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The effects of transformational leadership on employee creativity: Moderating role of intrinsic motivation

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ABSTRACT

This research aimed to investigate effect of transformational leadership (TL) in stimulating employee creativity (EC) leading to organizational innovation (OI) and assess the moderating role of Intrinsic Motivation (IM) between TL and EC. The data was collected from 164 supervisor-employee dyads of 31 Pakistani software firms. A three-step approach to SEM was applied to examine mediator and moderator variables. The findings indicate that the Idealized Influence, Intellectual Stimulation, and Inspirational Motivation have a great influence on OI and EC but Individual Consideration was not found to be significantly related to OI and EC. The findings further proved the positive and significant moderating effect of IM for TL and EC. Thus, through TL style, EC can be promoted with the interactive effect of IM by inspiring employees to think out of the box leading to innovation in the organization. This paper attempts to contribute to the current literature by developing moderating role of IM. Furthermore, we have also examined how each dimension of TL is affecting EC, and OI, further some interesting discoveries are also made which other studies have not done before.

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1. Introduction

Today the organizations are functioning in a very vibrant environment with rapid development of technology, requiring organizations to bring creativity and innovation to products & services. A considerable amount of literature has emphasized the significance of employee creativity for innovation (Ouakouak & Ouedraogo, 2017; Liu, Liao, & Loi, 2012; Shalley, Gilson, & Blum, 2009; Yoshida, Sendjaya, Hirst, & Cooper, 2014). Because stimulating individual creativity is a vital element for firms to remain competitive and survive in the market. Various organizations are also constantly looking for different ways to inspire their employees to work creatively and develop innovative ideas (Gu, Tang, & Wan, 2015; Liu et al., 2012; Walton, 2003). Consequently, many researchers are interested to understand the dynamics of employee creativity,

especially, to recognize the factors that develop or inhibit creativity within organizations (De Alencar & De Bruno-Faria, 1997; Zhou & Shalley, 2008). The leadership is considered one of the significant factors that affect creative behavior of employees and organizational innovation (Oldham & Cummings, 1996). Moreover, "Leadership has been put forth as a key driver of organizational innovation" (Prasad & Junni, 2016, p. 1542).

The transformational leadership style has received extensive popularity as compared with other styles of leadership among leadership researchers (Khalili, 2016; Mittal & Dhar, 2015; Schaubroeck et al., 2012; Shin & Zhou, 2003; Wang & Rode, 2010; Wang, Rode, Shi, Luo, & Chen, 2013), due to its different approaches to motivate creativity of employees as compared with other styles of leadership (Gupta, Singh, Kumar, & Bhattacharya, 2012; Reiter-Palmon & Illies, 2004). Furthermore, the Transformational Leadership style is very significant in affecting creativity of employees (Shin & Zhou, 2003) and is suitable to identify novel opportunities and to develop competencies in organizations. The Transformational Leaders increase the confidence & values of employees; as a result, the employee's outcome is increased beyond their expected level (Bushra, Usman, & Naveed, 2001).

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Although the transformational leadership and employee creativity have received much attention from several researchers, past research has witnessed mixed results about the effect of transformational leadership on employee creativity, including negative (Basu & Green, 1997), significant positive (Gong, Huang, & Farh, 2009; Shin & Zhou, 2003) as well as no relationship (Wang & Rode, 2010). Moreover, no study has examined the direct individual impact of four dimensions of transformational leadership on employee creativity. Additionally, studies exploring the direct association between transformational leadership and organizational innovation are very rare and need further investigation. Also, no study has examined the direct individual impact of four dimensions of transformational leadership on Organizational Innovation.

Further, earlier research has also demonstrated that intrinsic motivation plays a key role to increase creativity of employees (Amabile, 1983), and a considerable amount of relevant literature indicates that intrinsic motivation has a positive effect on employee creativity (Shalley & Gilson, 2004; Zhou & Oldham, 2001). However, there are contradictory findings in the literature about intrinsic motivation's role, such as, Shin and Zhou (2003) finds partially mediated effect of the intrinsic motivation, Tan and Chong (2010) study finds positive mediation results, whereas, the study of Gumusluoglu and İlsev (2009) does not find positive/significant mediating results. Hence, the role of intrinsic motivation needs further interpretation. Additionally, Herrmann and Felfe (2013) also expressed the necessity to investigate other moderating variables to predict employee creativity. Furthermore, Jyoti and Dev (2015) emphasized to examine other moderating variables to form strong relationships of the outcomes of transformational leadership. Particularly, our research addresses the following research questions:

- i. What is the relationship between four dimensions of Transformational Leadership and Organizational Innovation?
- ii. What is the relationship between four dimensions of Transformational Leadership and Employee Creativity?
- iii. Does the intrinsic motivation play a moderating role between Transformational Leadership and Employee Creativity?

This research attempts to contribute to current theory by examining the association between four dimensions of transformational leadership and employee creativity as well as organizational innovation. This study further adds to the literature by examining the moderating role of intrinsic motivation between transformational leadership and employee creativity in the context of software firms. Because creativity and innovation are necessary, especially for technology-driven organizations, such as software firms, to survive and compete in the market (Gumusluoglu & İlsev, 2009). Consequently, software firms face several issues like meeting ever-increasing demand and provision of creative solutions. It has been observed that lots of inventions die out due to lack of encouragement. Therefore, such organizations need capable leaders to handle the rapid changes and keep pace with global challenges. Thus, in this study, we have focused on Software firms.

