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Organizational Innovation and Organizational Effectiveness Among Employees of Cellular Companies

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The present study examined the association between organizational innovation and effectiveness and the role of innovative climate as a potential mediator in this association. Data was obtained from 164 employees from three cellular companies in Islamabad. Subjective and objective measures were collectively used to measure organizational effectiveness. Subjective measures included Affective Commitment Scale (Allen & Meyer, 1990), Aspects of Identity Scale (Cheek, 1983), Group Cohesion Scale (Glass & Benshoff, 2002), Job Satisfaction Scale (Spector, 1985), Transformational Leadership Questionnaire (Avolio, Bass, & Jung, 1999), and New Product Development. Objective measures included Market Share, Sales, and Profitability, for which items were developed and validated (Joreskog & Sorbom, 1996). To assess Organizational Innovation and Innovative Climate, adapted versions of Organizational Innovation Questionnaire (Ismail, Belli, Sohn, & Toussaint, 2002) and Organizational Climate Measure (Patterson et al., 2005) were used. A series of regression analyses was done to test the proposed hypotheses. Results suggest that organizational innovation indeed predict firm effectiveness while some support was also found for the role of innovative climate as a mediator in the relationship between organizational innovation and firm effectiveness. Overall, our findings suggest a strong association between organizational innovation and overall organizational effectiveness of a firm. These findings also endorse the significance of innovative climate as an imperative factor in the relationship between organizational innovation and organizational effectiveness. We discuss the implications of these findings in detail.

Keywords: innovation, organizational effectiveness, cellular companies, innovative climate, Pakistan

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For over a century, organization behavior theorists, human resource managers and scholars, management thinkers and practitioners have been intrigued by what makes an organization effective (Cameron, 1986). Hence, the construct of firm effectiveness is central to the organizational sciences and all organizational theories rely on some conception of differences between effective and ineffective performance. Presently, the effectiveness of an organization depends upon its proficiency to innovate (Bolton, 1993; Fischman, 2001). Thus, research that probes the innovation – effectiveness relationship and factors that may intervene in this relationship gains weight. The present study is an attempt at examining whether organizational effectiveness is impacted by organizational innovation, and whether an innovative climate mediates this relationship.

Scholars have paid attention to organizational innovation due to its significant role in economic progress (Aubert, 2006; Hage, 1999; Nacinovic, Galetic, & Cavlek, 2009; Van de Ven, 1986), and its facilitative role in overall social prosperity (Budros, 2000). Given that organizations have to compete globally and face constant change, they need to continually innovate to survive (Budros, 2000; Denning, 2010; Hage, 1999; Ho, 2011; Kazama, Foster, Hebl, West, & Dawson, 2002), and succeed (Naranjo-Valencia, Jime´nez-Jime´nez, & Sanz-Valle, 2011).

Moreover, the drive for innovation is based on the idea that it provides a definite competitive advantage (Monge, Cozzens, & Contractor, 1992). Given the accelerating rate of change in particular, innovation has a significant role to play for the survival of organizations (Hage, 1999; Martins & Terblanche, 2003). Since organizations must respond to technological changes, amongst others, they work towards fostering innovation as an essential part of the work environment (Martins & Terblanche, 2003). Herein, the challenge for organizations is that it is exceptionally difficult to innovate (Nacinovic et al., 2009; Paulsen, Maldonado, Callan, & Ayoko, 2009), hence scholars examine how to make innovation an organization-wide capability (Denning, 2010). Additionally, the construct deserves more empirical work (McLean, 2005) as lesser studies have focused on the construct from the organizational perspective (Chuang, Liu, & Huang, 2010).

On one end, a substantial number of studies have investigated the impact of several factors on firm effectiveness (Georgakellos & Pekka-Economou, 2007) and on the other hand, authors (such as Bates & Khasawneh, 2005; Kazama et al., 2002) have emphasized the significance of innovative climate for innovation of firms. Yet, the

relationship between organizational innovation and organizational effectiveness as well as the possible mediating role of innovative climate in this relationship remains untested in the empirical sense, particularly in non-western milieu as most studies pertaining to innovation have been carried out in western settings. In sum, especially since innovation is generally considered to be one of the key drivers of organizational success (Schillewaert, Ahearne, Frambach, & Moenaert, 2005), the need of the hour is to empirically test this relationship and factors that may mediate this relationship.

