

# **TRANSFORMATIONAL LEADERSHIP AND ITS EFFECT ON EMPLOYEE CREATIVITY**

**Ph. D. THESIS**

*by*

**SWATI MITTAL**



**DEPARTMENT OF MANAGEMENT STUDIES  
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE  
ROORKEE – 247667 (INDIA)  
JULY, 2016**

# **TRANSFORMATIONAL LEADERSHIP AND ITS EFFECT ON EMPLOYEE CREATIVITY**

**A THESIS**

*Submitted in partial fulfillment of the  
requirements for the award of the degree*

*of*

**DOCTOR OF PHILOSOPHY**

*in*

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*by*

**SWATI MITTAL**



**DEPARTMENT OF MANAGEMENT STUDIES  
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE  
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JULY, 2016**



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# INDIAN INSTITUTE OF TECHNOLOGY ROORKEE ROORKEE

## CANDIDATE'S DECLARATION

I hereby certify that the work which is being presented in the thesis entitled “**TRANSFORMATIONAL LEADERSHIP AND ITS EFFECT ON EMPLOYEE CREATIVITY**” in partial fulfillment of the requirements for the award of the Degree of Doctor of Philosophy and submitted in the Department of Management Studies of the Indian Institute of Technology Roorkee, Roorkee, is an authentic record of my own work carried out during a period from January, 2013 to July, 2016 under the supervision of Dr. Rajib Lochan Dhar, Assistant Professor, Department of Management Studies, Indian Institute of Technology Roorkee, Roorkee.

The matter presented in this thesis has not been submitted by me for the award of any other degree of this or any other Institute.

**Signature of Candidate**

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

**Signature of Supervisor**

The Ph. D. Viva-Voce Examination of ....., Research Scholar,  
has been held on .....

**Chairman, SRC**

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This is to certify that the student has made all the corrections in the thesis.

**Signature of Supervisor**

**Head of the Department**

**Dated:** \_\_\_\_\_

## ABSTRACT

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The present study examines how a transformational leadership style could help build an innovative work climate that promotes employee creativity. It also examines whether transformational leaders are able to develop employees' creative self-efficacy and creative role identity so as to promote creativity. The study presents an integrated model highlighting the relationship between transformational leadership and employee creativity mediated by a climate for innovation, creative role identity and creative self-efficacy. Data were collected from 480 supervisor-employee dyads of small and medium size IT companies operating in Delhi NCR, India. Employees were responded to the questions about their leader's transformational leadership, climate for innovation, creative self-efficacy creative role identity. And, Supervisors were rated to the employee's creativity.

The findings of the study based on a computational tool for path analysis SPSS macro, i.e., PROCESS that used a sample of 480 supervisor-employee dyads from Indian IT SMEs professionals, reveals a strong relationship between transformational leadership and employee creativity. Further, the relationship is also mediated by the climate for innovation, creative self-efficacy and creative role identity. Limited sample size is a probable limitation of the study. One more limitation of the study is the factors used for the survey were self-reported by the respondents. It may not be a completely accurate response. Since the findings of the study were derived from the SME IT companies of Delhi NCR, India, they cannot be generalised to include other industrial contexts.

Based on the results, this study forwards strong theoretical and managerial implications that can be used by IT organizations to assess the effect of transformational leadership on employee creativity. With the transformational leadership, leader can develop creative self-efficacy and employee creativity to do things in a better way and develop climate for innovation for high performance such as creativity. If followers do not have faith in their own capability to do their job, it may not be possible for them to develop creative environment.

This study makes an attempt to examine the relationship between transformational leadership and employee creativity (1) in a developing country (like, India), (2) in an upcoming industry (IT industry), (3) Small and medium sized companies. The study also adds to the

existing literature by enlightening the process through which transformational leadership has significant special effects with regards to fostering climate for innovation, creative self-efficacy and employee creativity in IT SMEs.

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**(Swati Mittal)**



## AUTHOR'S RESEARCH CONTRIBUTION

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### Journal Publications Details

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4. Coordinated and attended a short term course on “Strategic Human Resource Management and Research perspectives” held on 23-24 May, 2015 at Continuing Education Centre, IIT Roorkee, India.

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## LIST OF ABBREVIATIONS

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The abbreviations used in the text have been defined at appropriate places, however, for easy reference, the list of abbreviations are being given below.

<b>Abbreviations</b>	<b>Stands For</b>
AGFI	Adjusted Goodness of Fit Index
AMOS	Analysis of Moment Structure
ASV	Average Shared Variance
AVE	Average Variance Extracted
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CI	Confidence Interval
CIN	Climate for Innovation
CSE	Creative Self-efficacy
CRI	Creative Role Identity
CR	Composite Reliability
DF	Degree of Freedom
EC	Employee Creativity
GFI	Goodness of Fit Index
GDP	Gross Domestic Product
H1	Hypothesis 1
H2	Hypothesis 2
H3	Hypothesis 3
H4	Hypothesis 4
H5	Hypothesis 5
H6	Hypothesis 6
H7	Hypothesis 7
H8a	Hypothesis 8a
H8b	Hypothesis 8b
H8c	Hypothesis 8c
IT	Information Technology
IFI	Incremental Fit Index
LMX	Leader-Member Exchange

MNCs	Multi National Companies
MLQ	Multi Factor Leadership questionnaire
MSV	Maximum Shared Variance
NASSCOM	National Association of Software and Services Companies
NFI	Normed Fit Index
RMSEA	Root Mean Square Error of Approximation
SCT	Social Cognitive Theory
SPSS	Statistical Package for the Social Sciences
SMEs	Small Medium Enterprises
SOEs	State Owned Enterprises
TLI	Tucker-Lewis Index
TL	Transformational Leadership

# CHAPTER-1

## INTRODUCTION

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### **1.1. Development of the Research Problem**

In today's dynamic business environment, numerous changes occur every day at the workplace that needs immediate evaluation of the situation and quick decision making. Leadership plays a pivotal role in creating an attractive working environment and in handling challenges by establishing effective and positive relationship between employees and leaders, which in turn lead to follower satisfaction with their leader.

Leadership has been defined as “the process of influencing others to understand and agree about what needs to be done and how to do it effectively” (Yulk, 2002, p.158). A good leader motivates followers and guides them to develop their abilities, in order to make them capable enough to deliver high quality and timely performance. Transformational leadership theory provides a powerful framework, wherein leaders tend to encourage their followers for delivering outcome beyond the expected level (Bass, 1998). Transformational leadership (TL) is the focus of this study for evaluating positive link between transformational leadership and various job related outcome, such as creative self efficacy (CSE), creativity, and others.

### **1.2. Statement of Problem**

India is rising as a nation of huge business power with the attractive policies of globalization, liberalization, and privatization (Alam, 2007). However, in the last two decades, service sector has gained immense attention by researchers because of the high percentage of prosperity produced by IT industry in developing countries like India (Biswas, 2009; Dhar 2012).

In previous studies, researchers and practitioners give immense importance to the service sector because it creates a huge percentage of wealth in total (Chapman et al., 2003). This is observed in both developed and emerging economies like India and industry such as IT industry (Tidd & Hull, 2003).

The Indian IT industry is an important field for the economic growth of the nation because it has brought the national economy into the frame of the world, raising the national GDP and reviving it (Biswas, 2009; Mishra & Bhatnagar, 2010). Studies in the past also revealed that small and medium enterprises (SMEs) have been increasingly playing a key role so as to meet with the growing demands of firms operating in India (Venkataramanaiah &

Parashar, 2007). Further, SMEs can be considered to be the strength of the Indian IT SMEs (Raju, Kurpad & Mythili, 2013).

Additionally, it has been seen that IT sector contributes tremendously and the contribution of this sector is rising day by day which plays a significant role in overall growth of the economy (Kartiwi & MacGregor, 2007). Further, it is suggested that this sector is the backbone of the Indian economy (Venkataramanaiah, & Parashar, 2007) including SMEs (Raju, Kurpad & Mythili, 2013).

Employees have been considered to be the key factor in the IT industry, but organizational leaders are facing some challenges such as motivation in employees, innovation, and creativity. These are the key factors for development of any service industry as well as for maintaining competitive advantage of the organization (Shalley, Zhou, & Oldham, 2004). Hence, the present study seeks to understand the effect of TL on employee's creativity (EC) in IT SMEs industry, as it is stated earlier that for achieving today's business objective these elements play major roles.

### **1.3. Organization of the Study**

In today's organizational scenario, the factors that affect the employees' work related outcome is very important, and these areas have become a big concern in the field of behavioral studies (Chi Nai-Wen, Pan, Su-Ying, 2012). Still, in the last 20 years, these variables gained enormous attention due to constructive and pessimistic consequences that harms the performance of the organization. IT industry is the best example for this. The Indian IT industry is an important field for the economic growth of the nation because it has brought the national economy into the frame of the world, thereby raising the national GDP and reviving it (Sinha & Sinha, 1990; Goyal, 2013). This industry has a major role in rising and maintaining the national GDP. At present, this sector faces the challenge related to developing and maintaining the EC (Amabile et al., 2005; Awasthy et al., 2011; NASSCOM, 2007). The reason behind it is that IT industry is a service oriented industry and depends upon the employee performance and creativity (Griffeth et al., 2000).

Organizational leaders are facing some challenges such as motivation among employees, innovation, and creativity because motivation is necessary for the employees to develop their creative skills and to enhance qualitative performance. Alternatively, the managers of these organizations have to develop a creative environment, so that employees can be able to attain the objective of the organization and also achieve the competitive advantage over another organization (George & Zhou, 2002; Oldman & Cummings, 1996).

One study conducted by Tierney and Farmer (2004) also mentioned that employee creativity and creative self-efficacy play an important role for maintaining the constant growth and success of the organization.

Further, numerous researchers also think that EC can be effectively developed by the effective leadership style such as transformational leadership (Jaussi & Dionne, 2003, Shin & Zhou, 2003). Transformational leader mainly work for the employees' creativity because creative ability can easily find the problem in a different way (Boerner et al., 2007).

As propagated by Bass (1985), "transformational leaders have a clear vision for their organization and also have the skills to encourage employees to start thinking in a new way in order to devise a creative solution for a given problem".

This study is a small effort to believe that transformational leadership could play an important role in developing employee creativity in the context of Indian IT SMEs. Studies in the past also revealed that SMEs have been increasingly playing a key role, so as to meet with the growing demands of firms operating in India and national GDP (Venkataramanaiah & Parashar, 2007). Further, SMEs can be considered to be the strength of the Indian IT SMEs (Raju, Kurpad & Mythili, 2013).

In the last few years, it has been observed that IT SMEs majorly contribute toward increasing the national GDP (Venkataramanaiah & Parashar, 2007), and also projected that the involvement of this industry is going to increase enormously in the coming 10–20 years (Goyal, 2013). As a result, these theories increase the significance of this research work. Overall, this research work also contributes to the TL literature by having the relation among creative self-efficacy, climate for innovation, and creative role identity (CRI). These variables also have direct impact on developing employee creativity in Indian IT SMEs context.

### **1.3.1 Origin and Growth of the Indian IT Industry**

On the basis of the previous literature and facts, it is confirmed that Indian software industry is one of the powerful and successful industries worldwide (Dhar, 2012). This industry provided employment to approximately 345,000 individuals in 2004 and these employees created \$12.2 billion revenue which is equivalent to that of 3.3% of the spending made worldwide by the software industry (NASSCOM, 2007).

In India, the software begun and flourished by some amalgamation, that is, Mumbai based. They entered into this sector by the support of international IT firm which is situated outside the country along with developers. Their achievements depend upon the innovative usage of the new and unstrapped global market which gave the opportunity and security from

Multinational firm start-ups by rules and policy. This explanation is similar to that used for the industrial growth in countries like Japan and Korea (Dicken, 2003). There are some different facts in these two amalgamations, “with the difference that while government policy favoured large domestic firms and discouraged MNCs (Multinational Corporations) and small firms in those countries, in India, government policy disfavoured all types but was least hostile to large, domestic firms. In economic terms, the effect was the same as the more typical protectionist policy” (Dicken, 2003).

There were some restriction in the development of the IT project management and area skills due to environmental friendliness. In spite of, easy entrance to a heavy number of programmers, this IT sector could not add value to the national economy of India. In the early stage of the IT industry, that is, in the mid of 1990s, initiation of the internet facility gave new direction to this service industry, for example, sending email and maintenance of the software from that place where it is installed.

There are some polices and reforms developed in 1999 for the betterment of the telecommunication activities. These reforms gave new direction and opportunities to the Indian or domestic IT industry.

In 2000, reforms in foreign ownership rules, intellectual property protection and venture capital policy induced MNC, and foreign venture capital entry. During that time, the traditional IT industries were controlled by the big local industries and later the IT industry’s competed with those industries which have enough finance and even requirement of particular skill sets. As a result, this industry is seen as a new leader with high product development and high value creation entirely. It is stated that in the early 1970s, “American firms looked offshore for cheaper ways to develop software products. India, Ireland and Israel were obvious choices given the widespread knowledge of English and relatively low costs of programmers” (Dhar, 2012, p.213).

Further, the development of a technically sensitive industry such as IT industry is hosted by the developing country like India has not been easily explored by the right use of Multinational Corporations in the form of domestic resources and policies (“often after efforts to create industry through protectionist policies have failed”). It was extended by the theory of Dunning (1992), who argued that, “reform effectively enables cheap labour pools and other host country resources to be matched with the financial, managerial, technical, domain and marketing skills of MNCs”.

As Siwek and Furchgott–Roth (1993) noted, “software development is closely linked to customer requirements and requires close coordination within the firm” (p. 93). The industry

learned global skills primarily through programmers returning from overseas assignment, (Ramadorai, 2002). Later, this activity was slowed since many of the employees did not want to come back and they want to settle over there (Dhar, 2012). After that, the development of the custom export was becoming important and successful for both domestic and MNCs of the IT industry. Thus, these industries required more employees for development of the business in the country, that is, India. It gave lots of advantages, (1) “Infrastructure was cheaper: Firms were attracted by cheaper real estate than Mumbai (Ramadorai, 2002) and the first software technology park under NCP-1984, with assured supply of electricity and telecommunications bandwidth, was located in Bangalore”. (2) “Labour was cheaper and in greater supply: Unlike Mumbai and Delhi, with histories of large firms and labour militancy, Bangalore had small companies that were relatively free of union troubles” (Heitzman, 1999, p. 6).

Finally, Bangalore became the hub and head office of IT industry because it is situated at the middle of the few southern states like Tamil Nadu, Kerala, Karnataka, and Andhra Pradesh. These states together create 52% IT engineers overall in India (Ramadorai, 2002). This was also supported by Balasubramanyam and his colleagues (2000), “the government had earlier chosen Bangalore to locate several high technology SOEs, thus creating a trained labour force, although the quality of the employee force was uncertain and provided only a small percentage of the software industry’s needs” (p. 351).

In addition, the IT industry developed the domain related skills of their employees to maintain the internal and remote location projects. These steps were taken by the IT industry for improving their deficiency such as scarcity of domain skills, abilities and coordination of overseas assignments.

Overall, this study highlights the needs and importance of IT SMEs (Indian Software Industry) to promote behavioral characteristics such as leadership and creativity.

#### **1.4. Needs and Importance of the Study**

This study is significant because it utilizes a theoretical foundation (Transformational leadership) to evaluate best practices recommended for enhancing IT employee’s creativity and innovation. This study will also explore the impact of climate for innovation, creative role identity and creative self-efficacy as mediator among transformational leadership and employee creativity.

The aim of the present research work is to examine the role that transformational leadership can play in building a climate for innovation in the context of the small and medium sized IT industry employees of India and the subsequent impact of it on developing employee

creativity. In previous research conducted by Todd and Javalgi (2007), they explored that SMEs have an important role in improving the GDP of the developed as well as developing economies such as India. Further, research conducted by Ahuja, Yang and Shankar (2009) also concluded that Indian SMEs are spinal column for the growth of the Indian economy, and it plays an important role in economic development and financial growth of the country (Venkataramanaiah & Parashar, 2007).

Some researchers have the belief that employee creativity can be fruitfully developed and nurtured in the presence of effective leadership style such as transformational leadership style in Indian IT SMEs (Mittal & Dhar, 2015; Jaussi & Dionne, 2003). With the rise in the IT SMEs in India, these behavioral aspects have started gaining research attention.

Leaders primarily work to initiate employees' creative abilities so that they can find creative solutions for problems (Boerner et al., 2007). As propagated by Bass (1985), transformational leaders have an apparent vision for their organisation and also have the skills to encourage employees to start thinking in a new way in order to devise a creative solution for a given problem. In the recent past, transformational leadership has gained immense attention from both a practical as well as a theoretical perspective (Schaubroeck et al., 2011), which is based on an instrumental exchange process. Transformational leaders tend to encourage their followers to deliver outcomes beyond their expected level, which is possible through invoking employees' higher level beliefs and values (Chi & Pan, 2012). Though this research, the author tries to observe the relationship that transformational leadership shares with employee creativity.

This research work is significant because it utilizes a theoretical foundation (Transformational leadership) to evaluate the best practices recommended for enhancing IT SMEs employee's creativity and innovation. This study will also explore the impact of creative self-efficacy, climate for innovation, and creative role identity as mediator between transformational leadership and employee creativity.

### **1.5. Scope and contribution of the study**

This research work tries to extend the literature on transformational leadership by linking it with climate for innovation, creative role identity, creative self-efficacy, and employee creativity in a single integrated model. Further, it also tries to observe the subsequent impact of it on nurturing employee creativity with specific reference to IT SMEs of India.

On the basis of previous studies conducted by the Chi and Pan, (2012) and JALILIYAN, Moradi and KAKAAI, (2010) it is believed that transformational leadership style



has an influential role in developing employee creativity in the field of service and manufacturing. In this process, they primarily believe in building climate for innovation and creative self-efficacy (Avolio, 2003), in order to develop the feeling of creativity in the organization, so that they can achieve higher level employee creativity in the organization (Garg & Dhar, 2014; Keller, 2006).