2. Theoretical framework and hypotheses development

2.1. Transformational leadership (TL) style

Initially, the idea of transforming leadership was put forward by Burns (1978), afterwards, Bass (1985) extended this concept and explained that transformational leadership motivates employees to work devotedly and achieve the organizational objectives. Subsequently, Bass & Avolio (1995) put forward four dimensions of

transformational leadership (1) *Idealized influence*, it refers to those leaders who influence the employees to follow them and act as a role model. (2) *Inspirational motivation*: It refers to a leader that stimulates a motivational degree of the employees outside their presumptions in order to attain organizational as well as personal goals. (3) *Intellectual stimulation*: Refers to a leader that stimulates capability of employees to think out of the box while solving issues and refresh their thoughts. Gilmore, Hu, Wei, Tetric, and Zaccaro (2013) refer the Intellectual stimulation as the act of stimulating employee's creativity and innovativeness. (4) *Individual consideration* refers to a leader that pays attention to each employee by personally listening to their problems and providing support to the employees (Dionne, Yammarino, Atwater, & Spangler, 2004).

The transformational leadership theory has been developed very well (Grant, 2012), and provided pronounced insights regarding the effect of transformational leaders on the organizations. Several researchers have investigated the consequences of TL on employees like creativity, commitment, and performance (Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996). Outcomes of their research also increased knowledge about management of employees for creativity and innovation. TL controls the internal-external changes which individuals need to make for achievement of the organizational objectives. Such a style of leadership focuses on benefits of employees, organizations, and societies beyond self-interest (Ergeneli, Gohar, & Temirbekova, 2007). The leaders with this leadership style motivate the employees to work lengthier hours with more than expected production (Bass & Avolio, 1995).

2.2. Effects of transformational leadership (TL) on organizational innovation (OI)

There is no consensus on defining organizational innovation (OI), several authors put forward different concepts (Armbruster, Bikfalvi, Kinkel, & Lay, 2008; Lam, 2005). For instance, according to OECD (2005, p. 17), OI is "the implementation of new organizational methods. These can be changes in business practices, in workplace organization or in the firm's external relations". According to Lam (2005), OI is a precondition for any kind of innovation in organizations. However, in this study, we define OI as the process of development of worth full, useful, and new products or services within an organizational setting (Sylvie, 2011; Woodman, Sawyer, & Griffin, 1993). It is the results of the strategic decision that management has taken (Meroño-Cerdán & López-Nicolás, 2017).

Khalili (2016) argues that the transformational leaders motivate and encourage their followers to take risks and own their results, which in turn, harness the creative environment and stimulate employees to work innovatively. Additionally, transformational leaders also motivate their employees to find alternative ways of completing their task to develop innovative and creative ideas. Various studies have empirically proved the positive & significant relationship of TL and OI (Gumusluoglu & İlsev, 2009; Keller, 2008; Uddin, Fan, & Das, 2017; Waldman & Atwater, 1994). Leaders must provide knowledge by demonstrating learning behavior in order to encourage the employees for creation of new ideas (Razavi & Ab Aziz, 2017). Leaders' intellectual stimulation and inspirational motivation play a pivotal role in innovating the organizations (Elkins & Keller, 2003; Nardelli, 2017). The leaders with transformational leadership capabilities encourage creativity with a vision that motivates the employees for creative performance leading to OI (Mumford, Scott, Gaddis, & Strange, 2002). Elkins and Keller (2003) also find that both inspirational motivation and intellectual stimulation are very vital factors for OI. Several studies have empirically established the positive relationship of such

leaders with innovation (Wang, Oh, Courtright, & Colbert, 2011; Hu, Gu, & Chen, 2013; Jung, Wu, & Chow, 2008; Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi, & Rezazadeh, 2013).

Most of these studies have focused on R&D (Research & Development) divisions. However, recently scholars have become interested in studying the effect of TL on OI. Jung, Chow, & Wu (2003) study indicates a positive effect of TL on OI as predicted by the number of patents achieved and Research & Development expenses. The study of Gumusluoglu and İlsev (2009) on Turkish software firms shows positive relationship of TL and OI. In Malaysia, a study conducted by Tajasom, Hung, Nikbin, and Hyun (2015) indicates that TL had a positive relationship with innovation with mediating effect of perceived organizational support. Further, a recent study of South Africa indicates that the inspirational motivation and intellectual stimulation are positively associated with innovation (Sethibe & Steyn, 2016). Considering above arguments, the following Hypotheses are proposed:

H1. Transformational Leadership (TL) significantly affects Organizational Innovation (OI).

H1a. Idealized Influence significantly affects OI.

H1b. Inspirational Motivation significantly affects OI.

H1c. Intellectual Stimulation significantly affects OI.

H1d. Individual Consideration significantly affects OI.

2.3. Transformational Leadership's (TL) effects on employee creativity (EC)

Transformational leaders share knowledge, promote novel ideas & support employees to think out of the box (Jyoti & Dev, 2015; Prasad & Junni, 2016). The leaders also support employees to overcome fear of risk and revolutionize the routine ways of working, leading to a high level of creativity. By idealized influence, the leaders inspire the employees and acquire respect and loyalty. The transformational leaders inspire and motivate the employees for achievement of goals by articulating a steering vision and path. Through intellectual stimulation, the employees are stimulated to perform creatively (Bass & Avolio, 1995). Through individual consideration, the leaders pay attention to individual employees to accomplish their needs (Ng, 2016; Sosik, Kahai, & Avolio, 1998).

Several authors have tried to comprehend the impact of different styles of leadership on employee creative behaviors (Mumford et al., 2002). Most of them have contributed to the literature and provide some valuable insights; most promising direction of these studies is the influence of TL in promoting creativity. TL style has been a very famous style of leadership among researchers because of its notable influences on employees. The latest studies have also confirmed the positive and significant effect of TL in predicting creativity (Mittal & Dhar, 2015, 2016; Wang, Tsai, & Tsai, 2014; Wang et al., 2013).

