between EO, BN and EMO (Frishammar & Andersson, 2009; Mac & Evangelista, 2016). However, according to past studies EMO is explaining the relationship between EO, BN and firm' export performance, in other words, EMO carrying the influential link of EO, BN towards Firm's export performance. As per famous researcher Baron and Kenny (1986) stated that mediating variable is playing the intervening role between dependent and the independent variables, such as EMO in this present study. Besides, Homburg, Krohmer, and Workman Jr (2004) investigated the mediating role of market orientation between organizational strategy and organizational performance. The study found the strong mediating role of EMO between organizational

strategy and firm performance, this study also warrants the third variable role of EMO between two variables.

One more aspect is that some of past studies found no relationship between EO, BN and Firm's export performance. Thus, according to past studies, there is a missing link between EO, BN and firm export performance, in this scenario, EMO can play the mediating role between EO, BN and Firm's export performance to clarify the insignificant relationship between two variables (Aljanabi, Noor, & Azila, 2015; Siddique, Saleem, & Abbas, 2016). Another justification is that some of researcher found the strong relationship between EO & EMO; BN & EMO and some of found significant relationship between EMO & Firm export performance, this link also guaranties the mediating link of EMO between EO, BN and Firm export performance (Helfert, Ritter, & Walter, 2002; Racela & Thoumrungroje, 2014; Sung, Choi, Kim, & Lee, 2014). Based on the above discussion, the current study is taking EMO as a mediating variable between EO, BN and Firm's export performance. Therefore, the current study proposes the following hypothesis:

H_3: There is a positive relationship between EMO and Firm's export performance.

H_4: EMO mediates the relationship between EO and Firm's export performance.

H_5: EMO mediates the relationship between BN and Firm's export performance.

Theoretical Framework

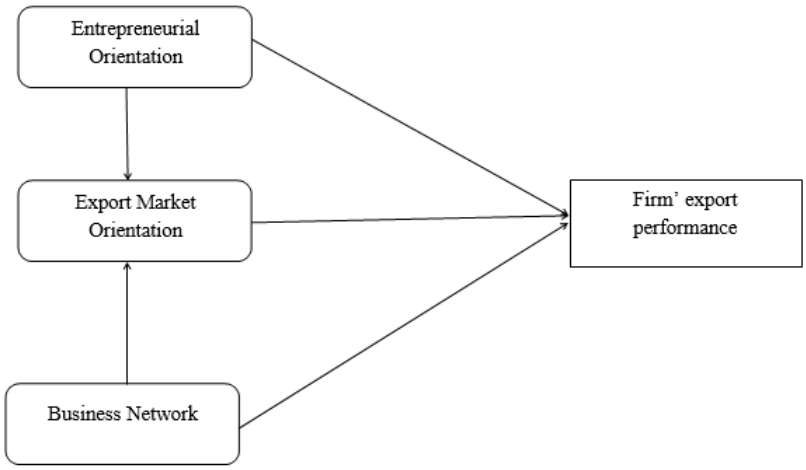
Theoretical framework formed based on past literature and current study framework theoretically underpinned by resource base view (RBV) theory. Resources based view theory has been considered as one of the substantial theory of strategic management. According to Wernerfelt (1984), the success of an organization is primarily determined by internal resources (assets and capabilities). These are assets-resources, capabilities-resources, processes-resources, management's attributes, information-resources and knowledge-resources that are controlled by the firm. Resources that are rare, valuable, inimitable and non-substitutable (VRIN) are the primary contributors to sustainable competitive advantage and are viewed as intangible strategic resources. Because of these resources, the firm can produce competitive products and services which can create competitive advantage (Barney, 1991).

However, EO is the intangible resource which give strengths and opportunities to firms (Campos, la Parra, & Parellada, 2012). In respect of BN, the past studies stated that BN is a valuable resource and purposefully invested to gain the sustainable advantage. The EMO is considering the dynamic capability which re-configures the resources according to the market environment (Zou, Fang, & Zhao, 2003). Though, according to past literature that there are very limited studies to investigate the combined influence of EO, BN with mediating role of EMO on Firm' export performance in past literature, hence this study has addressed this research gap under the RBV.

The present study framework consists of three exogenous variables such as entreprene-

urial orientation (EO) and business network (BN); one mediating variable such as export market orientation (EMO) and endogenous variable, which Firm' export performance. There are 5 hypotheses proposed in this current study, their link along with all variables can be seen in Figure 1.