Through TL, as described by Bass (1985), “the followers consider the transformational leader as their role model, and hence willingly come forward to make any degree of sacrifice in order to achieve the laid down objectives”. In this context, this study proposes that employees in the presence of climate for innovation, which is predicted by the transformational leadership, have a high level of employee creativity in IT industry. However, research conducted in the past has revealed that Indian IT SMEs are more successful in attracting and sustaining the skilled talent in comparison to the large IT industry (Dhar, 2012; Venkataramanaiah & Parashar, 2007).

However, very few studies have addressed the issue of creativity through transformational leadership, creative self-efficacy, creative role identity, and climate for innovation in the context of Indian organizations. Thus, this research work is a small effort to examine the belief that transformational leadership can play an important role in building employees’ creative self-efficacy, climate for innovation in Indian IT SMEs and its succeeding impact on developing creativity of the organizational employees.

## **1.6. Definitions of the Key Terms**

### **1.6.1. Transformational Leadership (TL)**

In the last 30 years, transformational leadership is a widely researched theory amongst various leadership theories; which was propagated by Bass (1985) on the basis of Burns (1978) seminal work. According to Burns (1978), transformational leader is one who “is able to lift followers up from their petty preoccupations and rally around a common purpose to achieve things never thought possible”.

Tracey and Hinkin (1998) examined that “transformational leadership is a process that motivates people by appealing to higher ideas and moral values, defining and articulating a vision of the future and forming a base of credibility” (p. 225).

The concept of transformational leadership has four dimensions: “individualized consideration”, “inspirational motivation”, “idealized influence” and “intellectual stimulation” (Bass & Avolio, 1994).

**Idealized Influence** - In this dimension, leaders inspire their followers to develop an effective relationship between themselves and their superior based on mutual conception. Transformational leaders have specific norms related to the reward and penalty and also have standard moral values.

Leaders are trusted, admired and respected in this dimension, and employees constantly relied upon them to do things in a right manner and to have a high level of ethical values.

**Inspirational Motivation** – In this dimension, leaders give their followers meaningful, important and challenging task and consequently believe that they have a bright future in their organization.

**Intellectual Stimulation** – In this dimension, leaders stimulate their employees to be more creative and innovative, with the ability to reframe the old problems in a new way. In this process, leaders develop creativity and create an environment that forced employees to think about old issues in a different way.

**Individualized Consideration** – In this, leaders pay more attention to employees' individual and personal requirements (Burn, 1978). Leaders provide teaching and coaching to the followers for effective organizational outcome. In this dimension, leaders admire individual problems and needs. They listen to employees' problem and discuss about the solution. Two-way communication is promoted among leaders and their immediate followers. Under the guidance of these leaders, employees are continuously motivated to work for the betterment of the organization and their personal well being.

Further, Brown and Trevino (2003) found that “employees of transformational leaders engaged in less employee deviant behaviour than followers of leader who were well liked but not transformational” (p.160).

Bennis and Nanus (1985) indicated that “transformational leadership occurs when leaders and followers raise one another to a higher level of motivation” (p. 124).

Rouche and colleagues (1989) defined it “in terms of the ability of a leader to influence the values, attitudes, beliefs, and behaviors of others by working with and through them in order to accomplish the organization's mission and purpose” (p. 115).

Bass, Avolio, and Goodheim (1987) suggested that the “transformational leader motivates followers to work for transcendental goals and for higher level self actualizing needs instead of working through a simple exchange relationship” (p. 9)

### **1.6.2. Climate for innovation**

Climate for innovation has originated from the concept of organizational climate, which can be defined as “a set of shared perceptions regarding the policies, practices, and procedure that convey messages regarding what is rewarded, supported, and valued in an organization, and is often thought to emerge through social interaction processes at the group level” (Kuenzi & Schminke, 2009, p.637). Organizational climate shapes employee behavior as well as gives them directions to take decisions in the best interest of organization in every situation. It helps them to formulate desired outcome. Some research studies have recently started focussing on the specific aspect of climate such as “climate for innovation” (Chen et al., 2012, Eisenbeiss et al., 2008, Sookaneknun, et al., 2012).

In recent years, this concept has gained immense importance about which researchers like Zhang and Begley (2011) said that in order to promote a climate for innovation, an organization needs to carry out work practices that encourage learning amongst colleagues, free and open expression of ideas and flexibility in the various aspects related to work related activities.

Further, researchers like van der Vegt, van de Vliert and Huang (2005) stated that, “climate for innovation reflects norms and practices that encourage flexibility, the expression of ideas, and learning. It also denotes norms and practices, supported and rewarded by the organization, that value taking charge and adapting to changing contexts” (p. 1175).

Climate for innovation refers to the organizational climate that fosters innovation. Climate consists of the “behaviours, attitudes and feelings which are characteristic of life in the organisation” (Ekvall 1996, p.109)

### **1.6.3. Creative Role Identity (CRI)**

Based on the research conducted by Tierney and Farmer (2011) and Farmer and his colleagues (2003), creative role identity is an individual belief and credentials as a creative thinker and these creativity and thinking is the essential part of his or her job.

Farmer and his colleagues, (2003), also defined that, “employees with a creative role identity can be more creative at work and active at finding novel solutions to the problems they face” (p. 621).

Further, Farmer and his colleagues (2003) also concluded, “some employees view personal creativity as a central part of ‘who they are’ and they developed a measure for this construct and tested a model of creative role identity and creativity” (p. 621).

According to Jaussi, Randel, and Dionne (2007), Creative role identity describes how much creativity is valued and to what extent it is treated as an important part of an individual's identity (p. 249).

#### **1.6.4. Creative Self-Efficacy (CSE)**

The term creative self-efficacy originated from the research conducted by Tierney and Farmer (2002) on the basis of Bandura's social cognitive theory (1986) and this refers to "the degree to which individuals' believe in their ability to generate creative outcomes" (p. 1139). In organizations, self-efficacy is a key function for the creative outcomes. In the presence of high level of self-efficacy in the form of creativity, individuals can increase their involvement in creative behavior (Gong et al., 2009; Tierney & Farmer, 2002, 2011).

In addition, Choi (2004) and Lemons (2005) explored that employees cannot achieve creative outcome if they don't have trust in their own capabilities and creative skills. Employee's creative ability and CSE also rely on their personality and environment of the work place (Egan, 2005)

Additionally, Schyns and Von Collani (2002,) define creative self-efficacy as the "belief in one's own ability and competence to perform successfully and effectively in situations and across different tasks in a job" (p. 227).

In behavioral research, there is a concept which highlights the functionality of creative self-efficacy, "the belief one has the ability to produce creative outcomes" (Tierney & Farmer, 2002, p. 1138).

#### **1.6.5. Employee Creativity (EC)**

Employee creativity is defined as "products, ideas, outcomes, solutions, or procedures produced at an individual level that are novel and original and are potentially relevant for and useful to an organization" (Oldham & Cummings, 1996, p. 611). Creativity is generally defined as the "production of ideas that are new and useful" (Shalley et al., 2004, p. 935).

Employee creativity introduces "the extent to which employee develops ideas, methods, or products that are both original and useful to the organization" (Baer, Oldham & Cummings, 2003, p.577).

Employee creativity develops those creative fact and things which allow the managers of the organization to maintain the ups and down of the market condition with the help of available opportunities (Nonaka, 1991; Hirst et al., 2009). Managers adapt these opportunities

for the competition and growth of the organization as well as employees (Oldham, 2002; Reiter-Palmon & Illies, 2004).

Another definition suggested by the Li and Gardner (1993) in Chinese context is, “creativity is the solution of problems and products in a way that is initially original but is ultimately accepted in one or more cultural settings” (p. 94).

Mumford (2003) suggested that in case of creativity, “Over the course of the last decade, however, we seem to have reached a general agreement that creativity involves the production of novel, useful products” (p. 110).

Creativity is often designed as “doing something for the first time anywhere or creating new knowledge” (Woodman, et al., 1993, p. 293).

## 1.7. Research Gaps

### 1.7.1. Literature Review for Identifying Research Gaps

Title of the study	Year	Authors	Journal	Findings
“Linking transformational leadership (TL) and employee creativity in the hospitality industry: The influences of creative role identity, creative self-efficacy, and job complexity”	2014	Wang and his colleagues	“Tourism Management”	1) This study explores the association among TL, CRI, CSE, job complexity and creativity of the employees. This study also investigates direct effect of supervisors TL on EC. CRI was developed as a mediator among TL and EC and this relation was moderated by job complexity. 2) The relation connecting TL, CRI and creativity is not clear but complex; there is a need for further research to deliver the intended effect of TL on CRI and creative behavior.
“Building a Climate for	2008	Sarros and his	“Journal of Leadership &	1) This study examines how transformational leader build

<p>Innovation Through Transformational Leadership and Organizational Culture”</p>		<p>colleagues</p>	<p>Organizational Studies”</p>	<p>climate for innovation with the help of organizational culture and competitive environment.  This relation was mediated by the performance-oriented organizational culture and it develops the link among leaders and their followers.  The main focus of the study finding is the vision factor of TL and this vision is highly based on the culture of the organization.  2) This study also stated that the relation among TL and climate for innovation should be given extra attention for getting employee’s innovative behavior.</p>
<p>“Organizational Antecedents of Creative Self-Efficacy”</p>	<p>2011</p>	<p>Mathisen</p>	<p>“Creativity and Innovation Management”</p>	<p>1) Objective of this research work is to examine the organizational factors that predict the CSE. These factors included LMX (leadership style), task autonomy, perceived support for the employees for creativity and employees’ task type.  2) The finding of this study suggests that CSE works as a mediator among leadership and EC and in future, behavioral studies require giving more attention to the causal relationship between leadership, CSE and creativity.</p>
<p>“Mediating Role</p>	<p>2011</p>	<p>Wang and</p>	<p>“Journal of</p>	<p>1) This study examines the</p>

of Creative Identity in the Influence of Transformational Leadership on Creativity: Is There a Multilevel Effect?"		Zhu	Leadership & Organizational Studies"	association among TL, creative identity, and creativity from a two level aspects that are, personal and group level. Additionally, group level CRI mediates the association among group-level TL and personal level creative identity. 2) Studies also suggest that there should be further studies to highlight the link among TL, personal and group level creativity.
"Employees' Creative Behavior: The Role of Organizational Climate in Malaysian SMEs"	2013	Moghim and Subramaniam	"International Journal of Business and Management"	1) This research work examines the effect of organizational climate on EC and innovation process. This study also supports that organizational innovation occurs successfully only when organisation supports the strong innovation climate to develop EC. 2) The findings of research also instigate that EC can be predicted by other organizational variables such as climate for innovation that need to be further studied.
"Managing human resources in information technology: Best practices of high performing	2007	Major and his colleagues	"Human Resource Management"	1) This research work examines the human resource practices such as performance management, employee involvement, stress management and work-family balance in the

supervisors”				<p>context of the IT companies (Such as Samsung and Microsoft).</p> <p>2) The findings of research also instigate that IT industry should be given more emphasis by the behavioral researcher for exploring the organizational variable such as leadership and creativity.</p>
“Exploring the relationship between employee creativity and job-related motivators in the Hong Kong hotel industry.”	2008	Wong and Ladkin	“International Journal of Hospitality Management”	<p>1) This research work examines the association between EC and job related motivator (such as intrinsic and extrinsic) in the context of the hotel industry established in Hong Kong.</p> <p>2) The findings of research also instigate that future research should give extra attention to the developing countries like India, Indonesia and Nepal in terms of behavioral aspects.</p>
“Factors influencing information security management in small-and medium-sized enterprises: A case study from Turkey”	2011	Yildirim and his colleagues	“International Journal of Information Management”	<p>1) This study examines the industries like information security in the context of the SMEs.</p> <p>2) The findings of the research highlight that when operation management and communication improve, other organizational factors also improve such as physical, environmental and individual security.</p> <p>3) On the basis of the findings,</p>



				future research can suggest that SMEs of every country should be given extra attention.
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On the basis of the above literature reviews following gaps were identified:

1. The association among transformational leadership and creativity could be researched in other industries like IT and banking, to observe the relationship among them.
2. Future research work needs to classify more clearly the association linking leadership, creative self-efficacy and creativity in different organizational context.
3. The association linking transformational leadership, creative role identity and creativity are not clear but rather complex; there is a need for further research to deliver the intended effect of transformational leadership on creative role identity and creativity.
4. The relation between transformational leadership and climate for innovation should be given extra attention, and there are some predictor variables of employee creativity which should be given more attention in future, for example, climate for innovation.

### **1.8. Objectives of the study**

On the basis of behavioral literature review and research gap following objectives have been identified:

1. To study if transformational leadership style has a role in fostering creativity amongst the employees in Indian IT SMEs
2. To study if transformational leadership style plays a role in building climate for innovation in the Indian IT SMEs
3. To understand the role of transformational leadership styles in developing creative self-efficacy of the employees of the Indian IT SMEs
4. To study if transformational leadership style plays a role in developing creative role identity amongst the employees of the Indian IT SMEs
5. To examine if climate for innovation, creative self-efficacy and creative role identity play a role in influencing or intervening the association between transformational leadership style and creativity of the employees of the Indian IT SMEs

## **1.9. Flow of the study**

The entire study is divided into six chapters.

Chapter 1 named as 'Introduction' covers the introduction and definition of transformational leadership, creative self-efficacy, climate for innovation, creative role identity and employee creativity. Other topics covered in chapter one are objective, scope and organization included in the study.

Chapter 2 puts forth literature review covers researches, theoretical as well as empirical; conducted on the transformational leadership and its dimensions, creative self-efficacy, creative role identity, employee creativity and climate for innovation. Separate sections have been created to cover researches in the Indian context. This section also covers the hypothesized model of the study.

Chapter 3 named as 'Methodology' covers the research design concerned with the objectives of research and hypotheses. It also talks about instrument used for data collection, method of data collection, and approach for analyzing the data as well as demographic feature of the sample.

Chapter 4 puts forth the analysis and results which showcase the process of data analysis for testing the research hypotheses with the help of tests like confirmatory factor analysis (CFA), Harman's test for common biasness, and hierarchical regression analysis. Hence, the results gathered are also explained.

Chapter 5 named as 'Discussion' covers the interpretation of the findings of the study.

Chapter 6 named as 'Conclusion' presents limitations and future scopes along with the concluding remarks.

## **1.10. Summary of the chapter**

The chapter highlighted the introduction of the concept and terms used in this study such as transformational leadership and its dimensions, creative self-efficacy and its factors, creative role identity, employee creativity and climate for innovation. Further, it also introduced the concept and growth of the organization used in this research work such IT industry. At the end, the chapter focuses on the research gap, objective and scope of the study.

## **CHAPTER-2**

### **THEORETICAL FRAMEWORK AND LITERATURE REVIEW**

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#### **2.1. Introduction**

The present chapter examined the literature review of the proposed model that needs to be analyzed in this research work. Primarily, a literature review process was conducted in the area of transformational leadership, which provided a base for assessing the concept as well as the dimensions. The literature review further provided the empirical and theoretical base for the constructs of this research work as well as the understanding of other variable such as climate for innovation, creative self-efficacy, creative role identity, and employee creativity. Moreover, this study explained a framework that developed an effective association between transformational leadership and employee creativity. Lastly, this chapter reviewed the relationship among the variables and based on these relationships numerous hypotheses have been developed.

#### **2.2. Theoretical Framework**

##### **2.2.1. Transformational Leadership Theory**

Transformational leadership is a theory which provides a powerful framework to the organization and it has attracted huge attention of the behavioral research comparative to any other leadership theory. Previous studies have also examined the impact of transformational leadership on different work outcomes, for example, job performance, trust and commitment (Lowe, Kroeck, & Sivasubramaniam, 1996).

There is one point of interest in transformational leadership which creates interest of behavioral researchers, that is, association among leaders and their followers. This relationship was tested by many researchers in their empirical and theoretical findings (Afshari et al., 2011; Goodwin et al., 2011) and these findings indicate that there is direct and positive association between transformational leaders and their immediate followers' performance (Boehnke et al, 2003; Howell & Shamir, 2005).Transformational leadership theory provides a powerful framework in which leaders tend to encourage their followers for delivering outcome beyond the expected level (Bass, 1998).

In the last three decades, transformational leadership has developed as one of the best approaches in the field of leadership which can understand and affect employee effectiveness. In this area, it is the faith that transformational leaders encourage their employees to a high

extent by motivating them which enhance their performance (Krishnan, 2004). Additionally, previous research work has shown that transformational leadership effect is accomplished by the leader in the form of supervision of the employees; so far it is undecided about the ways in which leaders can impact the thinking of their employees for better performance (Cleavenger & Munyon, 2013; Li et al., 2013).

