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Leader and organization: the impetus for individuals' entrepreneurial orientation and project success

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Abstract

This study advances research on leader's & individuals' entrepreneurial orientation, organizational factors and project success in IT firms. This study adds value by taking entrepreneurial orientation of leader as leadership behavior rather than taking traditional leadership concepts, and investigates its outcomes in shape of individuals' entrepreneurial orientation. Using data collected from 42 teams of 25 IT firms, where sample consisting of 42 team leaders and 378 employees, we found that presence of organizational factors and leader's entrepreneurial orientation increases individuals' entrepreneurial orientation, which ultimately increases projects success. Overall, findings contribute by highlighting the significance of leader's and organizational role towards individual entrepreneurial role and performance. Findings are followed by recommendations and future directions.

Keywords: Entrepreneurial orientation; Leader; Leadership; IT; Organizational factors

Introduction

One of the best ways of attaining organizational strategic goals is to utilize human force properly, as workplace has become more knowledge-based (Jong & Hartog 2007). Employees can help in fostering business performance through their innovative activities (Axtell et al. 2000; Smith 2002; Unsworth & Parker 2003) and these activities lead to innovative work environment (Ehigie & Akpan 2004) which can be inferred as corporate entrepreneurial behavior (Kamalian et al. 2011; Scheepers et al. 2008) and a source of organizational success (Stull 2005).

As employees' innovative behavior is the DNA of corporate entrepreneurial behavior so it is important to measure it in order to understand its' outcomes. Employees' innovative behavior has been operationalized in numerous ways e.g. personality dimension, behavioral outcomes, individual outcomes (Janssen 2000). It had also been observed that creativity is not only the important construct for performance, rather application of creativity is more important (Scheepers et al. 2008). Creativity with application (risk-taking) when added with its approaches (proactive or reactive), is termed as entrepreneurial orientation/behavior (Kreiser et al. 2002; Scheepers et al. 2008; Tang et al. 2008). While looking at entrepreneurship as a behavior, it is found that factors having deterministic role in individual entrepreneurial behavior had been widely discussed (Hornsby et al. 2002; Jong & Hartog 2007; Kamalian et al. 2011; Scheepers et al. 2008), these factors include

individual factors and organizational factors (Kamalian et al. 2011; Lee et al. 2011; Scheepers et al. 2008). But one area that has not received due importance is the role of leader in employees' entrepreneurial orientation, as previous studies either looked at leadership traits or leaders' influence but no one had explored leader's behavior that stimulates followers' innovation as well as its implementation (Jong & Hartog 2007). Most of the previous studies focused on the leadership styles that had been originally developed for other purposes and not to judge entrepreneurial outcomes; so these model may not properly predict the innovative or entrepreneurial behavioral outcomes (Jong & Hartog 2007; Mumford & Licuanan 2004). So a need was felt for those leadership behaviors that influence followers' creativity and its application, which was addressed by (Jong & Hartog 2007), when they identified 13 leadership behaviors that effect followers' creativity and application. But, like previous studies, this research also borrowed leadership behavior from traditional leadership theories or concepts, which might not truly predict entrepreneurship and entrepreneurial outcomes. Leader's role in followers' creativity is investigated but which kind of leader's behavior could foster creativity in followers is the area requiring further probing (Atwater & Carmeli 2009). So there was a need to identify the leadership behavior/s which can be applied to judge followers' creativity and entrepreneurial outcomes. For this purpose leaders' entrepreneurial role was considered to be the most effective behavior that could successfully predict followers' entrepreneurial behavior. So this study is focused on the role of both organizational factors and leader's entrepreneurial behavior/orientation (LEO) on employees' entrepreneurial behavior/orientation (EEO), and how EEO contributed towards project success.

Individual's entrepreneurial orientation has been discussed but with a narrower perspective of creativity or innovation only (Jong & Hartog 2007). Actually, organizational factors or leader's orientation doesn't only pay in shape of idea generation, but it is equally important for application phase (risk taking) (Jong & Hartog 2007) and type of response (proactive or reactive) (Scheepers et al. 2008). Entrepreneurial orientation is all about innovativeness, risk taking and proactive approach (Scheepers et al. 2008; Stull 2005; Tang et al. 2008). Previous studies have focused on only employee' innovative behavior as outcome of leaders' role/behavior (Ehigie & Akpan 2004; Elenkov et al. 2005; Janssen & van Yperen 2004; Jaussi & Dionne 2003; Jong & Hartog 2007; Kahai et al. 2003; Mumford & Licuanan 2004; Shin & Zhou 2003; Smith 2002; Tierney et al. 1999; Yukl 2002), while application of idea is under investigated area (Jong & Hartog 2007; Mumford & Licuanan 2004). Leaders' role in entrepreneurial behavior has also been investigated in different ways (Cooper 2003), but mostly single leader behavior is investigated (Cooper 2003; Jong & Hartog 2007). Thus it can be concluded that this study will add value by considering this dimension in leadership and entrepreneurship.

