

## CREATIVITY, SELF-LEADERSHIP AND INDIVIDUAL INNOVATION

Masood Nawaz Kalyar\*

### Abstract

*Individual innovativeness provides an organization basis for high performance, improves firm's competitiveness and fosters long-term success. This area is of greater interest for entrepreneurs because individual level innovation is linked with firm-level innovation. However, research in this area is still at nascent stage in South Asia, particularly in Pakistan. This study developed and tested a model of individual innovation and its antecedent factors; creativity and self-leadership. Data were collected from 180 respondents from 10 producer firms in Pakistan; the response rate remained 72%. Regression analysis was run to test the hypotheses. Results showed that creativity and self-leadership are important predictors of individual innovation; proving positive direct relationships.*

**Key Words:** Individual innovation, Creativity, Self-leadership, Pakistan

### INTRODUCTION

Innovation capabilities in individuals at workplace are significant characteristics that help an organization to establish competitive advantages in strategic competition and in ever changing environment (Kanter, 1983; West & Farr, 1990). Individual Innovation provides an organization foundation for high performance (Carmeli, Meitar, & Weisberg, 2006; Janssen, Van de Vliert, & West, 2004). It also enables an organization to improve its competitiveness (Schilling, 2008) and promote long-term success (Smith, 2002). Innovation has been defined as the successful implementation of creative ideas within an organization (Amabile, 2000; Amabile, Conti, Coon, Lazenby, & Herron, 1996). Individual innovation is defined as innovation

at individual level (Shavinina & Seeratan, 2003) or creativity, exploitation and implementation of new and useful products and procedures (Baumgartner; Pratoom & Savatsomboon, 2010) by individuals.

Innovation is very important, especially for companies that produce technology-driven products, with the risk of technological obsolescence (Brown & Karagozoglu, 1993) and in environments characterized by competitive intensity, technological and market dynamism (Kessler & Chakrabarti, 1996). Organizations around the globe are encountering a joint challenge that is the need to improve the performance to capitalize on rapid change, and to establish or recapture competitive advantage (Basadur & Gelade, 2006) to ensure their survival, profitability and successful running in dynamic competitive environment. Innovativeness of firms and organizations depends on internal factors such as the firm's innovative capability, size and structure, learning orientation and strategic orientation and external factors such as network of partners, external communication and the industrial environment (Oskarsson, 2003) in which the company is located.

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 & Oldham, 1997). Most existing research into innovation has focused at the firm level and few studies have directly tested the intermediate processes through which individual and contextual factors affect individual innovation (Oldham & Cummings, 1996; Yuan, 2005), research in this area in Asia Pacific is still in nascent stage (Lu, Tsang, & Peng, 2008; Pratoom & Savatsomboon, 2010). The lack of research in this area confines

---

\* Corresponding author. Contact [crony\\_mnk@yahoo.com](mailto:crony_mnk@yahoo.com). Author is MS Scholar at National University of Modern Languages (Lahore Campus), Lahore, Pakistan.

understanding of exactly how and why individual differences and contextual factors are affecting individual innovation (Bunce & West, 1995; Pratoom & Savatsomboon, 2010). No evident could be found regarding research work in this area in South Asia region particularly in context of Pakistan.

The practical innovation among Pakistani firms and innovators is therefore an important mechanism for developing, improving and sustaining the competitive advantage for not only ensuring firm's survival but also firm's success and capturing market share. These are individuals whose innovation and creativity provides foundation for high-performance (Carmeli, et al., 2006; Janssen, et al., 2004) and firm's competitiveness (Schilling, 2008). In short, individual innovation appears at individual level and mainly responsible for generation of new, novel and useful ideas. Moreover, individual innovation belongs to a general construct of high abilities including creativity (Shavinina & Seeratan, 2003).