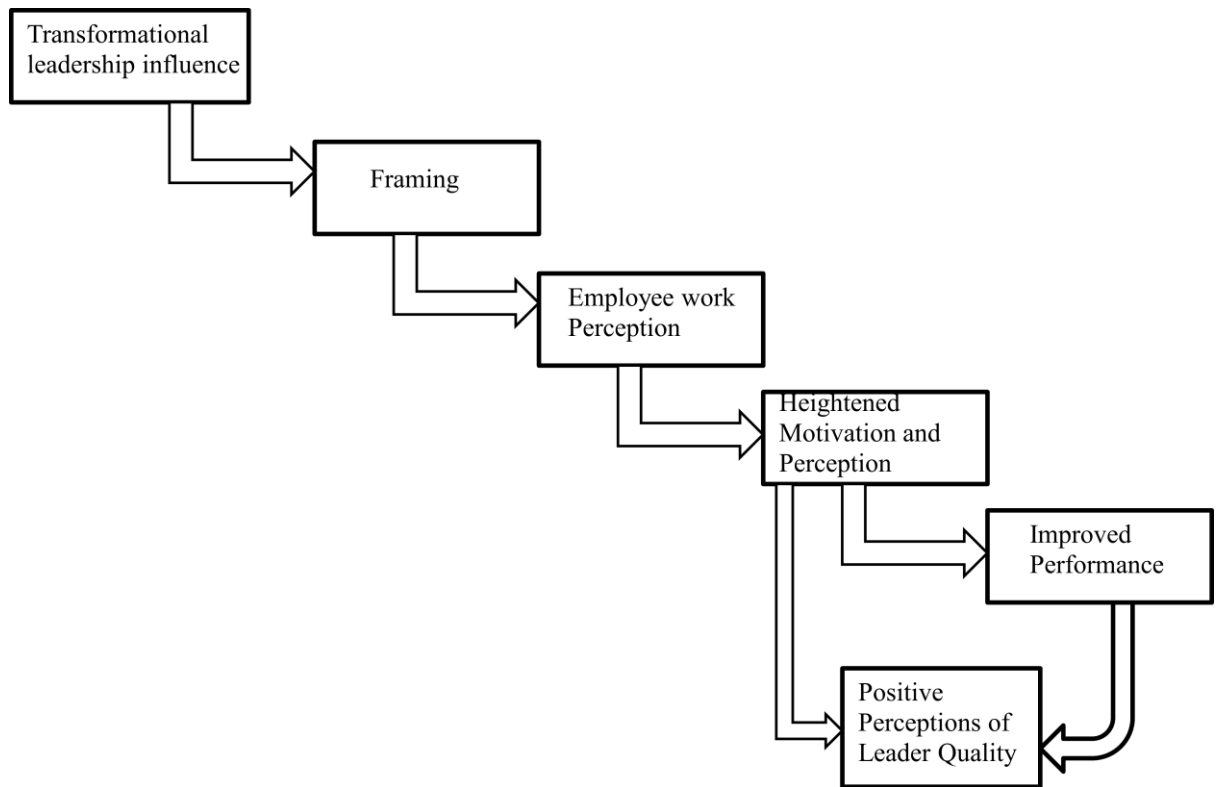
Finally, transformational leadership is a procedure that defines how a leader can inspire their employees to achieve their job outcome beyond the leader's expectation level. In this leadership style, leaders are believed, admired and trusted to motivate the employees to go beyond their possess self-centeredness for the advancement of the organization as well as employees (Bass, 1996).

In the last few years, transformational leadership has developed possibly the highest significant and powerful bases for the leadership (Avolio & Bass, 1988; Bass, 1985). Transformational leadership is developed when a leader motivate, trusted and influenced their employees towards thinking and solving the old problems in a novel way. The main process of this leadership style is not clear and leader should give more focus to the concept of transformational leadership for its implementation.

#### **2.2.1.1. Transformational Leadership Process Model-**

Some recent studies suggest that transformational leader can have an important role in developing the sense of job for their immediate followers. In addition, research conducted by Piccolo and Colquitt (2006) and Piccolo et al., (2010), explored that a transformational leader can developed the way of employees to view the main characteristics of the job. This expression of the transformational leader developed the motivation level and improved the performance of the employees.

In this study, researcher noted the importance and key role of the transformational leadership, which influences the employees' perception towards the job and improves the end results such as performance and motivation level. Figure 2.1 highlights this transformational leadership process model.



**Fig.2.1. Transformational Leadership Process Model (Piccolo & Colquitt, 2006)**

On the basis of the above model, it can be suggested that a transformational leader knows the perception level of their employees. The perception of the employees towards the work is not only depending on the objectives and description of an individual's work but also on the social building of the job experience.

In reality, when a leader is becoming able to develop the individual's job experience to identify a novel viewpoint of the position and to understand the idea of their work then the leader develops an exchange relationship which is called transformational leadership. Specially, transformational leadership develops employees' perception towards the job and it is influenced by the idea of key job characteristics. Ultimately, the outcome of this procedure is that the employees are highly motivated towards their work. In addition, previous research work also stated that, the intrinsic motivation develops a fair and self-regulated cycle where getting a meaningful job develops essential rewards for its own arrangement.

### **2.2.1.2. Theoretical Background of transformational leadership**

The concept of transformational leadership, originally explored by Burns (1978) and later polished by Bass, has been a largely explored area for research in diversity (Bass & Avolio, 1990; Yammarino & Bass, 1990).

Initially, researchers indicate that transactional leaders do make effort to fulfil the actual needs of the employees by emphasizing the exchange process (Burns, 1978). In addition, transformational leaders have an idea to motivate their immediate employees and to do more effort toward developing employee performance in a new and creative way. So, transformational leaders emphasize their employees to go beyond their self-centeredness for the betterment of the organization, society and group things.

Bass (1997) explained a study to clearly identify the concept of transformational leadership, in front of senior U.S. Army officers. After empirical analysis and exploratory factor analysis, all the frequencies or loadings of the particular construct rated by respondents suggested the four main dimensions related to transformational leadership. “Charisma” is the first dimension in which leaders have level of reference power, and they are trusted to beat any problem. In this aspect, leaders are having a possible mission and achievable vision. Leaders also have emotional connection to their followers as a result they have the highest influence over their employees in the form of idealization.

The second dimension is “intellectual stimulation”, wherein leader encouraged their employees to see their individual beliefs, expectations and standards for the development of organization as well as their own. In different terms, transformational leaders are probably more practical in their works and thoughts, and they are more creative, to think about old problem in a new way (Bass, 1985). These leaders have the power to influence their employees to think creatively as well as to support the organization and even throw challenge toward their employees to rethink the old problem. In this leadership style, employees raise question that has never been given importance. Thus, employees have an opportunity to enhance their existing as well as new skills.

The third dimension is “individualized consideration”, wherein employees are giving personal attention to their leaders. Leaders give equal treatment to their every employee and coach them if it is required.

The last dimension is “inspirational motivation”, therein leader uses images and symbols to enhance the mutual understanding between their employees. In this, they did not have any charisma while based on symbols they meet their mutual goals (Bass & Avolio, 1993).

In addition, the research conducted by Rafferty and Griffin (2004) gives the support to the model developed by Bass in the form of empirical findings which were given by 1236 employees. In this research, they explored five dimensions of transformational leadership that are “vision, inspirational communication, intellectual stimulation, supportive leadership and

personal recognition” (Rafferty & Griffin, 2004). Initially, this research supports the five dimensions of the TL. But later they combined these five dimensions in to the four standard dimensions, which were given by Bass (1985). According to them, “vision” is the second form of “idealized influence”, because both of them are based on the outcome of organizational values. While inspirational communication is described as positive and encouraging message about the organization and statements that build motivation and confidence (Rafferty & Griffin, 2004). Lastly, “intellectual stimulation” is the dimension which develops employee awareness knowing the problem and develops their skills to rethink old issues in a different way. Authors defined that supportive leadership is the form of giving concern to their employees, and personal recognition is defined as giving rewards, appraisal, and recognition for their effort (Rafferty & Griffin, 2004).

### **2.2.1.3. Dimensions of Transformational Leadership**

The concept of transformational leadership has four dimensions: “individualized consideration”, “inspirational motivation”, “idealized influence” and “intellectual stimulation” (Bass & Avolio, 1994).

**Idealized Influence** - In this dimension, leaders inspire their followers to develop an effective relationship between themselves and their superior based on mutual conception. Transformational leaders have specific norms related to the reward and penalty and also have standard moral values.

Leaders are trusted, admired and respected in this dimension, and employees constantly relied upon them to do things in a right manner and to have a high level of ethical values.

**Inspirational Motivation** – In this dimension, leaders give their followers meaningful, important and challenging task and consequently believe that they have a bright future in their organization.

**Intellectual Stimulation** – In this dimension, leaders stimulate their employees to be more creative and innovative, with the ability to reframe the old problems in a new way. In this process, leaders develop creativity and create an environment that forced employees to think about old issues in a different way.

**Individualized Consideration** – In this, leaders pay more attention to employees' individual and personal requirements (Burn, 1978). Leaders provide teaching and coaching to the followers for effective organizational outcome. In this dimension, leaders admire individual problems and needs. They listen to employees' problem and discuss about the solution. Two-way communication is promoted among leaders and their immediate followers. Under the guidance of these leaders, employees are continuously motivated to work for the betterment of the organization and their personal well being.

Transformational leaders exhibit behavior which allows the employees to go beyond their self-centeredness, cope up with the organizational change and compete beyond their expected level (Judge and Piccolo, 2004). Numerous research works exhibit an effective association among TL and job related outcomes such as creativity and innovation (Piccolo & Colquitt, 2006; Wang & Cheng, 2010).

#### **2.2.1.4. Literature review of Transformational Leadership (Time period 1985–2014)**

Studies conducted by Bass (1985) and Yukl (1999) explained that transformational leadership constitutes a set of behaviors that motivate employees to perform beyond their expected level. In this process, employees' beliefs, attitude, and standards are opposed to simply gaining compliance.

Transformational leaders produce a strategic vision, communicate that vision, as well as model the vision by “walking the talk” and playing constantly together with developing strong commitment in the direction of the vision (Avolio, 1999).

Transformational leader puts forth the main objectives and goals of employees with the bigger association (Bass & Riggio, 2006) and also mentor their employees by providing support, training, and coaching.

The dimensions of transformational leadership influence behavior transformation of leaders and make them role models for their employees, help the leaders to develop vision for organizations and to follow ethical principles, encourage those leaders to involve in risk-taking activities, and support employees to perform effectively under uncertain environment (Nemanich & Keller, 2007).

A transformational leader stimulates employees to get unexpected results by giving them both the aspects such as understanding and meaning of work (Gumusluoglu & Ilsev, 2009).



Howell and Avolio (1993) examined that a leader could exhibit both transformational and transactional behaviors with varying level of intensity when a situation requires managerial activities like acquisition of resources to accomplish vision.

In addition, a research conducted by Sosik and his colleagues (1998) explored that transformational leadership can affect group potency and efficiency of used group decision support system. The findings of the study explained that higher transformational leadership can give more effectiveness and group potency and this relation only depends on the frequency of task interdependence.

Another research work conducted by Kahai and his colleagues (2003) examined that in the presence of transformational leadership style, leader can maintain employees' participation and cooperation, still the employees are unidentified. On the other hand, employees did not explain the process of things to be done.

One more study conducted by Vera and Crossan (2004) explained that transformational leaders are essentially change agents; they visualize a future different than the status quo and inspire subordinates to work with them to achieve that new future.

In contrast, research conducted by Podsakoff, MacKenzie, and Bommer (1996) explained that transformational leadership inspires and motivates employees to go away from the least requirements of their personal job, as a result they performed at a higher level of relative performance.

Conger and Kanungo (1998) proposed that transformational leadership is a process which focuses not only at the individual performance but also at the group and organizational level outcomes.

Study conducted by Castro and Schriesheim (1999) argues that transformational leadership arouses subordinate motivation via affective appeals which involve vision, self-sacrifice, determination, and high expectations.

Transformational leadership involves the use of ideology and values (visionary, affective and value laden appeals) to motivate organizationally distant subordinates toward highly valued ends (Waldman et al., 2001). Waldman and Yammarino (1999) suggested that transformational leadership may have substantial positive effects on performance in volatile conditions similar to those faced by innovation-seeking alliances in research-intensive sectors.

Later, Herman and Chiu, (2014) contributed to our knowledge of the motivational basis of transformational leadership from the perspective of social identity to explain why and how individual-focused and group-focused transformational leadership behaviors influence followers' dual identity orientations.

Lastly, transformational leadership is generally viewed as an effective leadership style and studies showed that transformational leadership has many positive and helpful effects. For instance, transformational leadership positively predicts motivation related to work (Shamir, House, & Arthur, 1993), employee satisfaction (Podsakoff, MacKenzie, Moorman, & Fetter, 1990), the number of accidents in warehouses (De Koster, Stam, & Balk, 2011), and innovative performance (Nederveen Pieterse, Van Knippenberg, Schippers, & Stam, 2010).

#### **2.2.1.5. Antecedents and Consequences of Transformational Leadership**

On the basis literature review which is conducted by the author, there are some antecedents and consequences of transformational leadership:

**Antecedents:** Transformational leadership involves the use of ideology and values (visionary, affective and value laden appeals) for motivating organizationally distant subordinates toward highly valued ends.

**Consequences of transformational leadership:** transformational leadership affects the group potency and efficiency of used group decision support system and maintains employees' participation and cooperation. Transformational leader visualizes a future different from that of status quo. Transformational leadership is a process which focuses not only on the individual performance but also on the group and organizational level outcomes. In addition, transformational leader is also predicting the dimensions of the performance such as creativity, innovation, and attributes of creativity (Charbonnier-Voirin et al., 2010; Castro & Schriesheim, 1999).

#### **2.2.2. Climate for Innovation**

In recent years, the concept of climate for innovation has gained immense importance (Chen & Huang, 2007; Eisenbeiß & Boerner, 2007; Sookaneknun & Ussahawanitchakit, 2012), about which researchers like Zhang and Begley (2011) said that in order to promote a climate for innovation, an organization needs to carry out work practices that encourage learning amongst colleagues, free and open expression of ideas, and flexibility in the various aspects relating to work related activities.

Further, according to researchers like van der Vegt, van de Vliert, and Huang (2005), climate for innovation is an activity which shows that rules and practices are essential for the

confidence, flexibility, learning of the ideas, and expression of the things. It also indicates those rules and practices which were rewarded and supported by the particular organization. This value of climate for innovation is taking charge of innovation in the form of improved and changed climate.

An organization is considered to have an innovative work climate when norms and practices are prevalent in the organization that gives employees the flexibility to express their ideas and build a culture of learning and sharing (Ahmed, 1988). Employees working in such an environment feel empowered and tend to use their creative thoughts and construct their essential and emotional assets to add value towards the organizational objectives (Abbey & Dickson, 1983). Therefore, an innovative work climate gives a message to its employees as well as outsiders that developing creative abilities and effective performance in line with the organization's mission is considered as a strategic choice and priority for the organization (Bain et al., 2001; Liao & Chuang, 2007).

#### **2.2.2.1. Dimensions of Climate for innovation**

Climate for innovation is a concept, which tells about the organization and how far it is from the principles and rules focusing on the innovation (King et al., 2007; West & Anderson, 1996). It also works as a modernizer which enhances the implementation of innovation stages (Anderson & West, 1998; Bain, Mann, & Pirola-Merlo, 2001). Specially, climate for innovation will enhance the organizational performance and creativity with the help of its dimensions such as: "vision, participative safety, task orientation, and support for innovation" (West & Anderson, 1996).

**Vision-** "Vision is an idea of a valued outcome, which represents a higher order goal and motivating force at work" (West, 1990, p. 310). In this concept, if employee's vision and organizational goal is clear and greater, and goals are possible to perform then they get committed towards the organization (Hülshager et al., 2009).

**Participative safety-** It has two important mechanisms; first is the participation in organizational decision making and second is safety, "meaning a nonthreatening psychological atmosphere in the employees, replete with trust and mutual support" (Edmondson, 1999, p. 355). Safety can also be termed as psychological safety.

**Task orientation-** IT means “Organisational employees sharing concern for achieving a good standard of performance and it encompasses excellence of task performance, characterized by evaluations, modifications, control systems, and critical appraisals” (Anderson & West, 1998, p. 239). These set of rules don’t narrate purposely the innovation but imitate a normal concern for excellence (West, 1990). In this order, task orientation plays an important role in the excellence of work which means working harder (Anderson & West, 1998). It also developed an environment which reduces the barriers for implantation, so as to have the creative ideas (Eisenbeiss et al., 2008).

**Support for innovation-** It means the “expectation, approval, and practical support for attempts to introduce new and improved ways of doing things in the work environment” (West, 1990).

#### **2.2.2.2. Literature review for climate for innovation (Time period 1985-2014)**

A literature review has been conducted to analyze the concept of climate for innovation and to explore those factors which contribute in the successful of creativity and innovation in the organization.

A climate for innovation, as reflected in the norms and practices, encourages employees to be flexible, expressive and willing to learn. In a highly creative team climate, team members tend to offer their opinions regarding improvements and modifications and to carefully select the optimal method of realizing such changes and discarding useless ideas (West, 1990).

In the context of climate for innovation, Damanpour and Schneider (2006) proposed that, “climate for innovation is a direct result of top managers’ personal and positional characteristics which influencing organizational climate and building the capacity for change and innovation” (p. 220).

Climate for innovation is the way of support and encouragement given by the organization to their employees for developing required innovation in particular organization (Mumford & Gustafson, 1988, p. 37; Martins & Terblanche, 2003, pp. 67–68).

In addition, research conducted by Barrett and Sexton (2006) defined that, “innovation is both an end and a means in achieving sustainable competitiveness and they also believe climate for organizational innovation is a useful proxy when it is difficult to get direct behavioural measures of innovation across diverse organizations and industry sectors” (p. 333). King and his colleagues (2007) examined the extent to which organizations promote innovation which may be better conceptualized through the construction of organizational climate for

innovation, or the joint perceptions of the values, norms and practices of the organization with regard to innovation.

In the presence of a high level of climate for innovation, employee increases their focus, attention and shared mentality that promotes the support for innovation (Bain, Mann, & Pirola-Merlo, 2001). Previous research constantly instigates that climate for innovation is related to the actual innovation of the organization (Burningham & West, 1995). The research conducted by Nystrom (1990) and Scott and Bruce (1994) stated that climate for innovation can be easily predicted by the effective leadership style. Some previous research has also revealed that climate for innovation has a strong association with strategic leadership for example TL style (Nystrom, 1990; Waldman, Ramirez, House, & Puranam, 2001). As a result, leadership style is a significant way of identifying the climate for innovation.

Climate for innovation has the traits that increase the employee’s perception about organizational innovation and it constitutes the attitude, feelings and behavioral inclination of the employees developed through perception (West & Wallace, 1991).

In the presence of strong climate for innovation, employees think that innovation is appreciated, and they will get reward of the innovation. In contrast, when the employees do not have a strong climate for innovation, they neither feel valued nor they suggest any idea.

