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EFFECT OF ORGANISATIONAL AND ENVIRONMENTAL FACTORS ON INNOVATIVENESS AND BUSINESS PERFORMANCE RELATIONSHIP

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We have investigated the role played by organisational and environmental factors in innovativeness and business performance relationship. The study is based on a purposive sample of 168 key informants (senior level managers in decision-making roles) from Indian firms. For data collection, we developed scales to measure *innovativeness* and *business performance*. The results show that innovativeness is a significant determinant of business performance. We also find that influence of innovativeness on external business performance is moderated by organisational and environmental variables. The organisational decision makers in India can draw insights from these results and better decide their strategic postures for designing organisational structure (OS) and for coping better with the external business environment. The study contributes to the literature by providing empirical evidence in support of *organic structure* and *innovativeness* for Indian firms to achieve superior business performance in the face of turbulent external business environment.

Keywords: Innovativeness; firm performance; subjective business performance; organisational structure; environmental turbulence.

Existence of any business depends upon its sustained long term performance. Business organisations are perpetually looking for strategies to gain an edge over their rivals. Innovativeness (reflected through continuous differentiation and improvement in firm's products and processes) is one of the widely accepted strategic solutions for obtaining sustainable competitive advantage (Kim and Mauborgne, 1997; Gimenez, 2000; Li and Atuahene-Gima, 2001; Brockman and Morgan, 2003; Hult *et al.*, 2004; Popadiuk and Choo, 2006; Avlonitis and Salavou, 2007; Xu and Zhang, 2008). Innovativeness encourages a firm to employ out-of-the-box thinking to problems and needs (Covin and Slevin, 1989) and to create a niche for the firm (Porter, 1985). Innovativeness may take the organisation in new paradigm of success (Georgelli *et al.*, 2000; Swierczek and Ha, 2003).

Many studies have found relationship between innovativeness and business performance (e.g., Zahra and Covin, 1994; Li and Atuahene-Gima, 2001; Xu and Zhang, 2008; Edmondson and Nembhard, 2009; Li *et al.*, 2010; Rosenbusch *et al.*, 2011; Hafeez *et al.*, 2012; Kreiser *et al.*, 2013). However, some studies were unable to find a significant relationship between innovativeness and business performance (Klomp and Leeuwen, 2001; Benavente, 2006; Raymond *et al.*, 2010; Roper *et al.*, 2008; Ebersberger *et al.*, 2010).

Innovativeness–business performance models have been built and tested mainly in the developed economies. While innovativeness is universally important, it is especially critical in emerging economies. In transitional economies, firms often do not possess sufficient advanced technological capabilities and knowledge resources required for systematic innovations. Dysfunctional bureaucratic environment here leads to red-tapism and unnecessary delays. Low per capita income makes the buyer extremely price-sensitive and enhances the demand for low cost products. Organisations tend to imitate the successful discoveries of developed countries. Rather they prefer to go for *jugaad* or frugal innovation — a distinctive approach to innovation. Frugal or *Jugaad* innovation is an improvised solution to reduce research and development costs, resulting in dramatically lower-cost products and services which outperform the alternative and can be made available at large scale (Krishnan, 2010; Bound and Thornton, 2012; Radjou *et al.*, 2012).

In transitional and emerging economies, where there is a lack of required resources and infrastructure facilities, the relationship between innovativeness and business performance is likely to be different from other regions and developed countries. India, as the second largest emerging economy after China, presents a compelling context to examine and refine our understanding of the innovativeness–business performance relationship. Indian business is dominated by family firms. The decision-making power is concentrated with a few family

members who prefer to hold their tried and tested principles ignoring the environmental changes, exercise tight formal control, lay a lot of emphasis on formalism and maintain strict regulation of financial and operating information. Business environment in India has been facing policy delays because of political reasons and implementation bottlenecks because of infrastructural deficiencies. Existence of huge market makes India an attractive destination for multinational firms. Though the investment and marketing opportunities are tremendous, unpredictable competitors' actions, entry of foreign players, strict regulatory framework and continuously changing tastes and preferences of customers make the Indian business environment stressful, challenging and hostile.

In this context, the present study endeavours to answer the following research questions, studied on a sample taken from India:

1. How is innovativeness related with business performance of Indian firms?
2. Is the innovativeness–business performance relationship contingent upon and configured by the environmental context?

Literature Review and Hypotheses

Innovativeness

Innovativeness is the propensity of an enterprise to engage in and support the culture of experimentation, creativity and novelty (Khandwalla, 1987; Covin and Slevin, 1989; Damanpour, 1991; Vij and Bedi, 2012). It reflects the willingness of a firm to adopt new ideas and new methods for their day to day operations (Hughes and Morgan, 2007). Innovativeness entails continuous efforts of an organisation to explore new ideas with regard to technological processes, administrative systems and organisational procedures, products and services (Quinn, 1985; Kanter, 1986; Karagozoglu and Brown, 1988; Hult *et al.*, 2004). It reflects the eagerness of an organisation to find new opportunities and novel solutions by seeking extraordinary or strange solutions to problems and needs (Vij and Bedi, 2012). Miller and Friesen (1982) suggested that the innovativeness helps a firm in recognising and coping with various environmental challenges by employing out-of-the-box thinking, implementing the ways different from the existing ways, exploiting new technology and adopting new methods to their business operation. Such initiatives involve management restructuring and technological transformation to create new value, products, services, processes and systems (Van de Ven, 1986; McDermott and O'Connor, 2002; Edmondson and Nembhard, 2009). The presence of product and process innovations represents an ideal combination of strategic choices that can produce extraordinary economic performance and can

become the engines of economic growth (Kotabe, 1990; Hult *et al.*, 2004; Xu and Zhang, 2008).