The leadership plays a pivotal role in encouraging creativity in organizations (Tidd, Bessant, & Pavitt, 2004). TL encourages employees to adopt new patterns for accomplishment of assignments, which enhances the creativity of employees (Howell & Avolio, 1993). Yunus and Anuar's (2012) study indicates that TL encourages the employees to see fresh and new approaches for completion of their assignments. A study conducted by Yasin, Nawab, Bhatti, and Nazir (2014) indicates positive impact of intellectual stimulation on innovation. Also, transformational leaders build a strong relationship with their employees, leading to enhancement of job performance (Ng, 2016). Furthermore, some authors confirmed the positive influence of TL on EC (Cheung & Wong,

2011; Gong et al., 2009; Jyoti & Dev, 2015; Khalili, 2016; Mittal & Dhar, 2015; Shin & Zhou, 2003). Therefore, the following hypotheses are proposed:

H2. Transformational Leadership (TL) significantly affects Employee Creativity (EC).

H2a. Idealized Influence significantly affects EC.

H2b. Inspirational Motivation significantly affects EC.

H2c. Intellectual Stimulation significantly affects EC.

H2d. Individual Consideration significantly affects EC.

2.4. Mediating role of employee creativity (EC)

The EC is the establishment of novel ideas to improve the performance and increase the effectiveness & efficiency (Gong et al., 2009). The creativity is basically an employee's creative thinking, expertise, and skills based on one's experience and qualification. Employee creativity entails a high level of intellectual activity, therefore, the employees should be encouraged for hard work to attain breakthroughs. Furthermore, the creative employees can also share useful and new ideas to make necessary changings in the products and services (Shalley & Gilson, 2004). Khalili (2016) concluded that the leaders should value creative and innovative work and provide support for innovation to affect the employees' creativity and innovation positively. Additionally, the transformational leaders encourage employees to put forward novel ideas and use innovative problem-solving techniques to stimulate employee creativity for achievement of organizational innovation. Transformational leaders set standards for performance and demonstrate confidence in employees to motivate and enhance their creativity (Bass, 1985).

Transformational leaders share knowledge and encourage their employees for generation of novel ideas for promotion of an individual's creativity (Jyoti & Dev, 2015). By intellectual stimulation, the leaders encourage employees to initiate novel thinking for achievement of innovative solutions. According to Baldeger and Gast (2016, p. 944), one of the core components of inspirational motivation is "the creation and articulation of a shared vision which appeals and inspires employees". These characteristics of transformational leaders can help employees to perform creatively. The creative employees are an important source for generation of new and creative ideas (Redmond, Mumford, & Teach, 1993), such employees also recognize opportunities for new products/services leading to innovation at organizational level (Shalley & Gilson, 2004).

Thus, employee creativity is like a raw material necessary for the development of organization (Lukes & Stephan, 2017; Oldham & Cummings, 1996). Moreover, the creativity is a building block of innovation, the process whereby creative ideas are implemented (OECD, 2010). Transformational leaders create an environment to motivate employees to learn, share and explore creative ways of action. The organizations that encourage employee creativity in order to turn ideas into new products and services achieve competitiveness in market (Kremer, Villamor, & Aguinis, 2019). Further, employee creativity is considered as one of the essential ingredients of the organizational success and efficiency. Additionally, transformational leaders encourage creativity with a vision that motivates the employees for creative performance leading to OI (Mumford et al., 2002). Therefore, OI can be accomplished by refining creativity of employees (Laguna, Wiecheteck, & Talik, 2012). Consequently, the creativity of employees will lead to innovation in products/services at the organizational level. Considering above arguments, we propose following hypothesis:

H3. Employee Creativity (EC) acts as mediator between Transformational Leadership (TL) and Organizational Innovation (OI)

2.5. Moderating role of intrinsic motivation (IM)

The IM is the interest of employees to perform certain tasks for their own sake instead of external influence (Gumusluoglu & İlsev, 2009). Past research indicates that employees are very inventive when they receive higher IM (Gumusluoglu & İlsev, 2009; Shalley & Gilson, 2004; Zhou & Oldham, 2001). Since the creativity requires a higher degree of IM, therefore, employees should be encouraged for hard work to attain breakthroughs (Shin & Zhou, 2003). According to Social exchange theory, when the transformational leaders through individualized consideration encourage and pay attention to every employee, it will influence the employees to realize their creative potential and value. As a result, employees will experience a high level of IM (Zhou & Oldham, 2001), leading to a high level of creativity (Amabile, Conti, Coon, Lazenby, & Herron, 1996). Moreover, transformational leaders stimulate employees to be creative in completing the assignments successfully. Such support from leaders also inspire employees to discover new intellectual pathways (Shalley & Gilson, 2004) to experience higher creativity (Oldham & Cummings, 1996).

Further, IM played a strengthened role in increasing EC (Zhou & Oldham, 2001) and past research indicates contradictory findings, such as, the study of Shin and Zhou (2003) finds the partially mediated effect of IM, Tan and Chong (2010) finds positive mediation results, whereas, the study of Gumusluoglu and İlsev (2009) does not find positive/significant mediating results. To the best of our knowledge, no study has explored the moderating role of IM between TL and EC. Furthermore, it is argued that even though the behavior of employees is subjected to contextual factors, the interest of employees in a task for its own sake provides enthusiasm and positive confidence to exert creativity behavior, thus supporting moderating effect of IM. Moreover, Herrmann and Felfe (2013) emphasized the need to explore the moderating variables to predict creativity. Further, Jyoti and Dev (2015) also emphasized the need to examine moderating variables in order to form a strong relationship and outcomes of transformational leadership. Thus, the following hypothesis that explores the moderating role of Intrinsic Motivation between TL on EC is proposed (Fig. 1).

