

**Developing Organizational Creativity and Innovation:
Toward a model of self-leadership, employee creativity, creativity climate
and Workplace Innovative Orientation**

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Abstract

Creativity and innovation provide the basis for sustainable competitive advantage to the organizations operating in the present business environment. Organizational creativity stems from the summative approach of collective individual creativity available inside the organization. This study as a unique approach has explored the dimension of self-leadership in connection with employee creativity, creativity climate, and workplace innovation preparedness. The results of structural equation modelling analysis based on the sample responses obtained from the research, design and development units of a select number of organizations across industries in Indian context revealed the significant relationships among self-leadership; employee creativity, creativity climate; and workplace innovative orientation. Further, the moderating effect of creativity climate was conducted using post-hoc on employee creativity and workplace innovative orientation. The major limitation of the study lies in relatively small sample size compared to large population group and absence of any qualitative analysis through the interaction with sample respondents.

Keywords: self-leadership; employee creativity; creativity climate; workplace innovation

I. Introduction

Innovation is increasingly recognized as a key source of sustainable competitive advantage that organizations can use to withstand the rapidly changing business environment. The concept of innovation has attracted the attention of numerous scholars and practitioners from various disciplinary perspectives. Studies have suggested that creativity and innovation in products, work processes, and services are key contributors to long-term organizational survival and success (Martin and Terblanche, 2003; Lin and Chen, 2007; Zhou and Shalley,

2008). Creativity, namely, the ability to produce novel work, is considered to be both the starting point and the root of innovation (Amabile et al., 1996; Shalley and Perry-Smith, 2001). Previous studies on creativity development have mainly focused on individual factors, including intelligence (Cropley, 1966; Sternberg and O'Hara, 1999), personality (Helson, 1996), cognition (Runco, 1986), and methods of improving individual creativity (Amabile, 1982). In addition to personal qualities, many studies have attempted to identify work environments and social climates that may foster or impede innovation in a working setting (Shalley et al., 2004; Wongtada and Rice, 2008).

Innovation capabilities in individuals at workplace are significant characteristics that help an organization to establish competitive advantages, and individual innovation provides a foundation for generating high performance in organizations (Janssen et. al. 2004; Carmeli et. al. 2006). It also enables an organization to improve its competitiveness (Schilling, 2008) and promote long-term success (Smith, 2002). Individual innovation is defined as innovation at individual level (Shavinina and Seeratan, 2003) by exploitation and implementation of new and useful products and procedures through the creative ideas and thoughts (Baumgartner et. al. 2010) of individuals. Individual innovation belongs to a general construct of high abilities including creativity (Shavinina and Seeratan, 2003). Several scholars suggested that creativity (Amabile, 2000; Heye, 2006; Schilling, 2008) and self-leadership (DiLiello and Houghton, 2006) are important antecedents of individual innovation. Creative theorists have argued that individual's creativity is an important antecedent and precondition for innovation (Heye, 2006; Schilling, 2008). The higher ability of individuals to generate new, novel and useful ideas is more likely to create his/her own innovation (Woodman et. al. 1993), which in turn contributes to group and organizational innovation. Creativity alone is not sufficient for developing an innovation (Anderson et. al. 2004). Individuals must also have a certain level of inner force that enables them facing the challenges in creativity (Shalley and Gilson,

2004). This internal force comes from self-leadership which is the skill that fosters individual innovation (Carmeli, et al., 2006). Self-leadership is a primary factor that participates and facilitates creativity and individual innovation (Houghton and Yoho, 2005; DiLiello and Houghton, 2006; Neck and Houghton, 2006). Previous literature also proposed that individual creativity (McLean, 2005) and self-leadership (D'Intino et. al. 2007) can be increased in the risk taking supported culture. It was suggested that high congruence between a creative person and culture may result in high level of innovative performance (Amabile, 2000; Miron et. al. 2004). The relationships among above variables have been theoretically suggested by Pratoon and Savatsomboon (2010). Therefore, it can be reasonably deduced that by introducing the dimension of self-leadership to the popularly studied variables in the area of individual creativity and organizational readiness for innovation should generate interesting and useful findings both from academic and professional point of view. In alignment with this logic, this study has explored empirically a hypothesized model of self-leadership, employee creativity, creativity climate, and workplace innovative orientation in Indian context.

