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Environmental Turbulence, Government Support, and Organisational Performance: A Study of SMEs

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Abstract

The main purpose of the study is to validate the dimensions of environmental turbulence, government support, and organisational performance of 180 SMEs functioning in the UT of J&K. Owners/managers/partners/departmental heads of 180 SMEs were contacted for data collection through questionnaire. Exploratory factor analysis and confirmatory factor analysis were used for data reduction and confirming the factors emerged. Hypothesised relationships were checked through structural equation modelling. The results established volatility, uncertainty, complexity, and ambiguity (VUCA) as dimensions of environmental turbulence. Further, the impact of environmental turbulence and the role of government support significantly moderates organisational performance.

Keywords: Environmental Turbulence, VUCA, Organisational Performance

Introduction

Environment turbulence has been acknowledged as the most significant trait of businesses, and thus, it is imperative for organisations to continuously scan their external business environment with respect to changes in market, technology, and product (Guo & Wang, 2014; Bennett & Lemoine, 2014) for gaining competitive edge and long-term sustainability. It is the amount of uncertainty, which requires not only resources but its management to reverse any negative consequences affecting the performance of an organisation (Bekerom, Torenvlied & Akkerman, 2016). Environment turbulence comprises market turbulence, technological turbulence, and competitive intensity. Market turbulence is the speed of change in the preference of customers for products, unpredictable change in technology, and competitive intensity affecting the level of competition in the industry (Turulja & Bajgoric, 2018). However, Ungureanu, Bertolotti and Macri (2018) and Bennett and Lemoine (2014) described volatility, uncertainty, complexity, and ambiguity, i.e. VUCA, as the four major dimensions of turbulent environment that influence the firm's performance. Firm's performance is a multi-dimensional construct that holds an essential position in both public as well as private companies. Almatrooshi, Singh and Farouk (2016) defined it 'as the performance of an organisation in comparison to its objectives and goals'. It can be defined as the performance of a firm with regard to its competitors in the industry, product or service quality, employees' satisfaction and retention, customer satisfaction, and market performance (Sheehan, De Cieri, Cooper & Brooks, 2016). However, it is often restricted to financial indicators such as return on investment (ROI), return on asset (ROA), return on equity (ROE), sales, profit, and so on. Ho, Ahmad and Ramayah (2016) recommended that both financial as well as non-financial performance indicators should be taken into account for effective measurement of firm performance.

Small and Medium Enterprises (SMEs) are acknowledged as the backbone of the economy across nations around the world for their contribution towards the economic growth and development. Their growth mainly depends on government support and developmental policies, as it enhances the potential of SMEs to grow, and also provides support in overcoming crisis (Ibrahim, Keat & Abdul-Rani, 2017). Xiang and Worthington (2017) stated that financial support in the form of grants, subsidies, and tax benefits from the government helps SMEs in

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improving their performance. In fact, the critical role that SMEs are playing in a developing economy can be realised only if the government frame supportive policies that provide them easy access to capital, advance technology, training and skill development programmes, and so on (Ntiamoah, Li & Kwamega, 2016). However, the literature on moderating role of government support in the relationship between turbulent environment and organisational performance has not been found in the context of Indian SMEs. Thus, the present paper would be focusing on the moderating role of government support in the said relationship.

