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Full Length Research Paper

Transformational leadership and organizational innovation: Moderated by organizational size

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The present study was aimed to explore the moderating role of organizational size in the relationship between transformational leadership and organizational innovation. The study also examined the impact of transformational leadership on organizational innovation. A purposive sample of 296 managers from the telecommunication sector of Pakistan participated in the study. The age range of managers was from 25 to 60 years with mean age of 42.5, (SD = 11.27) years. Hierarchical regression models demonstrated organizational size significantly moderating the relationship between transformational leadership. The results further revealed that organizational size significantly moderated the relationship between all facets of transformational leadership (Attributed Charisma, Inspirational Motivation, Intellectual Stimulation and Individualized Consideration) and organizational innovation except idealized influence. The results also exhibit positive and significant impact of transformational leadership on organizational innovation.

Key words: Organizational innovation, transformational leadership, organizational size, attributed charisma, inspirational motivation, intellectual stimulation and Individualized consideration, idealized influence.

INTRODUCTION

Presently, almost every organization comes across an environment described by speedy changes in technology, reduced product life cycles and globalization that initiate modern day competition (Mumford and Gustafson, 1988). Tremendous emphasis is also on price, quality, customer satisfaction and competitive strategy (Leifer, O'Connor and Rice, 2001). In this way organizations are pressurized to transform their current state into preferred future state (Nadler and Tushman, 1996). This transformation is then facilitated with the help of psychological processes such as creativity and innovation (West and Farr, 1990). Innovation is described as: "The intentional introduction and application within a role, group or organization of role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organization or wider society" (West and Farr as cited in West, 2002, p. 9).

Simultaneous with this development, studies have also strived to explore factors encouraging organizational innovation. These factors include leadership (Amabile, 1998; Mumford and Gustafson, 1998), a creativity work environment (Amabile, 1998), job complexity and style of supervision (Oldham and Cummings, 1996), and organizational culture and climate (Mumford and Gustafson, 1988). Researchers found leadership to be one of the most important factors affecting organizational innovation (Mumford et al., 2002; Jung, 2001; Amabile, 1998; Mumford and Gustafson, 1998).

In the today's modern world a lot of challenges are

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faced by the businesses. The traditional leadership styles cannot be helpful in competing with the present environment. Organizations now require leaders rather than administrators. The leaders with their strong dedication can give new life to the organization by initiating organizational change (Hogan and Kaiser, 2005). The leaders with transformational style were found to be more effective than others in encouraging innovations within the organization (Gardner and Avolio, 1998). Positive and significant relationship was also found between top management openness to change and organizational innovation (Chartier, 1998). Shin and Zhou (2003) found transformational leadership to be positively related to followers creativity. Jung, Chow and Wu (2003) established positive effect of transformational leadership on firm's innovation. Gumusluouglu and Ilsev (2009) claimed transformational leadership to be a successful determinant of organizational innovation.

All these researches attempted to find the direct relationship between transformational leadership and innovation whereas this relationship does not exist in isolation. There are a number of factors which may strengthen this relationship. One of the most important factor in this regards may be organizational size. Larger firms with their collective inputs are found to perform better than smaller firms as greater firm size brings in added benefits including good reputation, sophisticated management, enhanced planning activities and the capability to absorb environmental shocks (Ebben and Johnson, 2005; Mishina, Pollock and Porac, 2004).

Organizational size has been considered as a moderator between certain relationships like IT competency and development performance (Gibb and Harr, 2007) and Enterprise Resource Planning (ERP) in Small and Medium Enterprise (SME) productivity (Bohorquez and Esteves, 2008). However, its effect have been controlled in the relationship among transformational leadership and firm's innovation (Jung et al., 2003) showing its importance in the said relationship.