II. Review of Literature and Hypothesized Framework

i) Self-Leadership

Self-leadership is a process through which people influence themselves to achieve the self-direction and self-motivation necessary to behave and perform in desirable ways (Manz, 1992; Manz and Neck, 1999; Manz and Sims, 2001; Houghton and Neck, 2002; Manz and Neck, 2004). Specific behavioural and cognitive strategies related to self-leadership can be classified as (1) behaviour focused strategies; (2) natural reward strategies; and (3) constructive thought strategies (Houghton and Neck, 2002; Neck and Houghton, 2006). Behaviour focused strategies are aimed at increasing self-awareness leading to management

of behaviours. These strategies include self-observation; self-goal setting; self-reward; self-correcting feedback and practice. Self-observation of one's own behaviour can lead to an awareness of when and why an engages in certain behaviours. Based on this foundation of self-assessment, the individual can effectively set and accept challenging specific personal goals that may lead to improved performance through enhanced motivation (Manz and Sims, 2001; Manz and Neck, 2004). Moreover, self-rewards and self-correcting feedbacks can be used to shape and reinforce desirable behaviours and goal attainments (Manz and Neck, 1999; Manz and Sims, 2001; Houghton and Neck, 2002). Natural reward strategies emphasize the enjoyable aspects of a given task or activity. Natural or intrinsic rewards follow when incentives are built into the task itself and a person is motivated and rewarded by the task itself; and thus generates the feelings of enhanced competence, self-control, and purpose (Manz and Neck, 1999). Natural reward strategies include efforts to incorporate more pleasant and enjoyable features into a given task or activity, and efforts to change perceptions of an activity by focusing on the task's inherently rewarding aspects (Manz and Neck, 1999; Manz and Sims, 2001). Constructive thought pattern strategies involve the creation and maintenance of functional patterns of habitual thinking. Specific thought oriented strategies include reviewing the irrational beliefs and assumptions; mental imagery of successful future performance; and positive self-talk (Neck and Manz, 1996).

ii) Employee Creativity

Creativity is a complex and diffused construct that has been defined in various ways (Shalley, 1995). Creativity can be identified with the specific characteristics of products (Woodman et al., 1993; Shalley, 1995; Oldham and Cummings, 1996), people (Guilford, 1950), thought processes (Weisberg, 1992) or of the situation in which it takes place (Csikszentmihalyi, 1990). Although this implies a lack of integration in the research into the question (Mumford and Gustafson, 1988), there is consensus in the literature that creativity refers to something

that is both novel and in some sense valuable (Ford, 1995). So, creativity is an ingredient for innovation, with the difference that the latter comprises commercialization, and implies the successful implementation of creative ideas (Shilling, 2006). Hence creative ideas provide a basis for innovation emergence, but for innovation being successfully implemented, it is necessary to have in place or to obtain a wide range of necessary resources. Therefore, creativity is linked to innovation, and is a major forerunner of innovation, although conceptually they appear to be different (Shalley and Perry-Smith, 2008).

Amabile (1996) expressed that individual creativity is a function of an individual's domain relevant skills (factual knowledge and technical skills in a particular knowledge domain) and creativity-related skills (cognitive style and work style). Amabile and Gryskiewicz (1989) found that for R&D scientists, the most frequently mentioned feature of creative behaviour was intrinsic motivation. This relates to being self-driven, excited by the work itself, enthusiastic, attracted by the challenge of the problem and not being motivated only by money, recognition or external directives. A Lithuanian study (Jaskyte and Kisieliene, 2006) supports the proposition that maintaining creativity in organizations depends on maintaining intrinsic motivation. Individuals participate in the creative process in an interactive fashion by developing ideas and presenting them to relevant others; and then by learning from reactions, reworking ideas, and presenting them once again (Dewett, 2004). Amabile (1988, 1996) and Amabile et. al. (1996) demonstrated that an individual's competencies in a knowledge domain and creative thinking skills are moderated by the social-environmental working conditions. The context in which an individual employee works influences his/her internal motivation that subsequently influences creative achievements (Amabile, 1988, 1996; Von Krogh et. al. 2000; Mumford et. al. 2002; Farmer et al., 2003).

Creativity is an individual and cultural phenomenon allows individuals to transform possibilities into reality (Tan, 2007). The individual's ability and capacity to create and

develop new, novel and useful ideas about firm's products, practices, services or procedure (Mumford, 2003; Shalley and Gilson, 2004) also accounts for his/her creativity. When the ideas generated in creativity are successfully implemented, it becomes innovation. Creative theorists have argued that individual's creativity is an important antecedent and precondition for innovation. Creativity has been suggested as important and key antecedent factor for individual innovation (Heye, 2006; Schilling, 2008). An individual group member having higher ability to generate new, novel and useful ideas is more likely to create own innovation (Woodman, et al., 1993), which in turn contributes to group and organizational innovation. On theoretical grounds, it is inferred that ability to create and developing new and useful ideas increases the likelihood of creating innovation. Creativity requires absolute novelty of the idea whereas innovation only requires relative novelty of the idea to the unit of adoption (Woodman, et al., 1993). Therefore, adopting a new policy from another organization to the current organization would be innovative but not creative. The definition of creativity also includes an essential requirement for the idea or product to be useful. Theory suggests positive relationship between creativity and innovation.