Review of Literature

The vibrant and dynamic challenges present in the business environment are threatening the competitiveness and sustainability of organisations (Turulja & Bajgoric, 2018). Bennett and Lemoine (2014) designed VUCA framework for explaining this type of turbulent business environment. However, the extant literature is not only limited, but sparsely touches different dimensions of environmental turbulence in a particular country's context. For instance, Chiang et al. (2018) in their study examined the role of volatile business conditions on the performance of employees in the USA; Wilden and Gudergan (2015) measured environmental turbulence by means of change in market, technology, and competitive index in Australia; and few others have regarded uncertainty as a measure of environmental turbulence in Palestine, Brazil and China, and the USA, respectively (Ramadan & Ahmad, 2018; Brito et al., 2017; and Parnell et al., 2015). Further, a significant moderating effect of environmental turbulence on EO (entrepreneurial orientation) and organisational performance was found by Pratono and Mahmood (2015). Moreover, government schemes, policies, and financial support in various forms, like tax benefits, direct and indirect subsidies, grants, and so on also affect performance of SMEs (Xiang & Worthington, 2017; Eniola & Entebang, 2015). Mukherji and Mukherji (2017) examined the role of environmental uncertainty on financial performance and found that environmental uncertainty, strategic business activities, and strategic orientation are the key drivers of a firm's performance. Based on the above mentioned literature, it has been observed that there is a dearth of literature highlighting the relationship between environmental turbulence, government support, and organisational performance. During the last few decades, the SME sector has emerged as one of the most growth-oriented sectors, and has contributed much towards the economy of India (MSME Report, 2019). In spite of this, the sector is facing hardships due to lack of resources and uncertainty in the business environment. Further, the existing literature has hardly touched the VUCA aspect of environmental turbulence, and that too in developed countries like the USA, Australia, China, and so on. Limited studies have been taken up in developing countries like India, Zimbabwe, Nigeria, Kenya, Iran, and so on. Thus, the present study is an endeavour to study the VUCA aspect of environmental turbulence and the role of government support in environmental turbulence and performance relationship in SMEs operating in the UT of J&K.

Theoretical Framework and Hypotheses Development

On the basis of reviewed literature, Fig. 1 shows a framework indicating the moderating effect of government support on environmental turbulence–organisational performance relationship.

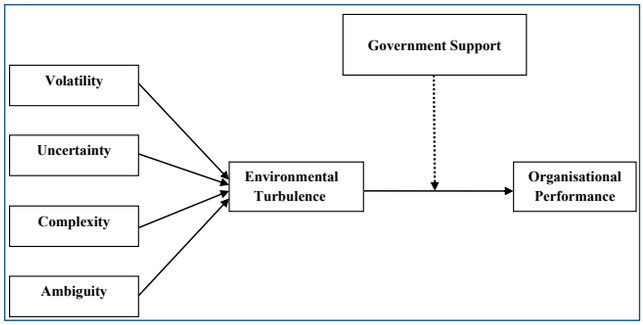

Fig. 1: Proposed Model of the Study

Hypotheses Development

Frequent changes in technology, globalisation, varying demands of customers, policies of government, increased competition, and so on, have created a turbulence in the business environment (Turulja & Bajgoric, 2018). Environmental turbulence is the extent of unpredictable and volatile change in the business environment, and several studies on environmental turbulence have attempted to recognise its various aspects. For instance, Turulja and Bajgoric (2018), in their study on SMEs, have considered competitive index or intensity, market,

and technological turbulence as the major dimensions of a turbulent environment, which significantly influence organisational performance. Further, Hu et al. (2018) and Guo and Wang (2014) have taken into account only technology and market turbulence as measures of environmental turbulence. Moreover, Bennett and Lemoine (2014) highlighted that VUCA factors can be used to measure environmental turbulence. Additionally, Mukherji and Mukherji (2017) measured the impact of environmental uncertainty on financial performance, and revealed that strategic orientation, strategic business activities, and environmental uncertainty are the key indicators of firm's output. Based on the above literature, the present study hypothesises that

H_1: Environmental turbulence is significantly spredicted through volatility, uncertainty, complexity, and ambiguity.

Organisational performance has been acknowledged as the most important source of measuring an organisation's success. Mukherji and Mukherji (2017) have also established that organisations showing a positive attitude towards environmental change and uncertainty have enhanced their financial performance. Furthermore, SMEs having good knowledge, management capabilities, and a better understanding of the market in such turbulent conditions are reflecting better organisational performance (Ha & Lo, 2018). Chiang et al. (2018) in their study investigated the role of business volatility on employees' performance, and concluded that employees work hard in more volatile conditions, which ultimately results in improved performances. Moreover, Parnell et al. (2015) have also established a significant effect of environmental uncertainty, strategic capabilities, and competitive strategy on SMEs' output. Furthermore, increased turbulence in the market, technology, and competitive intensity will lead to more innovation in products and processes, resulting in improved organisational performance (Turulja & Bajgoric, 2018). Thus, the next hypothesis is

H_2: Environmental turbulence significantly impacts organisational performance.