Figure 1
Theoretical Framework



Methods

The survey identified 2300 surgical instrument manufacturing firms and found 90% firms situated in district Sialkot. The manufacturing companies of surgical instruments have been taken for study target population. The surgical companies have produced the Scissors, Forceps, retractors & holding instruments, wound closure, tongue depressors, mouth gags, surgical gloves and syringes (TDAP, 2018). By referring the Krejcie and Morgan (1970) table, study selected two hundred forty two (242) surgical instruments manufacturing exporting firms for the study sample size. Basically, this is a behavioral study; the structured questionnaire was taken to collect the responses. Moreover, the questionnaires have been distributed randomly among the respondents. For the random selection of respondent has made through Microsoft office rand formula. Moreover, firm level is considered for unit of analysis and responses were taken from the company export managers (Calantone, Tamer Cavusgil, Schmidt, & Shin, 2004).

Questionnaire

The study questionnaire was adapted from the past studies; such as entrepreneurial orientation scale was taken from the study of Boso et al. (2012); business network and export market orientation questionnaire was taken from the study of Cadogan, Paul, Salminen,

Puumalainen, and Sundqvist (2001). The export performance scale was taken from the study of Zou et al. (2003). However, a total of three hundred sixty-four (364) questionnaires were dropped to target manufacturing exporting firms and only 242 firms were responded to the survey with a response rate of 66%.

Statistical Analysis

The second-generation statistical software, the SmartPLS 3 was used to assess the partial least structural equation modeling (PLS-SEM). The PLS-SEM examined in two step approach, which is the measurement model and structural model. The measurement model validated the constructs reliability and validity and structural model evaluated the relationship between constructs. On the basis of path modeling, the study can accept or reject the proposed hypothesis.

Findings

Measurement Model

Nevertheless, in respect of measurement model analyses, the constructs internal consistency to use the Cronbach alpha, rho and composite reliability criteria, these all three criteria have 0.70 threshold values (Nunnally & Bernstein, 1978). Thus, the internal consistency of the constructs found above 0.70. The convergent validity has been validated to use the average variance extract (AVE) and item loadings of the items. However, the present study found the all values of AVE within threshold values, those are more than 0.50 and also found the all item loading more than accepted range, these are more than 0.70 (Hair Jr, Hult, Ringle, & Sarstedt, 2016). However, all five constructs values observed more than threshold values such as EO (α=0.952, Rho_A=0.955, CR=0.960 and AVE=0.74); BN (α=0.973, Rho_A=0.974, CR=0.977 and AVE=0.80); EMO (α=0.965, Rho_A=0.96, CR=0.969 and AVE=0.72) and EP (α=0.960, Rho_A=0.962, CR=0.967 and AVE=0.80). Moreover, results of internal consistency and convergence validity can be seen in Table 1.

Table 1
Internal consistency and convergent validity

Constructs	Cronbach's Alpha	rho_A	CR	AVE
EO	0.952	0.955	0.960	0.749
BN	0.973	0.974	0.977	0.807
EMO	0.965	0.969	0.969	0.721
FirmEP	0.960	0.962	0.967	0.806

Discriminant Validity

The discriminant validity is used to evaluate the model external consistency. There are many criteria to examine the discriminant validity of the constructs, however the current

study employed the three most used criteria such as Fornell & Larcker, cross loading and Heterotrait-Monotrait ratio of correlations (HTMT).

According to Fornell and Larcker (1981), the value of the latent variables was compared with the square root of AVE's. According to Table 2, the values of correlations among the all constructs are lower than square root-average of AVES as can see the bolded in crosswise.

Table 2
Fornell and Larcker criterion

Constructs	BN	EMO	EO	Firm EP
BN	0.898			
EMO	0.767	0.849		
EO	0.752	0.863	0.865	
FirmEP	0.574	0.624	0.571	0.898

Henseler, Ringle, and Sarstedt (2015) introduced the new criteria for discriminant validity evaluation, which is Heterotrait-Monotrait ratio of correlations (HTMT). Furthermore, they stated that HTMT is better than Fornell & Larcker criteria and cross loading, because this method can deduct the mistake which happen in Fornell & Larcker and cross loading method (Hair Jr et al., 2016). According to HTMT criteria, all values should be less than 1, hence the current study found the all values less than 1. The results of HTMT values can be seen in Table 3.