iii) Self-Leadership and Employee Creativity

Self-leadership theorists have proposed that creativity and innovation are the anticipated outcomes of individual self-leadership (Houghton and Yoho, 2005; DiLiello and Houghton, 2006; Neck and Houghton, 2006). However, research on the relationship between self-leadership, creativity, and innovation is still at the nascent stage. An additional research is needed to further clarify the relationship between self-leadership, creativity, and innovation (Neck and Houghton, 2006; Pratoom and Savatsomboon, 2010). Furthermore, it is evident that the self-leadership skill is a significant antecedent factor that positively affects innovative behavior (Carmeli, et al., 2006). Hence, given self-leadership's conceptualization as a determinant of innovation, self-leadership is expected to have direct effect on innovation of

group members (Pratoom and Savatsomboon, 2010). Creativity alone is not sufficient for developing an innovation (Anderson, et al., 2004). Individuals must also have a definite level of internal force that pushes them to proceed in facing the challenges in creative work (Shalley and Gilson, 2004). Self-leadership is necessary in those organizations that need continuous innovation (Pearce and Manz, 2005). When employees are encouraged to lead themselves in defining problems, solving problems, making decision, and identifying opportunities and challenges both now and in the future, their creativity is encouraged. On the other hand, if employees are not encouraged to lead themselves in critical situations, then creativity is not encouraged (Pearce and Manz, 2005). In recent period of time, self-leadership has been viewed and accepted as the basis of employee empowerment and successful implementation of self-managing work teams (Neck et. al. 1996; Anderson and Prussia, 1997; Markham and Markham, 1998; Houghton and Neck, 2002; Neck and Houghton, 2006). Thus self-leadership is viewed as an important organizational tool for building a social and psychological climate that encourages creative problem solving. In other words, an organization which encourages self-leadership is likely to experience higher levels of creative processes among its members that in turn enhance the potential of developing innovative thoughts and practices at various organizational levels.

Hypothesis 1 (H1): Self-leadership is significantly associated with employee creativity so that:

H1a: Behaviour focus strategies are positively associated with employee creativity;

H1b: Natural reward strategies are positively associated with employee creativity;

H1c: Constructive thought strategies are positively associated with employee creativity.

iv) Creativity Climate

Studies on work-related environmental features have been brought together under the general heading of 'climate' (Patterson et al., 2004). Ekvall (1996) defined climate as the observed

and recurring patterns of behavior, attitudes and feelings that characterize life in an organization. Climate has also been defined as a set of shared views regarding individuals' perceptions of organizational policies, practices and procedures (Patterson et al., 2004). To be specific, organizational climate is a property of the organization itself and represents employees' descriptions of an area of strategic focus or organizational functioning (Parker et al., 2003). Literature review shows that there is great interest in particular climate foci; examples include climate for safety (Baer and Frese, 2003), ethical climate (Wimbush et al., 1997) and service climate (Schneider et al., 1998; Tsai and Wu, 2001), procedural justice climate (Naumann and Bennett, 2002) and organizational climate that are characterized by fairness, innovativeness and affiliation (Brock et al., 2005).

Creativity climate also referred sometimes as workplace atmosphere includes the factors of an organization's socio-environmental context like care for employees, enjoyable ambiance, openness of communication, emotional and functional support provided by supervisors to their staff, employees' willingness to share expertise, ideas, and responsibilities in the creative process, and risk-orientation. Von Krogh et al. (2000) showed that workplace atmospheres reflecting trust and a general impression of care facilitate employees' communication, knowledge-sharing, and creative outputs. The study done by George and Zhou (2007) found that when supervisors provided a supportive atmosphere for creativity, and positive mood was high; even negative mood had a strong positive relationship with employee creativity. They explained that the negative moods promoted problem identification and dissatisfaction with the current situation that encouraged opportunity identification. Positive moods promote confidence and divergent thinking. Positive moods contribute to creativity at work when there is a supportive supervisory context and a general feeling of positive energy in an organization. Supervisory support discriminates between high and low creativity projects (Amabile et al., 1996). Support is especially salient in project goal

clarity (Shalley, 1995) and in open interactions between an employee and supervisor (Tierney et al. 1999). Supportive supervisors show concern for an employee's feelings and needs, encourage employees to voice their own concerns, provide positive, primarily informational feedback, and facilitate employee skill development (Deci and Ryan, 1987). Mumford and Gustafson (1988) found that supervisory encouragement to learn more in a particular knowledge domain influences the occurrences of creative outputs. What is important is that workers' perceived encouragement (Amabile et al., 1996), because it is the psychological interpretation of the socio-environmental context to an individual. It can influence his/her creativity (Amabile, 1988). Subordinates' self-perceptions are enhanced when the leader consults with them about important decisions or issues (Amabile et al. 2004).