Individual entrepreneurial behavior is largely dependent upon his/her interaction at workplace (Anderson et al. 2004; Birley 1985; Zhou & Shalley 2003), thus both organizational factors and relation with leader are important to discuss in order to judge individual's entrepreneurial orientation. This study focuses on both these factors and their role in individual's entrepreneurial orientation, and how it can ultimately affect project success in IT firms. IT firms are one of the knowledge intensive firms. These firms are involved in day to day innovation in process and techniques (Anxo & Storrie 2001). Such firms are comparatively perishable, intangible and heterogeneous in nature (Hislop 2005; Jong & Hartog 2007), and have continuous need of improvement (Anxo & Storrie 2001; Cooper 2003) which can

only be achieved through employees' entrepreneurial behavior (Jong & Hartog 2007). Following section covers background of the variables and their relationship.

Background

Individual's entrepreneurship orientation

Knowledge intensive firms, like IT firms, are heavily dependent upon success of routine tasks that are based on innovative and entrepreneurial set of mind (Anxo & Storrie 2001), thus such firms have to be entrepreneurial behavior "... Ability to do work creatively, with high risk taking propensity" (Birley 1985, p. 110) or entrepreneurial orientation "... provision of an environment that encourages creative works and working creatively" (Tang et al. 2008, p. 221). In such firms employees' entrepreneurial or innovative abilities are considered as the prime value, an organization holds, because of their role in target completion and performance of organization (Jong & Hartog 2007; Scheepers et al. 2008). While looking at the dimension of such entrepreneurial orientation three basic attributes are identified i.e. risk taking, proactivity and innovativeness (Bouchard 2001; Yukl 2002). So employees' entrepreneurial orientation is the prime source of organizational entrepreneurial orientation, and separating both entrepreneurial capabilities is not possible (Stull 2005). Entrepreneurial orientation offers many returns, like, new business, product, process, service development, higher financial and non-financial returns (Hayton 2005). Authors have difference of opinion about dimensions of entrepreneurial orientation, as (Lumpkin & Dess 1996) mentioned that there are five dimension of entrepreneurial orientation i.e. proactive, innovativeness, risk taking, autonomy and competitive aggressiveness. But (Knight 1997) inferred that autonomy is one of the determinants (out of organizational factors) of entrepreneurial orientation, and competitive aggressiveness is also covered by proactive behavior. These three dimensions are also agreed upon by other researchers, e.g. (Kreiser et al. 2002; Scheepers et al. 2008; Stam & Elfring 2008; Tang et al. 2008). Few researchers consider these dimensions as the different constructs (Kreiser et al. 2002; Lumpkin & Dess 1996), but mostly are of the opinion that these three constructs are basics of entrepreneurial behavior and entrepreneurial orientation will be incomplete even in absence of single one (Bouchard 2001; Kreiser et al. 2002; Scheepers et al. 2008; Tang et al. 2008; Zahra 1995). This study also assumes that entrepreneurial orientation is collective whole of innovation, risk-taking and proactivity.

Determinants of individual's entrepreneurial orientation

Many factors have been identified that affect individual's entrepreneurial orientation; e.g. organizational factors (Hornsby et al. 2002; Janssen 2000; Kahai et al. 2003; Kamalian et al. 2011; Lee et al. 2011; Scheepers et al. 2008; Sharifi 2011; Stull 2005), individual's factors (Janssen 2000; Lee et al. 2011) and leadership role (Elenkov et al. 2005; Jaussi & Dionne 2003; Jong & Hartog 2007; Kahai et al. 2003; Mumford & Licuanan 2004; Scheepers et al. 2008; Shin & Zhou 2003; Smith 2002; Tierney et al. 1999; Yukl 2002). This study focus only on the two factors i.e. leaders' entrepreneurial orientation and organizational factors.

Role of leadership

As already discussed individual's entrepreneurial orientation leads to organizational or corporate entrepreneurial orientation. This study focuses on entrepreneurial orientation of both leader and employees/followers.