H4. The Intrinsic Motivation moderates the Transformational Leadership's (TL) effect on Employee Creativity such that the relationship between TL and EC increases when IM was high and vice versa.

3. Research methodology

3.1. Research context

The Information Technology (IT) industry in Pakistan is flourishing and has achieved its goals during the past few years. More than 2000 IT companies exist in Pakistan, and most of them are certified in quality standards. The Pakistani IT industry has more than 200,000 IT professionals with a high-quality education, technological experience and equipped with latest IT tools (PSEB, 2017). Pakistani Information Technology industry has increased exports by more than 70% from 2013. At present, this industry's exports, including exports generated by freelancers, are estimated to be worth \$2.5 billion per annum, with other domestic revenues of about \$500 million (Pak Rupees 52.5 billion) (PSEB, 2017). However, today, the industry is facing various challenges like meeting ever-increasing demand and provision of creative solutions.

We have selected Pakistani IT industry due to three reasons. Firstly, it is one of a fastest growing industry where rapid changes in products are being observed that has triggered competition, therefore, employee creativity is necessary to develop new ideas to create new products as well as improve the existing products. Secondly, it is a growing and large sector that requires creativity and innovation to accomplish its goals and capture the market. Because, for software firms, employee creativity, and organizational innovation are necessary to remain competitive in market (Gumusluoglu & İlsev, 2009), as these firms mostly compete based on their creative solutions. Further, many innovations die owing to lack of encouragement, hence, software firms need capable leaders to encourage creativity and handle the rapid changes to keep pace with global challenges. Thirdly, the literature on effects of leadership, particularly Transformational Leadership in Pakistani context, especially in IT industry, is scarce. Moreover, no study has been conducted in Pakistan that has examined how intrinsic motivation moderates the effects of transformational leadership on employee creativity.

3.2. Sampling and data collection

Our research analyzed the correlation between transformational leadership, Organizational Innovation, Employee Creativity & Intrinsic Motivation from viewpoint of Pakistani Software firms. The authors contacted 40 software firms, out of which 31 consented to participate in the research. The data was collected from employees and supervisors of Pakistani Software firms.

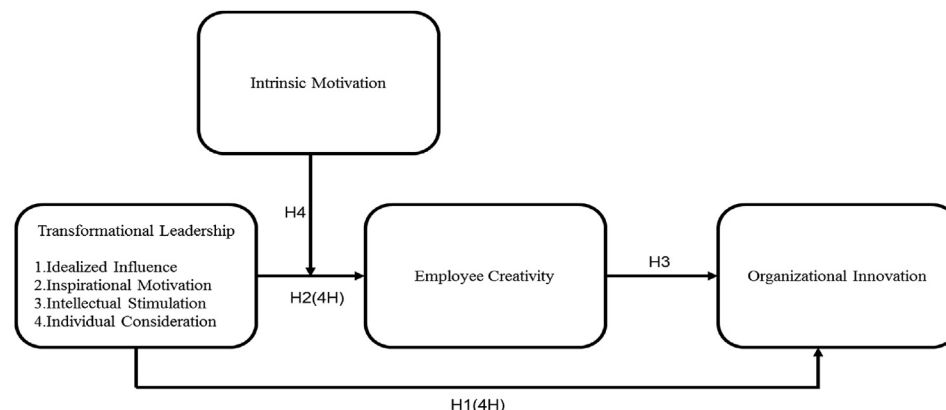


Fig. 1. Research model.

Two questionnaires were framed, one for employees and other for leaders. The employees provided information about the leaders and intrinsic motivation. Whereas, the leaders provided the information about creative behavior of employees and organizational innovation. The questionnaires were distributed between 500 employees-supervisors dyads, 180 employees-supervisors dyads questionnaire were received back. Out of which, 164 complete paired responses were screened out. Table 1 indicates the detail of sample.

It is found that most of the employees and their supervisors are young and possess a high educational level, and the majority of the respondents are Male. On examining above Table, it has been observed that as compared to females (28.57%), males are dominant (71.42%). Moreover, most of the participants have a post-graduate degree, and most of them are young (35 years or less, 76.19%). The engagement of young and highly educated staff in Information Technology Industry in Pakistan infers the high rate of participation of new and skilled peoples that assists in generating new ideas and helps in innovation.

Before employing a number of analysis, we analyzed the data for outliers, missing data, linearity, multicollinearity to avoid any bias or invalid result. Table 2 describes the descriptive statistics and correlations. Even though the independent variables were not relatively highly correlated, we conducted the multicollinearity analysis using Variance Inflation Factors (VIF). The results show that the multicollinearity was not a problem since all the variables were within the normal limit of 10 (Hair, Black, Babin, Anderson, & Tatham, 2006). Furthermore, to avoid multicollinearity, we followed the guidelines of Aiken and West (1991) and mean-centered the interaction variable.

3.3. Measures

In the present study, the reliable scales were adopted that have been validated and used in previous research.

Employee Survey Questionnaire. The Employee Questionnaire was composed of 02 constructs, namely Transformational Leadership and Intrinsic Motivation. 20 items of Transformational Leadership were adopted from Avolio, Bass, & Jung (1999). This construct composed of 04 dimensions (Idealized Influence, Inspirational Motivation, Intellectual Stimulation and Individual Consideration) with five statements for each factor. The second part of the questionnaire comprised of five items related to Intrinsic Motivation (adopted from Tierney, Farmer, and Graen (1999)).