Schumpeter (1934) considers innovation as the heart of entrepreneurship. Drucker (1985) echoed Schumpeter by suggesting that innovation is the explicit instrument of entrepreneurship and a key driver of competitive advantage, growth, and profitability. Without innovativeness, new products, new services, and unique ways of doing business would not exist (Heunks, 1998; Hultink and Atuahene-Gima, 2000; Edmondson and Nembhard, 2009; Li *et al.*, 2010). Zahra (1993) states that the hallmark of an entrepreneurial organisation is its capability to create new products and services, especially well before the competitors, in order to retain image and hold higher market share. Covin and Slevin (1989) suggest that adoption and deployment of innovative practices can generate competitive advantages and provide a major source of firm growth. According to Zahra and Covin (1994), the extent of innovativeness provides base for designing the competitive strategy and overall strategic posture of a firm.

Innovativeness promotes not only the development or enhancement of products and services but also new management techniques and technologies directed towards the organisation functions like production, marketing, sales and distribution (Zahra and Covin, 1994). It is not just the invention of a new product or service that is important, but actually bringing these new inventions into market in a way that adds value or improves quality is more relevant (Burgelman and Sayles, 1986; Brockman and Morgan, 2003; Krishnan, 2010). Today, it is seen that many firms can gain competitive superiority by producing even very ordinary and standard products by highly innovative processes. Innovativeness provides advantage of low cost, rapid production, faster distribution, better quality and higher customer satisfaction (Davila, 2000; Hult *et al.*, 2004; Xu and Zhang, 2008)

Business performance

Performance is a tool to evaluate whether an organisation utilizes its resources effectively and efficiently and is reflected through the achievement of organisational goals (Dess and Robinson, 1984; Davila *et al.*, 2004; Laforet, 2011; Simpson *et al.*, 2012). Literature on the construct of performance reveals that there is no consensus among the researchers on the appropriate measures of business performance indicators (Chakravarthy, 1986; Venkatraman and Ramanujam, 1986; Dess and Priem, 1995; Combs *et al.*, 2005; Andersen, 2010; Vij and Bedi, 2012). Some studies (e.g., Dess and Robinson, 1984; Covin and Covin, 1990; Wiklund and Shepherd, 2005; Clercq *et al.*, 2010; Li *et al.*, 2010; Vij and Farooq,

2014) emphasise on perceived performance indicators like managers' subjective views about firm's sales growth, market share, profitability and customer satisfaction to assess firm performance relative to its major competitor. Other set of studies (e.g., Capon *et al.*, 1990; Zahra, 1993; Zahra and Garvis, 2000; Covin *et al.*, 2006; Andersen, 2010) relies upon secondary data to capture the financial performance, i.e., growth and profitability of an organisation.

Both subjective and objective measures have been adopted by researchers for measuring business performance. However, the use of subjective measures of performance is more common. It is important to note that positive correlation has been observed between subjective and objective measures of performance (Dess and Robinson, 1984; Covin and Slevin, 1991; Dawes, 1999; Song *et al.*, 2005). The reasons for this tendency are many-objective data is difficult to obtain as respondents are reluctant to release sensitive information to outsiders (Sandberg and Hofer, 1988; Dess and Priem, 1995); managers are generally inclined to provide subjective evaluation of their firm performance (Wiklund, 1999; Wiklund and Shepherd, 2005); and in case of small scale industry, published data is not available (Dess and Robinson, 1984).

Innovativeness–Business Performance Relationship

Firms with strong innovativeness demonstrate high performance (Damanpour, 1991; Lumpkin and Dess, 1996; Covin *et al.*, 2006; Laforet, 2011; Rosenbusch *et al.*, 2011). The innovative firms emphasize on processes that transform ideas or concepts into commercial value for the benefit of the enterprise and the customer (Drucker, 1985; Kanter, 1986; Kim and Mauborgne, 1997; Krishnan, 2010; Rosenbusch *et al.*, 2011).

Innovativeness is a way to expand and diversify business by implementing innovative and creative ideas in product development, process improvement and technology upgradation (Zahra and Covin, 1994; McDermott and O'Connor, 2002; Xu and Zhang, 2008). The use of advanced technology not only speeds up product and service introduction to the marketplace but also strengthens an organisation's competitiveness (Tsao and Chen, 2012). Advanced technology hinders competitors' willingness to introduce a new product or technology, penetrate the market, or attract customers by blocking the move or making it costly (Downs and Mohr, 1976; Droge and Calantone, 1996; Gimenez, 2000; Edmondson and Nembhard, 2009). Innovativeness not only ensures the achievement of strategic goal formulated for the business but also makes a fit between the firm and its environment (Zahra and Covin, 1994; Rosenbusch *et al.*, 2011). It revises the firm's knowledge base, allowing it to generate new products, processes,

and organisational systems that set the company apart from its rivals as it expands its operations (Winterton, 1997). The process of innovation makes a firm more flexible and adaptable to the environmental challenges and enhances its internal capabilities to achieve superior financial performance (Zahra, 1993; Hisrich and Peters, 1998; Hult *et al.*, 2004).