Co-workers also possess the potential to impact employee creativity (Woodman, Sawyer & Griffin, 1993). Co-workers can positively influence creativity through encouragement and support (Amabile et al., 1996; Farmer et al. 2003). Madjar (2005) noted that before proposing an idea, employees need the reassurance from the relevant group of people in order to ensure acceptability and eliminate exclusion from the group. Immediate encouragement and assistance from this particular work group should have the strongest impact on creative performance. The reason might be because this group contains the people who will use and implement the creative idea. Woodman et al. (1993) hypothesized that individual creative performance would be enhanced by a risk-taking context. This implies that an atmosphere reflecting a willingness to try new and different approaches could improve creativity. Dewett (2007) found that the effect of intrinsic motivation on creativity is transmitted through an increased willingness to take risks.

Hypothesis 2 (H2): Creativity climate is significantly and positively associated with employee creativity.

v) ***Workplace Innovative Orientation***

Innovation has been defined as the successful implementation of creative ideas within an organization (Amabile et. al. 1996; Amabile et. al. 2004). Innovation is very important, especially for companies that produce technology-driven products, with the risk of technological obsolescence (Brown and Karagozoglu, 1993) and in environments characterized by competitive intensity, technological and market dynamism (Kessler and Chakrabarti, 1996). Organizations around the globe are encountering a joint challenge that is the need to improve the performance by capitalizing on new opportunities, and to establish or recapture competitive advantage (Basadur and Gelade, 2006) for profitability and survival in dynamic competitive environment. Innovativeness of firms and organizations depends on internal factors such as the firm's innovative capability, size and structure, learning and strategic orientation, external factors such as network of partners, communication, and the industrial environment (Oskarsson, 2003) in which the organization operates.

Workplace innovative activity can be assessed by the number of innovations, the speed of implementation of innovations and the newness of an innovation (see, for example, Deshpande et. al. 1993) as well as by relative innovative activity in comparison to competitors. Although the terms, creativity and innovation, are often used interchangeably in the management literature, employee creativity is increasingly conceptualized as a necessary prerequisite and starting point for innovation. As such, innovation originates from within the individual, that is, from his/her new ideas (Scott and Bruce, 1994; Zhou & George, 2001; Rickards, 2003; Shavinina and Seeratan, 2003). Hence, it can be safely posited that individual employee creativity is positively associated with workplace innovative activity. Organizational cultures that stress a carefully balanced combination of both autonomy and collaboration appear more likely to generate innovative products (Mumford, 2000). Senior managers indirectly influence such product innovations by encouraging intrapreneurial behavior. They directly influence organizational process innovation by taking a leadership

approach, communicating a compelling vision, and setting up a structure and organizational culture that supports innovation (Elenkov and Manev, 2005). Innovation is a complex process and it arises from linkages between multiple sources (Schilling, 2008) rather from a single and individual source. When employees produce new, novel and useful products or procedures, they are basically providing the organization with options. Employees' innovation allows an organization to choose from a broader array of products or procedures for development and later implementation (Cummings and Oldham, 1997).

Hypothesis 3 (H3): Employee creativity is significantly and positively associated with workplace innovative orientation.

Theories regarding creativity climate have attempted to identify aspects of work environments that facilitate creativity, mainly from organizational perspective (Amabile et al., 1996). Ekvall and Ryhammar (1999) argued that creativity climate composes of challenge, freedom, and support; in addition, it encourages openness and the tolerance of uncertainty. By discerning the importance of environment, Amabile's componential model (1988) of organizational creativity identified contextual components as essential to creativity climate, such as encouragement of creativity, autonomy, freedom, resources, pressures, and organizational impediments to creativity. This theoretical model led to the development of the "KEYS: Assessing the Climate for Creativity" as an instrument assessing organizational creativity climate that could facilitate interventions to promote innovation within organizations.

Woodman et al. (1993) took a similar perspective on Amabile's view and comment further that an important feature of creativity context is its ability to address influences across different levels which can enhance or inhibit creative behaviour in complex social systems. In addition, by integrating psychological and sociological descriptions of creativity, Ford (1996)

proposed a theory of individual creative action within organizational settings. He pointed out that creativity in organizational settings could best be conceived in terms of creative actions that may be simultaneously influenced and assessed across multiple social domains within and between levels of analysis. Although climate perception originates from individuals, organizational members are typically exposed to the same work environment and other proximal influence. These perspectives regard creativity climate as employees' shared perceptions about the structure and practices occurring in organizations. Once a work unit establishes a distinct character, it may result in greater homogeneity among unit members' attitude and values and how they perceive the organization (Seibert et al., 2004), the same rule expands to the whole organization. With the rationale that climate more often refers to the whole organization, this study labelled creativity climate as an organizational-level construct. In addition, the organizational level of creativity climate covers both the social environment and work environment that influence the work carried out in organizations (Amabile et al., 1996).