Supervisor Survey Questionnaire. The Supervisor Questionnaire was composed of two constructs, namely Employee Creativity and

Organizational Innovation. Six statements were adopted from Jing Zhou and George (2001) scale for employee creativity measurement, and four items were adopted from (Ouakouak & Ouedraogo, 2017) scale organizational innovation measurement.

All items were rated on a five-point Likert scale, and a score of 1 for each statement indicates “strongly disagree” and a higher score of 5 indicates “strongly agree”.

Before launching the survey, a preliminary study was conducted on 70 employees working in different Pakistani Software Companies for validity and reliability analysis. The collected data were assessed using SPSS 20 version.

For factor identification and summarization of the scale items, the Exploratory Factor Analysis (EFA) was applied. The Transformational Leadership construct, which was initially comprised of 20 items, was reduced to 16 items and converged with 04 factors. The same procedure was followed for other constructs i.e employee creativity, Intrinsic Motivation, and Organizational Innovation, and these constructs were converged with 01 factor with 04 items for each construct.

The internal consistency was measured via Cronbach's alpha and the value of four constructs ranged from 0.886 to 0.954, all exceeding the 0.70 cut-off value recommended by Nunnally (1978) which indicates excellent internal consistency of the questionnaire. Moreover, the Kaiser–Meyer–Olkin value of each scale ranged from 0.736 to 0.789, and Bartlett's test of sphericity was also statistically significant ($p < 0.01$), indicating the good validity of the questionnaire. The detail of constructs has been presented in Table 3.

Scale reliability was also assessed via composite reliability (CR) and values were from 0.862 to 0.914. Standardized loading estimates ranged from 0.720 to 0.938 for transformational leadership; for Intrinsic Motivation from 0.709 to 0.901; for employee creativity from 0.724 to 0.921, and for Organizational Innovation from 0.686 to 0.973. The significant loadings and high value of CR indicate good convergent validity of the scale.

Following the recommendation of Fornell and Larcker (1981), the discriminant validity was evaluated via comparing correlation between two constructs with respective Average Variance Extracted (AVE) estimates. Correlation analysis indicates that square roots of all AVE (ranged between 0.78 and 0.85) were more than the off-diagonal correlation (ranged between 0.10 and 0.62) for each corresponding construct. The authors also followed the approach of Ngo and O'Cass (2012) to validate the discriminant validity further and found that the correlation between any two constructs was less than their respective CR (ranged between 0.862 and 0.914). Collectively these findings indicate sufficient discriminant validity.

Table 1
Detail of sample.

Profile of Employees	%	Valid %	Cumulative %	Profile of Supervisor	%	Valid %	Cumulative %
Gender				Gender			
Male	65.57	65.57	65.57	Male	71.42	71.42	71.42
Female	34.42	34.42	100	Female	28.57	28.57	100
Total	100			Total	100		
Age in Years				Age in Years			
20–25	13.11	13.11	13.11	20–25	21.42	21.42	21.42
26–30	18.85	18.85	31.96	26–30	16.66	16.66	38.09
31–35	36.06	36.06	68.03	31–35	38.09	38.09	76.19
36–40	31.14	31.14	99.18	36–40	23.80	23.80	100
41 & above	0.819	0.819	100	41 & above			
Total	100	100		Total	100		
Education Level				Education Level			
Graduate	21.31	21.31	21.31	Graduate	23.80	23.80	23.80
Postgraduate	78.68	78.68	100	Postgraduate	76.19	76.19	100
Total	100	100		Total	100		

Table 2
Means, standard deviations and Correlations.

Variable	Mean	SD	1	2	3	4	5	6	7
Idealized Influence	4.28	0.70	1						
Inspirational Motivation	4.18	0.66	.212 ^a	1					
Intellectual Stimulation	3.87	0.95	.192 ^a	.254 ^b	1				
Individual Consideration	2.36	1.24	.121	.045	-.013	1			
Organizational Innovation	4.00	0.97	.305 ^b	.461 ^b	.208 ^b	.161	1		
Employee Creativity	4.38	0.66	.288 ^b	.488 ^b	.168 ^a	.131	.367 ^b	1	
Intrinsic Motivation	4.21	0.59	.386 ^b	.578 ^b	.208 ^b	.058	.418 ^b	.328 ^a	1

^a Correlation is significant at the 0.05 level (2-tailed).

^b Correlation is significant at the 0.01 level (2-tailed).

Table 3
Constructs and measures.

Construct	Cronbach's alpha	KMO	Bartlett's Test of Sphericity			Eigenvalue	Percentage of Variance Explained
			Approx. Chi-Square	Df	Sig.		
Transformational Leadership	0.886	0.789	1078.248	120	0.000	>1	81.14%
Intrinsic Motivation	0.949	0.736	305.541	6	0.000	>1	82.379%
Employee Creativity	0.903	0.765	187.918	6	0.000	>1	70.162%
Organizational Innovation	0.954	0.781	343.376	6	0.000	>1	82.137%

Although in this study, the data was obtained from multiple sources i.e. employees and supervisors, common method bias may still be a concern in this research. Thus, we took several measures to control and reduce the concern regarding common method bias. First, we adopted all the questionnaire items from previously validated scales and assured the confidentiality of securing accuracy of responses. Second, we employed a widely used method, namely Harman's single-factor (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). We ran EFA with all variables present, and no single factor was apparent in the factor structure to have more than 50% variance (Podsakoff et al., 2003), the first factor only accounted for 34.503% of the total variance. Hence, these results suggest that our study should not be affected by common method bias.

4. Results

4.1. Regression and structural equation modelling analysis

The Test of the Mediating Role of Employee Creativity (EC) between Transformational Leadership (TL) and Organizational Innovation (OI) (3-steps) (Fig. 2).