Significance of the study

Innovation, organization size and transformational leadership are key concepts at the heart of organization theory. Two particularly compelling issues related to innovation continue to intrigue researchers. The first is the relationship between transformational leadership and organizational innovation and the second is the dynamic between organization size and organizational innovation. Organizational size has long been considered to be an important predictor of innovation adoption. However, empirical results on the relationship between them have been disturbingly mixed and inconsistent. On the other hand organizational size has also been used as a control variable in organizational settings.

A good deal of literature is suggestive of the fact that transformational leadership has an impact on organizational innovation. However, the past literature did not show buffering effect of organizational size as an important variable in relationship between transformational leadership and organizational innovation. So the present study views the role of organizational size as a moderator of the relationship between transformational leadership and organizational innovation.

LITERATURE REVIEW

Organizational Innovation

The concept of innovation gained attention of a number of researchers in past. According to De Jong (2006) this concept was for the first time considered by Schumpeter (1934) who recognized it by describing innovation process as creation of new brand, products, services and processes and its impact on economic development. Since then different scholars have described this concept differently.

For the long time survival of the organizations innovation is considered as an essential factor. The past literature on innovation figures out two key approaches; object-based: focusing on innovation itself and subject-based: focusing on the subjects like country, industry, organizations and groups, that initiate and implement innovation (De Jong, 2006; Archibugi and Sirilli, as cited in De Jong, 2006).

Organizational innovation is described as formation of novel, important and useful products or services in organizational environment (Woodman et al., 1993; Gumusluouglu and Ilsev, 2009). Innovation is considered as a more complex process (Janssen, Van de Vliert and West, 2004). Some researchers considered it as an activity which is intended to develop an idea, carry it out, react to it and modify it where necessary (Van de Ven, 1986).

Transformational Leadership

To respond to the competitive business environment adaptive leadership is considered to be an important tool (Bass, Avolio, Jung and Benson, 2003). These adaptive leadership behaviors are termed as transformational leadership and is known to have five components:

i. Idealized influence: Refers to the leader's charismatic actions that focus on values, beliefs and sense of mission.

ii. Attributive Charisma: Is made up of leader's socialized charisma i.e. perception of the leader as being confident and powerful.

iii. Inspirational motivation: Includes techniques leaders use to boost their followers by taking into view the optimistic future and determined goals.

iv. Intellectual stimulation: Refers to challenging followers to practice creative thinking and finding solution to difficult problems.

v. Individualized consideration: Includes the behavior displayed by the leader that contributes to satisfaction of the followers by guiding, supporting and giving attention to personal needs of the followers (Avolio, Bass and Jung, 1999).

Transformational leadership emerged to be effective across managerial levels (Howell and Avolio, 1993), work environments (Bass, 1985) and national cultures (Bass and Avolio, 1997). This style is considered to be successful in different work settings such (Yammarino and Bass, 1990), computer related settings (Sosik, Avolio and Kahai, 1997), stress reduction settings (Seltzer, Numeroff and Bass, 1989), TQM programs (Sosik and Dionne, 1997) and innovative and developmental environment (Howell and Avolio, 1993).

Past research found that transform leaders are able to arrange values and norms of followers encourage them to bring changes in their personal as well as organiza-tional level and help them perform beyond expectation (Hose and shamir, 1993; Jung and Avolio, 2000).

Transformational Leadership and Organizational Innovation

Effects of transformational leadership were also found on creativity and innovation. Shin and Zhou (2003) found positive association between followers creativity and transformational leadership. Shin (as cited in De Jong, Den Hartog and Zoetermeer, 2003) claimed that the leaders who inculcate clear innovative vision found better results. According to Sosik, et al., (1998), instilling a vision enhances creative output. A study by Shamir et al. (1993) links vision to levels of motivation and performance. De Jong (2006) found innovation based vision to encourage innovative work behavior. He further elaborated that vision provides a direction of activities and sets general guidelines for the future.