Leadership is having different meaning for different individuals (Yukl 2002), but simply it can be inferred as the process of influencing others towards achievement of some goal or outcome (Jong & Hartog 2007). This study covers the behavioral traits of leader (entrepreneurial orientation). When looking at the outcomes of leadership most of the literature is evident of the fact that most of the researchers have focused on performance or job outcomes, and very few have focused on innovative behavior of employees (Jong & Hartog 2007) while entrepreneurial orientation is uncovered area.

Employees' innovative behavior has been investigated by transformation, participative leadership and leader-member exchange perspectives. Like, transformational leadership positively encourages innovation and creativity (Kahai et al. 2003; Shin & Zhou 2003), while transformational leaders encourage followers to view things differently, and help them to exploit their potentials. Jaussi and Dionne (2003) also supported that phenomenon but they noticed the effect was minimal. Participative leadership, on the other hand, has positive impact on individual's innovative behavior, as it empowers them to take their own decision and to design their own targets & performance standards (Axtell et al. 2000; Yukl 2002).

Yet another important view is about the exchange between leader and members (Leader-Member exchange or LMX). LMX is based on social exchange relationship between leader and employees (Atwater & Carmeli 2009). This theory entails that leader develops the dyadic relation with subordinates. When the exchange relation is positive and strong followers will reciprocate it with increased performance (Ehigie & Akpan 2004; Elenkov et al. 2005; Janssen & van Yperen 2004; Jaussi & Dionne 2003), and other behavioral outcomes (Carmeli & Schaubroeck 2007; Jong & Hartog 2007). This theory assumes that there are two groups formed due to leaders relations, these are: in group (its members receive maximum benefits and favors from the leader) and out group (those have less or no exchange with leader) (Janssen & van Yperen 2004). While identifying the role of leader-member exchange in team structure Boies and Howell (2006) commented that positive exchange in teams can increase outcomes by offering two fold benefits: first, by increasing team ability to perform, and second, by reducing conflicts in teams. Considering the notion of LMX, this study also entails that high and positive LMX increases both individual's ability to work creatively and overall project outcome. It entails that when leader offers something valuable to employee, he/she reciprocates it with something valuable (Yukl 2002). Quality exchange relations increase employees' entrepreneurial capabilities (Ehigie & Akpan 2004; Elenkov et al. 2005; Janssen & van Yperen 2004; Jaussi & Dionne 2003; Shin & Zhou 2003; Stull 2005; Tierney et al. 1999).

Most of the previous studies focused on the leadership styles that had been originally developed for other purposes and not to judge entrepreneurial outcomes; so these model may not properly predict the innovative or entrepreneurial behavioral outcomes (Jong & Hartog 2007; Mumford & Licuanan 2004). Considering this notion, current research entails leader's entrepreneurial orientation as the style that can positively predict individuals' entrepreneurial orientation. This perspective can also be assumed by taking exchange relation (LMX) in consideration, where offering something valuable from one party (e.g. leader) will make follower reciprocate it with something valuable (Janssen & van Yperen 2004; Stull 2005). So when leader offers and shows entrepreneurial behavior at work, his followers or employees will also imitate it and will depict high level of entrepreneurial orientation. So following hypothesis can be formulated:

H1: Leader's entrepreneurial orientation will make employees' depict high level of entrepreneurial orientation

Organizational factors and employees' entrepreneurial orientation

Increased significance of entrepreneurial orientation has led to augmented level of attention on organizational factors that contribute towards increased employees' innovative and entrepreneurial orientation (Elenkov et al. 2005; Scheepers et al. 2008; Stull 2005). These factors include reward for entrepreneurial activities and availability of resources (Cooper 2003; Ehigie & Akpan 2004; Hayton 2005; Hislop 2005; Hornsby et al. 2002; Janssen 2000; Kahai et al. 2003; Kamalian et al. 2011; Scheepers et al. 2008), autonomy and empowerment at work (Hornsby et al. 2002; Kamalian et al. 2011; Scheepers et al. 2008; Sharifi 2011; Stull 2005), supportive organizational structure (Axtell et al. 2000; Bouchard 2001; Hornsby et al. 2002; Kamalian et al. 2011; Lee et al. 2011; Scheepers et al. 2008; Sharifi 2011; Zhou & Shalley 2003). Using the literature given above, four main determinants of entrepreneurial orientation have been taken i.e. reward for entrepreneurial activities, availability of resource autonomy & empowerment at work and organizational structure.