In Pakistan, Malik, Ghafoor, and Naseer (2011) examined effectiveness from employee motivation and performance perspective. Likewise, Khan, Rehman, and Fatima (2009) examined innovation as an outcome variable from the transformational leadership perspective. Despite the emphasis that western authors have laid on the significance of innovation for firm effectiveness and the value of innovative climate for firm effectiveness, two important questions that studies conducted in Pakistan have not addressed so far are: How significant is innovation for effectiveness of firms, and, does innovative climate mediate this relationship? The present study makes an important contribution to existing literature by providing answers to these research questions and offering cross-cultural insights. With regard to the industry, the cellular industry in Pakistan has been typified by rapid growth and contribution to economy. Yet, since it is an under researched area (Rafiq & Gao, 2008; Tajeddini, 2011), further research into this industry is necessitated.

Organizational Effectiveness

Given that organizational effectiveness is a necessary trait in organizations (Steers, 1975), it has become a fashionable topic lately since the 1980s. Although scholars (such as Hancott, 2005; Ho, 2011) have equated effectiveness with performance, the present study will focus on organizational effectiveness. Several scholars (Andersen, 2006; Bolton, 1993; Georgakellos & Pekka-Economou, 2007; Ho, 2011) have defined organizational effectiveness in several ways. Owing to its conciseness, we choose the definition provided by Andersen (2006), that is effectiveness is the degree to which an organization achieves its goals.

Dimensions of organizational effectiveness. Based on literature, organizational effectiveness has been operationalized and measured in two broad domains: subjective measures and objective

measures. For subjective measures, researchers have used indicators of affective commitment, collective identity (Zhang & Liu, 2010), group cohesion, leadership (Handy, 1993), job satisfaction (Steers, 1975), and new product development (Fey & Denison, 2003) for measuring organizational effectiveness. As for objective measures, authors have used market share, sales (Denison & Mishra, 1995; Fey & Denison, 2003; Subramanian & Nilakanta, 1996; Tippins & Sohi, 2003), and profitability (Andersen 2006; Denison & Mishra, 1995; Fey & Denison, 2003; Georgakellos & Pekka-Economou, 2007; Tippins & Sohi, 2003) to define organizational effectiveness. Since these indicators are frequently used as indicators of firm effectiveness, they were chosen for the present study and are deliberated below.

Subjective measures. Meyer and Allen (1984) describe affective commitment as "positive feelings of identification with, attachment to, and involvement in the work organization" (p. 375). A member who is ardently committed to the organization is emotionally attached and enjoys membership in the organization (Allen & Meyer, 1990). Past research has demonstrated that this form of commitment correlates positively with measures of performance (Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989).

Collective identity is the outcome of the shared interests, associations, and harmony of a group's members (Taylor & Whittier, 1992). Cohesiveness is an imperative factor for progress particularly for a group that includes the inter-relations between members as well as member-leader relations (Griffin & Pennscott, 1991). Group cohesion is important since it facilitates group formation and efficiency (Bollen & Hoyle, 1990). Concerning job satisfaction, Locke (1976) classically defined it as a "positive emotional state resulting from the appraisal of one's job" (p. 1300). Job satisfaction is an emotion-related reaction of an employee to one's job that ensues from an employee's assessment of real results against desired ones. Owing to the humanitarian and work-related values (Oshagbemi, 1999) of job satisfaction, it is centrally pertinent to employees' physical and emotional welfare. As for transformational leadership, Bass (1985) theorized that the transformational leader is the one who inspired followers to attain higher performance by setting demanding expectations. Reasonably therefore, the aspect of transformational leadership is a criterion for firm effectiveness. Additionally, new product development is an activity that encompasses various specialties such as marketing and strategy, economics, sociology, as well as operations management (Maylor, 1997). A firm can increase market demand for its new products through apt use of resources, and

apt management of factors that underlie the effect of a product (Zirger & Maidique, 1990). Firms need to pay attention to processes involved in new product development if they are to enhance their effectiveness (Bhuiyan, Gerwin, & Thomson, 2004).