Table 3
HTMT ratio of correlations

Constructs	BN	EMO	EO	Firm EP
BN				
EMO	0.784			
EO	0.772	0.882		
Firm EP	0.590	0.640	0.588	

Structural Model

The second step in PLS-SEM to evaluate the structural model, in this step the study finds the decision regarding hypothesis acceptance and rejection. The present study runs bootstrapping at 5000 sub-sample for 242 responses to assess the path coefficient. The decision made based on t-vale and significance level, hence the values should not less than 1.96 at 0.05 significance level. Hence, the current study was analyzed four (03) direct relationships and revealed the support for all three-proposed hypothesis, hence, H_1, H_2 and H_3 are accepted. The results presented in Table 4.

Table 4
Hypothesis evaluation (Direct relationship)

Relationship	Beta	SD	T Statistics	P Values
H1: EO ->Firm EP	0.321	0.103	3.128	0.002
H2: BN ->Firm EP	0.333	0.103	3.245	0.001
H3: EMO ->Firm EP	0.412	0.124	3.336	0.001

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

Furthermore, the present study conducted the mediation analysis. Thus, the current study found the mediating role of EMO between EO, BN and Firm' export performance. Hence, the hypothesis H5 and H6 are accepted. Furthermore, the current study used the Zhao, Lynch Jr, and Chen (2010) criteria for mediation type and thus the study found the EMO full mediation role between EO and Firm' export performance according. Moreover, the present study observed the EMO partial mediating role between BN and Firm' export performance. The mediation result can be seen Table 5.

Table 5
Hypothesis evaluation (Mediation effect)

Relationship	Beta	SD	T Statistics	P Values	25.00%	75.00%
BN ->EMO ->FirmEp	0.112	0.041	2.708	0.007	0.083	0.136
EO ->EMO ->FirmEp	0.272	0.091	3.006	0.003	0.213	0.334

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

Likewise, the coefficient of determination (R^2) is a major part of a structural model assessment. The contribution of all independent variables in dependent variable is called R^2. The values of R^2 consider as 0.25 (weak), 0.50 (moderate), and 0.70 (strong) respectively (Hair Jr et al., 2016). In the present study revealed the EO, BN and EMO explained 41% of Firm' export performance, it's called moderate contribution. Furthermore, the EO and BN contributed into EMO around 77%, which is considered strong contribution. The results can be in the Table 6.

The individual contribution of each independent variable into dependent variable R^2, is called effect size (f^2). The values of f^2 counted as small (0.02), medium (0.15) and large (0.35) respectively (Cohen, West, & Aiken, 2014). This study revealed the effect size of EO-EP (0.001) less than small, BN-EP (0.032) small and EMO-EP (0.065) small, respectively. The effect size values can be seen in Table 6.

The other criteria are cross-validated redundancy (Q^2), which used to check the model effectiveness. The values Q^2 should be larger than zero of an endogenous construct indicates the path model's predictive relevance (Hair Jr et al., 2016). Thus, present study found the Q^2 value more than zero and model is validated. The result can be seen in Table 6 as well.

Table 6
The results of f^2, R^2 and Q^2

Exogenous Variable	f 2		R2		Q2	
	EMO	EP	EMO	EP	EMO	EP
Entrepreneurial Orientation	0.850	0.001	0.777	0.413	0.514	0.305
Business network	0.143	0.032				
Export Market Orientation		0.065				

Importance Performance Matrix Analysis (IPMA)

The current study employed one latest criterion, which is importance-performance matrix analysis (IPMA). According to Hair Jr et al. (2016), the IPMA assessment is helpful for researchers who employ PLS-SEM to extend their findings (Hair et al., 2014). Further, they reported that "latent variable scores are used to range from 0 to 100, whereby 0 indicates the lowest performance, 100 represents the highest performance and 50 refers to the average performance". To calculate the importance and performance values of independent variables, the current study chose the IPMA algorithm of software SmartPLS 3 (Ringle, Wende, & Becker, 2015) and results reported in Table 10. Nevertheless, the performance values of entrepreneurial orientation (65.879), Business network (67.629) and export market orientation (67.879) found, respectively, thus all constructs in the study having the average performance values. The results can be seen in Table 7. Furthermore, according to importance-performance map graph that all three factors lying in high importance and high-performance quadrant, which mean owners/managers of Firms should keep continue the good work with these three variables.