Step 1: Test the relationship between TL and OI. The regression analysis was applied to investigate the quantitative association of four factors of TL with OI. The adjusted R2 is 0.791, and the regression equation explains nearly 80% of the total sum of squares. The three factors namely Idealized Influence ($\beta = 0.335, p < .001$), Intellectual Stimulation ($\beta = 0.824, p < .001$) & Inspirational Motivation ($\beta = 0.288, p < .001$)

positively and significantly affects Organizational Innovation, but Individual Consideration does not have significant effect on employee creativity is ($\beta = 0.056, p = 0.311$), hence, the hypotheses H1a, H1b and H1c are supported, but H1d was rejected (See Table 4). The results show that Intellectual Stimulation, followed by Idealized Influence and Inspirational Motivation, greatly influences organizational innovation, but Individual Consideration is not conducive to organizational innovation.

Step 2: Test the relationship between TL and EC. In this step, the authors analyzed the quantitative relationship between four dimensions of TL and EC. Let the employee creativity be the explained variable, and four dimensions of transformational leadership be predictive variable. In analysis of regression test, the method to select variables is Enter. The adjusted R2 is 0.846, and the regression equation explains nearly 85% of the total sum of squares. The Idealized Influence ($\beta = 0.215, p < .001$), Intellectual Stimulation ($\beta = 0.152, p < .001$) and Inspirational Motivation ($\beta = 0.886, p < .001$) have significant positive effects on employee creativity, but Individual Consideration does not have significant effect on employee creativity is ($\beta = 0.032, p = .0502$), hence, the hypotheses H2a, H2b and H2c are supported, but H2d was rejected (See Table 4). This shows inspirational motivation has the greatest impact on employee creativity, hence, leaders should adopt motivational strategies in order to nourish employees to become more creative. But individual consideration is not a key influencing factor of employee creativity, hence, it is not necessary to pay much attention to it.

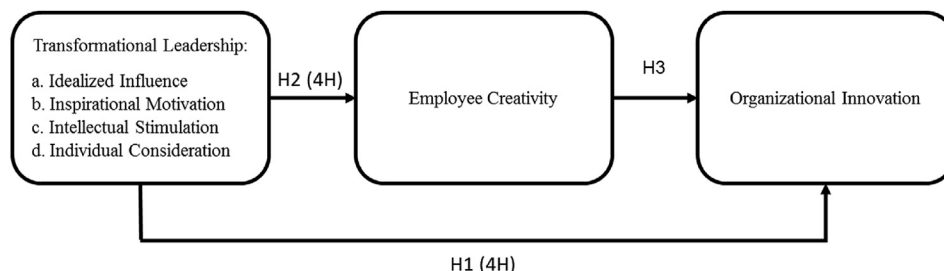


Fig. 2. Mediating role of EC between TL an OI.

Step 2 results show that regression coefficient is significant, therefore Step 3 can be used to test whether the employee creativity is a complete mediator or a partial mediation exist.

Step 3: TL and EC on regression analysis of OI. In this step organizational innovation was taken as dependent variable and four factors of TL and EC were entered as independent variables. After adding employee creativity, the results indicates that three factors of TL still significantly affected organizational innovation, while the significance of Idealized Influence, Intellectual Stimulation, Inspirational Motivation and Individual Consideration level decreased ($\beta = 0.250, p < .001$; $\beta = 0.765, p < .001$; $\beta = 0.261, p < .042$; $\beta = 0.044, p = 0.408$ respectively) when compared with the previous regression coefficients ($\beta = 0.335, p < .001$; $\beta = 0.824, p < .001$; $\beta = 0.288, p < .001$; $\beta = 0.056, p = 0.311$ respectively), indicating partial mediating effect of EC between TL and OI, hence H3 is supported. The Regression analysis results presented in Table 5. Therefore, leaders can influence employees to follow them and express high expectations for a subordinate. Furthermore, the leaders should also demonstrate high team spirit and emotional appeals and encourage employees to put forward new ideas and useful ways to solve problems in work, leading to stimulating employee creativity for achievement of organizational innovation more effectively.

To test the moderating effect, the multistep approach as recommended by Baron and Kenny (1986) was applied. After establishing enough validity & reliability of measurement model, the SEM was found appropriate to examine the path relationships in proposed research model. The improved model indices values (GFI = 0.902, NFI = 0.923, TLI = 0.917, RMSEA = 0.054) indicate that the model fits the data well, and path analysis is appropriate.

In this stage, SEM (3 step procedure) approach was applied, in first step the effect of predictor (Transformational Leadership) was analyzed. The results (Fig. 3) indicates significant effect of TL on EC (SRW = 0.56, $p < 0.05$). In next step, moderating variable (intrinsic motivation) was added to examine effect of predictor and moderating variable on employee creativity. Outcomes of this step indicate that intrinsic motivation was insignificantly related to employee creativity (SRW = 0.02, $p > 0.05$), which satisfies the condition to test the moderation effect. Afterwards, Little, Card, Bovaird, Preacher, and Crandall (2015) approach was followed to create the latent interaction construct while using the product indicator approach. The predictor (transformational leadership) and moderator (intrinsic motivation) each have four manifest variables. Hence total sixteen manifest variable were generated representing latent interaction variable as under:

- X1 = Idealized Influence(II) × Solutions to complex problems(SCP)
 X2 = Idealized Influence(II) × Generating new ideas(GNI)
 X3 = Idealized Influence(II) × Analytical Thinking(AT)
 X4 = Idealized Influence(II) × Creating new procedures(CNP)