Objective measures. Scholars (for instance, Andersen, 2006; Denison & Mishra, 1995; Fey & Denison, 2003) generally contend that the monetary success of a firm can be expressed in terms of its market share, sales and profitability. Following this rationale, we used perception based measures of market share, sales and profitability as objective indicators of organizational effectiveness for this study.

Organizational Innovation

Bolton (1993) defined innovation as putting of new ideas and procedures in effect. Daft (1978) asserts that organizational innovation refers to the implementation of an idea or behavior that is novel for the organization. Presently, scholars (Fischman, 2001; Hage, 1999; Martins & Terblanche, 2003; Monge et al., 1992) draw attention to organizational innovation because it provides a definite competitive advantage, is the means to motivate, and is critical for organizational survival.

Indicators of organizational innovation are multi-faceted (Baccarani, 2005; Borins, 2001; Chuang et al., 2010; Gilbert & Reid, 2009; Venkatraman, 1989; Vigoda-Gadot, Shoham, Ruvio, & Schwabsky, 2005). Earlier research identified various management factors for organizational innovation (Bate, 2010; Covey, 1993; Martins & Terblanche, 2003; Naranjo-Valencia et al., 2011; Pearce & Ensley, 2004; Wong & Chin, 2007). This points out that the innovation process must commence with a strategic intent to provide for a sense of direction for employees. A closer look at innovation dimensions reveals that they broadly fall under three broad domains: an environment that endorses innovation, the preference of a firm's leaders to innovate, and personal orientation of employees for innovation. Hence, for this study and based on literature deliberated earlier, we labeled these three dimensions as environment innovation propensity, leadership innovation propensity, and personal innovation propensity to innovate. Therefore, organizational innovation is operationalized as, "production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets;

development of new methods of production; and establishment of new management systems. Hence, it is both a process and an outcome" (Crossan & Apaydin, 2010, p. 1155). The preceding definition is chosen for this study due to its broad coverage of the term innovation.

Organizational Climate

Organizational climate is the most common variable applied to descriptions of the organizational context. It describes the members' perception of their work environment (Zhang & Liu, 2010). Organizational climate is viewed as an organizational trait comprised of mindsets and outlooks that guide behaviors and that illustrate organizational life (Ekvall, 1996). Owing to the relevance of this construct to a diverse set of organizational as well as psychological variables, scholars (Glick, 1985; Reichers & Schneider, 1990) agree that organizational climate is a useful construct.

Innovative Climate as a Mediator

Organizations stress the need to creating an innovative climate to favor innovation (Fichman, 2001) and the centrality of leadership role therein (Kazama et al., 2002; Paulsen, Maldonado, Callan, & Ayoko, 2009). Indeed, an organizational climate aimed at innovation is related with innovation itself (Kazama et al., 2002) and an organization may be unable to support innovation in the long run (Wong & Chin, 2007) unless a climate that fosters innovation exists. Firms may either stifle or promote creativity via the atmosphere they provide (Baccarani, 2005; Somech & Drach-Zahavy, 2011). Hence, innovation is more likely to happen in an organizational climate that rewards it (Borins, 2001). Literature points at several attributes of organizational climate that support innovation.

For example, climate factors that foster innovation include instigating risk and generating ideas, open communication flow across organizational groups (Angle, 1989; McLean, 2005; Monge et al., 1992), and an encouraging role played by the supervisor (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Borins, 2001). At the individual level, innovative persons look for autonomy and individuality (McLean, 2005), while control and a climate that punishes unsuccessful innovation are factors that are likely to inhibit innovation (Angle, 1998; Borins, 2001). Following Frazier, Tix, and Barron (2004) advice, innovative climate was hypothesized as a

mediator in this study because past research provides strong evidence that this variable is correspondingly related with both organizational innovation, the hypothesized predictor, as well as organizational effectiveness, the hypothesized criterion.