Several scholars suggested that creativity (Amabile, 2000; Heye, 2006; Schilling, 2008) and self-leadership (DiLiello & 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, Sawyer, & Griffin, 1993), which in turn contributes to group and organizational innovation. Creativity alone is not sufficient for developing an innovation (Anderson, De Dreu, & Nijstad, 2004). Individuals must also have a certain level of inner force that enables them facing the challenges in creativity (Shalley & 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 (DiLiello & Houghton, 2006; Houghton & Yoho, 2005; Neck & Houghton, 2006).

Previous literature also proposed that individual creativity (McLean, 2005) and self-leadership (D'Intino, Goldsby, Houghton, & Neck, 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, Erez, & Naveh, 2004). The relationships among above variables have been theoretically suggested (Pratoom & Savatsomboon, 2010). On the basis of above discussion, the following hypothesized conceptual model is developed to analyze the correlation and effect of individual and group level factors on innovation of Pakistani producers group members.

$$Y = b_0 + b_1X_1 + b_2X_2 + e$$

Where,

Y = Dependent Variable i.e. Individual Innovation

X<sub>1</sub> = Predictor 1 i.e. Creativity

X<sub>2</sub> = Predictor 2 i.e. Self-leadership

b<sub>0</sub> = Intercept

b<sub>1</sub>, b<sub>2</sub> = Slopes

e = Error term

## **THEORETICAL BACKGROUND**

### **Creativity**

Creativity is an individual and cultural phenomenon that allows us 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 & Gilson, 2004) is also 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.

Hypothesis 1: Creativity positively affects individual innovation in an organization.

### **Self-leadership**

Self-leadership is defined as a process of influencing or leading oneself through the use of specific sets of behavioral and cognitive strategies (Neck & Manz, 2004). Behavioral strategies include encouraging the positive, desirable behaviors that lead to successful outcomes, while suppressing the negative, undesirable behaviors that lead to an unsuccessful outcome (Neck & Houghton, 2006). Cognitive strategies comprise of creating feelings of self-determination and development of constructive thoughts such as positive self-talk (Neck & Houghton, 2006). Self-leadership theorists have proposed that creativity and innovation are the anticipated outcomes of individual self-leadership (DiLiello & Houghton, 2006; Houghton & Yoho, 2005; Neck & 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 & Houghton, 2006; Pratoom & 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 & 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 & Gilson, 2004). Self-leadership is necessary in those organizations that need continuous innovation (Pearce & 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 & Manz, 2005).

Hypothesis 2: Self-leadership positively affects individual innovation.

## **METHODOLOGY**

### **Data collection and sample**

The research study involved the analysis of a survey questionnaire consisting of statements relating to the creativity, self-leadership and innovation. All the survey items were measured on five-point likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) except innovation which was measured on yes (1) or no (0) response. Survey questionnaires were distributed among ten randomly selected manufacturing organizations through post and emails, both in public and private sector, in various areas of Pakistan. The response rate remained 72% (n=180).

Overall, 169 respondents (93.9%) were men and 11 respondents (6.1%) were women. The age of the respondents ranged from 22 to 58 years (mean=34.07). Fifty eight (32.2%) had an education of graduation level, 122 respondents (67.8%) had an education at master level or higher. The respondents had group tenure ranging from 1 to 30 years (mean=8.79).

## Measures

*Creativity* A five-point likert scale survey instrument was used to measure groups' knowledge management ranging from 1 (strongly disagree) to 5 (strongly agree) and was adapted from the employee creative behavior scale developed and validated by Rice (2006). All the dimensions were explored by using exploratory factor analysis. Factor loading of the items ranged from 0.65 to 0.77. Alpha value for the construct was 0.81; higher score indicated higher level of creativity.

*Self-leadership* A five-point likert scale survey instrument was used to measure groups' knowledge management ranging from 1 (strongly disagree) to 5 (strongly agree) and was adapted from the self-leadership questionnaire developed and validated by Houghton and Neck (2002). All the dimensions were explored by using exploratory factor analysis. Factor loading of the items ranged from 0.69 to 0.84. Alpha value for the construct was 0.80; higher score on this construct indicated greater self-leadership.