Thus, innovativeness increases the chances that a firm will realise first mover advantage, stay ahead of competitors, gain a competitive advantage and capitalize on emerging market opportunities that lead to improved financial results (Drucker, 1985; Lieberman and Montgomery, 1988; Kim and Mauborgne, 1997; Georgelli *et al.*, 2000; Gimenez, 2000; Rauch *et al.*, 2006; Edmondson and Nembhard, 2009; Gu and Tse, 2010; Rosenbusch *et al.*, 2011). Based on these observations, we propose the following hypothesis:

H1: Innovativeness is significantly and positively related to business performance.

Moderation effects

Although the positive relationship between innovativeness and business performance is accepted, the magnitude of this relationship seems to vary across studies (Laforet, 2011). The reasons for variation in results can be attributed to many factors like difference in the scales for measuring innovativeness, opinion regarding moderating variables and indicators of business performance construct. In investigating the innovativeness–business performance relationship, it is essential to recognise the importance of moderating variables (Olson *et al.*, 2005; Andersen, 2010). External and internal environmental variables are the prominent moderators affecting this relationship (Damanpour, 1991; Chandler *et al.*, 2000; Olson *et al.*, 2005). However, there is no uniformity among researchers regarding the introduction of moderating variables. Some researcher simply measures the impact of innovativeness on the performance of business, ignoring interaction effect or the effect of moderating variables (e.g., Miller and Friesen, 1982; Swierczek and Ha, 2003), while others have considered the moderation or interaction effect (e.g., Damanpour, 1991; Davila *et al.*, 2004; Hult *et al.*, 2004; Olson *et al.*, 2005; Rauch *et al.*, 2006; Clercq *et al.*, 2010).

Antoncic and Hisrich (2004) have integrated strategic adaptation and environmental perspectives by suggesting that organisational survival does not only depends upon strategic choices or environmental forces, but also on "the degree of fit between entrepreneurial efforts and environmental forces". According to Herstatt *et al.* (2008), innovation takes place in dynamic environment. In dynamic environment, the existing range of product, services technologies and processes becomes inadequate and a firm has to look for new products and services in

order to maintain the current market position. According to Zahra (1993), perceived decline or high growth prospects of an industry often push companies into increased level of innovativeness and renewal activities. Chatterjee and Sahasranamam (2014) have highlighted the role of mechanistic and organic organisational structures (OS) in the management of innovation. No structure is universally appropriate for an organisation. The factors upon which an appropriate structure depends are known as contingent factors (Gu and Tse, 2010; Kreiser and Davis, 2010), which may include organisational factors like decentralisation of decision-making, strategy, size, support, resources, culture of top management team, etc and environmental factors like dynamism, munificence, regulations, and industry turbulence, etc. Contingency theory further suggests that congruence or "fit" among key variables such as industry conditions and organisational processes is critical for obtaining optimal performance and the relationship between two variables is dependent upon the interference of a third variable (Dess *et al.*, 1997; Olson *et al.*, 2005). Therefore, by introducing moderators into innovativeness–business performance relationships, the misleading inferences can be reduced and more precise and specific understanding about innovativeness–business performance relationship can be developed (Naman and Slevin, 1993; Droge and Calantone, 1996; Gimenez, 2000; Korunka *et al.*, 2003; Kreiser and Davis, 2010; Kraus *et al.*, 2011). Therefore, to incorporate the moderating effect of internal and external environmental factors, we propose the following hypotheses:

H2a: Innovativeness–business performance relationship will be moderated by the kind of OS adopted by the firm.
H2b: Innovativeness–business performance relationship will be moderated by the degree of environmental turbulence (ET) perceived by the firm.

Interaction effect

Literature suggests that the adoption of a particular strategic posture is dependent upon a combination of external environmental contingencies and internal organisational characteristics (e.g., Naman and Slevin, 1993; Lumpkin and Dess, 1996; Chandler *et al.*, 2000). Greater insight into innovativeness–business performance relationship may be gained through configurational approach, which involves the simultaneous and joint consideration of innovativeness, organisational environment, and ET, i.e., three-way interaction effect (Miles *et al.*, 1978; Mintzberg, 1979; Dess *et al.*, 1997; Wiklund and Shepherd, 2005; Clercq *et al.*, 2010). Configurational interactions represent an elaboration of contingency interactions and are likely to have greater predictive power (Evans, 1985; Aiken

and West, 1991). Such configurations of variables may offer more complete explanations than those provided by two-way interactions. Configuration approach may provide an analytical framework through which the researcher can identify and articulate processes underlying a certain phenomenon in some sort of systematic relationship (Korunka *et al.*, 2003; Wiklund and Shepherd, 2005; Kraus *et al.*, 2011). We thus expect an interaction effect which determines the firm performance and propose the following hypothesis:

H3: Business performance is configured by the simultaneous interaction among innovativeness, OS and perceived ET.

Methods

Sample and data collection

Descriptive, cross-sectional research design has been adopted for the present study. The study is based on a purposive sample of key informants (senior level managers in decision-making roles) from Indian organisations. We requested 4223 senior level managers from the organisations registered with National Stock Exchange (NSE), Credit Rating Information Services of India Limited (CRISIL) and Engineering Export Promotion Council (EEPC) to participate in this survey. The link for online questionnaire was sent to them through email. After repeated phone calls and reminder emails, 228 key informants agreed to participate in the study. Out of the responses received, after screening out the non-serious and incomplete responses, 168 responses were finally selected for analysis. The sample profile (see Table 1) includes firms of different sizes, age, and nature, ensuring representativeness of the sample.