- X5 = Intellectual Stimulation(IS) × Solutions to complex problems(SCP)
 X6 = Intellectual Stimulation(IS) × Generating new ideas(GNI)
 X7 = Intellectual Stimulation(IS) × Analytical Thinking(AT)
 X8 = Intellectual Stimulation(IS) × Creating new procedures(CNP)
 X9 = Inspirational Motivation(IM) × Solutions to complex problems(SCP)
 X10 = Inspirational Motivation(IM) × Generating new ideas(GNI)
 X11 = Inspirational Motivation(IM) × Analytical Thinking(AT)
 X12 = Inspirational Motivation(IM) × Creating new procedures(CNP)
 X13 = Individual Consideration(IC) × Solutions to complex problems(SCP)
 X14 = Individual Consideration(IC) × Generating new ideas(GNI)
 X15 = Individual Consideration(IC) × Analytical Thinking(AT)
 X16 = Individual Consideration(IC) × Creating new procedures(CNP)

When this interaction variable was included together with predictor and moderator, results indicated significant interactive effect of Intrinsic Motivation and transformational leadership (SRW = 0.38, $p < 0.005$), indicating sufficient support for significant moderating effect. Moreover, simple slope test indicate the relationship between TL and EC increased when IM was high and vice versa. Hence H4 is supported.

5. Discussion and implications of the study

The findings of present research indicate that three factors of TL, namely Idealized Influence, Inspirational Motivation, and Intellectual Stimulation have a great influence on OI, but Individual Consideration is not favorable to OI. Some previous studies have also examined the related relationship, for example, study of Sosik et al. (1998) concluded that the TL promotes creative ideas and innovations in the organizations. Another research study of Jung et al. (2003) shows a positive correlation between TL and firm's innovation. Also the study of Gumusluoglu and İlsev (2009) highlights that TL significantly affects the innovation tendency of organization. However, this study has analyzed this relationship with a more in-depth study of each dimension of TL. This is the first study that has examined the individual effect of each dimension of TL on EC which other scholars have not done in previous studies. Moreover, this study suggests that TL foster's innovation and develops a creative work environment but individual consideration may not be a significant factor for organizational innovation.

Further, the results demonstrated that Inspirational Motivation followed by Idealized Influence & Intellectual Stimulation have a positive & significant effect on EC, but Individual consideration was not found significantly correlated with EC. Pakistan is a collectivist country (Hofstede, 1984) and this positive relationship exists in collectivist countries as confirmed by previous studies (Jung &

Table 4
Regression test results.

	Organizational Innovation				Employ Creativity			
	Estimate	SE	t-value	p-value	Estimate	SE	t-value	p-value
Idealized Influence	.335	.055	6.087	.000	.215	.047	4.555	.000
Intellectual Stimulation	.824	.055	14.969	.000	.152	.047	3.210	.002
Inspirational Motivation	.288	.055	1.593	.016	.886	.047	18.742	.000
Individual Consideration	.056	.055	1.020	.311	.032	.047	.675	.502

Table 5
Mediator effect Regression Analysis Test Results.

Parameter	Estimate	SE	t-value	p-value
Idealized Influence → Organizational Innovation	.250	.060	4.173	.000
Intellectual Stimulation → Organizational Innovation	.765	.056	13.600	.000
Inspirational Motivation → Organizational Innovation	.261	.132	1.977	.042
Individual Consideration → Organizational Innovation	.044	.052	.832	.408
Employee Creativity → Organizational Innovation	.394	.137	2.875	.005

Mediator effect: The impact of TL on OI: The mediating role of EC.

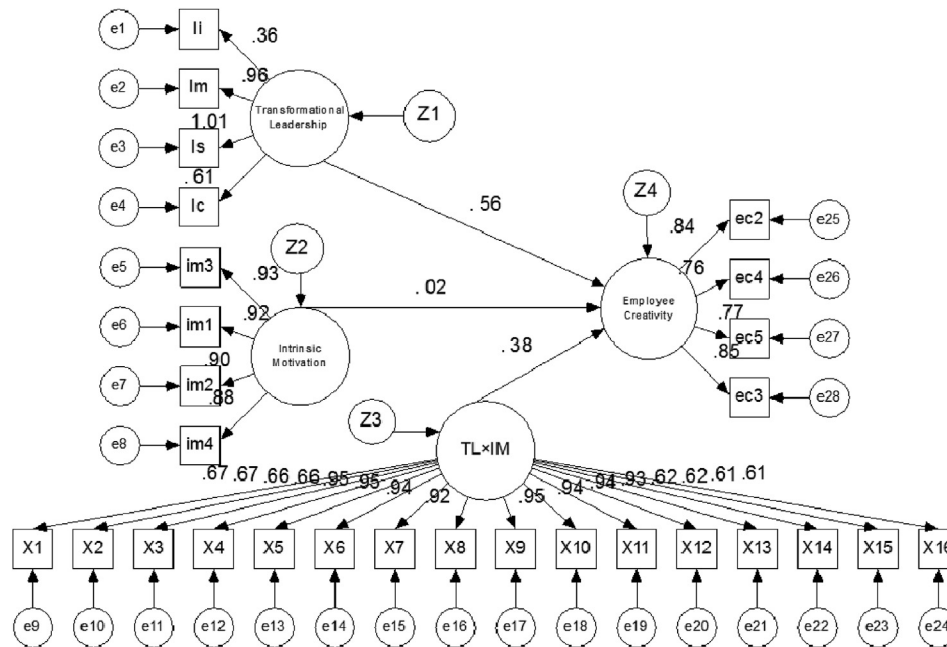


Fig. 3. Moderating role of IM between TL and EC.