SMEs are contributing to a great extent towards the economic growth and development of a country, by providing ample employment opportunities, which helps in the reduction of poverty and wealth creation (Peter et al., 2018). Despite this, the sector is still facing difficulties due to lack of financial support (Eniola & Entebang, 2015). Thus, government support and attention is required to fully extract the potential and performance of SMEs. Financial support in various forms, like grants, subsidies, and so on from the government plays a key role in easing out financial constraints faced by SMEs, resulting in better performance (Xiang & Worthington, 2017). Ntiamoah et al. (2016) and Peter et al. (2018) also established the fact that the SMEs' performance is significantly influenced by government support. On the basis of the above background, it is hypothesised that

H_3: The relationship between environmental turbulence and organisational performance is moderated by government support.

Rationale of the Study

During the last few decades, the SME sector has emerged as one of the most growth-oriented sectors, and has contributed much towards the economy of India (MSME Report, 2019). In spite of this, the sector is facing hardships due to lack of resources and uncertainty in the business environment. Further, the existing literature has hardly touched the VUCA aspect of environmental turbulence, and that too in developed countries like the USA, Australia, China, and so on. Limited studies have been taken up in developing countries like India, Zimbabwe, Nigeria, Kenya, Iran, and so on. Thus, the present study is an endeavour to study the VUCA aspect of environmental turbulence, and the role of government support in environmental turbulence and performance relationship in SMEs operating in the UT of J&K.

Research Methodology and Design

Primary and secondary data have been used in the study. The owner, partners, directors, managers, and departmental heads of SMEs operating at Digiana, Gangyal, and Bari Brahmana Industrial Estates in the UT of J&K were used to generate primary information. Secondary data were extracted from research journals related to the topic and annual reports of SMEs. A list of functional SMEs was taken from the District Industries Centre (DIC), Jammu, and simple random sampling was used in reaching the respondents from 180 SMEs using a self-administered questionnaire. Only 150 valid responses were received, representing a response rate of 83%. A questionnaire was prepared after reviewing existing literature and discussion with subject experts. It was sub-divided into

two components, where the first component contained general information about the unit, namely name, year of establishment, turnover, profile of respondent, age, status, qualification, experience, and so on. The second component included information regarding the constructs used in the study. The information was elicited through a five-point Likert scale (1<5), where 1 indicates strongly disagree and 5 indicates strongly agree. Carson et al. (2012) scale was used for measuring volatility and ambiguity, and uncertainty was measured by using a scale developed by Mukherji and Mukherji (2017) and Li and Liu (2014). Items for measuring complexity were taken from Azadegan et al. (2013) and Bozarth et al. (2009), and organisational performance was measured using financial and non-financial indicators used by Ha and Lo (2018), Ho et al. (2016), and Prieto and Revilla (2006). EFA was used to summarise the factors, and the validity of the factorial structure was checked through confirmatory factor analysis. Cronbach's alpha, construct reliability, and construct and discriminant validity were used to establish the reliability and validity of the constructs. Hypotheses were tested using structural equation modelling.

Operational profile of SMEs under study constituted 48 micro units, 84 small units, and 18 medium units. In terms of ownership, 69 are under sole proprietorship, 30 are partnership firms, and 51 are registered as private companies. Unit-wise, 32% have annual sales less than Rs. 5 crores, 56% between Rs. 5-Rs. 75 crores, and around 12 per cent above Rs. 75 crores. In terms of investment in P&M, 30% of the firms have P&M below Rs. 25 lakhs, 59% between Rs. 25 lakhs-Rs. 5 crores, and 11 per cent above Rs. 5 crores. With regard to the number of employees, around 60% of the firms have less than 50 employees, 30% have 50-100 employees, and ten per cent have more than 100 employees. Gender-wise, the percentage of male and female respondents were 96 and four, respectively. Out of them, 5% respondents had completed their 12th grade, 55% were graduates, and 40% were post-graduates. Age-wise distribution of respondents: two per cent below 25 years of age, 26% between the ages of 25 and 35 years, 44 per cent between the ages of 35 and 45 years, and 28 per cent above 45 years. Regarding experience in industry, the respondents with work experience less than ten years made up 29 per cent, 10-20 years constitute 40 per cent, 22 per cent between 20-30 years, and nine per cent had an experience of above 30 years. With respect to domicile or background of respondents, 96% were local residents of J&K, while 4% were non-locals.