Past research found transformational leadership to affect innovation specifically organization's tendency to innovate (Gumusluouglu and Ilsev, 2009). Such leaders encourage creative ideas which foster innovations within the organizations (Sosik, kahai and Avolio, 1998). Transformational leaders motivate their followers, prepare them to perform beyond expectation which enhance their level of motivation and boost their self esteem. This then result into increased organizational innovation (Gumusluouglu and Ilsev, 2009; Mumford et al., 2002).

Jung et al. (2003) examine the direct and indirect impact of transformational leadership on firm's innovation. The results reveal positive and significant relationship between the two constructs. Gumusluouglu and Ilsev (2009) also found positive and significant impact of transformational leadership on organizational innovation.

Organizational size

Past researches have related organizational size with organizational performance (Kumar and Siddharthan, 1994; Chen and MacMillan, 1992). Larger firms perform better than smaller firms because they have aggregated inputs whereas, smaller firms lack financial resources which is important for firm's performance (Scherer, 1980; Jarillo, 1989; Ebben and Johnson, 2005). Mishina, Pollock and Porac (2004) emphasized the importance of greater firm size as it proposes additional benefits like reputation, increased visibility, sophisticated management expertise, more planning activities and the ability to bear environmental shocks (Pissarides, 1999; Busenitz and Barney, 1997; Hannan and Freeman, 1984).

A relationship was also found between size and firm's development. Cohen (1995) recommended several advantages of firm size in exhibition of innovative activities. Positive relationships between organizational size and innovation have been revealed by previous researches (Ettlie et al., 1984; Damanpour, 1992; Hitt et al., 1990).

Organizational size is an important factor and may be very helpful in enhancing certain relationships. Gibb and Harr (2007) explored organizational size as a moderator and found its significant impact on IT competency and development performance. Bohorquez and Esteves (2008) also confirm the importance of organizational size and reveal that it moderates the impact of Enterprise Resource Planning (ERP) in Small and Medium

Enterprise (SME) productivity, Jung et al. (2003) controlled organizational size when finding the direct impact of transformational leadership and firm's innovation showing that it influences the said relationship. Keeping in view these findings present study propose that organizational size moderates the relationship between transformational leadership and organizational innovation.

Hypotheses

Following hypothesis is derived in the light of previous

literature

H: 1 Transformational leadership perceptions have a positive impact on organizational innovation.

H: 2 Organizational sizes moderate the relationship between transformational leadership style and organizational innovation.

H: 2a Organizational sizes moderate the relationship between attributed charisma and organizational innovation.

H: 2b Organizational sizes moderate the relationship between Idealized influence and organizational innovation.

H: 2c Organizational sizes moderate the relationship between inspirational motivation and organizational innovation.

H: 2d Organizational sizes moderate the relationship between Intellectual Stimulation and organizational innovation.

H: 2e Organizational sizes moderate the relationship between Idealized Influence and organizational innovation.

METHODOLOGY

Sample and procedure

A purposive sample comprised of 296 top and middle level managers from the top telecommunication organizations in Pakistan participated in the study. The age range of managers was from 25 years to 60 years with mean age of 42.5, (*SD* = 11.27) years. The mean work experience of workers was 6.68, (*SD* = 3.08) years. Education level of the respondents from masters to onwards. The scales were administered to the subjects individually. The con-sent of the employees was taken before administration. After the permission, each participant was approached individually to maintain and assure the accuracy of the data collected. The instructions were given on every questionnaire specified with their required demographic information. Participants were assured that the provided information will be used only for research purposes.

Instruments

Multifactor Leadership Questionnaire (MLQ-5X)

The transformational leadership subscale of the leadership questionnaire MLQ-5, developed by Bass and Avolio (1995) was used to measure transformational leadership. This scale consisted of 20 items rated on five point Likert type scale ranging from 1 (never) to 5 (always). Cronbach's alpha coefficient of the score for the present sample was.