Table 1. Sample profile.

Criteria	Category	No. of Respondents N = 168	% of Respondents
Firm size (in terms of number of employees)	More than 250 employees	114	67.8
	Less than 250 employees	54	32.2
Age of the firm	More than 15 years	110	65.4
	Less than 15 years	58	34.6
Nature of the firm	Manufacturing	82	48.9
	Service	75	44.6
	Trading	11	6.5
Investment made in business	More than Rs. 100 Million	115	68.4
	Less than Rs. 100 Million	53	31.6

Measures

To measure *innovativeness*, we developed eight-item scale based upon items suggested in the literature (e.g., Miller and Friesen, 1982; Covin and Slevin, 1989; Zahra, 1993; Lumpkin and Dess, 1996; Davila *et al.*, 2004; Naldi *et al.*, 2007; Yang *et al.*, 2007; Tang *et al.*, 2008; Wang, 2008; Zhao *et al.*, 2011). All items employed a seven-point semantic differential scale with a neutral midpoint. These items reflect firms willingness to support creativity and experimentation in product innovations, process innovations, marketing innovations and organisational innovations in line with the suggestions of OECD (2005) — OSLO Manual.

For measuring *business performance*, we have adopted subjective performance measures. We developed a 10-item seven-point scale to measure the performance. These items include subjective financial and subjective non-financial indicators. Respondents were asked to compare the performance of their firm, relative to their major competitors, over the past 3 years. The relative performance was measured on different aspects of business, *viz*. sales growth, profitability, growth rate, service quality, customer satisfaction, employee satisfaction, product innovation, process innovation and product quality. These dimensions of subjective performance have been derived from the literature (e.g., Chakravarthy, 1986; Venkatraman and Ramanujam, 1986; Cross and Lynch, 1988; Neely *et al.*, 1995; Kaplan and Norton, 1996; Murphy *et al.*, 1996; Dawes, 1999; Wiklund, 1999; Zahra and Garvis, 2000; Combs *et al.*, 2005; Wiklund and Shepherd, 2005; Vij and Farooq, 2014).

To study the contingency and configurational effects of environmental variables, we used OS — as a measure of internal environment and ET — and as a measure of external environment. The scales developed by Naman and Slevin (1993) (on the basis of the earlier work of Miller and Friesen, 1982 and Covin and Slevin, 1989) have been used to measure these environmental variables.

ET reflects the level of perceived dynamism and complexities in the firms environment. Environmental dynamism is quantified through the change in variables such as technology, competitiveness, customer needs and tastes, etc. Environmental complexity, on the other hand, is measured by the quantity and diversity of influential variables in the environment.

Organisational Structure measures organicity, i.e., the extent to which organisation is structured in organic versus mechanistic manner. Organic structure refers to low degree of formalisation, participative style of decision-making and high degree of integration. Mechanistic structure refers to bureaucratic form of organisation with high degree of centralisation, low level of participation, restricted channels of communication, tight control and constrained level of flexibility.

The scales were tested for the content validity by seeking opinion of the experts. The instrument was pre-tested, and no challenge was reported by the respondents. We checked the reliability and validity of the scales before use for further analysis.

Analysis and Results

We followed a two-step procedure for analysis. First, we validated the constructs using confirmatory factor analysis (CFA). Second, we measured the relationship of innovativeness with business performance and studied the role played by OS and ET in innovativeness–business performance relationship. We applied multiple linear regression using two-way and three-way interaction among innovativeness, OS and ET. The CFA with Maximum Likelihood Estimation method was adopted for assessing measurement models using AMOS 19.0.

Initial results for CFA for *innovativeness* revealed good model fit. However, one of the items, "In general, the top managers of my business unit discourage employees to think and behave in original and novel ways", having low standardised regression weight of 0.446, was dropped from the construct. The psychometric properties of revised model (Chi-square to df = 1.587; GFI = 0.963; AGFI = 0.926; NFI = 0.964; CFI = 0.986; RMR = 0.058; and RMSEA = 0.059) were acceptable and signify a good model fit. Further, all standardised regression weights were significant and greater than 0.50, indicating good convergent validity.

The initial model fit for OS and ET revealed normed Chi-square of 3.18 and 4.784, GFI of 0.919 and 0.858, AGFI of 0.838 and 0.744, RMR of 0.096 and 0.162 and RMSEA of 0.11 and 0.151, respectively. There were high modification indices between some items of respective constructs. As a result, one item of OS construct, "A strong emphasis on getting things done even if it means disregarding formal procedures", and two items of "environmental turbulence" construct — "A dominating environment in which my business unit's initiatives count for very little against the tremendous political, technological or competitive forces", and "External environment of business unit is very risky and one false step can mean my business unit's undoing", were dropped. The revised model is a good fit (See Tables 3 and 4).

The CFA for business performance construct revealed poor model fit (Chi-square to df = 7.039, GFI = 0.744, AGFI = 0.597, RMR = 0.112 and RMSEA = 0.190). A number of items reflected high modification indices. To combine the correlated items into unique uncorrelated factors, exploratory factor analysis was applied, which reflected two factors (See Table 2). The first

Table 2. Results of exploratory factor analysis for business performance scale.