Data Analysis and Interpretation

Results from EFA

EFA (SPSS 20 version) was run to summarise and reduce the data to a set of manageable factors. Volatility emerged with three factors having seven items, and explained 77.509% variance; uncertainty came with 12 statements grouped under three factors, with 66.545% variance explained; complexity comprised ten statements under three factors, with 69.185% variance explained; ambiguity consisted of eight items under three factors, with 80.194% variance explained; and organisational performance came out with two factors, with 66.770% variance explained. A description of these VUCA dimensions is as follows:

Volatility

Under this dimension, three factors emerged, namely 'Factor 1', 'Factor 2', and 'Factor 3' (Table 1a). Factor 1 includes three items with good communalities and Eigen values, namely 'Technology provides big opportunities', 'Consumer research helps in positioning', and 'Important to have latest technology'. The most important item, with 0.859 factor loading, was 'Consumer research helps in positioning'. Other items were 'Technology provides big opportunities' (0.852) and 'Important to have latest technology' (0.773). This result shows that technological changes and having the latest technology in the industry is a major source of attaining a competitive advantage over other SMEs, as this technological knowledge can be integrated in the production process, which would assist firms in outperforming their counterparts.

The second factor emerged with two items, viz. 'Change in government regulations' (0.907) and 'Technological changes impact sales and profitability' (0.896). Similarly, the third factor comprised two items; one of the contributing items was 'There has been an increase in the number of competing firms in the industry' (0.821). This result indicated that even in volatile conditions, SMEs are expanding, and it is important for them to have updated knowledge about their customers' preferences.

Table 1a: Result of Factor Analysis for Volatility

Factor-Wise Dimension	*Mean*	*S.D*	*F.L*	*VE*	*Alpha (α)*	*E.V*	*CV*
Volatility							
F1: Technological Volatility				30.034	.771	2.102	
(Vol9) Periodical consumer research would help in product positioning	4.35	.644	.859				.799
(Vol3) Technological changes provide big opportunities	4.42	.534	.852				.808
(Vol5) It is important to have the latest technologies in the product domain	4.51	.642	.773				.661
F2: Regulatory Changes				26.066.	.819	1.825	
(Vol13) Changes in government regulations are quite frequent	3.77	.669	.907				.825
(Vol15) Technological changes impact sales and profitability	4.01	.579	.896				.832
F3: Market Volatility				21.409	.544	1.499	
(Vol8) Information about customers quickly became outdated	3.37	.638	.858				.789
(Vol12) There has been an increase in the number of competing firms in the industry	4.09	.354	.821				.712

Note: *Kaiser-Meyer-Olkin* (0.519); BTS (364.896); df = 21; sig. = 0.000; extraction method – PCA; varimax with Kaiser Normalisation; rotation converged in four iterations.

Uncertainty

Uncertainty emerged with three factors containing 12 items (Table 1b). Factor 1 comprised five items with high factor loadings and communality values. The most contributing item was 'Difficulty in predicting any changes in the marketplace' (0.853), followed by 'Difficult to predict customer needs and preferences' (0.848). This shows that there is great uncertainty with respect to market and customer needs and preferences, and thus, it is important for these industries to stay updated with market condition and customers' preferences. Likewise, Factor 2 contained five items regarding the awareness and knowledge of methods of production, marketing channels, market trends, and government laws and regulations. The results depicted that the managers and owners of SMEs are very much aware of these market issues, and it helped them in adapting to uncertain conditions. Factor 3 emerged with two items, namely 'Uncertainty with respect to prices of inputs' (0.896) and 'Uncertainty regarding the availability of inputs' (0.894).