*Individual innovation* This scale contained six items to measure innovation among group members and was adapted from the innovation output scale (Ju, Li, & Lee, 2006; Vermeulen, O'Shaughnessy, & de Jong, 2003). The scale contained six items, measuring product and work process innovation in the past three years. All the dimensions were explored by using exploratory factor analysis. Factor loading of the items ranged from 0.55 to 0.69. Alpha value for the construct was 0.62, higher score on this construct indicated greater innovation.

*Control variables* To strengthen the internal validity of the study, gender, age, and tenure were treated as control variables. Respondents provided the information of gender, age, and tenure through self-report when completing the survey instrument. Significant contribution to the variance in the dependent variable was found by these control variables in examining the relationship between self-leadership skills and innovation at work (Carmeli, et al., 2006) and exploring the individual innovation and creativity (Baer, Oldham, & Cummings, 2003; Scott & Bruce, 1994). A correlation analysis and

regression analysis was conducted to test the hypotheses.

## FINDINGS

Table 1 presents the means, standard deviations, and correlations among the research variables. As theoretically suggested, individual innovation and its antecedents were found significantly correlated. Individual innovation measure was significantly and positively related to the creativity ( $r = 0.442, p < 0.01$ ) and self-leadership ( $r = 0.473, p < 0.01$ ). Pearson's correlation coefficient for creativity also indicated a strong and positive relationship of creativity with self-leadership ( $r = 0.716, p < 0.01$ ).

### INSERT TABLE 1 HERE

The relationship of age and organizational tenure with individual's innovation and its predictors showed negative coefficients of correlation elaborating the interesting fact that older and more experienced employees prefer working in a centralized and risk avoiding environment, and showed a negative behavior towards creativity, self-leadership and ultimately on innovativeness. A positive correlation of age with innovation and its antecedents was found by Pratoom and Savatsomboon (2010), whereas Baer & Oldham (2006) and Baer et al. (2003) found a negative correlation between tenure and creativity.

Table 2 presents standardized regression weights, standardized beta coefficients, representing beta weights of creativity and self-leadership on individual innovation. Individual innovation was found to be significantly correlated with creativity and self-leadership,  $R^2 = 0.28, F(2,220) = 41.9, p < .001$ . The ANOVA table reports a significant F statistic, indicating that using the model is better than guessing the mean. The value of  $R^2$  shows that the creativity and self-leadership explain twenty eight percent (28%) variation in individual innovation. It suggests that there are some other predictors that also account for in explaining individual innovation.

### INSERT TABLE 2 HERE

The standardized regression weight of creativity for individual innovation was 0.22, significant at  $p < 0.05$ . It shows that when creativity goes up by 1 standard deviation, Innovation goes up by 0.22 standard deviations. Standardized regression weight of self-leadership was 0.34, significant at  $p < 0.001$ . It shows that when self-leadership goes up by 1 standard deviation, Innovation goes up by 0.34 standard deviations. Data supported the both hypotheses. In short, all of the hypotheses involving individual innovation were supported empirically. The significant, positive path between creativity and innovation, between self-leadership and innovation was found and fully supported by the data.

## CONCLUSION

The results of the present study provided evidences supporting the positive effects of individual level predictors; creativity and self-leadership on individual innovation. This study found that individual innovation is a product of individual's creativity and self-leadership. Results showed that creativity is an important predictor of individual innovation. When individuals in work place generate new and useful ideas, products, procedures or services, it helps the organization to achieve a sustainable competitive advantage ensuring long-run successful performance. Self-leadership also has a significant and positive direct effect on innovation advocating the self-leadership theorist's (Houghton & Yoho, 2005; Neck & Houghton, 2006) point of view as they suggested it a predictor of innovation. Previously, the study of Pratoom and Savatsomboon (2010) did not find direct effect of self-leadership on innovation. This study contributes to the literature on innovation, particularly in South Asian and Pakistani context. Findings fill the gap by revealing significant positive direct effects of creativity and self-leadership on individual innovation. Organizations can boost-up their firm-level innovation by fostering creativity and self-leadership in its employees.