### 2.2.2.3. Antecedents and Consequences of climate for innovation

On the basis of above literature, we identify the following antecedents and consequences:

**Table.2.1.**

<b>Findings of the study</b>	<b>Antecedents</b>	<b>Findings of the study</b>	<b>Consequences</b>
Research conducted by Nystrom (1990) and Scott and Bruce (1994) stated that climate for innovation can be easily predicted by the effective leadership style such as transformational leadership	Leadership Style	In the presence of a high level of climate for innovation, employee increases their focus, attention and shared mentality that promotes the creativity and innovation (Bain, Mann, & Pirola-Merlo, 2001).	Creativity and Innovation

Damanpour and Schneider (2006) proposed that, “climate for innovation is a direct result of top managers’ personal and positional characteristics which influencing organizational climate and building the capacity for change and innovation”	Top management characteristics	Anderson and West (1998) suggested that climate for innovation developed the frequency of group and team innovation	Group and Team Innovation
The finding of the study suggested that creative climate and learning organization are the strong predictor of climate for innovation (Ismail, 2005)	Learning Organization	Research conducted by Howell and Avolio (1993) concluded that climate for innovation has a strong impact on the combined business unit performance	Business unit performance
Research conducted by Rosenbloom and Abernathy (1982) stated that management attitude and practices have an influential role in the field of climate for innovation	Management Attitude and Practices	Climate for innovation is the main predictor of the organizational as well as employee performance (Sookaneknun & Ussahawanitchakit, 2012)	Organizational and Employee Performance
Sarros and his colleagues (2008) explained that an effective organizational culture and leadership style can easily develop the climate for innovation	Organizational culture and leadership style	Climate for innovation has the traits that increase the employee’s perception towards the work as well as enhance organizational performance (West & Wallace, 1991).	Employee Perception

### **2.2.3. Creative Self-efficacy**

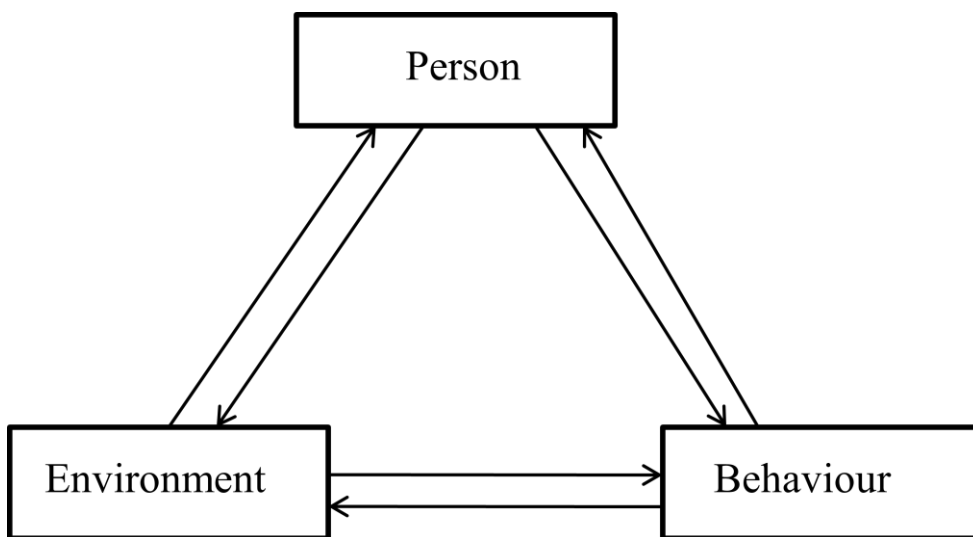
The term creative self-efficacy originated by the Tierney and Farmer (2002) based on Bandura's social cognitive theory (1986), and this refers to "the degree to which individuals' believe in their ability to generate creative outcomes" (p. 1139). In organizations, self-efficacy is a key function for the creative outcomes. In the presence of high level of self-efficacy in the form of creativity, individuals can increase their involvement in creative behavior (Gong et al., 2009; Tierney & Farmer, 2002, 2011).

In addition, Choi (2004) and Lemons (2005) explored that employees cannot achieve creative outcome if they don't have trust in their own capabilities and creative skills. Employee creative ability and CSE also rely on their personality and environment of the work place (Egan, 2005)

#### **2.2.3.1. Social Cognitive Theory**

On the basis of Bandura (1986), social cognitive theory explains the behavioral implementation of creativity in the form of "triadic reciprocal causation". Fig.2.2 shows the mechanism of reciprocal determinism; cognition, behavior and other environmental and personal factors work as interacting factor that controls each other bi-directionally. In this model, Reciprocity does not specify the "different sources of influences are of equal strength, nor do the reciprocal influences occur simultaneously". In this process, causal factor takes time for implementing its influence and stimulating mutual influences. In addition, employee works both as product and producer in organizational environment because the model is processed as a bi-directional influencer.

Social cognitive theory is based upon creative action but more comprehensive than social learning and/or the behavioral approach to human action. For example, social cognitive theory includes motivational and self dictatorial process. This mechanism broadens from learning and developing behavior with the help of strong consequences. Additionally, in the process of social cognitive theory, employee learning is developed by acquiring knowledge during strong mechanism of information and idea. Hence, social cognitive theory gives the idea of two different terms such as social and cognitive. Social term acknowledges "environmental origins of much of human thought and action", whereas cognitive part is known as the "influential contribution of cognitive processes to human motivation and action". On the one hand, an individual knowledge, awareness and behavior are developed from the environment of the organization they work. On the opposite side, employees of the organization are busy in the process and work on the availability which depends on their individual characteristics.



**Fig.2.2. Triadic Influence in Social Cognitive Theory**

### **The Self- Efficacy component of Social cognitive theory**

The concept of self-efficacy is defined based on a person’s belief and self-assurance about their ability to perform a specific job within a given time frame (Bandura, 1986; Stajkovic & Luthans, 1998). In continuation, self-efficacy functions as follows on the basis of motivation process. In this process, before selecting their choices and developing their effort, employees are inclined to assess and combine information about his or her abilities.

In self-efficacy, employees understand and initiate their work behavior, how much effort will be expended, and how long that effort will be sustained, especially in light of disconfirming evidence. Critical to work performance is the employees with high self-efficacy who give enough effort and if properly implement also provide successful results. On the contrary, the absence of self-efficacy or low in strength, employees are likely to stop their functioning earlier and not complete the task. Further, there is one concept creative self-efficacy, which has been developed in the reference of social cognitive theory.

Bandura emphasized the existence of a positive and effective association between self-efficacy and creative performance. Further, Bandura explained the concept of self-efficacy and CSE, “Innovativeness requires an unshakable sense of efficacy to persist in creative endeavours when they demand prolonged investment of time and effort, progress is discouragingly slow, the outcome is highly uncertain, and creations are socially devalued when they are too incongruent with pre-existing ways” (Bandura, 1997, p. 239).



### **2.2.3.2. Literature review for Creative Self-efficacy (Time period 2000–2014)**

Tierney and Farmer (2002) developed a concept related to self-efficacy, namely creative self-efficacy, to judge capacities in a narrow domain. Creative self-efficacy differs from creativity in the terms of employees. Creativity indicates the generation of domain-specific, novel, and constructive outcomes. In contrast, creative self-efficacy denotes the belief that an individual has on his or her ability to develop creative outcomes for the jobs, whereas self-efficacy is not concerned with past actions, rather with the judgments regarding what could be done in the future (Compeau & Higgins, 1995).

According to Chen, Gully and Eden (2001), creative self-efficacy is differs from regular self-efficacy which shows overall confidence in the capability across domains to carry out creative performance.

In addition, Choi (2004) developed a direct, positive and effective association among creative self-efficacy of undergraduate students and their creative performance as evaluated by teachers. Furthermore, researcher indicates that creative self-efficacy completely mediate the impact of individual variables—for example, “personality, ability, and motivation”—on contextual variable such as, “social influences from leaders and peers”. The findings of the study also instigate that creative self-efficacy plays a crucial role in cultivating the special relationship among individual variable, contextual variable, and creative performance.

Carmeli and Schaubroeck (2007) in their study examined that creative self-efficacy is the best way to calculate the self-assessed creative work involvement with data of two financial services industries operated in Israel. Therefore, the findings of the study stated that creative self-efficacy can easily predict the creative performance and effort in the context of school as well as organization.

Recent studies on creative self-efficacy stated that creative self-efficacy is a process which gives the strength to employees to enhance creative activities in the work organization (Huang & Farh, 2009).

Creativity is a demanding process which requires dedication, time, ability and hard work due to its high risk nature. It is necessary to maintain creativity for avoiding discontinuation and hindrance; and in the presence of these practices, creative self-efficacy can easily predict the creative actions (Lakhanpal et al., 2000; Tierney & Farmer, 2002). In addition, research conducted by Farmer (2002) stated that an effective supervisor and managerial support can be easily developed through creative self-efficacy. Previous studies have shown that interventions, collegial support, leadership behavior and course of action may develop creative self-efficacy (Mathisen & Bronnick, 2009; Gist, 1989).

Numerous studies stated that creative self-efficacy has a crucial role in the development of organizational outcome such as creativity (Lopez, 2003; Choi, 2004; Tierney & Farmer, 2002, 2004). This relationship is intervened by the task which is related to self-efficacy and job complexity (Tierney & Farmer, 2002, 2004). Creative self-efficacy is also related to the job tenure, education level and organizational hierarchy (Tierney, Farmer & Graen, 1999; Amabile, 1988; Redmond, Mumford & Teach, 1993). Lastly, the findings of these studies concluded that creative self-efficacy is a useful activity which could be developed by the organizational hierarchical level, individual's job tenure, task-related self-efficacy, and employee education.

Finally, Chen and his colleagues (2000) explored that creative self-efficacy is an integral function of an employee self-efficacy for promoting creativity and job performance.

**2.2.3.3 Antecedents and Consequences of Creative Self-efficacy**

On the basis of above literature, we identify the following antecedents and consequences:

**Table.2.2.**

<b>Findings of the study</b>	<b>Antecedents</b>	<b>Findings of the study</b>	<b>Consequences</b>
Choi (2004) indicated that CSE can be predicted by individual and contextual variables, such as personality, motivation level, leaders and peer group	Leadership Style, Personality and Motivation	The findings of the study by Chen, Gully, and Eden (2001) stated that CSE differs from regular self-efficacy which shows overall confidence in the capability across domains to carry out creative performance.	Creative performance
Research conducted by Farmer (2002) stated that an effective supervisor and managerial support can be easily developed by CSE	Managerial support	Chen and his colleagues (2000) explored that CSE is an integral function of an employee self-efficacy to promote creativity and job performance.	Job performance

CSE could be predicted by the interventions, collegial support, and leadership behavior (Mathisen & Bronnick, 2009; Gist, 1989)	Collegial support, Leadership behavior	Research conducted by Gong and his colleagues (2009) stated that relationship among TL and EC could be mediated by CSE	Employee creativity
CSE is a useful activity which could be developed by the organization hierarchical level, individual's job tenure, task-related self-efficacy and employee education (Tierney, Farmer & Graen, 1999; Amabile, 1988; Redmond et al., 1993)	Job tenure, Hierarchical level, Self-efficacy and Employee education	The findings showed the relationship among CSE and individual creativity in the circumstance of team management (Richter et al, 2012)	Individual creativity in teams

#### 2.2.4. Creative Role-identity

Based on the research conducted by Tierney and Farmer (2011) and Farmer and his colleagues (2003), creative role identity is an individual belief and credentials as a creative thinker and this creativity and thinking is the essential part of his or her job.

Farmer and his colleagues, (2003), also defined that, “employees with a creative role identity can be more creative at work and active at finding novel solutions to the problems they face” (p. 621).

Further, Farmer and his colleagues (2003) concluded that, “some employees view personal creativity as a central part of ‘who they are’ and they developed a measure for this construct and tested a model of creative role identity and creativity” (p. 621).

According to Jaussi, Randel, and Dionne (2007), creative role identity describes how much creativity is valued and to what extent it is treated as an important part of an individual's identity (p. 249).

Creative role identity concept reflects whether an employee see themselves as a creative individual (Farmer et al., 2003). Specially, creative role identity is introduced as a self-sufficient process and it creates an environment to perform work creatively (Wang & Cheng, 2010).

#### **2.2.4.1. Literature review for Creative role identity (Time period 1975–2014)**

Individual role identity has been helpful in developing a range of behaviors that are useful for the organization (Callero, 1985; Riley & Burke, 1995; Grube & Piliavin, 2000). It has also been suggested that creative role identity may drive creative performance (Fisher, 1997; Petkus, 1996), although this idea has not been tested. In general, since the concept of role identity is validated, tested and managed by role-consistent behavior (McCall & Simmons, 1978; Pless, 2007), employees with high creative role identity could be more creative at work.

An interesting caveat of role identity theory, however, is that a role identity can promote role-consistent performance of the employees only when the demands of a situation are consistent with the enactment of their identity (McCall & Simmons, 1978).

Creative role identity could be predicted by the variable such as, “self-assessment of creative behaviour, perceived co worker creativity expectation and high level of exposure to a culture” (Farmer et al., 2003, p. 621). By balancing creative role identity based on the perception of an employee’s creativity then it leads to high level of creativity (Grube & Piliavin, 2000; Farmer et al., 2003).

Researchers like Petkus (1996) and Callero and his colleagues (1987) stated that employee with high level of creative role identity can be inclined to act in accordance with their role identity and developing an internal self stability. The presence of creative role identity is also maintained by a significant requirement for self-verification (Callero et al., 1987). Thus, organizational heads need to demonstrate a required level of creative role identity to enhance the higher level of creativity (Petkus, 1996; Fisher, 1997).

Jaussi and his colleagues (2007) recently demonstrated that creative role identity can be treated not only as the effects of creative achievements but also as moderators (Tierney & Farmer, 2002) or mediators (Choi, 2004) of the relations between creative potential and achievements.

Further, Karwowski and his colleagues (2013) speculated that the creative role identity can be developed by the personality traits such as gender-specific personality mechanisms, emotional stability, gender independent and openness. Karwowski (2012) also developed a relationship between curiosity (personality trait) and the creative self. The creative self is defined as a higher-order, self-concept factor and important for the development of creative role identity.

### 2.2.4.2. Antecedents and Consequences of Creative Role Identity

On the basis of above literature, we identify the following antecedents and consequences:

**Table.2.3.**

Findings of the study	Antecedents	Findings of the study	Consequences
CRI could be predicted by the variable such as, “self-assessment of creative behavior, perceived co worker creativity expectation and high level of exposure to a culture” (Farmer et al., 2003).	Self-assessment of creative behavior and exposure of culture	Role identity is validated, tested, and managed by role-consistent behavior and employees with high CRI could be more creative at work (McCall & Simmons, 1978).	Creative performance
Karwowski and his colleagues (2013) speculated that the creative role identity can be developed by the personality traits such as gender-specific personality mechanisms, Openness, Conscientiousness, and Emotional Stability.	Personality traits such as gender specific personality, openness, conscientiousness, and emotional stability	Chen and his colleagues (2000) explored that CSE is an integral function of an employee self-efficacy to promote creativity and job performance.	Job performance
Research conducted by Erkutlu and Chafra, (2015) examined that CRI could be predicted by an effective leadership style to perform a creative task.	Leadership style	The findings of the research stated that innovation implementation behavior is raised in the presence of CRI (Erkutlu & Chafra, 2015)	Innovation implementation behavior
In behavioral research, curiosity is the best attribute to determine CRI (Karwowski, 2012)	Trait Curiosity	Wang and his colleagues (2014) examined that CSE is a creative factor that could be influenced by the CRI.	Creative self-efficacy

## **2.2.5. Employee Creativity**

Employee creativity develops creative thoughts that allow the work place to regulate the market conditions, react on opportunities, and in that way, to adapt the new opportunities, nurture and compete with other organization (Oldham, 2002; Nonaka, 1991). Bandura (1986) stated that the ability to develop creative results demands the strength of mind to solve the environmental and organizational challenges. Numerous studies have been conducted to understand the concept of employee creativity (Mumford et al., 2002).

Employee creativity develops those creative fact and things which allow the managers of the organization to maintain the up and down of the market condition with the help of available opportunities (Nonaka, 1991; Perry-Smith & Shalley, 2003).

When an organization promotes employee creativity, globalization force, and organizational change, they get a result like organizational innovation (Montes et al., 2005). As a result, innovation practices could be influenced by the organizational change and employee creativity (Kim et al., 2009; Lee & Ahn, 2008).

### **2.2.5.1. Literature review for Employee Creativity (Time period 1980–2014)**

Amabile (1983) and Amabile (1988) was perhaps the first person to propose a theory based on an empirically supported componential framework to understand the personal characteristics (domain related knowledge, skills and creativity-relevant skills) that could facilitate or inhibit employee creativity. Shalley (1991) then demonstrated the differential effects of two factors that have substantial goals on creativity in the workplace such as productivity and creative performance. Woodman, Sawyer and Griffin (1993) made the open announcement that creativity is influenced by the interaction of personal and environmental factors and reviewed many individual, group and organizational factors that might interact to affect employee creativity. Oldman and Cummings (1996) provided an important empirical test of the association between personal factors, their interactions and creativity in the place and showed the existence of these associations.

Ford (1996) proposed a theory of individual creative action in multiple social domains such as group, organizational and institutional domains. He argued that creative action by an individual is a result of the joint influence of the motivation, knowledge, and ability to perform.

Research conducted by Gardner and Pierce (1998) proposed that innovative ideas could be predicted more effectively in the presence of upper level of self-rated creativity. Further, Pretorius and his colleagues (2005) examined in their research that self-perceived creativity could be raised in the presence of management experience and life cycle stages of business

venture. The findings of the study also suggested that self-perceived creativity is high at the time of maturing which lead to decline in business venture with 3-5 years of management experience (Pretorius et al., 2005).

Hennessey (2000) conducted a research work on the association between reward (motivation factor) and creativity. Previous research work also suggests that reward negatively raised intrinsic motivation and as a result intrinsic motivation also has negative impact on individual creativity (Amabile et al., 1990; Zhou & George, 2001; DiLiello & Houghton, 2006).