On the basis of given literature following hypotheses can be formulated:

H2: Reward for entrepreneurial activities positively predicts individuals' entrepreneurial orientation.

H3: Availability of resources positively predicts individuals' entrepreneurial orientation.

H4: Autonomy and empowerment at work positively predict individuals' entrepreneurial orientation.

H5: Supportive organizational structure positively predicts individuals' entrepreneurial orientation.

Individuals' entrepreneurial orientation and project output

IT firms, like other Knowledge base firms are based on innovative and creative activities, and have structures consisting of teams, where each team is responsible for specific task to perform (Stam & Elfring 2008). Entrepreneurial orientation in such firms pays off in shape of increased team and organizational performance (Stam & Elfring 2008; Stull 2005).

Literature is also evident of this, like it was witnessed that individual's orientation has direct bearing on performance (Birley 1985). Organizational factors like support, empowerment and encouragement for being innovative or entrepreneurial depict high level of entrepreneurial orientation which increases projects performance (Stull 2005). This notion has been agreed upon by other researchers like (Axtell et al. 2000; Smith 2002; Unsworth & Parker 2003). Thus it could be inferred that presence of high individuals' entrepreneurial orientation leads to high performance and increases chances of success.

So following hypothesis can be drawn:

H6: Individuals' entrepreneurial orientation positively influences project success

Methods

This study is an attempt to observe the impact of organizational factors (reward, resources allocation, autonomy & empowerment and supportive structure) and leader's

entrepreneurial orientation on individual's entrepreneurial orientation, and ultimately role of individual's entrepreneurial orientation on project success.

Respondents

This study was conducted in IT firms. IT firms are out of those firms which offer knowledge intensive services and require innovation as the regular stay of business. Knowledge intensive firms are those where tasks performed by employees are of intellectual nature involving innovation and risk taking (Hislop 2005).

As this study is focused on entrepreneurial orientation which entails innovativeness, proactive and risk taking propensity (Scheepers et al. 2008; Zahra 1995), IT sector was one of the most suitable sectors to research which had not received due importance by researchers (Jong & Hartog 2007). 25 IT companies were selected for this study, out of which 42 teams were selected on the basis of judgment sampling. All of these firms were using team based structures, where teams of 3–15 (average 9 employees per team) individuals were led by a team leader. So sample of the study included 42 team leaders and 378 employees. A questionnaire was used to collect data; which was divided in seven sections, where four sections for organizational factors and one section each for all other constructs.

Data collection

Data was collected at two points of time with interval of 4 weeks, with intention to overcome the possibility of common method biasness (Podsakoff et al. 2003). At first point of time both leader and team members were asked to respond. Team leaders were inquired for organizational factors while team members were inquired for leader's entrepreneurial orientation. At second point of time, leader responded for employees' self-entrepreneurial orientation while employees responded for project performance (perceived). This way can reduce bias associated with data collection at one point of time or same respondents (Atwater & Carmeli 2009).

Instrumentation

Instrument for leader's entrepreneurial orientation and individuals' entrepreneurial orientation was adapted from work of (Kreiser et al. 2002; Tang et al. 2008), which was originally devised to test organizational entrepreneurial. This instrument was modified to make it fit to inquire individual and leader's orientation. Reward for entrepreneurial activities, resources availability, autonomy and empowerment, supportive structure were adopted from (Hornsby et al. 2002) and instrument for project success was adopted from (Stull 2005). All these scales were found to be reliable $\alpha = 0.70$ to 0.92 (Hornsby et al. 2002; Kreiser et al. 2002; Stull 2005; Tang et al. 2008).

Control variables

In process of inquiry few variables were controlled. For instance, job tenure may cause difference in creative behaviors (Tierney & Farmer 2004). In addition, educational level was also controlled as it had been noticed that educational level may bring difference in attitudes and behaviors (Atwater & Carmeli 2009). Gender was also controlled as it may also effect level of creativity and involvement in creativity (Carmeli & Schaubroeck 2007).

Data analysis

As per the needs of study, SPSS 18.0 and Amos 16.0 were used for data analysis. The basic techniques used were Confirmatory factor analysis and structural equation modeling.