Table 1b: Result of Factor Analysis for Uncertainty

Factor-Wise Dimension	*Mean*	*Standard Deviation*	*Factor Loading*	*Variance Explained*	*Alpha (α)*	*E.V*	*CV*
Uncertainty							
F1: Market Uncertainty				28.346	.867	3.402	
(Unc12) Difficulty in predicting any changes in the marketplace	3.07	1.04	.853				.756
(Unc9) Predicting changes in customer needs and preferences are difficult	2.77	.883	.848				.841
(Unc5) Demand for innovative goods and services is difficult to predict	2.84	.990	.808				.730
(Unc4) Constraint to forecast level of industrial technology in the next two to three years	2.62	1.06	.745				.675
(Unc1) Competitor actions are difficult to predict	3.50	.564	.693				.591
F2: Uncertainty over Market Trends				20.404	.705	2.448	
(Unc13) Your knowledge of emerging marketing channels and physical distribution is inadequate	2.20	.623	.708				.693
(Unc6) Demand forecasting techniques are inadequate	3.00	.732	.707				.676
(Unc7) Change in taxation policies impacts firm performance	3.96	.432	.675				.596
(Unc14) You are unaware of new methods of promotion	1.77	.545	.670				.563
(Unc8) Uncertainty about national laws and regulations affects the business sector	4.04	.211	.597				.594
F3: Price and Input Uncertainty				17.795	.835	2.135	
(Unc11) The firm faces uncertainty with respect to prices of inputs, raw materials, and components	3.89	.743	.896				.808
(Unc10) Your organisation faces uncertainty regarding availability of inputs, raw materials, and components	3.26	.679	.894				.863

Note: *Kaiser-Meyer-Olkin* (0.654); BTS (1011.764); df = 66; sig. = 0.000; extraction method – PCA; varimax with Kaiser Normalisation; rotation converged in five iterations.

Complexity

It emerged with three factors, namely 'Factor 1', 'Factor 2', and 'Factor 3', with ten items having factor loading and communalities above 0.5 (Table 1c). Factor 1 comprised six items relating to 'Change in method of production', 'Heterogeneity in taste and preference', 'Intense competition', and 'Availability of number of products'. The results showed that as the number of SMEs is rising and the competition is getting intense, it is necessary for firms to adopt new methods of production in order to stay competitive in this complex business environment. Two items emerged under 'Factor 2', and two under 'Factor 3'. Overall, the results indicated that SMEs are facing complexities due to the increasing number of firms, competition, heterogeneous demand of customers, non-availability of raw materials within geographical limits of the UT of J&K, and so on.

Table 1c: Result of Factor Analysis for Complexity

Factor-wise Dimension	*Mean*	*Standard Deviation*	*Factor Loading*	*Variance Explained*	*Alpha (α)*	*E.V*	*CV*
Complexity							
F1: Demand for Diverse Industrial Products				32.610	.831	3.261	
(Com7) A change in the method of production is required to remain competitive	3.90	.552	.882				.809
(Com8) The taste and preferences of customers are heteroge-neous	4.06	.412	.767				.608
(Com1) Competition in our industry is intense	4.01	.448	.736				.605
(Com12) You seek short lead time in design of supply chains	3.93	.341	.719				.663
(Com2) There are many 'promotion wars' in your industry	3.91	.447	.640				.516
(Com6) There are many products available in the market	3.98	.433	.583				.561
F1: Low Entry Barriers				18.454	.757	1.845	
(Com5) Market position is frequently endangered due to low entry barriers	3.79	.651	.870				.778
(Com3) New competitors are emerging fast	3.67	.631	.849				.762
F3: Unrestricted Competitors & Suppliers				18.121	.726	1.812	
(Com9) Diversity in marketing tactics are required to remain competitive	4.42	.508	.894				.816
(Com13) Your organisation prefers on-time delivery from your suppliers	4.22	.891	.878				.800

Note: *Kaiser-Meyer-Olkin* (.635); BTS (638.413); df = 45; sig. = 0.000; extraction method – PCA; varimax with Kaiser Normalisation; rotation converged in four iterations.