## REFERENCES

- Amabile, T. (2000). Stimulate creativity by fueling passion. *The Blackwell handbook of principles of organizational behavior*, 331-341.
- Amabile, T., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39(5), 1154-1184.
- Anderson, De Dreu, C., & Nijstad, B. (2004). The routinization of innovation research: a constructively critical review of the state of the science. *Journal of Organizational Behavior*, 25(2), 147-173.
- Baer, M., Oldham, G., & Cummings, A. (2003). Rewarding creativity: when does it really matter? *The Leadership Quarterly*, 14(4-5), 569-586.
- Basadur, M., & Gelade, G. (2006). The role of knowledge management in the innovation process. *Creativity and Innovation Management*, 15(1), 45-62.
- Baumgartner, J. P. JPB Retrieved January, 22, 2011, from [http://www.jpb.com/creative/article/organisational\\_innovation.php](http://www.jpb.com/creative/article/organisational_innovation.php)
- Brown, W., & Karagozoglu, N. (1993). Leading the way to faster new product development. *The Executive*, 7(1), 36-47.
- Bunce, D., & West, M. A. (1995). Self perceptions and perceptions of group climate as predictors of individual innovation at work. *Applied Psychology*, 44(3), 199-215.
- Carmeli, A., Meitar, R., & Weisberg, J. (2006). Self-leadership skills and innovative behavior at work. *International Journal of Manpower*, 27(1), 75-90.
- Cummings, A., & Oldham, G. (1997). Enhancing creativity: managing work contexts for the high potential

- employee. *California Management Review*, 40, 22-38.
- D'Intino, R., Goldsby, M., Houghton, J., & Neck, C. (2007). Self-leadership: A process for entrepreneurial success. *Journal of Leadership and Organizational Studies*, 13(4), 105.
  - DiLiello, T., & Houghton, J. (2006). Maximizing organizational leadership capacity for the future: Toward a model of self-leadership, innovation and creativity. *Journal of Managerial Psychology*, 21(4), 319-337.
  - Heye, D. (2006). Creativity and innovation: Two key characteristics of the successful 21st century information professional. *Business information review*, 23(4), 252-257.
  - Houghton, J., & Neck, C. (2002). The revised self-leadership questionnaire: Testing a hierarchical factor structure for self-leadership. *Journal of Managerial Psychology*, 17(8), 672-691.
  - Houghton, J., & Yoho, S. (2005). Toward a contingency model of leadership and psychological empowerment: when should self-leadership be encouraged? *Journal of Leadership & Organizational Studies*, 11(4), 65.
  - Janssen, O., Van de Vliert, E., & West, M. (2004). The bright and dark sides of individual and group innovation: A special issue introduction. *Journal of Organizational Behavior*, 25(2), 129-145.
  - Ju, T., Li, C., & Lee, T. (2006). A contingency model for knowledge management capability and innovation. *Industrial Management & Data Systems*, 106(6), 855-877.
  - Kanter, R. M. (1983). *The change masters: Innovation for productivity in the American corporation*. Simon and Schuster New York.
  - Kessler, E., & Chakrabarti, A. (1996). Innovation speed: A conceptual model of context, antecedents, and outcomes. *Academy of Management Review*, 21(4), 1143-1191.
  - Lu, Y., Tsang, E., & Peng, M. (2008). Knowledge management and innovation strategy in the Asia Pacific: Toward an institution-based view. *Asia Pacific Journal of Management*, 25(3), 361-374.
  - McLean, L. D. (2005). Organizational culture's influence on creativity and innovation: A review of the literature and implications for human resource development. *Advances in Developing Human Resources*, 7(2), 226.
  - Miron, E., Erez, M., & Naveh, E. (2004). Do personal characteristics and cultural values that promote innovation, quality, and efficiency compete or complement each other? *Journal of Organizational Behavior*, 25(2), 175-199.
  - Mumford, M. D. (2003). Where have we been, where are we going? Taking stock in creativity research. *Creativity Research Journal*, 15(2), 107-120.
  - Neck, & Houghton, J. D. (2006). Two decades of self-leadership theory and research: Past developments, present trends, and future possibilities. *Journal of Managerial Psychology*, 21(4), 270-295.
  - Neck, & Manz, C. C. (2004). *Mastering self-Leadership: Empowering yourself for personal excellence* (3rd ed.). Upper Saddle River, NJ: Pearson Printice-Hall.
  - Oldham, G., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39(3), 607-634.
  - Oskarsson, G. (2003). *The antecedents and process of innovation*. Paper presented at the The IV Conference in Social Science, Iceland.