### 2.2.5.2. Antecedents and Consequences of Employee Creativity

On the basis of above literature, we identify the following antecedents and consequences:

**Table.2.4.**

<b>Findings of the study</b>	<b>Antecedents</b>	<b>Findings of the study</b>	<b>Consequences</b>
Woodman, Sawyer and Griffin (1993) made the open announcement that creativity is influenced by the interaction of personal and environmental factors and reviewed many individual, group and organizational factors that might interact to affect EC.	Individual, group and organizational factor	Gardner and Pierce (1998) proposed that innovative ideas could be predicted more effectively in the presence of upper level of self-rated creativity.	Innovation
Researcher argued that creative action by an individual is a result of the joint influence of the motivation, knowledge and ability to perform (Ford, 1996).	Motivation, knowledge and ability to perform	In SMEs, creative behavior is positively related to the firm's performance when absorption capacity is strong (Gong, Zhou, & Chang, 2013)	Firm performance

Creativity could be raised in the presence of management experience and life cycle stages of business venture (Pretorius et al., 2005).	Management experience and life cycle stages of any business venture	The findings of the research EC creativity was directly related to career satisfaction (Kim, Hon & Crant, 2009)	Career Satisfaction
Chang and his colleagues (2014) proposed that high commitment work system towards the organization developed a high level of creativity.	High commitment work system	Gumusluoglu and Ilsev (2009a) stated that an effective leadership style raised creativity to the promotion of the organizational innovation	Organizational Innovation

## 2.3. Relationship among Constructs and Hypothesis development

### 2.3.1. Transformational Leadership and Employee Creativity

An ample amount of studies have been carried out in the past few decades on the impact of different leadership style of employee creativity (Hemlin & Olsson, 2011; Rego et al., 2014). While most of these studies have provided valuable insights, the most promising direction has been provided by transformational leaders for promoting EC. In the last 20–30 years, the TL has gained immense popularity among organizational researchers mainly due to its unique qualitative way of inspiring followers (Gardner & Avolio, 1998; Wang & Howell, 2012), as compared to other leadership style.

According to Bass and Avolio (1994), this style incorporates four unique but interrelated behavioral dimensions: “inspirational motivation, intellectual stimulation, idealized influence and individualized consideration”. The behavioral characteristics of a transformational leader are associated with the determinants of building a creative workplace, which includes aspects like having a clear vision, freedom, encouragement, promotion for innovation, reward and recognition, challenges, etc (Bass, 1991; Dirks & Ferrin, 2002; Ergeneli et al., 2007; Elkin & Keller, 2003; Rafferty & Griffin, 2004). These behavioral characteristics of a leader can trigger the ‘creative factor’ of the followers. For example, the nature of giving due to consideration of the followers at an individual level “serves as a reward” for them, by recognizing and encouraging them; the intellectually stimulating nature of transformational



leadership encourages ‘exploratory thinking’ among followers by giving them autonomy, challenging work and a creative and supportive environment (Avolio et al., 1991; Gumusluoglu & Ilsev, 2009; Zhang & Bartol, 2010). Inspirational motivation gives encouragement to the “idea generation process”, by motivating employees towards achieving organizational goals (Avolio & Bass, 1995; Sosik et al., 1998, p. 113). Further, the finding of the research shows that intrinsic motivation is the prime source of promoting employee creativity (Tierney et al., 1999).

In transformational leadership, there are various mechanism which enhance the possibility of the development of employee creativity such as the following: The dimension—intellectual stimulation—anticipates the followers to “question assumptions, challenge the status quo, and experiment with potentially better approaches to their work” (Bass et al., 2003).

The dimension—individual consideration—gives maturity and support to the employees to take initiative for creative outcome (Bass et al., 2003; Gardner et al., 2005). Another dimension—inspiration motivation—gives importance to the employees for their contribution (Bass, 1998). Ultimately, it motivates employees to promote and give higher ideas to develop organizational success (Vera and Crossan, 2004). Numerous studies also hypothesized that in transformational leadership, leader should promote intrinsic motivation (Woodman, Sawyer & Griffin, 1993; Shamir et al., 1993), because it develops a high level of employee creativity towards the organization (Amabile, 1988; Oldham and Cummings, 1996). In addition of this statement, Shin and Zhou (2003) also developed an effective relationship between transformational leadership and intrinsic motivation in the form of personal carefulness and developed feeling of personal capabilities (Deci and Ryan, 1985; Zhou and Oldham, 2001).

Avolio and Gibbons (1988) examined that transformational leader are “charismatic” and “inspirational”, individuals should focus and learn from them. Although, transformational leader with the influence of behavioral development enhance employees’ ability to get novel ideas and this leads to the higher level of employee learning and creativity (Gong et al., 2009; Dvir et al., 2002).

Research conducted by Kahai and his colleagues (2003) and Sosik and his colleagues (1998) found in their empirical studies that transformational leadership has a major association with employee creativity in certain situation such as development and enhancement of the Korean R& D organization (Shin and Zhou, 2003).

The vital role of transformational leadership is to motivate employees to get their set goals by developing self-reinforcement, instead of maintaining mutual exchange association with them (Bass & Steidlmeier, 1999; Bass et al., 1987). Additionally, service sector like IT

industry want to sustain their competitive advantage, and transformational leader is able to provide confidence for developing creative ideas (Mittal & Dhar, 2015; Dhar, 2012), and these creative things help them to maintain competitive advantage (Liu, Liao & Loi, 2012).

Finally, in this study, researcher wants to extend the literature of transformational leadership and its influence on employee creativity. Based on the above discussion, we developed the following hypothesis:

**Hypothesis 1 (H1): Transformational Leadership is directly related to the Employee Creativity.**

### **2.3.2. Transformational Leadership and Climate for Innovation**

In the past few years, the organizational climate has been receiving the attention of organizations and academic forerunners (Chen & Huang, 2007; Eisenbeib & Boerner, 2010; Sookaneknun & Ussahawanitchakit, 2012). The organizational climate has been defined as “a set of shared perceptions regarding the policies practices and procedures that convey messages regarding what is rewarded, supported and valued in an organisation, and is often thought to emerge through social interaction processes at the group level” (Kuenzi & Schminke, 2009, p. 637). The climate for an organization shapes the behavior of employees by giving them signals about the nature and situation of the organization and hence, employees devise ways to achieve their desired outcomes (Schneider & Reichers, 1993).

An organization is considered to have an innovative work climate when norms and practices are prevalent in the organization that gives employees the flexibility to express their ideas and build a culture of learning and sharing. Employees’ working in such an environment feels empowered, and they tend to use their creative thoughts and develop their cognitive and emotional resources to contribute towards the organizational objectives (Abbey & Dickson, 1983; Rosenbloom & Abernathy, 1982; King et al., 2007). Therefore, an innovative work climate gives a message to its employees as well as outsiders that developing creative abilities in line with the organization’s mission is considered as a strategic choice and so priority is given by the organization. In such a situation, it becomes imperative for the organization to direct the employees’ attention to follow the path laid down by the transformational leader (Charbonnier-Voirin, 2010; Liao & Chuang, 2007; Sarros et al., 2008).

Transformational leaders often encourage employees to use different approaches as per their discretion to come up with better solution for the existing problem (Bass et al., 2003). They tend to pass the message about their commitment to cater to the employees’

developmental needs, which creates an environment that allow employees to acquire new knowledge and encourages them to apply the same in the work to improve their creative performance (Bass et., 2003; Howell & Avolio, 1993). Nourished by an innovative work climate, employees consider the steps taken by transformational leaders as justified and hence believe they would be supported and rewarded by the organization (Bundy, 2002; Michaelis et al., 2010). Past studies have shown that by building an innovative work climate, transformational leaders build on the employees' creative thinking abilities in order to deliver as per the requirement of the customer and therefore act adaptively (Henry, 2001; Jung et al., 2003).

Specifically, Jung and his colleagues (2003) developed that transformational leadership enhances innovation climate by (a) “engaging employees’ personal value systems” (Bass, 1985; Gardner & Avolio, 1998), and this process increases the motivation level towards organizational performance (Shamir et al., 1993) and (b) “encouraging employees to think creatively” (Sosik, et al., 1997; Pacoy, 2008). Additionally, Elenkov and Manev’s (2005) conducted an empirical study on 270 top managers of 12 European countries and established an effective association among leadership and innovation process. They defined that socio cultural context was necessary for the leadership-innovation process and confirmed that organizational heads/leaders play an important role in developing innovative climate (West et al., 2003; Pathak & Singh, 2005). Hence, the following hypothesis has been proposed:

**Hypothesis 2 (H2): Transformational leadership is directly related to the climate for innovation.**

### **2.3.3. Transformational Leadership and Creative Self-efficacy**

The concept of “creative self-efficacy” is largely based on Bandura’s (1986) social cognitive theory and refers to, “the belief one has in the ability to produce creative outcomes” (Tierney & Farmer, 2002, p. 1138). In this regard, creative self-efficacy can be considered as the most important attribute for creativity in the workplace since employees are busy in creative behavior to get a high level of confidence at work (Rao, 2011; Tierney & Farmer, 2011; Bass & Steidlmeier, 1999).

Research examined by various researchers has shown that the leadership style adopted by a leader can play a key position in developing the contextual factors that encourage creativity for organizational effectiveness (Amabile et al., 2005; Shalley & Gilson, 2004; Schaubroeck, Lam & Peng, 2011). Hence, it is quite possible for a transformational leader to

trigger the employees' creative and independent thinking skills by promoting their CSE (Gumusluoglu & Ilsev, 2009). Based on this, it can be stated that managers of service organizations following TL style can recharge the confidence level of its employees, thus resulting in new affordable solution for various contextual problems (Amabile et al., 2004; Wong & Pang, 2003).

In addition, Walumbwa and Hartnell (2011) revealed a direct and positive association among transformational leadership and their employee's creative self-efficacy that leads to a higher level of performance delivered by them. Furthermore, Hon (2011) conducted an empirical study with the data of Chinese hotel employees and found that social-contextual variables, such as transformational leadership, were directly and significantly associated with individual creativity.

House and Shamir (1993) suggested that the primary motivational mechanism through which transformational and charismatic (or outstanding) leaders influence their followers is by enhancing followers' creative self-efficacy and self-worth. Transformational leadership behavior and its' effect, especially role model, verbal persuasion and physiological arousal appear to be parallel to the determinants of creative self-efficacy.

In another study conducted by Turner and his colleagues (2004), they argued that transformational leaders provide the potential for healthy work, particularly within an organization, by increasing a greater sense of creative self-efficacy and gaining mastery in perceived control, employee role orientations and trust in management. In turn, these positive psychological processes and mechanisms will result in healthy outcomes such as higher levels of creative activities and performance. And, employee creative self-efficacy could be increased with the help of effective leadership style such as transformational leadership (Fitzgerald & Schutte, 2010).

Further, Mittal and Dhar (2015), in his study on the IT SMEs employees, found a positive and direct association with transformational leadership and employee's creative self-efficacy. Hence, we can forward the below hypothesis:

**Hypothesis 3 (H3): Transformational Leadership is directly related to the Creative Self-efficacy.**

#### **2.3.4. Transformational Leadership and Creative Role Identity**

Based on the research conducted by Tierney and Farmer (2011) and Farmer and his colleagues (2003), creative role identity is an individual belief and credentials as a creative thinker, and these creativity and thinking is the essential part of his/her job. In this process, employees see himself as a creative thinker and performer (Farmer et al., 2003).

On the basis of research conducted by Farmer and his colleagues (2003), it is stated that employees with high creative role identity can show high creativity towards the work by developing new ideas for solving the old problem.

Furthermore, transformational leaders motivate their follower to achieve shared goal by developing their logical interest and cheering them to accept new processes with strong self reinforcement in place of outside reward or punishment (Bass & Steidlmeier, 1999; Bass et al., 1987). Thus, employee of the organization perceive their ability toward moderately depending on their thinking and performance for a particular task (Gist & Mitchell, 1992), and transformational leadership style is capable enough to give confidence to employees by developing a high level of self-identity for creative outcome (Paulsen, et al., 2009).

Numerous research works have given empirical and theoretical support for association among transformational leadership and role identity. Hirst and his colleagues (2009) explored that inspirational motivation dimension of the transformational leadership style can develop an activist recognition and creativity, based on the 115 employee-leader responses.

Paulsen and his colleagues (2009) found in their empirical study that individual's sense of identity can be developed by the effective leader such as transformational leaders and this study was conducted on 178 employees from 34 production team. Transformational leadership style is a relevant and significant foundation for creativity by communicating a hopeful vision, inspiring employees to develop creativity and give support their follower for creative development (Sinha, 1984; Sousa & Coelho, 2011). Transformational leader strengthen their followers to give performance beyond the expected level, and even support them to attempt novel and changed approaches for doing their work as well as encourage them so that they become capable of thinking old problem in a new way (McCall & Simmons, 1978, Wang & Zhu, 2010). As a result, when an individual identify their leader's expectation related to the creativity, principles, standards, emotional reaction, desire and preferences, they are likely to work on these expectations and develop creative activity such as creative role identity (Burke, 1991; Karwowski et al., 2013; Sternberg & Lubart, 1999).

In addition, Taggar (2002) found that creative role identity is highly predicted by transformational leadership behaviors such as appreciation of original ideas, different viewpoints and inspiring employees to raise their personal and organizational goals. These behavioral characteristics are related to the dimensions of transformational leadership, for example, “inspirational motivation, and intellectual stimulation”. Hence, transformational leaders have the ability to develop creative processes such as creative role identity and employee creativity with the help of employees’ skills and inner expertise because it will enable them to successfully implement it (Sivasubramaniam et al., 2002; Liao & Chung, 2007).

After integration of these literature and findings, leader who implements a transformational leadership style could develop employees’ creative role identity for creative performance. Based on the above discussion, the following hypothesis is proposed:

**Hypothesis 4 (H4): Transformational Leadership is directly related to the Creative role identity.**

### **2.3.5. Climate for innovation and Employee Creativity**

In order to survive in today’s dynamic world and environment, which is rapidly changing due to technological advancements, short product life cycle and meeting with changing customer demands, organization needs feasible and innovative ways to survive. In order to meet with the changing circumstances, today’s organizations need to develop a climate for innovation in order to have a competitive advantage (Wang & Ahmed, 2007; Roffe, 1999). As a result, building an innovative work climate that fosters employee creativity has gained immense attention in the last few years. In the process of examining the organizational factors of creativity, research conducted by Amabile (1982, 1983) tried to understand how the environment of an organization influenced the creative behavior of employees. The outcome of their findings included the following factors: (a) A pleasing ambiance, (b) A feeling of care for the employees, (c) The prevalence of open and transparent communication among employees of the organization, (d) Supervisor supportive nature, (e) Willingness to learn and share critical skills amongst employees, and (f) An orientation towards risk. In this regard, researchers like Barczak and his colleagues (2010); Amabile and Conti (1999) and others supported the argument regarding the necessity of a management driven supportive environment at all levels for the development of employee creativity. It helps to create a bonding between the climate and management process (Ismail, 2005; Martins & Terblanche, 2003).

Researchers like Von Krogh et al. (2000) suggested the necessity of building a workplace climate on the foundation of trust in addition to a caring attitude by the management, free and open communication and knowledge sharing among employees to encourage creative work outcome. Further, studies conducted by George and Zhou (2007) concluded that it was the primary responsibility of a manager or supervisor to build a creative environment in order to develop employee creativity.

Studies conducted by Oldham and Cummings (1996) highlighted that employees who are creative are quite sensitive and hence, quickly react to climatic variable. Further, the findings of Schneider et al., (1994) and Basadur (1997) revealed that the climate of the organization could be considered an important base for nurturing creativity among employees of the organization.

Organizational climate gives signal to the employees regarding behavior and activities for getting high performance in workplace (Kopelman et al., 1990). In addition, Mumford and his colleagues (2002) recommended that social and appropriate mechanism of the job environment is important for the creativity, and these mechanisms are behavioral aspect of the climate for innovation. Employees seeing that their job environment expects novelty and support new ideas involve themselves more in creative activities (Gong et al., 2012; Scott & Bruce, 1994).

Climate can have a positive effect on employee creativity in an organization (Amabile et al. 1996, Cooper et al. 2004). Employee creativity comes from employees' motivation; hence climate for motivation is important for their motivation. Crespell and Hansen (2008a) conducted a case study on work climate and its relation to innovativeness in a small secondary wood product firm in the US and found an effective relationship between innovation and employee creativity. Hence, above discussion promoted the following hypothesis:

**Hypothesis 5 (H5): Climate for innovation is directly related to the Employee Creativity.**

### **2.3.6. Creative Self-efficacy and Employee Creativity**

Creative self-efficacy among employees has been considered an important aspect that leads to creative employee engagement (Wang et al., 2014). In the last couple of years, researchers have been quite keen to understand how creative self-efficacy is related to developing employee creativity and in the process of trying to do so; they have tried to open the creative things (Choi, 2004; Zhou & George, 2001).

Creative self-efficacy, which is basically derived from Bandura's (1997) popular concept of "self-efficacy", describes a person's faith in himself and herself and whether employee can perform the task successfully in a given work setting.

According to Bandura (1997), it is necessity for an employee to have a high point of creative self-efficacy, so that one can come up with creative job outcome and explore "new knowledge". Views related to creative self-efficacy have a high impact on the motivation level for specific behavior (Bandura, 1977). According to Bandura, (1986), "the concept of creative self-efficacy have much promise for understanding creative action in organisational settings" (Tierney & Farmer, 2002, p. 2).

The ability to come up with creative outcomes requires perseverance by the employee in order to face organizational and environmental challenges (Amabile, 1983; Bandura, 1997). From the perspective of social cognitive theory, there is a positive association among an employees' creative self-efficacy and his or her creative behavior (Bandura, 1986; Bandura & Locke, 2003). Therefore, a high level of self-efficacy can facilitate an employee to creatively find solution to the problem (Tierney & Farmer, 2011). Hence, employees are considered to be highly creative at work with high level of self-efficacy and they also have the tendency to get highly involved in creative work (Beghetto, 2006; Stajkovic & Luthans, 1998).