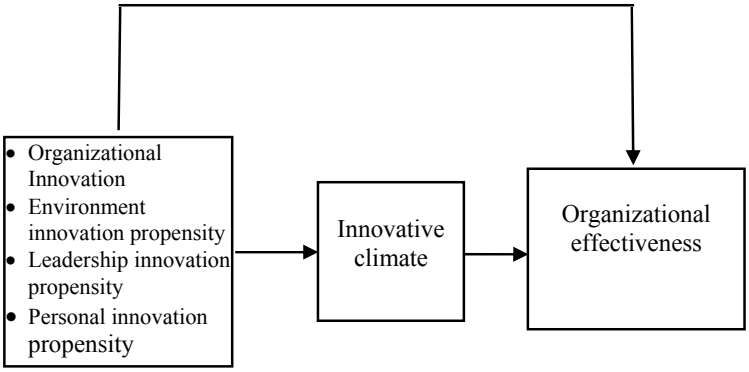

Figure 1.Theoretical model of the research.

Hypotheses

The current study aims to test the following hypotheses.

1. Organizational innovation, environment innovation propensity, leadership innovation propensity, and personal innovation are positive predictors of organizational effectiveness.
2. Innovative climate mediates the innovation-effectiveness relationship.

Method

Sample

Convenient sampling technique was used to collect data and total of 230 questionnaires were distributed among full time employees working at three cellular companies in Islamabad and received 164 usable replies; the response rate was thus 71.3%. Men were 80% (n = 131) and women 20% (n = 33) of the total sample. Of the study sample, the average age was 30-39 years (M = 2.37, SD = .6). With respect to job tenure, 13.6% (n = 22) of respondents had less than 5 years, while 47.4% (n = 78) had 5-10 years, 30.7% (n = 50) had 10-20

years, and 8.3% (n = 14) had less than 5 years of job tenure. As regards designation level of respondents, 48.3% (n = 79) worked as low-level managers, 44.4% (n = 73) worked as middle level, while 7.3% (n = 12) worked as high level managers. With regard to education level, 41% (n = 67) of the respondents were graduates, 44% (n = 72) had a master's degree, while 15% (n = 25) had a post-master's degree.

Measures

All scales were used in their original English form and specific items pertaining to constructs used in the study were selected. Responses on scales were measured on a 5-point Likert type scale where scoring categories range from 1 representing *strongly disagree* to 5 representing *strongly agree*. Details of the instruments for this study are deliberated as follows:

Organizational Effectiveness. Organizational effectiveness was assessed with a set of multiple measures. To curtail the length of questionnaires, items presenting main themes of the constructs were chosen for the present study. Organizational Affective Commitment subscale (Allen & Meyer, 1990) comprising of four items was used to assess organizational commitment (e.g., I think that I could not become as attached to another organization as I am to this one). Alpha reliability for the Organizational Commitment scale was good (α = .88). Eight items from Cheeks' (1983) Aspects of Identity questionnaire (e.g., my language, such as my regional accent or dialect or a second language that I know, is important to me) were used to measure collective identity, which showed satisfactory internal consistency (α = .72). Six items from the Group Cohesion Evaluation scale (Glass & Benshoff, 2002) were used to assess group cohesion (e.g., we enjoy helping each other, we stick together during challenges), which showed acceptable internal consistency (α = .71). Nine items from the Job Satisfaction Survey (Spector, 1985) were used to measure job satisfaction (α =.73). Four items from the Multifactor Leadership Questionnaire-5 (Avolio, Bass & Jung, 1999) (e.g., I am ready to trust my leader to overcome any obstacle) were used to measure transformational leadership (α = .82).

Additional indicators of organizational effectiveness included subscales of New Product Development, Market Share, Sales, and Profitability. To measure these, several items were first generated based on pertinent literature review (Holak, Parry, & Song, 2002; Leonard-Barton, 1992; Pauwels, Silva-Risso, Srinivasan, & Hanssens,