- Pearce, C., & Manz, C. (2005). The new silver bullets of leadership: the importance of self and shared leadership in knowledge work. *Organizational Dynamics*, 34(2), 130-140.
- Pratoom, K., & Savatsomboon, G. (2010). Explaining factors affecting individual innovation: The case of producer group members in Thailand. *Asia Pacific Journal of Management*. doi: 10.1007/s10490-010-9246-0
- Rice, G. (2006). Individual values, Organizational Context, and self-perceptions of employee creativity: Evidence from Egyptian organizations. *Journal of Business Research*, 59(2), 233-241.
- Schilling, M. (2008). *Strategic management of technological innovation*. Boston: Tata McGraw-Hill.
- Scott, S., & Bruce, R. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37(3), 580-607.
- Shalley, C., & Gilson, L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The Leadership Quarterly*, 15(1), 33-53.
- Shavinina, L. V., & Seeratan, K. L. (2003). On the nature of individual innovation. *The international handbook on innovation*, 31.
- Smith, G. (2002). The new leader: bringing creativity and innovation to the workplace, Chart Your Course. *Georgia: Conyers*.
- Tan, A. G. (2007). *Creativity: a handbook for teachers*. Rosewood Drive, Danvers, USA: World Scientific Publishing Co.Ptc. Ltd.
- Vermeulen, P., O'Shaughnessy, K., & de Jong, J. (2003). Innovation in SMEs: An Empirical Investigation of the Input-Throughput-Output-Performance Model. *Zoetermeer: SCALES paper*, 200302.
- West, M. A., & Farr, J. L. (1990). *Innovation and creativity at work: Psychological and organizational strategies*: John Wiley & Sons.
- Woodman, R., Sawyer, J., & Griffin, R. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, 18(2), 293-321.
- Yuan, F. (2005). *Individual innovation in the workplace: the role of performance and image outcome expectations*. Texas A&M University.

**Table 1**  
Means, Standard Deviation and Correlations

Variables	Means	S.D	1	2	3	4	5	6
1. Gender		1.06	.24					
2. Age	34.07	6.35	-.259**					
3. Education level	1.68	.469	.027	.060				
4. Tenure	8.79	5.43	-.209**	.795**	.114			
5. Creativity	4.04	.75	.077	-.445**	.076	-.265**		
6. Self-leadership	4.01	.84	.099	-.380**	.164*	-.208*	.716**	
7. Individual Innovation	0.71	0.4	-.044	-.30**	.074	-.114	.442**	.473**

---

**Table 2**

ANOVA <sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.570	2	64.785	41.977	.000 <sup>a</sup>
	Residual	339.533	220	1.543		
	Total	469.103	222			

a. Predictors: (Constant), Self-leadership, Creativity

b. Dependent Variable: Individual Innovation

Coefficients <sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.691	.453		1.525	.029
	Creativity	.067	.027	.215	2.507	.013
	Self-leadership	.084	.021	.34	4.019	.000

a. Dependent Variable: Individual Innovation