Additionally, organizational employee with self-identity skills for creativity and "self-enforcement efficacy" demonstrate high level of creativity (Karatepe, et al., 2006), it shows the effective association between creative self-efficacy and employee creativity (Maroudas et al., 2008). Further, Binnewies and his colleagues (2009) stated that creative self-efficacy is highly correlated to creativity. Later, Liao and his colleagues (2010) also gave their empirical support in this context; they develop a direct association between creativity and efficacy from 828 multilevel data on 116 manufacturing teams. In addition, Carmeli and Schaubroeck (2007) also suggested that high level of self-efficacy promotes creative work environment.

Zhou (1998) showed that individuals are more creative when autonomy is high and the supervisors have faith on their creative ability. Conversely, when supervisors have faith they perform beyond their skills as creative (George & Zhou, 2001). In this context, it is also suggested that EC can be easily predicted in the presence of creative self-efficacy in comparison to general self-efficacy (Gibson, Randel, & Earley, 2000).

Various studies have come out with similar findings, such as Choi (2004) who conducted a study on undergraduate students and found that there is an effective association between creative self-efficacy and their creative performance. Tierney and Farmer, (2004) found that creative self-efficacy has a positive and direct link with their supervisor's ratings of



the employees' creative abilities. Bandura et al. (2001) and Dewett (2007) conducted their study on the research and development scientist of a chemical industry and demonstrated similar findings. All these lead to the conclusion that creative self-efficacy is positively and directly related to employee creativity. Hence, the below hypothesis is forwarded as:

**Hypothesis 6 (H6): Creative Self-efficacy is directly related to Employee Creativity.**

### **2.3.7. Creative Role Identity and Employee Creativity**

Studies conducted by various researchers on creative role identity have shown that creative role identity is an individual belief and credentials as a creative thinker, and this creativity and thinking is the essential part of his or her job. In this process, employees see himself as a creative thinker and performer (Farmer et al., 2003; Zhou, Hirst & Shipton, 2012). Research conducted by Farmer and his colleagues (2003) explored that creative behavior of role identity construct can easily develop the creative environment for finding new ideas to the solution of old problem.

Numerous studies give empirical support for the process that creative role identity promotes the creative activities such as employee creativity. Initially, in an empirical research, Paulsen and his colleagues (2009) stated that creative role identity can be directly and significantly developed by high level of individual role identity. Therefore, employee with a high level of creative role identity will give more concentration to the new ideas and hence develop their creative self-efficacy, as they thought that they are imaginative and creative employees (Tierney & Farmer, 2011).

In addition, organizational employees with self-identity skills for creativity “self-enforcement efficacy” demonstrate high level of creativity (Karatepe, et al., 2006), and it shows the effective association between creative role identity and employee creativity (Maroudas et al., 2008).

On the basis of role-identity theory, it is stated that creative role identity highly affects the concept of creativity (Farh & Cheng, 2000). Specially, employees with high creative role identity get easily receptive to the “contextual supports” for their novel and creative activities (Farmer et al., 2003); as a result they develop a high level of employee creativity.

In general, since individual role identities are maintained and validated by “role-consistent behavior” (McCall & Simmons, 1978), employees with high level of creative role identity should be more creative at work. In contrast, individuals with weak creative role identity have no “ego-investment” in being creative person, and it shows that they are not much

worried about their organizations performance and creativity (Fisher, 1997; Petkus, 1996). Further, the findings of

Burke and Reitzes, (1981) also revealed an effective relationship between creative role identity and role performance such as creativity. Therefore, above discussion revealed that creative role identity could be considered an important base for nurturing employee creativity. And so the following hypothesis has been proposed:

**Hypothesis 7 (H7): Creative Role Identity is directly related to the Employee Creativity.**

### **2.3.8. The Mediating Role of Climate for Innovation**

According to the researchers like Scott and Bruce (1994), the climate of an organization plays a significant role in fostering creativity among the employees. Creative performance is largely influenced by the perceptions of the employees about the extent to which such activities are encouraged by the organization and the extent to which the organization wishes to support by providing employees with the required resources (Siegel & Kaemmerer, 1978; Gumusluoğlu & Ilsev, 2009 b). In order to build up a climate for innovation in the workplace, an organization needs to encourage its employees to take intelligent risks and challenge themselves to use creative approaches in the workplace (Ekvall, 1996; Yuan & Woodman, 2010). Leaders can have a positive and significant impact on their creative behavior by building their followers' perception about an innovative work environment (Ekvall & Arvonen, 1984; Ogbonna & Harris, 2000; Waldman & Bass, 1991).

In order to develop the creative skills of employees, leaders can develop a job environment that is largely innovative in nature (Amabile et al., 1996; Unsworth, & Parker, 2003) and move towards building the organization to serve as a guiding light for developing creative work processes (Isaksen et al., 2001; Scott & Bruce, 1994; Turnipseed, 1994).

In the presence of “intellectual stimulating” dimension, transformational leader develops an innovative, winning and persuasive vision for their employees all over the organization, which creates an innovative climate where individuals feel motivated and challenged to search for innovative performance (Guastello, 1995; Jung, 2001). In addition, other research findings also suggest that charismatic and considerate behavior of leadership style has significant impact on innovative climate to develop employee creativity (Koene et al., 2002). Similarly, Sosik, and his colleagues (1999) examined an important and direct association among transformational leadership and innovative climate for promoting employee creative behavior.

Additionally, Elenkov and Manev's (2005) conducted an empirical research on 12 European countries with 270 data of top managers and found that "socio cultural context" is an essential element for the leadership–innovation association and defined that leadership style is significantly manipulate as the innovation climate in the organization for creative development (Howell & Higgins, 1990; Wolfe, 1994; Henry, 2001).

Another research was conducted by Jung and his colleagues (2003) who stated that transformational leadership has direct and significant correlation among innovation climate, and it was also mediated by the organizational culture. In organizational culture, employees are promoted to get involve in free discussion as well as in developing innovative and creative ideas. Though this research work did not recognize exact transformational leadership behavior and its impact on innovation climate, they did recommend that "intellectual stimulation" behavior give confidence for the innovative climate (Jung et al., 2003). The findings of this research work provided helpful suggestion that states "intellectual stimulation refers to the extent to which the leader stimulates employees to rethink the ways they perform their work duties and engage in problem-solving activities" (Kavanagh & Ashkanasy, 2006; Podsakoff et al., 1990; Rafferty & Griffin, 2004).

In the same way, other research findings also suggest that "intellectual stimulation" behavior of transformational leadership develops an idea for creativity in the presence of innovative climate (Henry, 2001; Bundy, 2002; Elenkov & Manev, 2005; Witt & Beorkrem, 1989). A transformational leader stimulates their followers at the intellectual level, thus making them champions of innovative processes and a part of framing the organizational vision, which creates a climate where employees are challenged to develop creative outcome. Hence, the above discussion promotes the below hypothesis:

**Hypothesis 8a (H 8a): Climate for innovation mediates the direct relationship between Transformational Leadership and Employee Creativity.**

### **2.3.9. The Mediating Role of Creative Self-Efficacy**

Transformational leaders take proactive and practical steps in coming up with creative thought (Bass, 1985; Eagly et al., 2003) and can expect the same from their employees in their daily work life. By becoming a guide as well as a mentor, transformational leader tend to help the employees to develop themselves (Pillai & Williams, 2004; Walumbwa et al., 2005), so that they can become a specialist in their work domain, leading to a rise in their creative self-

efficacy over time. Transformational leaders have the tendency to delegate their responsibilities to subordinates, which challenges them to develop their independent and creative thinking abilities (Nielsen et al., 2009; Salanova et al., 2011). As a result, the employees views themselves as more competent and capable in coming up with creative solution (Sosik & Megerian, 1999; Walumbwa et al., 2004).

In the presence of “intellectually stimulating (e.g., encouraging novel approaches) and charismatic leadership behaviors (e.g., contagious communication and compelling visions)” (Tracey, 1998), a transformational leaders can strongly develop employee creativity towards the organization. Moreover, “individualized consideration” behavior of the transformational leadership can develop creative engagement and creative behavior (Bass, 1985; Tierney & Farmer, 2002). However, numerous research works also suggests that leader support for innovative climate can develop the creative outcomes (Chen, Casper & Cortina, 2001; Stajkovic & Luthans, 1998).

In the context of service organization, they provide high quality service for their customer satisfaction and the confidence of an individual that he or she is able to develop creative results that can enhance their creativity and hence increase the delivery of service and profitable outcome (Tierney & Farmer, 2002). In this support, research conducted by Binnewies, Sonnentag and Mojza (2009) found that creative self-efficacy is directly associated with employee creativity in the presence of effective leadership.

Lastly, transformational leaders tend to display their sincere concern, support, consideration, empathy and appreciation to their subordinates for taking initiative to solve a challenging task. With this support and encouragement from a transformational leader, followers are likely to be psychologically inspired enough to sustain their creative self-efficacy. After integrating these research findings, it was suggested that transformational leadership style could directly and effectively develop their employee creativity with help of employees’ creative self-efficacy. Hence, the following hypothesis has been proposed:

**Hypothesis 8b (H 8b): Creative Self-efficacy mediates the direct relationship between Transformational Leadership and Employee Creativity.**

### **2.3.10. The Mediating Role of Creative Role Identity**

As it has been stated earlier, creative role identity plays a crucial role in imbibing creative behavior (Farmer, Tierney & Kung–Mcintyre, 2003), since individuals with creative role identity can become more creative at organization and develop novel ideas for the problems they face at workplace (Jaussi, Randel & Dionne, 2007; Wang & Cheng, 2010).

Numerous research works give empirical support for the proposal that transformational leadership promotes the process of individual creative role identity. Initially, Hirst and his colleagues (2009) suggested in their study that “inspirational motivation” behavior of transformational leadership can develop constructive identification and creative thought, and the study findings are based on 115 supervisor–employee responses.

In addition, Paulsen and his colleagues (2009) also stated that individual’s sense of identity could be completely developed by the leader with high level of transformational leadership style; these findings are based on 178 respondents of 34 manufacturing teams.

Specifically, creative role identity demonstrates an individual thought about creativity, whether he or she is a creative person or not (Brewer & Gardner, 1996; Farmer et al., 2003). As a result, employees with high level of creative role identity give more concentration to develop creative and novel ideas and they see him or her as a creative person.

The present research work proposed that creative role identity mediates the association between transformational leadership and employee creativity. In this reference, previous researches state that high level of creative role identity could easily develop the association between leadership and creativity, because an effective leadership style reminds employees of their responsibilities to confirm the loyalty towards the organization (Oke, Munshi & Walumbwa, 2009). As a result, employees are inclined to perform the roles and responsibilities in a way that doesn’t deny their innovative and creative behavior (Farh & Cheng, 2000).

Consequently, when individuals identify their supervisors’ expectation for creative outcome from their intuition of the supervisor’s attitude, principles, desires, likes and dislikes, they are liable to promote their abilities to achieve the supervisor’s expectations (Erkutlu & Chafra, 2015; Grube & Piliavin, 2000). As a result, employees internalize their principles, expectations and ultimately develop their creative activity such as creative role identity develops creative outcome. Hence, the next hypothesis has been forwarded as:

**Hypothesis 8c (H 8c): Creative Role Identity mediates the direct relationship between Transformational Leadership and Employee Creativity.**

The hypothesized model is given below in Fig.2.3.

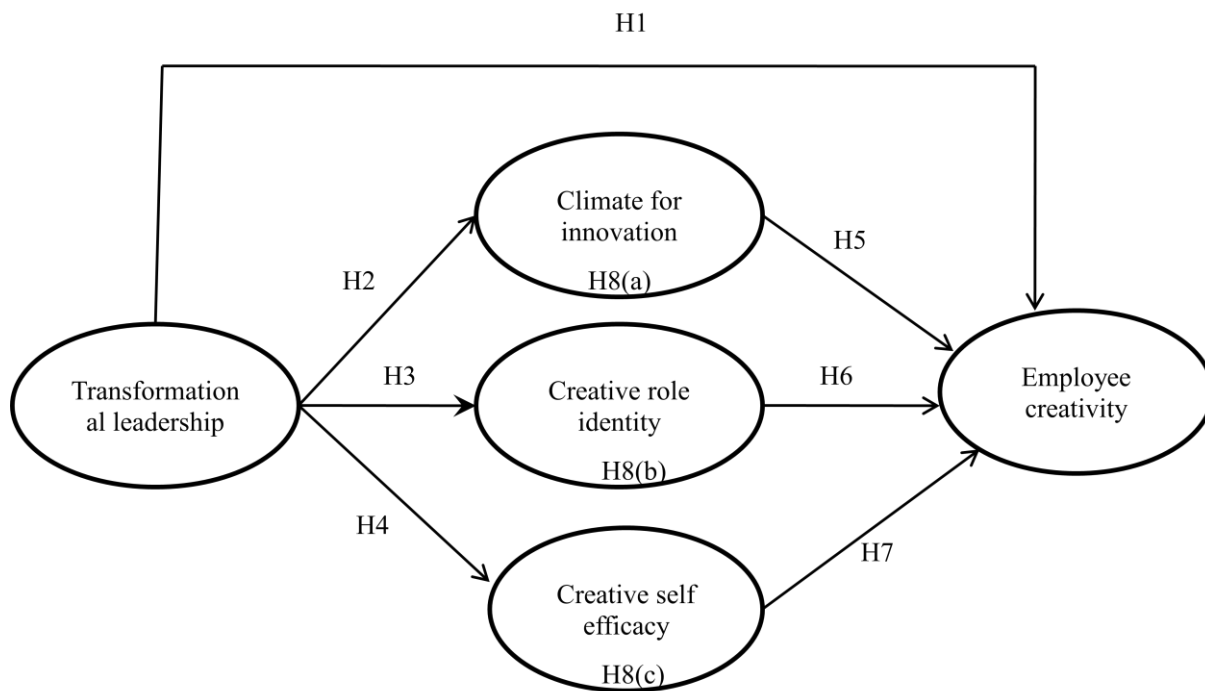


Fig.2.3 Hypothesized Model

#### 2.4. Summary of the chapter

The chapter covered comprehensive literature review on the focussed variables in the study that are transformational leadership, climate for innovation, creative role identity, creative self-efficacy, and employee creativity. All accessible and relevant literature on the dimensions of transformational leadership variables in focus (Supervisor/manager support, motivation, freedom to taking the decision, relationship with work colleagues, involvement & responsibility at work, communication, decision making) has been reviewed. The literature review shows the importance of transformational leadership, creative role identity, climate for innovation, creative self-efficacy and employee creativity in predicting employees' attitude and behavior as well as essential outcomes. This study also reviewed the mediating role of climate for innovation, creative self-efficacy and creative role identity on the relationship between transformational leadership and employee creativity. Considering all these facts, the present study is a novel effort to fill the empirical and theoretical gaps of this area.

## CHAPTER- 3

### RESEARCH METHODOLOGY

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#### **3.1. Introduction**

The chapter emphasizes on the research methodology used for analyzing the association between transformational leadership (TL) and employee creativity and for measuring the mediating function of climate for innovation (CIN), creative self-efficacy (CSE), and creative role identity (CRI) among transformational leadership and employee creativity (EC). The chapter presents questionnaire administration, measures, data collection procedure, pilot study and sample characteristics as well as the statistical analysis used in this study.

#### **3.2. Measurement of the constructs**

In this research work, five measurement scales were utilized to calculate the constructs of the measurement model. This includes transformational leadership, climate for innovation, creative self-efficacy, creative role identity, and employee creativity. The measurement scales were designed to get information about demographic details, personal details of respondent and related constructs of the study. Responses of data were calculated on a 7-point Likert scale. The pattern of this scale is ranges from 1 (“strongly disagree”) to 7 (“strongly agree”), where 1 represents “Strongly disagree”, 2 represents “partially disagree”, 3 represents “disagree”, 4 represents “Neutral”, 5 represents “Agree”, 6 represents “Partially Agree” and 7 represents “Strongly Agree”. Seven-point Likert scale provides a high range scores to judge the construct. Likert type scale is a closed-ended scale measurement format where respondents replied the closed-ended questionnaire from a given set of responses, by choosing the most appropriate answer.

##### **3.2.1. Measurement of Transformational Leadership**

Several transformational leadership scales have been developed in the last three to four decades. In the study, to calculate the transformational leadership, researcher used the “Multifactor Leadership Questionnaire (MLQ) Form”. This scale is also recognized as 5X-Short (Bass et al., 2003).

The MLQ scale is a widely used scale in the field of transformational leadership and provides a relatively unbiased measurement of the leadership behaviour to the researchers (Lievens, Van Geit & Coetsier, 1997). This scale has been chosen for this study because of its

high convergent, discriminant validity and reliability, and also because it uses multiple dimension item (Bass & Avolio, 2000).

This sixteen items measurement scale has multiple dimensions and these dimensions are : (1) “idealized influence” (attributed) (e.g., “My leader acts in ways that build my respect”), and “idealized influence” (behaviour) (e.g., “My leader talks to us about his/her most important values and beliefs”); (2) “inspirational motivation” (e.g., “My leader expresses his/her confidence that we will achieve our goals”); (3) “intellectual stimulation” (e.g., “My leader seeks differing perspectives when solving problems”); and (4) “individual consideration” (e.g., “My leader spends time teaching and coaching me”).

### **3.2.2. Measurement of Climate for Innovation**

Climate for innovation is the combination of support for innovation and resource supply and this particular scale was developed by Scott and Bruce (1994). “Support for innovation (16 items) measures the degree to which individuals view the organization as open to change, and resource supply (6 items) measures the degree to which resources (e.g., personnel, time) are perceived as adequate in the organization” (p. 592), and Cronbach alpha value was 0.87. Out of these we took 16 items for this study. All the 16 items were related to climate for innovation that was rated on a scale from 1 “strongly disagree” to “5 strongly agree”.

### **3.2.3. Measurement of Creative Self-efficacy**

To assess the “employees’ self-perceived confidence and competence with regard to creative work”, the study used the 4-item creative self-efficacy scale (Tierney & Farmer, 2002). This is most commonly and widely used scale in the area of creativity for evaluating the creative self-efficacy (Wang et al., 2014; Tierney & Farmer, 2011). For this construct, the items comprise “My past experiences and accomplishments increase my confidence that I will be able to perform successfully in this organization,” and “I believe I could have handled a more challenging job than the one I will be doing.” The item will be rated on 7-point likert scale ranging from 1 “Strongly Disagree” to 7 “Strongly agree” and the Cronbach alpha value was 0.91.