Hypothesis 4 (H4): Creativity climate is significantly and positively associated with workplace innovative orientation.

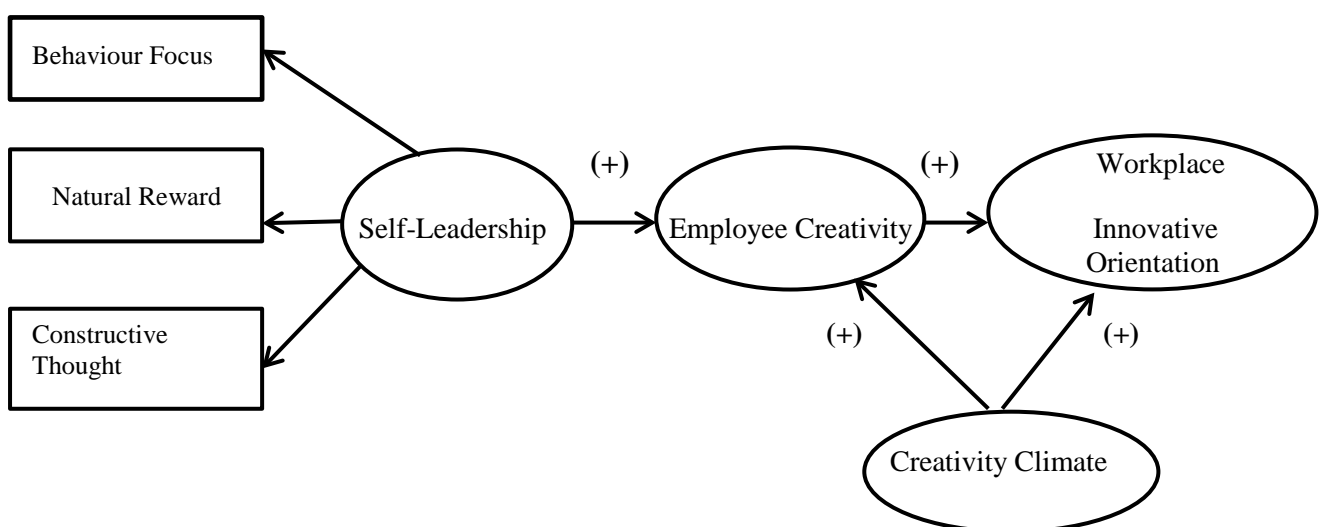


Figure 1: Hypothesized relationship between self-leadership, employee creativity, creativity climate, and workplace innovative orientation

III. Constructs and Measure of Items

Self-leadership was measured using the revised self-leadership questionnaire (RSLQ) developed by Houghton and Neck (2002). The RSLQ consists of total thirty five item measures in nine distinct sub-scales representing three primary self-leadership dimensions namely behaviour focused strategies; natural reward strategies; and constructive thought pattern strategies. The behaviour focused dimension contained five sub-scales namely self-goal setting (five items); self-reward (three items); self-punishment (four items); self-observation (four items); and self-cueing (two items). A single sub-scale consisting of five items represents the natural rewards dimension. The constructive thought dimension is represented by three sub-scales namely visualizing successful performance (five items); self-talk (three items); and evaluating beliefs and assumptions (four items). The RSLQ scale reported that all thirty five item measures were loaded on a total of eight factor solution set with the range of factor loadings varying between 0.68 and 0.86 through principal component analysis technique used by Houghton and Neck (2002). The Cronbach's alpha values of scale reliability were found to range from 0.70 to 0.78, and thus were well above the acceptable limits used for organization studies and research.

For the purpose of this research, employee creativity was operationalized as the perceptions of the employees' immediate or one level up supervisors related to creative endeavours in the workplace. 12 items to measure creativity were adopted from Cheung and Wong (2010), which they borrowed originally from Young (1994). These items measured employee's level of problem sensitivity, idea fluency, idea generations, originality of ideas, flexibility in producing ideas, and problem solving. The Cronbach's alpha was reported to be 0.79 and 0.82 for the studies made by Young (1994), and Cheung and Wong (2010) respectively.

Creativity climate was operationalized as an individual employee's perceptions towards the support; encouragement; free hand in decision making and executing; exchange of ideas and

information that he / she receives from the immediate supervisor, team members, and overall organization. The construct was measured using a total number of twelve item measures adopted from Wongtada and Rice (2008); which they borrowed originally from Fyvie and Ager (1999) and Von Krough et. al. (2000). The items measured factors like positive support from supervisor, superiors, and team members; informal interactions among various units; free flow of information inside the organization; scope for trying out new ideas and tolerance for mistakes; learning ambience; incentives for creative ideas and innovative solutions etc. The scale reliability coefficients (Cronbach's alpha values) in all these previous studies were reported to be significantly higher than the minimum acceptable limit including the one in the study done by Wongtada and Rice (2008) as 0.83.