Organizational Innovation Questionnaire

The organizational innovation questionnaire developed by Amid, Belli, Sohn and Toussaint (2002) was used to measure organizational innovation. The scale originally consisted of 33 items but only 13 items were picked out because of its relevance to orga-nizational innovation. All the items were rated on five point rating scale, ranging from (1) strongly disagree; to (5) strongly agree. Cronbach's alpha coefficient of the score for the present sample was.

RESULTS

The main aim of the study was to examine the moderating role of organizational size on the relationship between transformational leadership and organiza-tional innovation. The study also aimed at finding the impact of transformational leadership on organizational innovation. The results are presented below.

Table 1 shows the correlation matrix obtained for the study variable. From the results it is observed that the overall transformational leadership ($r = .41$, $p < .01$) and the facets of transformational leadership that is, attributed charisma ($r = .35$, $p < .01$), idealized influence ($r = .29$, $p < .01$) and inspirational motivation ($r = .38$, $p < .01$) intellectual stimulation ($r = .25$, $p < .01$) and idealized influence ($r = .34$, $p < .01$) are positively related to organizational innovation. Descriptive statistics and coefficient alpha reliabilities for the scales used in the present study are reported in Table 1. Both scales reliabilities exceeded the .70 recommended by Nunnally (1978). Cronbach's alpha of .80 and .88 for transformational leadership and organizational innovation respectively, was significantly high for research use.

Moderating effect of perceived job self-efficacy

In order to test the moderating effect of organizational size, a series of moderated hierarchical regression analyses were used to test the moderating hypothesis (Table 2), according to procedure delineated in Cohen and Cohen (1983). In order to avoid multicollinearity problems, we entered the predator and moderator variable and the standardized scales were used in the regression analysis (Aiken and West, 1991).

At first step, the variable (Overall transformational leadership, facets of transformational leadership and organizational size) were entered into the equation. At second step, the interaction term (transformational leadership × organizational size) was entered. The interaction of transformational leadership and facets of transformational leadership, however, remained significant leading to the conclusion that the relationship between transformational leadership and organizational innovation was moderated by the organizational size {$\beta = .74$, $F = 11.08$, $p > .05$}. Thus, substantiating our second hypothesis and five sub hypotheses. The regression mo-

Table 1. Correlation Matrix of all variables (N = 296).

	Scales	Mean	S.D	I	II	III	IV	V	VI	VII	VIII
I	Organizational size	2.13	.34								
II	Organizational innovation	47.75	5.99	.58*	**{.80}**						
III	Attributed charisma	22.69	3.25	.35*	.37*	**{.82}**					
IV	Idealized Influence	25.12	4.87	.29*	.55*	**.**42*	**{.79}**				
V	Inspirational Motivation	23.62	3.59	.38*	.50*	.52*	.45*	**{.76}**			
VI	Intellectual Stimulation	21.28	3.12	.25*	.48*	.54*	.46*	**.**37*	**{.71}**		
VII	Idealized Influence	27.08	4.32	.34*	.54*	.50*	.31*	.41*	.38*	**{.84}**	
VIII	Overall Transformational Leadership	72.1	12.5	.32*	.41*	.75*	.62*	.54*	.66*	**.**70*	**{.88}**

P < .01, (Parenthesis shows alpha reliability values of variables).

Table 2. Hierarchical regression analysis predicting organizational innovation (N = 296).

Organizational innovation				
Variables	***B***	***R²***	***R²***	***F***
Step 1		.28**	.27**	19.64**
Organizational Size	.09			
Overall Transformational Leadership	.27*			
Attributed charisma	.34*			
Idealized Influence	.07			
Inspirational Motivation	.51*			
Intellectual Stimulation	.20*			
Individualized consideration	.43*			
Step 2		.31**	.24**	11.08**
Transformational leadership × organizational size	.74*			
Step 3		.32**	.29**	13.44**
Attributed charisma × organizational size	.31*			
Idealized Influence × organizational size	.03			
Inspirational Motivation × organizational size	.21*			
Intellectual Stimulation × organizational size	.35*			
Individualized consideration × organizational size	.55*			

*p < 0.001

dels demonstrated that perceived organizational size has significant moderating effect on the relationship between transformational leader-ship facets (Attributed charisma, Idealized Influence, Inspirational Motivation, Intellectual Stimulation and Individualized consideration) and organizational innovation except idealized influence. Furthermore transformational leadership was also found to have a positive and significant affect on organizational innovation {β = .27, F = 19.66, p >.01} substantiating the first hypothesis.