Results

Descriptive statistics

Table 1 depicts mean scores, reliability and correlation coefficient. Mean score shows the response against each variable. Scores for leader's entrepreneurial orientation (LEO), reward for entrepreneurial activities (REA), autonomy and empowerment (AE) and individuals' entrepreneurial orientation (IEO) fall at or near 4 (which shows strong response about constructs at five point scale). Respondents view about remaining constructs fall at neutral level where they are neither agree nor disagree. All the values of correlation coefficient are significant at 1% or 5%. Values of Cronbach's alpha are also in acceptable limit i.e. 0.702-0.890 (Hair et al. 2006; Nunnally 1978), which shows that instruments are reliable and their use in this study is justifiable.

Confirmatory factor analysis

We employed LEO/IEO measure of (Kreiser et al. 2002), which was tested for its unidimensionality through confirmatory factor analysis (CFA). As noticed by (Kreiser et al. 2002; Scheepers et al. 2008), the proposed one-factor model fitted well (ratio of Chi-square to $df = 1.31$; GFI = .93; AGFI = .90; NFI = .94; NNFI = .96; CFI = .97; SRMR = .04; and RMSEA = .03).

Structural equation model

Structural equation modeling was also used to verify the existence of causal relationship among the constructs. Use of SEM is recommended as it uses both factor analysis and multiple regressions to find out interrelated relationships of variables (Hair et al. 2006). We also formulated structural equation model using AMOS 16.0. Model fitness indices were compared with the standard values given by (Hair et al. 2006). Model fitness indices from Table 2 show that model is perfectly fit ($\chi^2/df = 2.60$, $df = 799$, GFI = 0.905, AGFI = 0.815, CFI = 0.901, NFI = 0.910, NNFI = 0.90 and RMSEA = 0.064). This helps us proceed further for analysis of path coefficients for SEM model.

Table 1 Descriptive statistics

	Mean (S.D.)	∞	Correlation							
			1	2	3	4	5	6	7	
LEO (1)	4.22 (0.76)	.791	–							
REA (2)	4.03 (0.80)	.889	.427**	–						
RA (3)	3.20 (1.01)	.781	.370**	.390**	–					
AE (4)	3.98 (1.19)	.739	.402**	.419*	.422**	–				
SS (5)	3.30 (0.78)	.780	.490*	.430*	.396**	.483**	–			
IEO	3.78 (0.79)	.890	.390*	.430*	.369**	.319**	.429*	–		
PS	3.42 (0.63)	.702	.302*	.391*	.301**	.320**	.310**	.431**	–	

$p < 0.001$ **.
 $p < 0.05$ *.

Table 2 Structural equation model

	Standard value	Direct effect
χ^2		2079.26 (<i>df</i> = 799)
χ^2/df	≤ 3.00	2.60
$\Delta \chi^2$		-
GFI	≥ 0.90	0.905
AGFI	≥ 0.80	0.815
CFI	≥ 0.90	0.901
NFI	≥ 0.90	0.910
NNFI	≥ 0.90	0.90
RMSEA	≤ 0.80	0.064

Hypotheses test

The properties of the causal paths (standardized path coefficients) are illustrated in Table 3. Leader’s entrepreneurial orientation (LEO) is found to have positive and significant impact on individuals’ entrepreneurial orientation (IEO) ($\beta = .32$), it proves H1 in which it is assumed that LEO will positively predict IEO. Reward for entrepreneurial activity (REA) is also positively predicting IEO ($\beta = .18$), which helps us support H2. Resources availability (RA), Autonomy and Empowerment (AE), and supportive structure (SS) are also positively predicting IEO ($\beta = .27$; $\beta = .39$; $\beta = .19$ respectively), proves H3, H4 and H5 respectively. Consistent with all other hypothesis H6 was also proved by the fact that there is existence of positive and significant relationship between IEO and project success ($\beta = .23$).

Discussion

The core aim of this article was to identify the role of organization and leader in nurturing individuals’ entrepreneurial orientation (IEO), and ultimately IEO effects on project success. It covers one of the unexplored area i.e. leaders’ entrepreneurial orientation. Previous studies e.g. (Ehigie & Akpan 2004; Elenkov et al. 2005; Janssen & van Yperen 2004; Jaussi & Dionne 2003; Jong & Hartog 2007; Kahai et al. 2003; Mumford & Licuanan 2004; Shin & Zhou 2003; Smith 2002; Tierney et al. 1999; Yukl 2002) focused on leadership traits or behavior that might influence individuals’ creativity or innovation but none of the studies has focused on leader’s entrepreneurial orientation (LEO) and its outcomes in shape of IEO.