### **3.2.4. Measurement of Creative Role Identity**

We adopted Farmer and his colleagues (2003) four-item creative role identity scale to measure employees’ self-perceived creativity as a central component of their creative self-identity. It is most widely used scale because of its high reliability and validity in constructs



(Wang et al., 2014; Wang & Zhu, 2010). The items are “To be a creative employee is an important part of my identity,” and “I often think about being creative.” The Cronbach alpha value was 0.89.

### **3.2.5. Measurement of Employee Creativity**

In this study, we adopted a scale to measure employee creativity originally developed by Madjar et al. (2002) and Scott and Bruce (1994). There are six items in this scale, wherein Madjar et al. (2002) developed three items and the rest were developed by Scott and Bruce (1994). Example items are “this employee searches out new technologies, processes, techniques, and/or product ideas”, “this employee generates creative ideas”, and “this employee is creative” and Cronbach alpha value was 0.93. This is the outcome variable of the present study and various researchers provide the evidence of high reliability and validity of this scale (Scott & Bruce, 1994; Madjar et al., 2002; Tierney & Farmer, 2004).

### **3.2.6. Control variables**

In this study, respondent age, gender (male or female), education and work experience were controlled due to their relation and impact on creativity. These variables could lead to the knowledge and skills which consecutively could play an important part in shaping the creative performance (Richter et al., 2012; Tierney & Farmer, 2011). So, in addition to the scale items of the proposed model, age, gender, education and work experience were controlled.

### **3.3. Quantitative Methods**

The present study focused on the association between transformational leadership and employee creativity and also analysed the mediating role of climate for innovation, creative self-efficacy and creative role identity in Indian IT industry. This study is based on quantitative research and has an empirical research design. In this work, the research design based on quantitative methodology has been used to measure the description of a group. And for collecting data, the survey method was used. All the participants were given a survey questionnaire to give their responses related to transformational leadership, creative role identity, climate for innovation, creative self-efficacy, and employee creativity. This questionnaire includes a set of questions related to the study variables. A survey method has many benefits as well as some limitations such as common biasness. Furthermore, this method was found to be the most suitable alternative because of the nature, objective and resource available for the study.

IT employees and their immediate supervisors or managers were the respondent of the study. As per the study items, transformational leadership, climate for innovation, creative role identity and creative self-efficacy were rated by the employees and employee creativity was done by supervisors or managers.

### **3.3.1. Survey Method**

Certain definitions and meanings related to the survey method.

**Sample is the** “subgroup of the population selected for the study”.

**(Malhotra, 2008, p. 335)**

**Population** is the “aggregate of all elements, sharing some common set of characteristics that comprises the universe for the purpose of the research problem”.

**(Malhotra, 2008, p. 335)**

**Sample size** refers to the “number of elements to be included in a study. The size of sample is determined not only by statistical calculation, but also managerial consideration including time and cost”.

**(Malhotra, 2008, p. 364)**

**Sampling** “is the only feasible way to collect research data in most situations. This inevitably introduces sampling errors. However, sampling errors are often only a small part of the total research errors”.

**(Malhotra, 2008, p. 332)**

**Survey Method** is a part of unit of measurement, which involves, “interviews with a large number of respondents using a predesigned questionnaire”.

**(Malhotra, 2008, p. 120)**

**Measurement** means “assigning numbers and other symbols to characteristics of objects according to certain pre-specified rules”.

**(Malhotra, 2008, p. 252)**

**Descriptive Research Design** “The key to good descriptive research is knowing exactly what you want to measure and selecting a survey method in which every respondent is willing to cooperate and capable of giving you complete and accurate information efficiently”.

(Malhotra, 2008, p. 180)

**Mean** is “The average, that value obtained by summing all elements in a set and dividing by the number of elements”.

(Malhotra, 2008, p. 460)

**Correlation** “is a simple but powerful way to look at the linear relationship between two metric variables”.

(Malhotra, 2008, p. 534)

**Regression Analysis** is “a statistical procedure for analyzing associative relationship between a metric dependent variable and one or more independent variable”.

(Malhotra, 2008, p. 542)

**Multiple Regression** is “a statistical technique that simultaneously develops a mathematical relationship between two or more independent variables and an interval-scaled dependent variable”.

(Malhotra, 2008, p. 552)

### **3.4. Pilot Study of the study item**

In the survey method, the pilot study was conducted to establish the readability and transparency of the sample item. For checking the reliability and generalizability of the study item, the pilot study was performed with a small sample size. 150 questionnaires were circulated to the IT employees and their immediate supervisor. After gathering the responses, 85 questionnaires were complete and useful and the response rate was 56.67%. For the pilot study, the demographic variable of the employees are shown in **Table 3.1**. To test the reliability of the measurement item used in this research work, the value of Cronbach's alpha ( $\alpha$ ) was calculated. And the entire scale item showed sufficient level of internal consistency reliability. The Reliability of the measured item ranged from 0.93 for transformational leadership, 0.94 for climate for innovation, 0.90 for creative self-efficacy, 0.97 for creative role identity, and 0.91 for employee creativity. **Table 3.2** depicts the descriptive figures for the scale items; for

example, mean, internal consistency reliability, and standard deviation. To check the readability and face validity of the measurement scale, all the questions were examined by an expert of the English language and faculty member (Brislin, 1970). The language of the questionnaires was English because employees of the IT industry easily understand the English language.

**Table.3.1. Demographics for Pilot Study**

<b>Employees’ detail (N=85)</b>	<b>Frequency</b>	<b>Percentage (%)</b>	<b>Supervisors’ detail (n=17)</b>	<b>Frequenc y</b>	<b>Percentage</b>
<b>Gender</b>			<b>Gender</b>		
Male	59	60.41	Male	11	64.70
Female	26	39.58	Female	06	35.29
<b>Age (in yrs)</b>			<b>Age (in yrs)</b>		
25 - 35	41	48.23	25 - 35	02	11.76
36 – 45	25	29.41	36 – 45	05	29.41
46 – 55	15	17.64	46 – 55	06	35.29
55 and above	04	04.70	55 and above	04	23.52
<b>Education</b>			<b>Education</b>		
Graduate	57	67.05	Graduate	04	23.52
Post Graduate	28	32.94	Post Graduate	13	76.47
<b>Experience (yrs)</b>			<b>Experience (yrs)</b>		
< 1 year	29	34.11	< 1 year	--	--
1 – 10	37	43.52	1 – 10	04	23.52
11 – 20	11	12.94	11 – 20	07	41.17
21 – 30	06	07.05	21 – 30	05	29.41
31 and above	02	02.35	31 and above	01	05.88

*Note:* N denotes Sample size

**Table.3.2. Mean, Standard Deviation and Reliability Analysis for Pilot Study**

<b>Variable (N=85)</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Alpha Reliability</b>
<b>Transformational Leadership</b>	<b>3.40</b>	<b>0.94</b>			<b>0.93</b>
TL1	3.24	1.04	1.00	7.00	
TL2	3.51	1.33	1.00	7.00	
TL3	3.30	1.09	1.00	7.00	
TL4	3.50	1.25	1.00	7.00	
TL5	3.32	1.16	1.00	7.00	
TL6	3.42	1.18	1.00	7.00	
TL7	3.23	1.25	1.00	7.00	
TL8	3.44	1.25	1.00	7.00	
TL9	3.45	1.21	1.00	7.00	
TL10	3.34	1.16	1.00	7.00	
TL11	3.38	1.17	1.00	7.00	
TL12	3.30	1.15	1.00	7.00	
TL13	3.35	1.07	1.00	7.00	
TL14	3.45	1.08	1.00	7.00	
TL15	3.56	1.21	1.00	7.00	
TL16	3.55	1.21	1.00	7.00	
<b>Climate for Innovation</b>	<b>3.17</b>	<b>0.87</b>			<b>0.94</b>
CIN1	3.10	1.06	1.00	7.00	
CIN2	3.30	1.05	1.00	7.00	
CIN3	3.12	1.01	1.00	7.00	
CIN4	3.08	1.04	1.00	7.00	
CIN5	3.31	1.30	1.00	7.00	
CIN6	3.22	1.19	1.00	7.00	
CIN7	3.14	1.01	1.00	7.00	
CIN8	3.10	1.05	1.00	7.00	
CIN9	3.14	1.08	1.00	7.00	
CIN10	3.08	1.14	1.00	7.00	
CIN11	3.30	1.22	1.00	7.00	

CIN12	3.21	1.13	1.00	7.00	
CIN13	3.22	1.14	1.00	7.00	
CIN14	3.09	1.24	1.00	7.00	
CIN15	3.22	1.12	1.00	7.00	
CIN16	3.05	1.12	1.00	7.00	
<b>Creative Self- efficacy</b>	<b>3.23</b>	<b>1.13</b>			<b>0.90</b>
CSE1	3.17	1.16	1.00	7.00	
CSE2	3.32	1.31	1.00	7.00	
CSE3	3.27	1.37	1.00	7.00	
CSE4	3.17	1.22	1.00	7.00	
<b>Creative Role Identity</b>	<b>3.37</b>	<b>1.02</b>			<b>0.97</b>
CRI1	3.31	1.07	1.00	7.00	
CRI2	3.44	1.15	1.00	7.00	
CRI3	3.28	1.24	1.00	7.00	
CRI4	3.70	1.18	1.00	7.00	
<b>Employee Creativity</b>	<b>3.70</b>	<b>0.72</b>			<b>0.91</b>
EC1	3.52	1.01	1.00	7.00	
EC2	3.63	0.85	1.00	7.00	
EC3	3.77	0.80	1.00	7.00	
EC4	3.74	0.90	1.00	7.00	
EC5	3.67	0.95	1.00	7.00	
EC6	3.85	1.00	1.00	7.00	

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*Note:* N denotes Sample size

### 3.5. Population and Sample of the study

The present study analysed the role of transformational leadership behaviour and its effect on employee creativity and also explored the mediating role of creative self-efficacy, climate for innovation, and creative role identity of the Indian IT SMEs employees. IT employees (such as, “Senior Software Engineer, Associate Software Engineer and Software Engineer”) and their immediate supervisors or managers also took part in this research work. The sampling for the research was conducted based on the convenience sampling because it is

helpful in selecting the data which is easily available from the targeted population (Harrison, 2011). Convenience sampling also enhances possibility of the research work in the form of time, expense and location of the offices of the target population. In this study, 25 IT industries (5% of the total population) were approached but 20 approved for the participation (NASSCOM, 2007).

### **3.6. Data collection**

Employees who worked in IT SMEs industry and have their immediate supervisor participated in the study for giving their response to the association among transformational leadership, Climate for innovation, creative self-efficacy, creative role identity, and employee creativity. In the first step of data collection process, the researcher met with HR manager of the respective IT Company and organised a presentation. The presentation was organised to produce employee awareness related to the importance of the present study. Further, employees were requested to take part in the survey willingly so that they answer the questions with sincerity.

In this process, all the employees were motivated to give their response in their rest hours, and send back it directly to the person who is conducting the research. In next step of the data collection process, questionnaires (including employees and supervisors questionnaires separately), cover letter and return envelope were circulated to the employees. Questionnaires were written in the English language because employees of the IT industry easily understand the English language. The survey process was tracked on the basis of regular intervals to visit the companies.

To keep the confidentiality of the survey process, responses were collected in a sealed envelope. Overall 650 questionnaires were circulated among the employees of 20 IT SMEs and 90 questionnaires among their immediate supervisor, out of which 480 pair of (Employee-supervisor) responses were, gathered (Tabachnick, Fidell & Osterlind, 2001). The data was screened for further analysis and examined, out of 90 supervisor questionnaires, 80 were complete and valid. Each manager or supervisor was asked to rated the creativity of six employees. On the basis of this data, the response rate of data collection was 73.84% with 480 sample size. In this process, 193 (40.20%) females and 287 (59.79%) male participated. Demographics details are shown in **Table 3.3**.

**Table.3.3. Demographics for Final Study**

<b>Employees’ detail (n=480)</b>	<b>Frequency</b>	<b>Percentage (%)</b>	<b>Supervisors’ detail (n=80)</b>	<b>Frequenc y</b>	<b>Percentage</b>
<b>Gender</b>			<b>Gender</b>		
Male	287	59.79	Male	51	63.75
Female	193	40.20	Female	29	36.25
<b>Age (in yrs)</b>			<b>Age (in yrs)</b>		
25 - 35	220	45.83	25 - 35	09	11.25
36 – 45	144	30.00	36 – 45	26	32.50
46 – 55	98	20.41	46 – 55	27	33.75
55 and above	18	3.75	55 and above	18	22.50
<b>Education</b>			<b>Education</b>		
Graduate	331	68.95	Graduate	18	22.50
Post Graduate	149	31.04	Post Graduate	62	77.50
<b>Experience (yrs)</b>			<b>Experience (yrs)</b>		
< 1 year	165	34.37	< 1 year	--	--
1 – 10	214	44.58	1 – 10	12	15.00
11 – 20	62	12.91	11 – 20	33	41.25
21 – 30	28	5.83	21 – 30	25	31.25
31 and above	11	2.29	31 and above	10	12.50

### **3.7. Analytic Approach**

In this study, the data was analysed by SPSS and AMOS 20<sup>th</sup> edition at the individual level. In the first step related to evaluating the measurement model, Confirmatory factor analysis (CFA) was performed.

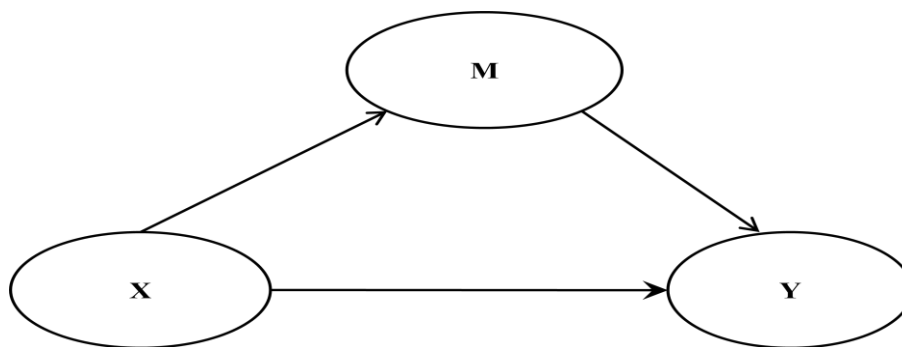
**Confirmatory factor analysis** – CFA acknowledged the relationship between observed construct and their relevant latent factor.

In CFA, a series of fit indices were performed to calculate the model fitness. There are some fit indices such as “goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), normed fit index (NFI), comparative fit index (CFI) and root mean square error of approximation (RMSEA)”. On the basis of RMSEA, the values below 0.05 shows a good fit of model. And all the fit indices should be in less than 1 and greater than 0.7 (Hair et al., 1995).



In this research work, the proposed model or relationship among the variables were analysed by using a computational tool for path analysis SPSS macro, i.e., PROCESS. This method is an application of multiple regressions and is used for computing the indirect effect linking independent and dependent variable and also integrating the Baron and Kenny (1986) stepwise process of mediation with the help of SOBEL test and bootstrap method. In the first step of analyzing the hypotheses, we measured the impact of independent variable on dependent variable and once mediator is entering the relationship strength this effect is reduced. The SOBEL test helps in justifying that the reduction in the strength of the association among independent variable and dependent variable is significant with the initiation of the mediator in the model (Sobel, 1982). Bootstrapping is a versatile method that can be applied to many inferential problems a researcher might face. It is especially useful when the behavior of a statistics over repeated sampling is either not known, or too complicated to derive, or highly context dependent (Hayes, 2013).

**Mediation-** “A researcher whose goal is to establish or test how independent variable (X) effect on dependent variable (Y) in a model in which one or more intervening variable (M) is located causally between X and Y”. These intervening variables, often called mediators, are “conceptualized as the mechanism through which independent variable influences dependent variable” (Grabe, Ward, & Hyde, 2008, Hayes, 2013, p.7).



**Fig.3.1. Simple Mediation model with a single mediator variable M located between X and Y**

Researchers interested in examining question about mechanism resort to process modelling to empirically estimate and test hypotheses about the two pathways of influence through which X carries its effect on Y as depicted in the above figure, one direct to X to Y and the other indirect through M. More popularly known as mediation analysis, this type of analysis is extremely common in practically all disciplines. Some of the most highly cited articles

(Baron & Kenny, 1986; Preacher & Hayes, 2004) discuss about the mediation analysis and testing hypothesis and the direct and indirect effects of X and Y.

**Simple Mediation Model** – This is a statistical way to give results of the question. The simple mediation model is shown in **Figure 3.1** in the form of conceptual diagram. As can be seen, this model contains two resultant variables M and Y, and two antecedent variables X and M, with X influencing Y and M, and M influencing Y. A simple mediation model is any causal system in which at least one causal antecedent X variable is proposed as influencing an outcome Y through a single intervening variable M. In such a model, there are two different pathways by which a specific X variable influences the Y variable.

**Direct Effect-** When line X regressed on Y through M, then the effect of X on Y is called direct effect.

**Indirect Effect-** Pathway leads from X to Y through M is called indirect effect of X on Y.

This method gives a most likelihood assessment of the whole structure in the proposed model and facilitates the evaluation of constructs with the facts in the form of supporting the hypothesis, which leads to the empirical findings.

### **3.8. Summary of the Chapter**

The present chapter discussed the research methodology used for analyzing the relationship between transformational leadership and employee creativity and for measuring the mediating role of climate for innovation, creative self-efficacy and creative role identity between transformational leadership and employee creativity. The chapter also discussed about sample, data collection process, population of the study, and measurement of the variables. At last, the statistical tool is presented which emphasizes the characteristics of the CFA and computational tool for path analysis SPSS macro, i.e., PROCESS.