DISCUSSION

The aim of the study was to investigate the moderating role of organizational size in the relationship between transformational leadership and organizational innovation. The study also examined the impact of transformational leadership on organizational innovation.

The first hypothesis anticipated a positive impact of transformational leadership on organizational innovation. This hypothesis was substantiated as transformational

leadership had a significant and positive impact on organizational innovation.

Past empirical literature exhibit associations between transformational leadership and innovation. Lee and Jung (2006) found transformational leadership promoting innovative abilities of the employees. Very few studies have also examined the relationship between transformational leadership and organizational innovation, For instance, Sosik, kahai and Avolio (1998) claimed that transformational leaders encourage creative ideas that promote innovations within the organizations. A study by Jung et al. (2003) revealed positive and significant relationship between transformational leadership and firm's innovation. Gumusluouglu and Ilsev (2009) also found transformational leadership to positively and significantly affect organization's tendency to innovate.

Current dynamic environment pressurizes the organizations to transform in order to be innovative. Managers within the organizations now feel pressurized to change themselves and act like leaders. With their dedication and commitment they can give new blood to the organization and enhance innovation. The findings of the present study indicate that transformational leader play an important role in enhancing organizational innovation.

Second hypothesis anticipated that organizational size moderate the relationship between transformational leadership and organizational innovation. This hypothesis was also substantiated as the results obtained from the present study support the buffering effect of organizational size as a moderator variable in relationship between transformational leadership and organizational innovation.

The sub hypotheses of second hypothesis anticipated that organizational size will moderate the relationship between facets of transformational leadership, that is, attributed charisma, idealized influence, inspirational motivation, intellectual stimulation and Individualized consideration and organizational innovation. Significant moderating effects were found for organizational size in the relationship between attributed charisma, Inspirational Motivation, Intellectual Stimulation and Individualized consideration and organizational innovation substantiating first, third, fourth and fifth (that is, H2a, H2c, H2d, H2e) sub hypotheses. However the second sub hypothesis (H2b) was rejected as organizational size did not significantly moderated in the relationship between Idealized Influence and organizational innovation.

Past research reveal organizational size as an essential variable in enhancing certain relationships but there are very few studies that explored its moderating effect. For instance, a study by Gibb and Harr (2007) found organizational size as a moderator between IT competency and development performance. Bohorquez and Esteves (2008) also found it moderating the impact of Enterprise Resource Planning (ERP) in Small and Medium Enterprise (SME) productivity. However, there is lack of evidence of organizational size as a moderator between transformational leadership and organizational innovation whereas, organizational size was controlled by Jung et al.(2003) when establishing the direct effect of transformational leadership and firm's innovation revealing its importance.

Transformational leaders with their dynamic capabilities enhance organizational innovation. In such relationship organizational size play role of a facilitator. Larger sized organizations having ample resources can accommodate any consequences of the steps taken by the transformational leaders to enhance organizational innovation. So the leaders at larger organizations more confidently take measures to enhance innovation within the organizations. Larger organizations have enough resources which help leaders to exhibit charisma, motivation stimulation and consideration that encourage organizational innovation whereas leader may influence the employees and procedures of the organization regardless of its size.

Conclusion

The present study makes a significant contribution to the existing body of knowledge in the field of leadership and organizational innovation by providing support for the moderating role of organizational size in the relation between the transformational leadership and organizational innovation. The present study has also demonstrated that facets of transformational leadership are important correlates of organizational innovation.

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