2004; Zirger & Maidique, 1990) so as to depict the particular domain of concern, while excluding the irrelevant content (Hinkins, 1995). These items were then evaluated for their content by five subject matter experts, who were academicians in management sciences and marketing fields. Subsequently, items agreed upon as representing the necessary content of these scales by experts were retained, hence content validity for items of the three scales was performed. Next, retained items of each scale were subjected to exploratory factor analysis for assessing their factorial validity using principal component analysis with varimax rotation and retaining eigenvalues greater than one. These items loaded onto their presumed factors (scales) with factor loadings above 0.7 (Field, 2005), which established the factorial validity of the items. Hence, the newly developed items for New Product Development, Market Share, and Profitability sub-scales exhibited adequate validity. Finally, four items for example (To promote growth of a product, we expand its distribution and modify our product) assessed New Product Development in a firm. Two items tapped Market Share (e.g., this firm has attained its targeted market share over the past five years) and Profitability (e.g., the profitability of this firm has been greater as compared with competitors over the past five years) each, and one item (e.g., this firm has achieved its sales targets over the past five years) was generated to measure sales. The overall Organizational Effectiveness measure exhibited adequate internal consistency ($\alpha = .79$).

Organizational Innovation Scale. Organizational Innovation Scale (Ismail et al., 2002) was used to measure organizational innovation. Three relevant subscales of Organizational Innovation Scale were used. Nine items that tap three dimensions of leadership innovation propensity (e.g., the leaders of this organization tend to uphold new ways of doing things), environment innovation propensity (e.g., if I make a mistake at work, it will not be held against me), and personal innovation propensity (e.g., I try to make changes in my work as much as possible) were employed for the present study. The reliability estimates for Organizational Innovation subscales were .78, .76, and .84 respectively, while alpha coefficient for overall Organizational Innovation Scale is .86.

Innovative Climate Measure. Ten items (e.g., it is not important to check things first with the boss before taking a decision') from the Organizational Climate Measure (Patterson et al., 2005) were employed to measure innovative climate ($\alpha = .72$).

Procedure

We contacted the human resource department in each of these cellular companies and sought assistance for conducting the research whilst explaining the academic nature and purpose of the study. To address ethical concerns, we clearly confirmed respondent anonymity and use of the data provided for mere academic purpose. Participation in the research was voluntary. Successively, the questionnaire booklet was delivered to employees and managers of three well-known cellular companies in Islamabad. Following Church (2001)'s assertion that survey method predicts a minor percentage of unique variance in data, and that factors as ease and cultural fit should be considered for data collection, we used two methods to collect data so as to gather quality data involving as many respondents within the stipulated time for this study. Precisely, data were collected through personal visits and colleagues, while in some cases employees were emailed the questionnaire.

Results

Table 1

Correlations, Means, and Standard Deviations of Variables of Study

Variable	No. of items	*M*	*SD*	1	2	3	4	5
1. IC	10	1.82	2.80	-				
2. OI	9	1.71	1.80	.74*	-			
3. EIP	3	1.88	0.80	.56*	.76*	-		
4. LIP	3	1.78	0.78	.51*	.56*	.73*	-	
5. PIP	3	1.69	0.97	.45*	.43*	.51*	.40*	-
6. OOE	39	2.23	0.88	.54*	.61*	.45*	.35*	.46*

Note. IC = Innovative Climate; OI = Organizational Innovation; EIP = Environment Innovation Propensity; LIP = Leadership Innovation Propensity; PIP = Personal Innovation Propensity; OOE = Overall Organizational Effectiveness.
*$p < 0.01$.

Table 1 reveals that all correlations among variables were positive, as expected. Also, organizational innovation and innovative climate, i.e., the independent variable and hypothesized mediator in this case, correlate positively.

Construct Validity

Construct validity was assessed through confirmatory analysis that was performed independently for each of the three constructs using

Lisrel 8.0 (Joreskog & Sorbom, 1996). Specifically, three different models were specified and tested separately to assess the construct validity of organizational innovation, innovative climate, and organizational effectiveness. Each of these analyses were initiated with a covariance matrix using maximum likelihood estimates and cut-off values for estimating model-fit indices as recommended by Hu and Bentler (1999) were used.

This first order factor model with three indicators showed a good fit ($X^2 = 26.32$, $df = 16$, $p = 0.054$, RMSEA = 0.053, CFI = 0.984, NNI = 0.775, SRMR = 0.046, AGFI = 0.933). Loadings of the second-order organizational innovation factor on the first-order factors were significant and varied between 0.45 (environment innovation propensity), 0.61 (leadership innovation propensity), and 0.77 (personal innovation propensity). For innovative climate, a single first-order factor model was specified using the odd number of items as indicators – a procedure known as parceling that has been recommended by Little, Cunningham, Sahar, and Widaman (2002) to enhance the distribution property of indicators. This first-order factor model with five indicators proved a reasonably good fit ($X^2 = 24.56$, $df = 13$, $p = 0.058$, RMSEA = 0.045, CFI = 0.977, NNI = 0.875, SRMR = 0.036, AGFI = 0.913).