Rotated component matrix[a]		
	Component	
Relative performance measures*	1	2
Sales growth	0.841	
Market share	0.794	
Return on investment	0.779	
Service quality	0.698	
Customer satisfaction	0.683	
Employee satisfaction		0.843
Employee turnover		0.821
Product innovation		0.763
Process innovation		0.745
Product quality	0.566	0.616

Extraction method: Principal component analysis
Rotation method: Varimax with kaiser normalization
a. Rotation converged in 3 iterations

Total variance explained

		Rotation sums of squared loadings		
Component	Name of factor	Total	% of Variance	Cumulative %
1.	Perceived external business performance relative to competitors	3.683	36.834	36.834
2.	Perceived internal business performance relative to competitors	3.326	33.264	70.099

Extraction method: Principal component analysis.

*Subjective performance relative to major competitors over last three years.

factor, — "perceived external business performance relative to competitors", measures the relative business performance for market share, sales growth, return on investment, customer satisfaction and service quality. The second factor, — "perceived internal business performance relative to competitors", consists of relative business performance in terms of innovative organisational processes and satisfaction level of employees. These two factors explain 70.09% of total variance. We dropped one item "product quality" because it cross-loaded on both the factors.

After bifurcating "business performance" into sub constructs, "perceived external business performance relative to competitors" and "perceived internal business

Table 3. Model fit indices of validated constructs.

Parameters	Innovativeness	OS	ET	Perceived external business performance	Perceived internal business performance
Chi-square	22.21	9.164	11.77	2.83	1.2
Degree of Freedom	14	9	9	4	1
Ratio of Chi-square to df	1.587	1.018	1.308	0.716	1.221
GFI	0.963	0.982	0.977	0.994	0.996
AGFI	0.926	0.958	0.947	0.976	0.964
NFI	0.964	0.975	0.969	0.993	0.997
CFI	0.986	1.00	0.993	1.00	0.999
RMR	0.058	0.052	0.055	0.017	0.010
RMSEA	0.059	0.010	0.043	0.000	0.036

performance relative to competitors", the CFA was applied to validate these constructs. The results of CFA revealed a good model fit (See Table 3).

Convergent validity and discriminant validity of the scales were checked and found satisfactory (See Tables 3 and 4). Standardised regression weights for all items were significant and above the cutoff of 0.50 (Hair *et al.*, 2008). The average variance extracted (AVE) for all the constructs under study is at least 0.50 and composite reliability is more than 0.70, ensuring convergent validity. Further, low correlation coefficients (See Table 5) among various independent variables prove the discriminant validity.

Total weighted score for all the constructs was calculated by multiplying each item of the construct with its standardised regression weight and adding up the score. After standardising these scores, multiple linear regression analysis was conducted to measure the relationship of innovativeness with business performance. *Perceived internal business performance relative to competitors*and *perceived external business performance relative to competitors* were considered as dependent variables separately in two different regression models (See Tables 6 and 7).

Innovativeness–perceived internal business performance

Table 6 presents the analysis for innovativeness–perceived internal business performance relationship. It shows the comparison of four regression models, *viz.* direct effect, independent effect, contingent effect and configurational effect. In Model 1, high F ratio of 169.71 justifies the goodness of fit and significant standardised beta coefficient of 0.711 shows the positive direct effect of innovativeness on perceived internal business performance relative to competitors. Thus, H1 is

Table 4. Standardized regression weights, composite reliability and AVE for validated constructs.

Construct		Items	Standardised regression weights	Composite reliability	AVE
Innovativeness		In general, the top managers of my business unit favour a strong emphasis on R&D, technology leadership and innovations.	0.763	0.86	0.56
		In general, the top managers of my business unit favour making significant changes in existing product line/ services offering	0.785		
		My business unit have marketed very many new lines of products or services over last 3 years.	0.643		
		My firm invests heavily in new product development.	0.718		
		The top managers of my business unit are willing to try new ways of doing things and seek unusual, novel solutions.	0.779		
		My firm emphasizes on developing new technology.	0.805		
		In general, my firm invests heavily in process improvement.	0.742		
Business performance	Perceived external business performance relative to competitors	Sales Growth	0.815	0.90	0.58
		Market Share	0.861		
		Return on Investment	0.821		
		Service Quality	0.598		
		Customer Satisfaction	0.664		
	Perceived internal business performance relative to competitors	Employee Satisfaction	0.701	0.89	0.62
		Employee Turnover	0.635		
		Product Innovation	0.835		
		Process Innovation	0.943		

(*Continued*)

Table 4. (*Continued*)

Construct	Items	Standardised regression weights	Composite reliability	AVE
OS	*The operating management philosophy in my business unit favors.....*		0.92	0.50
	Open channels of communication with important financial and operating information flowing quite freely throughout the business unit.	0.574		
	Managers' operating styles allowed to range freely from the very formal to the very informal.	0.787		
	A strong tendency to let the expert in a given situation have the most say in decision making even if this means temporary bypassing of formal line authority.	0.796		
	A strong emphasis on adapting freely to changing circumstances without too much concern for past practice.	0.618		
	Loose, informal control; heavy dependence on informal relationships and norms of cooperation for getting work done.	0.683		
	A strong tendency to let the requirements of the situation and the individual's personality define proper on-job behaviour.	0.735		

Table 4. (*Continued*)

Construct	Items	Standardised regression weights	Composite reliability	AVE
ET	Our business unit needs to change its marketing practices extremely frequently (e.g., semi-annually).	0.509	0.90	0.50
	The rate of products/services obsolescence is very high.	0.817		
	Actions of competitors are unpredictable.	0.797		
	Demand and tastes are almost unpredictable.	0.761		
	The modes of production/service change often and in a major way.	0.666		
	External environment within which your business unit functions is very stressful, challenging, hostile; very hard to keep afloat.	0.592		

Table 5. Correlation matrix.