Ambiguity

Ambiguity emerged with three factors comprising eight items with high factor loadings and communalities (above 0.7), as shown in Table 1d. Factor 1 comprised three items, namely 'Relationship between environmental variables is difficult to predict' (0.853), 'Clarity about decisions' (0.824), and 'Uncertainty about environmental variables affects business' (0.802). 'Factor 2' also embraced three items regarding information ambiguity and its potential effect on business. 'Factor 3' consists of two items, namely 'Difficult to find technology' (0.844) and 'Difficult to understand and implement technology' (0.920). This shows that firms are facing technological issues, which hinder their progress, and due to this they are not in a position to compete with large enterprises.

Table 1d: Result of Factor Analysis for Ambiguity

Factor-Wise Dimension	*Mean*	*Standard Deviation*	*Factor Loading*	*Variance Explained*	*Alpha (α)*	*E.V*	*CV*
Ambiguity							
F1: Environmental Unpredictability				29.636	.795	2.371	
(Amb10) The cause-effect relationships between environmental variables are difficult to predict	3.41	.625	.853				.870
(Amb12) Everything is clear about what has to be done	3.39	.653	.824				.840
(Amb9) Uncertainty about environmental variables adversely affects the business	3.87	.513	.802				.804
F2: Lack of Clarity				26.192	.705	2.095	
(Amb4) The information you had often meant different things to different people	3.23	.715	.942				.897
(Amb3) You often face disagreements about what you should do	2.44	1.05	.744				.676
(Amb11) Existence of uncertainty in courses of action and its effects on business	2.72	.913	.525				.591
F3: Technological Ambiguity				24.366	.776	1.949	
(Amb6) It was difficult to understand and implement technologies in business	2.64	.921	.920				.913
(Amb5) It is difficult to locate technologies that could be used in the industry	2.23	1.21	.844				.825

Note: *Kaiser-Meyer-Olkin* (0.519); BTS (758.609); df = 28; sig. = 0.000; extraction method – PCA; varimax with Kaiser Normalisation; rotation converged in five iterations.

Organisational Performance

Organisational performance emerged with nine items clubbed into two factors (Table 2). Factor 1 consist of six items, namely 'Improved market share' (0.900), 'Sales growth' (0.872), 'Profitable for past few years' (0.854), 'Enhanced return on assets' (0.837), 'Improved production cost' (0.754), and 'Improved work productivity' (0.637). The results showed that despite various challenges, SMEs are doing good business and are able to increase their market share, productivity, and profits. Factor 2 comprised three items related to non-financial measures of business performance, like 'Higher level of customer satisfaction', 'Better organisational reputation', and 'Better quality of products'. This shows that, along with earning profits, SMEs are offering better quality products to their customers, thereby satisfying their needs, which ultimately enhance their reputation in the market.

Table 2: Result of Factor Analysis for Organisational Performance

Factor-Wise Dimension	*Mean*	*Standard Deviation*	*Factor Loading*	*Variance Explained*	*Alpha (α)*	*E.V*	*CV*
Organisational Performance							
F1: Financial Performance				49.820	.896	4.392	
(OP20) Market share of your organisation has improved.	3.96	.589	.900				.881
(OP14) Your organisation has registered sales growth in the past few years.	4.05	.616	.872				.759
(OP15) Your business has become profitable the past few years.	3.93	.682	.854				.704
(OP13) The return on assets of your organisation has enhanced the past few years.	4.08	.484	.837				.678
(OP17) Production cost has decreased over the last few years.	3.98	.536	.754				.592
(OP16) Work productivity has improved over the past few years.	4.04	.415	.637				.507
F2: Non Financial Performance				16.950	.651	1.940	
(OP1) Your customers are highly satisfied compared to your competitors'.	4.44	.511	.893				.765
OP12) Your organisational reputation is superior to your competitors'.	4.52	.609	.684				.819
(OP11) Quality-wise your organisational product and services are superior to your competitors'.	4.26	.483	.617				.504

Note: *Kaiser-Meyer-Olkin* (0.741); BTS (900.295); df = 36; sig. = 0.000; extraction method – PCA; varimax with Kaiser Normalisation; rotation converged in four iterations.