The dimension of workplace innovative orientation was operationalized as an individual employee's perceptions (immediate or one level up supervisor) as to the applicability of these characteristics in the context of his / her organization. The construct was measured using a total number of six item measures adopted from Wongtada and Rice (2008); which they borrowed originally from Amabile et. al. (1996), and Kickul and Gundry (2001). The items measured factors like the organization's proactivity to market and environmental changes; generation, support, and implementation of new ideas to business; and innovativeness compared to peer group organizations. The scale reliability coefficients (Cronbach's alpha values) in all these previous studies were reported to be significantly higher than the minimum acceptable limit including the one in the study done by Wongtada and Rice (2008) as 0.84.

IV. Research Design and Sample

In the first phase of this study, a structured questionnaire using the five point Likert Scale was prepared and administered on thirty six organizational respondents comprising of managers, deputy managers, and assistant managers working in the research and development

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(design, engineering, client solutions etc.) unit of one automobile and one pharmaceutical organization respectively located in the northern part of India. Purposive sampling method was used to identify the organizations keeping in mind the objectives of this study, and further within the organizations thirty six respondents were selected with the help of the respective human resource executives making a total eighteen pairs of employees and their immediate supervisors. As the human resource executives in both the organizations were explained in detail about the purpose of this research, they selected sample respondents using judgemental sampling technique based on the employee's previous experience; achievements; and overall orientation towards trying with new ideas, products, and processes. Self-leadership and creativity climate measuring items were self-rated by the employees; whereas employee creativity and workplace innovative orientation measuring items were rated by their immediate and one level up supervisors. The findings from this pilot survey validated the survey instrument for carrying out the final survey in a more comprehensive and objective manner.

The same procedure followed in the pilot survey was adopted in the final survey by extending to a total of twelve organizations located in different parts of India. Twelve organizations belonged to the sectors namely automobile (2 organizations); advertising firm (2 organizations); pharmaceutical (2 organizations); paint and chemicals (1 organization); consumer electronics (2 organizations); information and communication technology (3 organizations). A total of 360 questionnaires in two distinct sets each comprising of 180 questionnaires were circulated among the managers, deputy managers, and assistant managers in the research and development units of these twelve organizations, and total 160 filled-in valid questionnaires were received back in the form of hard / soft copy for final data analysis. For measuring the dimensions of self-leadership and creativity climate, total 80 sets of responses were obtained from the employees in the research and development units of

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these twelve organizations; whereas another 80 sets of responses were obtained from the immediate or one level up supervisors with respect to the measured dimensions of employee creativity and workplace innovative orientation. Out of 160 distinct respondents, 37 were females (23%) and 123 were males (77%); and 64 of them (40% of total) had worked for more than 6 years; 69 of them (43% of total) had worked for more than 3 years; and 27 of them (17% of total) had worked for more than 1 year but less than 3 years in the same organization where they are working now.

V. Analysis and Discussion

To evaluate the moderating effects of creativity climate on the relationship between employee creativity and workplace innovative orientation, a two-way ANOVA was employed. Two treatments were selected in this study. Treatment one was the levels of employee creativity and treatment two was the creativity climate. Treatment one was categorized into low and high levels using the mean value of the summated score of employee creativity ($EC = EC1 + EC2$) as the dividing point. Treatment two was also categorized into low and high levels using the mean value of the factor score of creativity climate as the cut-off point. The dependent variable was the summated score of the individual items measuring workplace innovative orientation.

Table 1: Means, Standard Deviations, and Inter Correlations ($n = 80$)

Dimensions	<i>M</i>	<i>SD</i>	(1)	(2)	(3)	(4)	(5)	(6)
Behaviour focus (1)	4.01	0.37	(0.65)					
Natural reward (2)	3.53	0.22	0.61***	(0.71)				
Constructive thought (3)	3.98	0.43	0.21	0.36	(0.76)			
Employee creativity (4)	4.08	0.31	0.68***	0.41	0.61**	(0.86)		
Creativity climate (5)	4.00	0.52	0.21	0.13	0.29	0.64**	(0.80)	
Workplace innovative orientation (6)	4.13	0.19	0.17	0.09	0.23	0.60**	0.67**	(0.78)

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$; Figures in parentheses indicate Cronbach Alpha values.