	Variables	1	2	3	4	5
1.	Innovativeness	1				
2.	OS	0.400*	1			
3.	ET	0.128	0.264*	1		
4.	Perceived external business performance	0.630*	0.233*	−0.097	1	
5.	Perceived internal business performance	0.711*	0.292*	−0.083	0.665*	1

*Significant at 0.01 level.

supported for innovativeness and internal business performance relation. In Model 2, i.e., independent effect model, where innovativeness, OS and ET are supposed to have an independent effect on perceived internal business performance, innovativeness highly affects internal business performance (with significant standardised beta coefficient of 0.712). The organisation structure does not significantly influence the business performance. ET has significant but low negative impact on perceived internal business performance (with significant standardised beta coefficient of −0.189). The contingent effect model shows that neither ET nor OS is moderating the innovativeness–perceived internal business performance relationship as interaction effects are not significant. Thus, H2a and H2b are not supported for innovativeness and internal business performance. Results indicate that the internal business performance (reflected through high employee satisfaction, low employee turnover and high product/process

Table 6. Multiple regression analysis. Innovativenes–perceive internal business performance relationship.

Parameters	Model 1: Direct effect	Model 2: Independent effect	Model 3: Contingent effect	Model 4: configurational effect
Innovativeness	0.711*	0.712*	0.717*	0.733*
ET	—	−0.189*	−0.173*	−0.144*
OS	—	0.058	0.049	0.036
Innovativeness *OS	—	—	−0.004	−0.007
Innovativeness *ET	—	—	−0.086	−0.093
Innovativeness *OS*ET	—	—	—	−0.084
F ratio	169.716	63.909	39.008	33.09
R square	0.506	0.539	0.546	0.552
Adjusted R Square	0.503	0.531	0.532	0.536
Dependent variable: Perceived internal business performance relative to competitors				

*Significant at 0.05 level.

Table 7. Multiple regression analysis. Innovativeness–perceived external business performance relationship.

Parameters	Model 1: Direct effect	Model 2: Independent effect	Model 3: Contingent effect	Model 4: Configurational effect
Innovativeness	0.630*	0.644*	0.640*	0.640*
ET	—	−0.186*	−0.171*	−0.172*
OS	—	0.025	−0.006	−0.006
Innovativeness *OS	—	—	0.146*	0.147*
Innovativeness *ET	—	—	−0.152*	−0.152*
Innovativeness *OS*ET	—	—	—	0.001
F ratio	109.240	41.175	28.035	23.218
R square	0.397	0.430	0.464	0.464
Adjusted R Square	0.393	0.419	0.447	0.444
Dependent variable: Perceived external business performance relative to competitors				

*Significant at 0.05 level.

improvements) is affected by individual impact of organisational innovativeness and ET rather than the interaction between innovativeness and ET or interaction between innovativeness and OS. Furthermore, configurational effect is also not significant at 5% level. Thus, H3 is not supported for internal business performance as dependent variable.

Innovativeness–perceived external business performance

Table 7 presents the analysis for innovativeness–perceived external business performance relationship. Model 1 shows the standardised beta coefficient for the direct effect of innovativeness on perceived external business performance relative to competitors. In independent effect model, where innovativeness, OS and ET are supposed to have an independent effect on perceived external performance, innovativeness and ET turn out to have significant effect. Innovativeness positively and ET negatively affects the perceived external business performance (See Model 2, Table 7). Contingent effect model (two-way interaction, Model 3), through interaction between innovativeness and ET as well as innovativeness and OS, increases the value of adjusted R Square to 0.447 from 0.419. This indicates that innovativeness–business performance relationship is moderated by organisational and environmental variables. Thus, H2a and H2b are supported for innovativeness and external business performance relationship. Significant value for interaction effect between innovativeness and OS indicates an increase in the influencing power of innovativeness. Likewise, significant negative beta coefficient for

interaction effect between innovativeness and ET indicates decrease in the influencing power of innovativeness. In configurational effect model (i.e., three-way interaction), standardised beta coefficient for simultaneous interaction between innovativeness, ET and OS is not significant at 5% level (Model 4). Thus, H3 is not supported for external business performance as the dependent variable.

In gist, it can be concluded that contingent effect model presents the best picture of relationship between innovativeness and perceived external business performance given the internal and external variables as the context.

However, the beta coefficients do not elaborate the nature of moderating effects. To better understand the moderating effect of ET on innovativeness — perceived external business performance relationship, we categorised ET into three levels, *viz*. low level of turbulence, moderate level of turbulence and high level of turbulence.