Yammarino, 2001; Gumusluoglu & İlsev, 2009). Furthermore, as the inspirational motivation has the most significant impact on employee creativity, therefore, leaders must pay more attention to motivation of employees to nourish employee’s achievement and help them become more creative. But individual consideration is not a key influence factor of employee creativity, hence much attention may not be given to it. In line with the previous studies (Cheung & Wong, 2011; Gupta et al., 2012; Hyypiä & Parjanen, 2013; Jyoti & Dev, 2015; Mittal & Dhar, 2015), the findings of our study suggest that employees depend on transformational leaders to motivate them for creative performance. The creative employees are the backbone that helps to maintain competitive advantage, and transformational leaders help the Organizations to encourage and motivate employees to perform innovatively and form the creative environment (Cheung & Wong, 2011; Mittal & Dhar, 2015; Robinson & Beesley, 2010).

Moreover, our empirical results proved a partial mediating effect of employee creativity for transformational leadership and organizational innovation. Consequently, leaders should encourage and motivate employees to put forward novel ideas and use innovative problem-solving techniques to stimulate employee creativity for achievement of organizational innovation.

Additionally, this study is first to prove empirically positive and significant moderating relationship of intrinsic motivation for transformational leadership and employee creativity. Past research investigated mediating role of intrinsic motivation and found diverse results (Chen, Li, & Tang, 2009; Gumusluoglu & İlsev, 2009;

Shin & Zhou, 2003; Tan & Chong, 2010). However, the study of Tu and Lu (2016) empirically proved the moderating effect of intrinsic motivation for ethical leadership on extra role performance. Hence, if leaders adopt a transformational style and encourage creativity and innovation, the employees can perform more creatively. The findings of present research indicate significant moderating effects of intrinsic motivation on TL and EC.

Our study attempted to enrich the current theory by empirically proving moderating role of Intrinsic Motivation between TL and EC in Software firms. The main contribution of the present study is analyzing this relationship with a more in-depth study of each dimension of TL and empirically proving the moderating role of intrinsic motivation which previous studies have not done before. This research is the pioneering study that has examined the moderating effects of intrinsic motivation on the relationship between TL and EC. Hypothetically, this research implies that transformational leaders through their idealized influence, inspirational motivation and intellectual stimulation can positively affect the employee creativity. Transformational leaders share knowledge, promote novel ideas & support employees to work creatively and provide innovative solutions for the organizational problems (Jyoti & Dev, 2015; Prasad & Junni, 2016). This paper also has some important implications for academicians, we have empirically tested and proved the moderating effect of intrinsic motivation among TL and EC. When leaders become the role model and to inspire employees to follow their leaders, it will increase the creative and innovative ability of employees via new idea generation,

which in turn, will enhance the competency of the organization.

Software industry plays a great role in economic growth of Pakistan. Considering the increasing competition among software firms, more creativity is required in order to sustain competitive advantage (Robinson & Beesley, 2010). This research suggests that the leaders should have enough knowledge and information about effects of leadership styles on creative behavior of employees to improve organizational performance. The software firm's heads are suggested to embrace the transformational leadership style as it is an appropriate way to develop and enhance employee creativity. Transformational leaders also act as a role model to encourage and influence the employees to follow them in order to be creative. The managers within the software industry should know that creativity is one of a key ingredients necessary for their organization to accomplish the objectives and maintain the competitive edge in market. Moreover, they need to understand and acquire more knowledge about the effects of TL on EC. Therefore, it is suggested that the software firms should encourage the employees and enhance their confidence to improve their skills leading to organizational innovation.

6. Conclusion

This study aimed to investigate the effects of TL in promoting Employee Creativity and assess the moderating role of Intrinsic Motivation leading to organizational innovation in Pakistani software firms. The strength of this relationship has been investigated by data which was collected from Pakistani software firms by using questionnaire. For accomplishing the objectives of the research, transformational leadership construct resulted in four factors whereas the rest of variables resulted in one factor solution via Factor Analysis, which were briefly discussed in the earlier paragraphs of the paper.

We find that the Transformational Leadership positively affect the Organizational Innovation (except Individual Consideration), such leadership style promote creativity and innovation. Besides, this study shows that Transformational Leadership positively affect employee creativity, however, Individual Consideration did not positively affect employee creativity. The findings of our research show that Inspirational Motivation is a key factor to promote and encourage employee creativity, hence, the leaders should pay more attention to it.

The findings further indicate that the intrinsic motivation is also a key factor to encourage employee creativity. For instance, the employees often consider the leaders as their role models, thus, the leaders can inspire their employees to work innovatively with dedication and commitment that can harness creative environment to improve competitive advantage of the organization.

7. Limitation and future research

Although this research provided some useful insights about the moderating role of intrinsic motivation, the prospects for future studies are still present. First, this study was cross-sectional in nature that restricts the cause and effect relationship between the variables, longitudinal studies or experimental studies are suggested to cover this limitation. Second, our sampling from Pakistani software firms limits the generalizability of the findings to some extent mainly due to different cultural setting. To generalize the findings of this study, different sample from different cultural background and research setting is suggested. Third, we only focused on one moderating variable i.e intrinsic motivation, however, future studies can consider other moderating variables to build strong relationships between transformational leadership and organizational innovation.

Additionally, Long and Pang (2015) found that the creativity rating is influenced by the beliefs of raters and rating scales, hence more reliable information would be needed. Moreover, even though efforts were taken to control bias, but there may be probabilities of common bias due to self-reporting by the respondents which can't be controlled completely. Therefore, case studies are suggested to have more reliable information. Furthermore, different leadership styles may have different effects on employee's creativity and organizational innovation, hence, future studies can consider comparing the effect of different styles of leadership (Transformational vs Transactional).

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