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Table 2: Exploratory Factor Analysis						
Items	Behaviour focus	Natural reward	Constructive thought	Employee creativity	Creativity climate	Workplace innovative orientation
Self-goal setting: Item 1 Item 2 Item 3 Item 4 Item 5	0.86 0.84 0.81 0.80 0.78					
Self-reward: Item 1 Item 2 Item 3	0.88 0.89 0.85					
Self-punishment: Item 1 Item 2 Item 3 Item 4	0.83 0.81 0.80 0.76					
Self-observation: Item 1 Item 2 Item 3 Item 4	0.89 0.86 0.82 0.79					
Self-cueing: Item 1 Item 2	0.80 0.76					
Natural reward: Item 1 Item 2 Item 3 Item 4 Item 5		0.86 0.83 0.81 0.78 0.73				
Successful performance: Item 1 Item 2 Item 3 Item 4 Item 5			0.88 0.86 0.90 0.81 0.79			
Self-talk: Item 1 Item 2 Item 3			0.84 0.81 0.77			
Evaluating beliefs and assumptions: Item 1 Item 2 Item 3 Item 4			0.85 0.86 0.78 0.80			
Employee creativity: EC1 EC2 EC3 EC4 EC5 EC6 EC7 EC8 EC9				0.89 0.82 0.85 0.81 0.76 0.88 0.77 0.80 0.74		

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EC10				0.87		
EC11				0.83		
EC12				0.75		
Creativity climate:						
CC1					0.93	
CC2					0.91	
CC3					0.88	
CC4					0.90	
CC5					0.89	
CC6					0.86	
CC7					0.92	
CC8					0.87	
CC9					0.85	
CC10					0.94	
CC11					0.84	
CC12					0.90	
Workplace innovative orientation:						
WIO1						0.87
WIO2						0.86
WIO3						0.74
WIO4						0.78
WIO5						0.80
WIO6						0.81
Extraction method: Principal component analysis; Rotation method: Varimax with Kaiser Normalization; Rotation converged in 37 iterations.						

Table 3 and Figure 2 show the moderating effects of creativity climate on the relationship between employee creativity and workplace innovative orientation. It is shown that organizations with a favourable creativity climate conducive to workplace innovative orientation and a higher level of employee creativity tended to develop higher workplace innovative orientation; while the organizations with an unfavourable creativity climate and a lower level of employee creativity were associated with lower workplace innovative orientation. These results suggest that if organizations develop supportive workplace atmosphere conducive to organizational learning and innovation, and simultaneously emphasize employee creativity, they can achieve significantly higher levels of workplace innovative orientation that in turn may lead to successful product and / or process developments.

Table 3: Analysis of Variance for Workplace Innovative Orientation

Dependent Variable	Variance Source	Sum of Squares	<i>df</i>	Mean Square	F	<i>p</i>
Workplace innovative orientation	Employee creativity (<i>A</i>)	48.852	1	48.852	6.117	0.271
	Creativity climate (<i>B</i>)	41.603	1	22.729	3.383	0.252
	<i>A*B</i>	407.130	1	208.112	88.518	0.000
	Error	523.175	236	4.479		

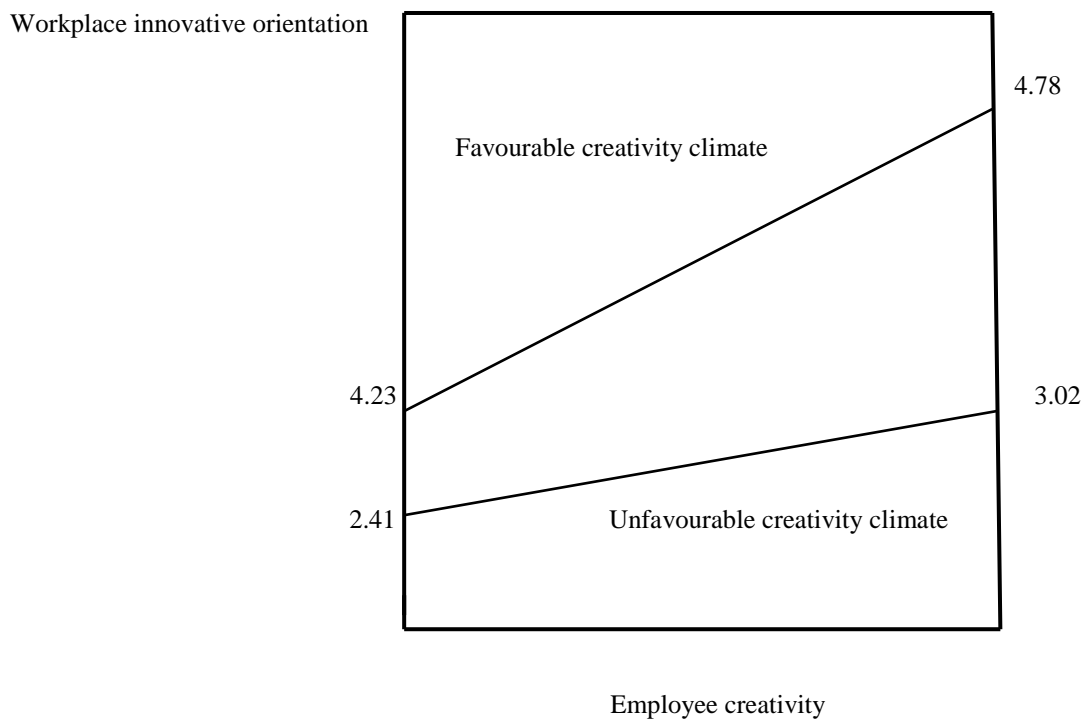


Figure 2: Moderating effects of creativity climate on workplace innovative orientation