To see the moderating effect of ET, a scatter plot was plotted whereby perceived external business performance was regressed on to innovativeness across three levels of ET (See Fig. 1). The regression fit lines for the three

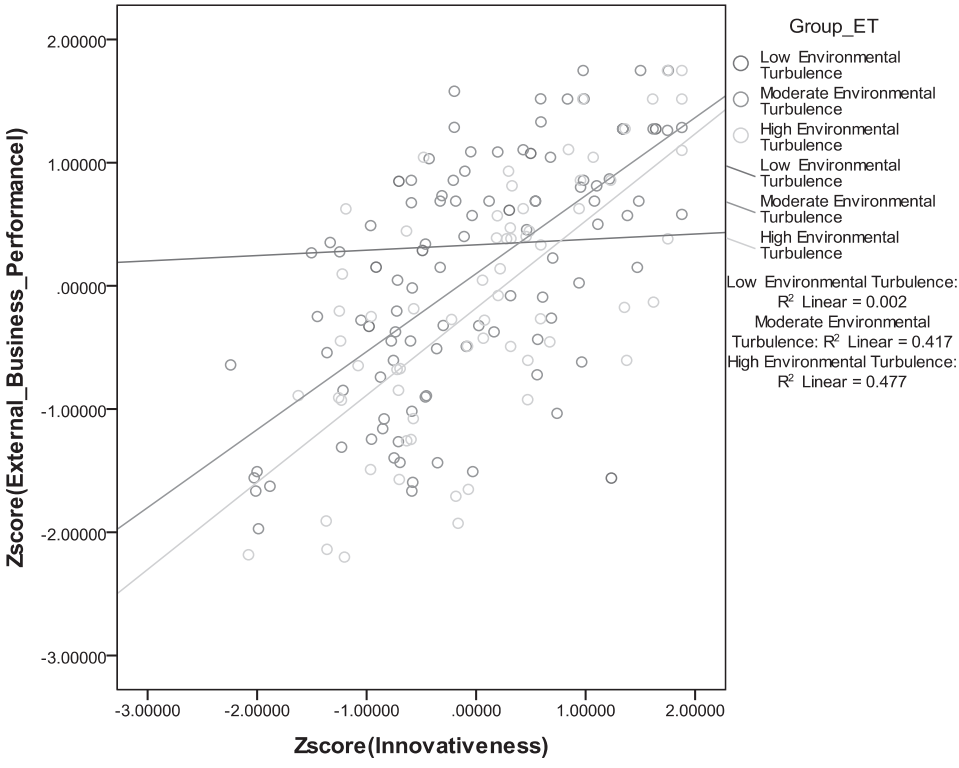

Fig. 1. Relationship between innovativeness and external business performance at different levels of ET.

levels of ET indicate that in low level of ET context, innovativeness hardly influences the business performance (R^2 Linear = 0.002). But there is a high degree of correlation between innovativeness and external business performance for moderate level of ET (R^2 Linear = 0.417) and high level of ET (R^2 Linear = 0.477).

Similarly, to delineate the moderating effect of OS on innovativeness–perceived external business performance relationship, the OS was categorised into three levels, *viz*. organic structure, balanced structure, and mechanistic structure.

The scatter plot (See Fig. 2) indicates that innovativeness influences the external business performance tremendously (R^2 Linear = 0.611) if the OS is organic in nature. There is still high degree of correlation (R^2 Linear = 0.469) in balanced OS (i.e., neither highly organic nor highly mechanistic). However, innovativeness improves the external business performance abysmally (R^2 Linear = 0.031) in case of mechanistic OS.

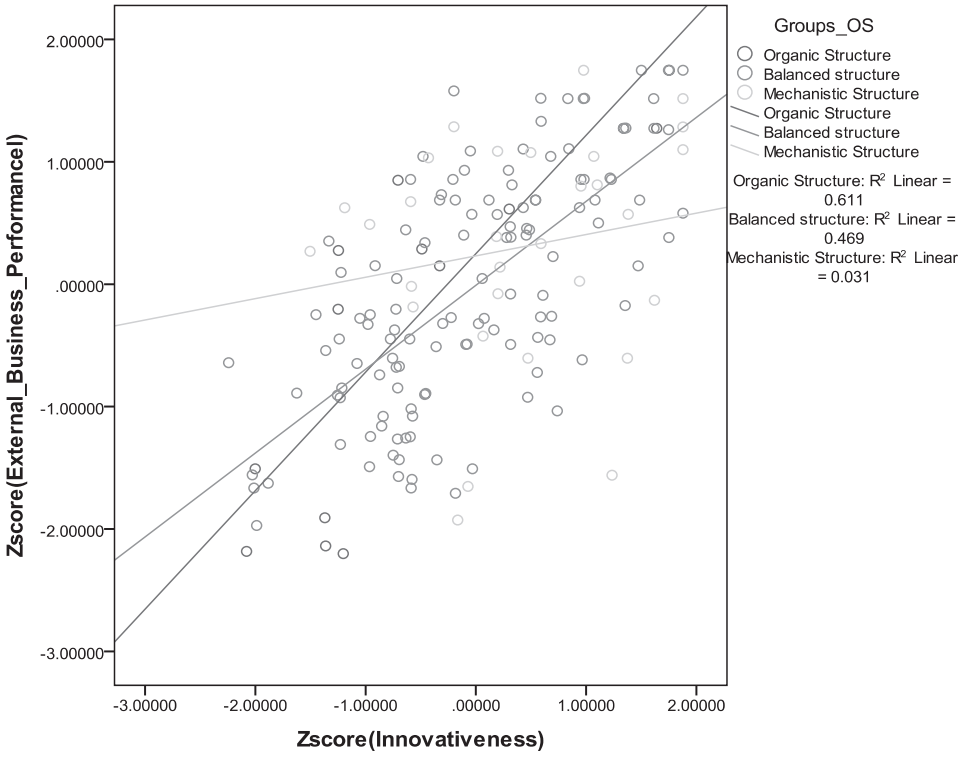

Fig. 2. Relationship between innovativeness and external business performance at different levels of OS.