Findings of the study prove that organizational factors of reward for entrepreneurial activities, resources availability, autonomy and empowerment, and supportive structure

Table 3 Hypotheses test

Hypotheses	Effects	Standardized regression weights	C.R.	P	Result
H1	LEO—IEO	0.32	6.346	**	Accept
H2	REO—IEO	0.18	6.230	**	Accept
H3	RA—IEO	0.27	8.193	**	Accept
H4	AE-IEO	0.39	7.871	**	Accept
H5	SS-IEO	0.19	6.390	**	Accept
H6	IEO-PS	0.23	6.248	*	Accept

* $p < 0.05$, ** $p < 0.001$.

are important determinants of IEO. Previously it has been noticed that these factors are important determinants of individual's creativity/innovation and corporate entrepreneurial orientation (Hornsby et al. 2002; Kamalian et al. 2011; Lee et al. 2011; Scheepers et al. 2008; Sharifi 2011; Stull 2005). So our findings are quite consistent with previous findings. It can be inferred from the findings that in order to increase individual's entrepreneurial propensity, which involves innovation, risk-taking and proactivity, organizations should offer good and timely rewards, should provide resources, should provide autonomy and empowerment to employee, and structures should be supportive. Thus providing support, not only increases employees' creative involvement, but also helps in implementing creativity into actions through risk taking. It also increases employees' behavior and makes them proactive in nature, which can pay off in future in shape of continuous creative processes and products. When role of leader was investigated it was found that leader's entrepreneurial orientation positively predicts individuals' entrepreneurial orientation (IEO). Our findings add value to the existing findings of (Ehigie & Akpan 2004; Elenkov et al. 2005; Hislop 2005; Janssen & van Yperen 2004; Jaussi & Dionne 2003; Jong & Hartog 2007; Kahai et al. 2003; Mumford & Licuanan 2004; Shin & Zhou 2003; Smith 2002; Tierney et al. 1999; Yukl 2002); who had witnessed positive impact of leadership on employees' creativity and organizational entrepreneurial orientation. These findings further strengthen the view point of the theory of LMX which proposes that provision of support and favor from leader paves the way of better performance, outcomes and positive behaviors of employees. Our findings prove that "followers are on the way of their leaders", when leaders behave entrepreneurially, they will provide same sort of environment to their followers who will behave entrepreneurially in return.

Our findings add value by testing leader's entrepreneurial orientation (innovation, creativity and risk-taking) rather than leadership styles. Our findings also put a new stance by testing relation of leader's entrepreneurial orientation with individual's entrepreneurial orientation that has not been covered by previous researchers. It can be inferred from the results that leader's entrepreneurial orientation increases individuals' entrepreneurial orientation.

This study also has a look at impact of individuals' entrepreneurial orientation on project success. Results prove that presence of individuals' entrepreneurial orientation increases projects success. These findings are consistent with the findings of (Cooper 2003; Stull 2005; Tang et al. 2008; Zahra 1995). Thus it can be inferred that creating individuals' entrepreneurial orientation will pay off organization in shape of increased performance, a core purpose of existence.

Conclusion and recommendation

In summing up, the persuasive theme that stems out from current study is that organization and leadership can positively enhance individuals' entrepreneurial orientation which is an important factor that leads to project or organizational success and performance. It shows that if leaders themselves are entrepreneurial in nature, followers will also like to imitate them and would be more inclined towards entrepreneurial activities, which will ultimately foster organizational performance.

If an organization wants to have increased realm of innovative, risk-taking and proactive employees, it has to offer them good rewards for their entrepreneurial behaviors along

with useful and timely resources, autonomy & empowerment, and supportive work structure. This study also realizes the indispensable role of leader for an entrepreneurial workforce. Employees follow leaders by imitating leader's innovative behavior. Employees' reciprocation and imitation increase project performance which leads to organizational performance.

Limitation and future directions

This study has certain limitations. The first limitation is that it covers only one sector from knowledge intensive services i.e. IT firms, while knowledge intensive firms have big scope and operate in many areas e.g. consultancy, audit services, accountancy services, marketing consultancy, law firms (Anxo & Storrie 2001; Hislop 2005). Resources limitation restricted us to work on only 25 IT firms, which is a small number within a huge sector. Future researchers should focus on these limitations and overcome it. Future researchers should also focus on all the constructs i.e. organizational entrepreneurial orientation, leaders' entrepreneurial orientation and individual's entrepreneurial orientation. Future researches should find out which of them comes first and how these are related.

Competing interests

The authors declare they have no competing interests.

Authors' contributions

All the authors contributed equally in the whole research process.

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