For organizational effectiveness, a second-order factor model was specified with two indicators of measures subjective measures and objective measures. This second-order factor model also showed a good fit ($X^2 = 25.76$, $df = 14$, $p = 0.068$, RMSEA = 0.053, CFI = 0.987, NNI = 0.975, SRMR = 0.034, AGFI = 0.923). The second-order organizational effectiveness factor loaded significantly on the first-order factors, the loadings ranging between 0.56 (subjective measures), and 0.79 (objective measures). Taken together, results from the confirmatory factor analysis of the three measures used in the present study indicated that these measures demonstrated sufficient construct validity and could be used for further analyses.

Regression Analysis

For multiple regression analysis, in the first step, organizational effectiveness was regressed on organizational innovation. Organizational innovation dimensions were entered into the regression equation as predictors keeping organizational effectiveness as the criterion in the second step.

Table 2

Regression Analysis on Variables of the Study

Predictors	R^2	*F*	*Stand.* β	*t*
Model 1				
(constant)	.34	85.0*		6.0*
			.587	9.22*
Model 2				
(constant)	.33	25.94*		
				3.5*
Environment innovation propensity			.202	2.9*
Leadership innovation propensity			.455	6.6*
Personal innovation propensity			.091	1.4*

Note. Model 1. Predictor: Organizational Innovation; Criterion: Organizational Effectiveness; Model 2. Predictors: Organizational Innovation Dimensions of Environment, Leadership, Personal Innovation Propensity; Criterion: Organizational Effectiveness.

*$p < .000$.

Table 2 shows that for the first regression equation organizational innovation positively predicts organizational effectiveness with 34.4% variance. For the second regression equation, keeping organizational innovation dimensions as predictors and organization effectiveness as criterion, the overall model is significant and organization innovation dimensions of environment innovation propensity, leadership innovation propensity, and personal innovation propensity predict 32.7% variance in organization effectiveness.

Table 3

Results of Mediation Analysis of Innovative Climate in the Organizational Innovation – Organizational Effectiveness Relationship

Model	R^2	*F*	Stand. β	*t*
1 (constant)	.37*	95.0*		7.32*
			.609	9.7*
2 (constant)	.34*	85.0*		6.0*
			.587	9.22*
3 (constant)	.37*	43.0*		5.0*
Innovation			.028	6.8*
Climate			.904	6.9*

Note. Model 1. Predictor: Organizational Innovation; Criterion: Organizational Climate; Model 2. Predictor: Organizational Innovation; Criterion: Organizational Effectiveness; Model 3. Predictor: Organizational Innovation, Organizational Climate; Criterion: Organizational Effectiveness.

*$p < 0.000$.

We used Bar-On and Kenny's (1986) method to test the hypothesized meditation model. As recommended by Baron and Kenny (1986), three causal paths are tested for mediation effect: the independent variable causes variation in the mediator (path a), the hypothesized mediator causes variation in the dependent variable (path b), and, controlling for paths a and b, the previous significant relation between independent and dependent variable is reduced in path c, with complete mediation occurring when path c is reduced to zero. These regression equations were entered to test the three causal models. First, innovative climate (mediator) was regressed on organizational innovation (predictor). Second, organizational effectiveness (criterion) was regressed on organizational innovation.

Third, organizational effectiveness was regressed on innovation and innovative climate simultaneously. If these three conditions are met and in the assumed direction, then the indirect effect of the dependent variable on the independent variable is comparatively less in the last equation than the in the second one. Since innovative climate was hypothesized as a mediator in the organizational innovation-organizational effectiveness relationship, the mediation analysis was performed by using overall organizational innovation. The first regression equation shows that the model is significant as R^2 is 0.371 ($F = 95$, $p < .000$). Hence, organizational climate explains 37.1 % variance in organizational innovation and the first condition for mediation is met. For the second regression equation, R^2 is 0.344 ($F = 85$, $p < .000$) and organizational innovation explains 34.4 % variance in organizational effectiveness.