Figure 2
Importance-Performance Map

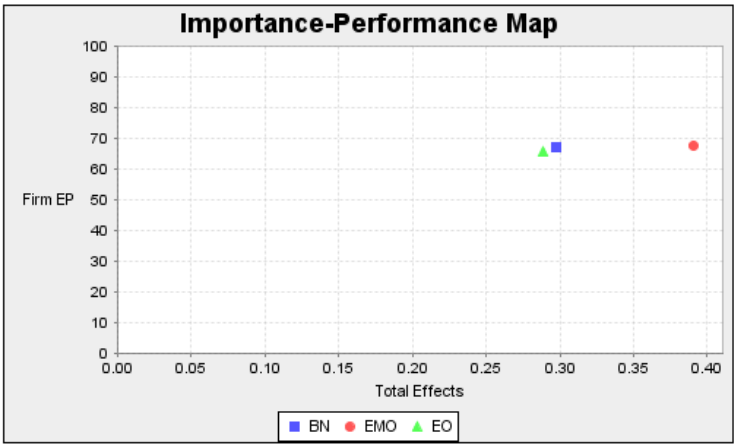


Table 7
The results of f^2, R^2 and Q^2

	Importance (total effect)	Performance
Entrepreneurial Orientation (EO)	0.289	65.879
Business Network (BN)	0.297	67.629
Export Market Orientation (EMO)	0.391	67.879

Goodness of Fit

The present study conducted the model goodness of fit test. The normative fit index (NFI) value recorded 0.92 which is above the standard values of 0.90 suggested by Bagozzi and Yi (1988). Moreover, the values of standardized root mean square residual (SRMR) and root mean square error of approximation (RMSEA) of 0.071 and RMSEA of 0.054 are also well below the cut-off limit of 0.080 proposed by Hu and Bentler (1998). The values of goodness of fit can be seen in Table 8.

Table 8
Goodness of Fit

Goodness of fit statistics	Saturated Model	Estimated Model	Recommended Values
SRMR	0.071	0.070	<0.10
NFI	0.920	0.774	>0.50
rms Theta	0.054		<0.12

Discussion

The current study variables have developed for decades of years, but still there are no regular and exact definitions of these variables, even many of researchers has been working on the influence of entrepreneurial orientation (EO), business network (BN) and export market orientation (EMO) on firm performance, however, many areas are still needed to be explored, such as firm export performance, especially in the context of Pakistan.

The current study investigated the relationship between EO, BN and Firm's export performance with mediating role of EMO in manufacturing sector of Pakistan. The findings of the study shown the positive significant relationship between EO (β=0.321, t=3.128) and Firm's export performance, BN (β=0.333, t=3.245) and Firm's export performance, EMO (β=0.412, t=3.336), hence, the study accept the hypothesis 1, 2 and 3. These findings presented that EO, BN and EMO have contributory role in Firm's export performance, in other words, higher level of EO, BN and EMO will lead to higher Firm's export performance. Furthermore, these positive significant results between EO, BN, EMO and Firm's export performance consistent with previous studies (Alotaibi & Zhang, 2017; Imran, Hamid, & Aziz, 2018). Likewise, the current study found the mediating role of EMO between EO, BN and Firm's export performance, hence the study accepted the hypothesis 4 and 5.

Conclusion

The current study found EO, BN and EMO as critical factors for Firm' export performance, thus, owners/managers of Firm should implement the EO and BN strategies to introduce the new the products and services with high quality standards according to the markets demands. Thus, owners/managers of Firm should focus on entrepreneurial oriented behavior, which can increase the innovativeness, open change, new ways to take competitive advantage. Moreover, owners/managers of Firms should update their knowledge regarding international markets change, new opportunities and risk to align the firm resources for better Firm' export performance. Additionally, Firms should reconsider the EO, BN and EMO strategies factors during decision making for better Firm' export performance, especially in the context of Pakistan.

Moreover, Darnall, Henriques, and Sadorsky (2008) reported that business environment influencing the business strategies (i.e. EO, BN and EMO) differently in different study context. Therefore, the future study should consider the business environment to validate the relationship between EO, BN, EMO and Firm' export performance. According to Ioannidis (2005), small sample size decreases the statistical power, which can influence the study results. Therefore, future study should validate the current study framework on larger sample size such as more than 300 respondents.

Furthermore, the present study has investigated the contributing factors in export performance of surgical industry in Pakistan. However, the finding of the study supported that contributing factors such as EO, BN, and EMO are positively related with export performance of the surgical industry in Pakistan. The future studies can investigate the unexplored other influential factors such as government support, export barriers and trade quota. However, the future studies can answer of the following research questions. Is government support increased the export performance of surgical industry in Pakistan? Are export barriers affecting export performance of surgical industry? Is trade quota enhanced the export volume of surgical industry of Pakistan?

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