Discussion

The study supports positive innovativeness–business performance relationship in the Indian context. High regression weights for this relationship reinforce the findings of other studies conducted in the Indian context (e.g., Kanwar and Hall, 2015), which suggest that the pursuit of innovation is more beneficial in India as compared to other regions and more developed countries. This is perhaps because of the fact that burgeoning middle class with high aspirations but average paying capacity readily accepts the new products and services which are affordable, durable and outperform the alternatives. This scenario provides huge opportunities for the entrepreneurs and intrapreneurs to innovate.

Innovativeness equips a firm with the capabilities to quickly enter into new markets (Morris *et al.*, 2011). The process of innovation transforms a firm fundamentally by enhancing its internal capabilities, making it more flexible and adaptable to market pressures (Rosenbusch *et al.*, 2011). Innovativeness facilitates an organisation to enter new markets, to increase the existing market share and to provide the firm with a competitive edge (Lumpkin and Dess, 1996). It revises the firm's knowledge base, allowing it to generate new products, processes, and organisational systems that set the company apart from its rivals (Lieberman and Montgomery, 1988; Bradmore, 1996; Kim and Mauborgne, 1997; Rosenbusch *et al.*, 2011). The current study also shows that enthusiasm, willingness and eagerness of the firms to support new ideas, novelty, experimentation, and creative processes lead to higher sales growth, superior market share, higher customer satisfaction and employee satisfaction.

The findings of this study suggest that in highly turbulent environment (where demand constantly shifts and opportunities are abundant; performance is higher for the firms having high innovation orientation. Organisations rapidly adjusting their management philosophy according to the changing environment are more likely to build and maintain sustainable competitive advantage. Entrepreneurship literature also suggests that innovativeness and firm performance relationship is contingent upon the environmental contexts (e.g., Damanpour, 1991; Hult *et al.*, 2004; Kreiser and Davis, 2010; Laforet, 2011). The results of the study support the argument that organisations which frame their strategies by monitoring and scanning their environment perform better and ensure their survival (e.g., Damanpour, 1991; Rauch *et al.*, 2006; Kreiser and Davis, 2010). Monitoring, evaluating and disseminating information from the internal and external environment helps a firm in the adoption of a right kind of strategic posture for achieving superior business performance.

As regards the influence of OS on innovativeness–business performance relationship, we find that organisations with organic structure achieve better

performance. Organic structure, which supports decentralisation of decision-making authority, minimal hierarchical levels, free-flowing communication channels, and closely integrated R&D, manufacturing, and marketing activities, enhances business performance.

We observe that as OS becomes stringent, the intensity of the positive effect of innovativeness on business performance decreases. Mechanistic organisation structure with rigidly defined roles and responsibilities inhibits the impact of innovativeness on business performance. It means the firms adopting structural and strategic flexibilities and quickly adapting to dynamic environment are better poised to achieve superior business performance. The more bureaucratic the firm, the lesser the possibility to generate superior business performance through innovativeness.

Findings of the study have implications for organisational decision makers as well as academic researchers. Managers desirous of working in the Indian business environment can draw insights from these results and better decide their strategic postures for designing OS and coping with the external business environment. The study contributes to the literature by developing and validating scales for the measurement of *innovativeness* and *business performance* constructs. It also contributes to the literature by providing empirical evidence in support of organic structure and innovativeness for achieving superior business performance in the face of highly turbulent external business environment.

Though the findings of the study are based on input from Indian context and no generalisation of the results is claimed, the results may be relevant for other emerging economies having similar business environment as that of India. Future researchers may want to study the moderation effect of organisational and external environmental factors in the context of other emerging economies. The current study is cross-sectional in nature and gives a static picture of the innovativeness–business performance relationship. The methodology used does not study the effect of change in the strategic posture on the firm's performance, which can be an interesting theme for future research. Second, the results are based on perception of individual key respondents. Response bias may have crept in and may not have presented the true picture of the firm performance. In future studies, average response of multiple key respondents from the same firm may be considered to get more accurate picture of established relations. In addition, future researchers may use archival data available for some firms to cross-check the perception of the key informants. They may wish to conduct comparative studies on innovativeness–business performance relationship to study the cross-cultural impact. Future studies can also incorporate mediation analysis using organisational resources, industrial context or firm characteristics (age/size) as mediating variables for generating deeper insights into innovativeness–business performance relationship.

Conclusion

Correct alignment of organisational factors, environmental variables and innovativeness is a recipe for enhancing the business performance. Our study demonstrates that organic structure is most conducive to innovativeness. So, decision makers in Indian firms should avoid formalism, adopt flexibility, participative decision making and free flow of communication to promote out-of-box thinking and innovative business ideas. In the contemporary volatile business environment, this inflow of innovative business ideas/practices can provide competitive edge to organisations as the study suggests stronger innovativeness–business performance relationship in highly turbulent external business environment.

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