Thus, the second condition for mediation is also met. For the third regression equation, R^2 is 0.374 ($F = 43$, $p < .000$). Examination of regression coefficients reveals that innovation β weight is reduced from 0.647 in the second equation to 0.604 in the third equation. In this way, the indirect effect of the predictor on the criterion is reduced when the hypothesized mediator is also entered, indicating partial mediation. Also, the change in R^2 in the third equation is .03 which shows that organizational climate brings an additional 3% change in the organizational innovation – organizational effectiveness relationship. Mediation effect is thus established and the research hypothesis is confirmed. Yet, contrary to expectation the effect size (Cohen, 1988) is found to be small.

Discussion

The present study empirically examined whether organizational innovation predicted organizational effectiveness and also investigated

which organizational innovation dimension carried most significance in predicting organizational effectiveness. It also addressed whether innovative climate mediated the relationship between firm innovation and effectiveness. Two main hypotheses and three sub-hypotheses were developed to test these relationships. These results fully support the first study hypothesis. Results clearly point to organizational innovation as well as its innovation dimensions of environment innovation propensity, leadership innovation propensity, and personal innovation propensity are found to predict effectiveness.

Leadership innovation propensity is the most significant in predicting organizational effectiveness. Theoretically, these results posit that an organization's effectiveness is positively favored when the leadership supports innovation. Leaders must appreciate innovative behavior and impede factors as control that discourages innovative behavior. These results concur with past research, which clearly asserts that leadership is an important antecedent to innovation (Vaccaro, Jansen, Van Den Bosch, & Volberda, 2012) and it is the top management that influences innovation through strategic decision making (Elnkove & Manev, 2005). It is leadership that reinforces innovation (Parry, 2003; Reichwald, Siebert, & Moslein, 2005). These results are also in line with Angle (1989) who views that leadership may discourage innovation by punishing unsuccessful innovation. Hence, we conclude that leadership must underline the significance of surviving on the cutting edge of innovation with the aim of enhancing organizational effectiveness.

Concerning environment innovation propensity, the results of this study agree with the proposition that environmental aspects are a key antecedent to innovation, which leads to organizational effectiveness. For innovation to take place in a firm, its members must feel that the environment favors the freedom to function in a creative manner. In an environment characterized by honest debate, employees are open to risk taking and creativity as they sense that the organization believes in the greatest interest for all (McLean, 2005).

At employee level, results of this study concur with past research that demonstrates that employee personal characteristics influence innovation implementation (Choi & Price, 2005). However, this study concluded employees' personal innovation propensity to be the least significant among the three innovation dimensions in predicting organizational effectiveness. This certainly poses a challenge for those concerned with human resource development and policy making. Employees must be inspired on a personal level as their actions and motivation directly impact innovation (Bates & Khasawneh, 2005).

Regarding the mediating role of innovative climate in the relationship between innovation and effectiveness, the present study provides some empirical evidence for the mediating effect, though the effect size of the mediation is small (Cohen, 1988). This finding is unexpected, as it does not totally support the existing theory that propagates that a climate that supports innovation would lead to enhanced success. However, these findings are interpretable in light of the industry and economic situation of the study setting. For one, an organization's innovation is merely one aspect that contributes to its success. Owing to certain external influencing factors, the right organizational climate may not necessarily cause innovation to enhance effectiveness. For example, Abereijo, Oluwagbemiga, Taiwo, and Adegbite (2007) concluded that external factors may impact the internal innovation in a firm, and in this the results concur with theirs.

Moreover, in the present study, objective measures as profitability were measured as part of effectiveness. In fact, investment and allocation of resources for innovation may lead to decline in profits in the short run. In the cellular industry, the rate of failure of ideas and products is high and product life cycle is short, meaning that new products are born and die too quickly to allow innovation to significantly impact effectiveness in the short run, despite a suitable climate being in place. Further, since we gauged the mediating role of innovation-climate in the innovation – effectiveness relationship at one time, our finding that innovation-climate has a small mediating effect might reflect the short-term failures that innovative firms face. In addition, findings of this study coincide with Rafiq and Gao (2008)'s argument that innovation in the cellular industry is really a complicated phenomenon. For cellular market growth, an entire set of actors needs to be examined for a holistic perspective rather than merely firm innovation.