Government Support

Government support emerged with three factors including 12 items having factor loadings and communalities, but lower mean values, as shown in Table 3. Factor 1 comprises six items, namely 'Assistance in installing machineries', 'Educational and training programmes', 'Product designing', 'Exemption and subsidies', 'Process improvement', and 'Financial advice'. The mean results showed that there is lack of government assistance to SMEs. Likewise, Factor 2 and Factor 3 both emerged with three items related to assistance in procuring raw materials, export of goods, R&D and technology transfer, and purchase of machinery and other equipments. Overall, the findings highlighted that SMEs are not getting sufficient monetary and non-monetary support from the government.

Table 3: Result of Factor Analysis for Government Support

Factor-Wise Dimension	*Mean*	*Standard Deviation*	*Factor Loading*	*Variance Explained*	*Alpha (α)*	*E.V*	*CV*
Government Support							
F1: Financial & Training Support				40.721	.941	4.887	
(GS11) Assistance is provided in installing and operationalising machineries	2.16	.838	.915				.913
(GS18) Govt. provides education and training for improving employees' competencies	2.09	.453	.913				.870
(GS12) Assistance is provided in product designing and production processes	2.19	.808	.898				.891
(GS4) Sufficient exemption and subsidies are provided in industrial policy	2.70	.783	.862				.745
(GS19) Assistance is provided in process improvement and cost reduction	2.18	.523	.837				.812
(GS8) Govt. offers financial advice and assistance regularly	2.13	.688	.794				.707
F2: Advisory Support				22.119	.791	2.654	
(GS20) Govt. provides assistance in procuring high quality materials	2.38	.747	.877				.848
(GS16) Govt. offers support in export of products and services	2.85	.992	.746				.641
(GS17) Govt. offers support for participating in national and international trade fairs	3.19	.669	.720				.717
F3: Technical Support				17.459	.761	2.095	
(GS2) Helps in purchasing and modernising machineries	3.08	.901	.833				.830
(GS6) Govt. provides subsidies on purchase of material and other equipments	2.82	.934	.789				.825
(GS9) Industrial policy facilitates R&D and technology transfer	2.76	1.07	.703				.837

Note: *Kaiser-Meyer-Olkin* (0.840); BTS (1626.130); df = 66; sig. = 0.000; extraction method – PCA; varimax with Kaiser Normalisation; rotation converged in six iterations.

After factor EFA, CFA (confirmatory factor analysis) was used to validate the emerged factor structure and model fitness. Measurement models were made for all the constructs and they proved to be a good fit, as depicted by the values shown in Table 4. Further, AVE, composite reliability, and discriminant validity were used to ascertain reliability and validity of constructs (Tables 5 and 6).

Table 4: Measurement Models and Fit Indices

Dimension/Construct	*χ^2/df*	*GFI*	*AGFI*	*RMR*	*RMSEA*	*TLI*	*NFI*	*CFI*
Volatility	3.373	.946	.833	.029	.078	.858	.919	.939
Uncertainty	1.714	.944	.867	.028	.069	.952	.946	.976
Complexity	2.061	.944	.871	.022	.084	.922	.925	.958
Ambiguity	4.687	.915	.765	.065	.078	.862	.922	.936
Organisational performance	1.953	.954	.886	.020	.080	.961	.962	.981
Government support	1.710	.943	.868	.037	.069	.971	.965	.985

Table 5: Scale Reliability and Validity

Dimension/Construct	*AVE*	*CR*
Volatility	0.67	0.84
Uncertainty	0.59	0.81
Complexity	0.71	0.82
Ambiguity	0.73	0.85
Organisational performance	0.65	0.83
Government support	0.53	0.71