The analysis in Table 4 indicated that the structural model fitted the data well with: $\chi^2 = 51.76$, $df = 3$, GFI = 0.90, AGFI = 0.88; IFI = 0.96, TLI = 0.95, CFI = 0.96, RMSEA = 0.03. Standardized path coefficients provided the empirical acceptance or non-acceptance of the hypothesized relationship among the variables. The acceptance of H1a and H1c hypotheses established the significant and positive relationships between self-leadership and employee creativity through behaviour focus (0.626, $** p < 0.01$) and constructive thought (0.670, $** p < 0.01$) respectively; although H1b was not accepted, hence no significant relationship existed between natural reward as a construct of the dimension self-leadership and employee creativity. Employee creativity was found to have significant positive relationship with

workplace innovative orientation (0.788, $**p < 0.01$); creativity climate had positive significant relationship with employee creativity (0.767, $**p < 0.01$) and workplace innovative orientation (0.654, $**p < 0.01$).

Table 4: Findings from the structural equation model

Hypotheses	Description of Path	Path Coefficient	Z Statistics	Conclusion
H1a	Behaviour focus → Employee creativity	0.626	2.78**	H1a(+): S
H1b	Natural reward → Employee creativity	0.227	0.78	H1b(+): NS
H1c	Constructive thought → Employee creativity	0.670	23.73**	H1c(+): S
H2	Creativity climate → Employee creativity	0.767	12.10**	H3(+): S
H3	Employee creativity → Workplace innovative orientation	0.788	44.12**	H2(+): S
H4	Creativity climate → Workplace innovative orientation	0.654	20.12**	H4(+): S

Model fit: $\chi^2 = 51.76$, $df = 3$, GFI = 0.90, AGFI = 0.88; IFI = 0.96, TLI = 0.95, CFI = 0.96, RMSEA = 0.03. Tests of hypotheses are one-tail tests; * $p < 0.05$; ** $p < 0.01$; S = supported; NS = not supported.

VI. Implications and Conclusion

This study empirically established that the behaviour focused aspects of self-leadership self-observation; self-goal setting; self-reward; self-correcting feedback and practice can lead to the path of individual employee creativity at workplace. Similarly, the constructive thought pattern aspects of self-leadership in terms of factors like systemic thinking; reviewing the irrational beliefs and assumptions; mental imagery of successful future performance; and positivity can generate the creative traits among the employees considerably. Natural reward as part of self-leadership was not found to have any significant impact on employee creativity probably because of the fact that the jobs or assignments in organizations all the time do not provide with sufficient complexity, challenge, and cognitive requirements. In such situations, employees especially working in the research, design, and development units of the organization feel under-valued, and if it continues for a long period the creativity level drops subsequently. This holds true in the present business environment of global crisis. Therefore, employees with self-drive, clear focus, awareness of personal strengths and weaknesses, high

competence in domain specialization are more likely to develop the creative thoughts and ideas on their own. In order to fructify this individual employee creativity into organizational commercial innovations, supportive creativity climate inside the organization has an important role to play. This particular aspect has been established through this study by taking into account the moderating effects of organizational creativity climate on the hypothesized relationship between employee creativity and workplace innovative orientation. Therefore, the onus of developing self-leadership attributes among individual employees lies on the individual employee's conscious leadership development initiatives as well as on the part of the organization by systematically exposing the individual employee to training, mentoring, on-the-job coaching, and role modelship. The top management along with the human resource executives should create an organizational ambience of learning conducive for trying out with new ideas, thoughts, and practices. Although the findings from this study are limited to the scope of a small number of surveyed organizations compared to the large population, it brings out interesting insights in Indian context for future researches in this direction especially for exploring the linkages among self-leadership, creativity, and innovation. Future studies should incorporate qualitative analysis as well to understand the thoughts and interpretations of the executives or managers working in the research, design, and development units so as to cross check the convergence or divergence exists between the empirical and qualitative findings. Similar studies should also be extended to other South Asian countries to meaningfully incorporate and interpret the relationship among self-leadership, creativity, and organizational innovation in similar socio-cultural contexts.

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