Managerial Implications

The study proclaims several important managerial implications, especially for research and development organizations that continually strive to innovate. Managers and human resource development (HRD) practitioners may want to assess the degree of innovation in their organization to enhance the effectiveness of their organization. They should assess whether their leadership clearly emphasizes and communicates an innovation vision, the level of innovation propensity in the environment, and the extent of employee personal propensity to innovate. Importantly, managers and HRD practitioners should also

deliberate over how the three should be facilitated simultaneously to work towards enhanced organizational effectiveness.

Further, managers and HRD practitioners may find it useful to scrutinize climate factors that impact organization innovation and subsequently effectiveness with the aim of cultivating an innovative climate. Elimination of factors such as discouraging or punishing risk-taking behavior is important because innovation might entail short-term failure (McGill, Slocum, & Lei, 2003) and such factors obstruct innovation. It also implies that employees should be assisted in learning from mistakes.

This study contributes to the existing literature by empirically substantiating scholars' argument (such as Russel, 1989) that an organizational climate that fosters and facilitates innovation is imperative for successful innovation. Importantly, the current study has also empirically tested the relationship between organizational innovation and effectiveness and established a significant link. Further, the current study points out that for enhanced organizational effectiveness, it is leadership innovation propensity that plays the key role, while environment innovation and personal innovation follow. Logically, the three innovation dimensions might have a causal link. To investigate this causal link is beyond the scope of this study, however.

Strengths and Limitations

A noteworthy strength of this study is that both subjective as well as objective criteria were employed to gauge overall organizational effectiveness. We consider this to be an important merit as most past studies have considered either aspect (Alinaitwe, Mwakali, & Hansson, 2009; Yang, 2007; Zhang & Liu, 2010). Thereby, this study offered a more holistic measurement of organization effectiveness.

The present study is not without potential limitations, however. For one, the cross-section design of the study limits concluding causality in the model. Hence, our findings should be interpreted keeping in view the cross-section nature of this study. A longitudinal study would better address the mediating role of innovative climate in the innovation-effectiveness relationship. Moreover, on a conceptual level, this research utilizes data acquired at the individual level only. Literature points out that innovation operates at various levels in the organization (Amabile, et al., 1996) and to attain innovation the call for innovation must be founded at all organizational levels (Nacinovic et al., 2009). A more complete model should include gauging

innovation at more levels, specifically at the group and organizational level.

Finally, the sample size in this study may limit the generalizability of the study's findings to other settings and industries. Albeit, this may not be a true limitation since only in an innovation-intensive industry can innovation be expected to boost organizational effectiveness. For more certainty, the sample size may be increased and results of this study must be tested in other industries and settings.

Future Research

Future studies may examine additional variables for more theory building. A longitudinal study is required to empirically examine how innovation would impact effectiveness using objective as well as subjective criteria. Importantly, future research might investigate the causal link between the three innovation dimensions, as it is leadership that articulates and encourages innovation, by creating and vision and influencing the environment and finally inducing innovation on a personal level. Future studies might also focus on gauging innovation at the group and organizational level for a more complete model.

Conclusion

The present study has empirically established that an organizational climate appropriate for innovation indeed facilitates organizational innovation for effectiveness of firms. The study unexpectedly found a small effect size for the facilitating (mediating) role of organizational climate in the organizational innovation – organizational effectiveness relationship. These findings point to possible external factors that may restrain this relationship, despite a firm's steering of innovation efforts towards effectiveness. Moreover, a firm may show sluggish results in terms of financial success, especially in the short run. This important reality must be realized ahead of time if a firm aims to adopt innovation for sustained competitive advantage. Additionally, the current study also proved the significance of environment innovation propensity, leadership innovation propensity, and personal innovation propensity for organizational effectiveness. Leadership innovation propensity was found to be the most significant factor. Logically, it is leadership that influences the overall direction and vision of a firm to innovate for success via framing and conveying the elements of clarity of

innovation vision and provides assurance for new idea generation and risk.

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