Table 6: Discriminant Validity and Correlation Analysis of Latent Constructs

Constructs (AVE)	*Vol*	*Unc*	*Com*	*Amb*	*OP*	*GS*
Vol	.67					
Unc	.221	.59				
Com	.045	.017	.71			
Amb	.076	.190	.049	.73		
OP	.180	.063	.041	.047	.65	
GS	.194	.083	.423	.087	.110	.53

Note: AVE is represented on the diagonal axis and squared correlation is given below the diagonal axis.
Keywords: Vol (Volatility), Unc (Uncertainty), Com (Complexity), Amb (Ambiguity), OP (Organisational Performance) & GS (Government Support)

SEM was used to test the hypothesised relationships. The hypothesised model of environmental turbulence established that environmental turbulence is significantly predicted through volatility, uncertainty, complexity, and ambiguity, as all the SRW values are above the threshold criteria of 0.5. Therefore, the first hypothesis, i.e. *'Environmental turbulence is significantly predicted through volatility, uncertainty, complexity, and ambiguity'* is accepted, as reflected by the fitness indices, i.e. chi-sq = 2.646, GFI = 0.918, AGFI = 0.887, RMR = 0.036, RMSEA = 0.08, TLI = 0.896, NFI = 0.929, and CFI = 0.953. Further, the SRW value between environmental turbulence and volatility is 0.949, which established that environmental turbulence is highly predicted by volatility, followed by uncertainty (SRW = 0.853), ambiguity (SRW = 0.770), and complexity (SRW = 0.531). Likewise, the second hypothesis, *'Environmental turbulence significantly impacts organisational performance'*, is accepted, as indicated by the SRW value (0.531) and fitness indices (chi-sq = 3.788, GFI = 0.931, AGFI = 0.867, RMR = 0.041, RMSEA = 0.07, TLI = 0.889, NFI = 0.912, and CFI = 0.935). These results were in conformity with Parnell et al. (2015), Turulja and Bajgoric (2018), and Pratono and Mahmood (2015).

Test of Moderation

In this study, the interaction effect has been used to check the moderating effect of government support, by creating an interaction variable. The result established that the interaction of environmental turbulence and government support significantly predicts organisational performance (SRW = 0.735, $p < .01$, Table 7). Thus, we can conclude that government support moderates the relationship between environmental turbulence and organisational performance.

Table 7: SEM results for Moderation (Moderator: Government Support)

	Model I	*Model II*	*Model III*
ET → OP	.576***	.594***	.463***
GS → OP		.171	.370**
ET*GS →OP			.735***

Note: ET: Environmental Turbulence, GS: Government Support, OP: Organisational Performance

Managerial Implications and Future Research

The output from SEM established volatility, uncertainty, complexity, and ambiguity as significant dimensions of environmental turbulence. Further, a significant relationship is found between environmental turbulence and organisational performance. These results were in line with Parnell et al. (2015) and Turulja and Bajgoric (2018). Since it was found that environmental turbulence impacts business performance, it becomes important for SMEs to use a careful blend of potential smoothing variables and decision-making structure to arrive at optimal business decisions (Pratono & Mahmood, 2015). Under uncertain business conditions firms should focus more on bringing innovative products, to maintain competitive edge and market share. The results of the study reveal that the number of competing SMEs is rising, and technology offers new opportunities; therefore, it is suggested that firms should have the latest technology and updated knowledge about the market and customers, which ultimately improve business performance in terms of better market share, sales growth, customer satisfaction, product

quality, and increased profits. Further, with increasing competition due to a large number of competitors in the market, diversity in marketing strategies is required to be competitive, firstly, to defy the strategies of competitors, and secondly, to meet the varied demands of customers. During survey, it was found that there is lack of support from the government with regard to subsidies, tax benefits, land availability, training facility, access to capital, and so on. Therefore, it is suggested that the government should support private investment, provide concessional land for setting up new industries, and design policies that stimulate more on R&D during environmental turbulence. In addition, it was found that most of the firms acquire raw materials from other states, which increases the complexity level for such firms. These firms sell most of their products within the geographical limits of J&K. Thus, there is an urgent need to take certain steps, e.g. they should be given some incentives or tax benefits, or some other types of assistance, so that these firms would be able to expand their market outside the local market.

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