## CHAPTER- 4

### RESULTS AND FINDINGS

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#### 4.1. Introduction

The present chapter focuses on the results and findings of the information after statistical analysis. It starts with the descriptive statistics and sample characteristics of the variables. In this chapter, the confirmatory factor analysis (CFA), validity and reliability of the measures used in the research model are described. Lastly, the result of the computational tool for path analysis SPSS macro, i.e., PROCESS with the hypotheses and the model are surveyed.

#### 4.2. Sample Characteristics and Descriptive Statistics

**Sample Characteristics-** This research work was conducted to examine the connection between transformational leadership and employee creativity of the IT SMEs employees. The study further examined the behaviour of transformational leadership and the mediating role of creative role identity, creative self-efficacy, and climate for innovation between transformational leadership and employee creativity. Overall, 650 questionnaires were circulated in 20 IT SMEs employees and 90 among their immediate supervisor, out of which 480 pair of responses (Employee-supervisor) were completed. The data was screened for further analysis and it was examined that 80 complete and valid answers were received from the supervisors. Each manager or supervisor was asked to rate creativity of employees. Overall, each supervisor rated six employees resulting in 80 complete and valid supervisors' questionnaires. On the basis of this data, the response rate of data collection was 73.84% and the sample size of the study was 480. In this process, 193 (40.20 %) females and 287 (59.79 %) male participated in the employee category. And, 29 (36.25 %) females and 51 (63.75 %) male participated in the supervisor category. The data were screened for outliers and missing data. Therefore, the sample size of present study was 480. Demographics details (such as gender, age, education and work experience of the employees) are shown in **Table 3.3**.

**Descriptive Statistics-** This study also examined the descriptive statistics of the variable such as Mean, standard deviation, correlation. Descriptive statistics are shown in **Table 4.1**.

**Table.4.1. Mean, Standard Deviation and Reliability Analysis for Final Study**

<b>Variable (N=480)</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Alpha Reliability</b>
<b>Transformational Leadership</b>	<b>3.27</b>	<b>0.89</b>			<b>0.95</b>
TL1	3.15	1.10	1.00	7.00	
TL2	3.32	1.14	1.00	7.00	
TL3	3.18	1.10	1.00	7.00	
TL4	3.30	1.22	1.00	7.00	
TL5	3.22	1.08	1.00	7.00	
TL6	3.30	1.19	1.00	7.00	
TL7	3.16	1.13	1.00	7.00	
TL8	3.37	1.28	1.00	7.00	
TL9	3.33	1.23	1.00	7.00	
TL10	3.24	1.18	1.00	7.00	
TL11	3.21	1.04	1.00	7.00	
TL12	3.19	1.13	1.00	7.00	
TL13	3.23	1.20	1.00	7.00	
TL14	3.33	1.14	1.00	7.00	
TL15	3.40	1.27	1.00	7.00	
TL16	3.35	1.24	1.00	7.00	
<b>Climate for Innovation</b>	<b>3.23</b>	<b>0.92</b>			<b>0.95</b>
CIN1	3.15	1.04	1.00	7.00	
CIN2	3.27	1.16	1.00	7.00	
CIN3	3.07	1.02	1.00	7.00	
CIN4	3.08	1.03	1.00	7.00	
CIN5	3.27	1.30	1.00	7.00	
CIN6	3.23	1.22	1.00	7.00	
CIN7	3.17	1.06	1.00	7.00	
CIN8	3.14	1.13	1.00	7.00	
CIN9	3.23	1.20	1.00	7.00	
CIN10	3.27	1.16	1.00	7.00	
CIN11	3.39	1.25	1.00	7.00	

CIN12	3.33	1.18	1.00	7.00	
CIN13	3.28	1.20	1.00	7.00	
CIN14	3.28	1.35	1.00	7.00	
CIN15	3.32	1.24	1.00	7.00	
CIN16	3.16	1.26	1.00	7.00	
<b>Creative Self- efficacy</b>	<b>3.30</b>	<b>0.96</b>			<b>0.91</b>
CSE1	3.22	1.09	1.00	7.00	
CSE2	3.34	1.29	1.00	7.00	
CSE3	3.33	1.26	1.00	7.00	
CSE4	3.29	1.15	1.00	7.00	
<b>Creative Role Identity</b>	<b>3.23</b>	<b>0.96</b>			<b>0.89</b>
CRI1	3.24	1.06	1.00	7.00	
CRI2	3.25	1.12	1.00	7.00	
CRI3	3.21	1.13	1.00	7.00	
CRI4	3.30	1.09	1.00	7.00	
<b>Employee Creativity</b>	<b>2.89</b>	<b>0.79</b>			<b>0.93</b>
EC1	3.20	0.98	1.00	7.00	
EC2	3.22	1.06	1.00	7.00	
EC3	3.34	1.05	1.00	7.00	
EC4	3.36	1.07	1.00	7.00	
EC5	3.24	1.16	1.00	7.00	
EC6	3.36	1.19	1.00	7.00	

### 4.3. Measurement Model

The objective of Measurement model is to explain the experimental variable as a measurement scale for the latent construct. As a result, the measurement shows the association among the latent construct and their observed scale. To calculate the competency of the measurement model for all construct, CFA was carried out. In CFA, a series of fit indices were performed to calculate the model fitness. There are some fit indices such as- “goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), normed fit index (NFI), comparative fit index (CFI) and root mean square error of approximation (RMSEA)”. On the basis of RMSEA,

the values below 0.05 shows a good fit of model. And all the fit indices should be less than 1 and greater than 0.7 (Hair, et al., 1995).

In model testing process, first, we established the goodness-of-fit index among the proposed model and sample data. Chi-square test was employed to measure the proximity of fit among the restricted covariance matrix and unrestricted sample covariance. As a result, a non significant chi-square difference test among the proposed model and the tested data showed that the proposed model is highly fixed to the sample data. To measure the error of approximation in the population, RMSEA was conducted. It represented the sample fitness in the population covariance matrix. “Values less than 0.05 indicate a good fit, and values as high as .08 represent a reasonable fit. The GFI is a measure of the relative amount of variance and covariance in the sample that is jointly explained by the sample. The goodness of fit index ranges from 0 to 1.00, with values close to 1.00 being indicative of a good model fit. The CFI provides a measure of complete co variation in the data, a value of 0.80 and >.080 indicating an acceptable fit to the data” (Byrne, 1998; Hair, et al., 1995). The sample size for this study is 480; and it is sufficient for the least suggested level.

#### 4.3.1. CFA for Transformational Leadership

The main transformational leadership measurement model showed a single factor model. This model comprised of 16 items or indicators. The fitness of transformational leadership measurement model was good and was statistically significant ( $p < 0.001$ ) with the  $\chi^2$  value of 245.3 and degrees of freedom (dof) 104. Values of other fit indices were RMSEA =.05; GFI =.938; CFI =.971 which indicated good model fitness. Below **Table 4.2** shows the end results of transformational leadership single factor CFA. This model showed all fit indices at the acceptance level and it demonstrated the perfect fitness of model.

**Table.4.2.CFA for Transformational Leadership**

Variable	Chi-square value (Degree of Freedom)	RMSEA	GFI	CFI
Transformational Leadership	245.3 (104)	.05	.938	.971

*Note:* The model was performed at significance level  $p < .001$ .

### 4.3.2. CFA for Climate for innovation

The climate for innovation measurement model showed a single factor model. This model comprised of 16 items or indicators. The fitness of climate for innovation measurement model was good and was statistically significant ( $p < 0.001$ ) with the  $\chi^2$  value of 379.6 and dof 104. Values of other fit indices were RMSEA = 0.05; GFI = 0.902; CFI= 0.950 which indicated good model fitness. Below **Table 4.3** shows the end results of climate for innovation single factor CFA. This model showed all fit indices at the acceptance level and it demonstrated the perfect fitness of model.

**Table.4.3. CFA for Climate for innovation**

Variable	Chi-square value (Degree of Freedom)	RMSEA	GFI	CFI
Climate for Innovation	379.6 (104)	.05	.902	.950

*Note:* The model was performed at significance level  $p < .001$ .

### 4.3.3. CFA for Creative Self-efficacy

The creative self-efficacy measurement model showed a single factor model. This model comprised of four items or indicators scale. The fitness of creative self-efficacy measurement model was good and was statistically significant ( $p < 0.001$ ) with the  $\chi^2$  value of 2.7 and dof 2. Values of other fit indices were RMSEA = 0.04; GFI = 0.970; CFI = 0.980 which indicated good model fitness. Below **Table 4.4** shows the end results of creative self-efficacy single factor CFA. This model showed all fit indices at the acceptance level and it demonstrated the perfect fitness of model.

**Table.4.4. CFA for Creative Self-efficacy**

Variable	Chi-square value (Degree of Freedom)	RMSEA	GFI	CFI
Creative self- efficacy	2.7 (2)	.04	.970	.980

*Note:* The model was performed at significance level  $p < .001$ .

#### 4.3.4. CFA for Creative Role Identity

The main creative role-identity measurement model showed a single factor model. This model comprised of four scale items or indicators. The fitness of creative role identity measurement model was good and was statistically significant ( $p < 0.001$ ) with the  $\chi^2$  value of 3.9 and dof 2. Values of other fit indices were RMSEA = 0.04; GFI = 0.996; CFI = 0.998 which indicated good model fitness. Below **Table 4.5** shows the end results of creative role identity single factor CFA. This model showed all fit indices at the acceptance level and it demonstrated the perfect fitness of model.

**Table.4.5. CFA for Creative role identity**

Variable	Chi-square value (Degree of Freedom)	RMSEA	GFI	CFI
Creative role identity	3.9 (2)	.04	.996	.998

*Note:* The model was performed at significance level  $p < .001$ .

#### 4.3.5. CFA for Employee Creativity

The employee creativity measurement model showed a single factor model. This model comprised of six scale items or indicators. The fitness of employee creativity measurement model was good and was statistically significant ( $p < 0.001$ ) with the  $\chi^2$  value of 24 and dof 9. Values of other fit indices were RMSEA = 0.05; GFI = 0.983; CFI = 0.993 which indicated good model fitness. Below **Table 4.6** shows the end results of employee creativity single factor CFA. This model showed all fit indices at the acceptance level, and it demonstrated the perfect fitness of model.

**Table.4.6. CFA for Employee Creativity**

Variable	Chi-square value (Degree of Freedom)	RMSEA	GFI	CFI
Employee Creativity	3.9 (2)	.04	.996	.998

*Note:* The model was performed at significance level  $p < .001$ .



#### 4.3.6. CFA for the Measurement Model

To evaluate the measurement model fitness, CFA was performed which shows a very good model fit (chi square test  $\chi^2 = 1326.9$ , degree of freedom (df) = 962, p = 0.000, GFI = 0.894, AGFI = 0.881, CFI = 0.977, NFI = 0.923. RMSEA = 0.02). The value of all goodness-of-fit indices fulfilled the condition of supporting the measurement model. These fit indices showed the overall fitness of the model at high significant level (See Table 4.7).

The present study included the assessment of convergent and discriminant validity for evaluating the validity of the measurement model. “Standardized factor loading”, “composite reliability (CR)”, and “average variance extracted (AVE)” of all constructs are used in the measurement model. All the factor loadings of the model were found to be highly significant at 1 percent. The transformational leadership loadings ranged from 0.67 to 0.81, the climate for innovation loadings ranged from 0.69 to 0.82, the creative self-efficacy ranged from 0.82 to 0.85; the creative role identity ranged from 0.81 to 0.84 and the employee creativity ranged from 0.79 to 0.86. According to Cable and DeRue (2002), “When observed variables of the construct correlate with each other, as per the theoretical foundation, it represents a convergent validity” (p. 879). Further, previous literature signifies that the effective and significant loadings with high composite reliability demonstrate convergent validity (Cable and DeRue, 2002). The results demonstrated high model adaptability and satisfaction as shown in Table 4.8.

**Table.4.7. CFA for Measurement Model**

<b>Model</b>	<b>Chi-square (Degree of Freedom)</b>	<b>value</b>	<b>RMSEA</b>	<b>GFI</b>	<b>AGFI</b>	<b>CFI</b>
Measurement Model	1326.9 (962)		.02	.894	.881	.977

*Note:* The model was performed at significance level p<.00

#### 4.4. Test of Reliability and Validity

**Reliability** – In CFA, the principal approach was used to examine the measurement model. In this approach, factor loadings were examined for each item or indicator, and this measurement variance extracted of each construct called composite reliability. Reliability is a “measure of the internal consistency of the construct indicators, representing the degree to which they indicate the common latent construct” (Hair et al., 1995, p.154). The acceptable range for good reliability is 0.70 and above.

**Table 4.8** represents the fit statistics for the measurement model, the factor loadings for each item, and construct reliability (Cronbach alpha reliability and composite reliability). All construct reliability exceeds the suggested level of 0.70, as is demonstrated by the values for transformational leadership ( $\alpha = 0.952$  and composite reliability = 0.953), climate for innovation ( $\alpha = 0.957$  and composite reliability = 0.958), creative self-efficacy ( $\alpha = 0.910$  and composite reliability = 0.912), creative role-identity ( $\alpha = 0.895$  and composite reliability = 0.895) and employee creativity ( $\alpha = 0.936$  and composite reliability = 0.937). These results provided the proof of high reliability for variables in the CFA (See Table 4.8).

Validity is the, “extent to which the indicators accurately measure what they are supposed to measure” (Hair et al., 1995, p. 167). Alternatively, according to Byrne (1998), “on the extent to which data exhibit evidence of convergent validity and discriminant validity” described construct validity.

“When different instruments concur in their measurement of the same construct and the scores from these different instruments should be moderately high” called convergent validity (Byrne, 1998).

To calculate the convergent validity, t-test and factor loadings were performed and assessed by the scholars (Aiken et al., 1991; Anderson & Gerbing, 1988). **Table 4.8** shows the results of the t-values and variables related to factor loadings that were used in this research. The results of t-value as shown in Table 4.8 indicated that values less than 0.001 means significant. Hence, these results gave the proof of high convergent validity for each variable in the form of confirmatory analysis.

On the basis of previous literature, it is confirmed that when observed variables of the construct correlate with each other, it demonstrates convergent validity. As per the previous literature and the results of **Table 4.8 and Table 4.9**, high composite reliability and signified factor loadings show convergent validity (Cable and DeRue, 2002). Overall, these results showed the satisfaction level of model adaptability.

According to Fornell and Larcker (1981), “discriminant validity was also tested to determine the extent of distinctness for each construct”. To support the discriminant validity of the model, we analysed the inter correlation among the variables and **Table 4.9** shows the results. These results fulfil the condition of discriminant validity which means intercorrelations among each variable should be lesser than the square root of average variance extracted (AVE). According to Hair and his colleagues (2010), “the values of the maximum shared variance (MSV) and average shared variance (ASV) were put together with the AVE values and if all

ASV and MSV values are less than their respective AVE values, discriminant validity prevails". **Table 4.9** and **Table 4.10** show the fulfilment of the result of discriminant validity.

#### **4.5. Test of Common Biasness**

Additionally, Harman's one factor test was performed to test common biasness of the scales. Common biasness of the scales is a general problem in behavioural studies. It is developed through the accessibility of all the study variables by the same respondents. Initially, Podsakoff and his colleague (1986) explained, "the concept of Harman's one-factor analysis to check the possibility of common method bias. Common method bias is a common issue in behavioural research when the same respondents evaluate the predictor as well as criterion variables" (p.881). To deal with this issue, Harman's one factor test and common method variance technique were used (Podsakoff et al., 2003). In the principal component factor analysis, we considered 16 items of transformational leadership, 16 items of climate for innovation, four items of creative self-efficacy and four items of creative role identity were considered. The results yielded that three factors in the model explained 40.53% of variance, which is less than 50%.

For common bias problem, we also used the common latent factor in AMOS suggested by Podsakoff and his colleagues (2003). In this technique, all the scale items were loaded on their theoretical constructs and on a latent common method factor. This common factor controls common variance among all the observed variables of the model. The results showed that common variance among all the variables was zero. Thus, the results showed that common biasness is no more a problem for this research work.

**Table.4.8. Reliability of the constructs and factor loadings of indicators**

Construct	Indicators	$\alpha$ /CR	AVE	MSV	ASV	Factor loadings	t-value
Transformational Leadership	My Leaders talks to us about his/her most important values and beliefs (TL1).	.952/.953	.558	.255	.232	.757	35.09****
	My Leader expresses his/her confidence that we will achieve our goals (TL2).					.741	33.51***
	My Leader emphasizes the importance of having a collective sense of mission (TL3).					.676	28.54****
	My leader has strong purpose (TL4).					.712	31.49***
	My leader expresses his/her confidence that we will achieve our goals (TL5).					.732	32.96***
	My leader articulates a compelling vision of the future (TL6).					.734	31.90***
	My leader talks optimistically about the future (TL7).					.761	34.26***
	My leader talks enthusiastically about what needs to be accomplished (TL8).					.733	32.21***
	My leader seeks differing perspectives when solving problems (TL9).					.726	31.74***
My leader re-examines critical assumptions,					.736	32.09***	

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	whether they are appropriate (TL10).							
	My leader got me to look at the task from many different angles (TL11).					.732		32.49***
	My leader suggests new ways of doing work (TL12).					.816		38.91***
	My leader spends time in teaching and coaching me (TL13).					.736		32.93***
	My leader helps group members to develop their strengths (TL14).					.756		33.88***
	My leader treats me as an individual rather than as a member of the group (TL15).					.778		35.22***
	My leader considers me as having different needs (TL16).					.805		36.76***
Climate for Innovation	Creativity is encouraged here (CIN1).	.957/.958	.587	.255	.192	.759		36.63***
	Our ability to function creatively is respected by the supervisor (CIN2).					.735		35.27***
	Around here, people are allowed to try to solve the same problems in different ways (CIN3).					.780		38.44***
	The main function of members in this organization is to follow orders, which come down through channels. (Reversed) (CIN4)					.695		32.48***
	Around here, a person can get in a lot of trouble by					.744		36.21***

being different. (Reversed) (CIN5)		
This organization can be described as flexible and continually adapting to change. (CIN6)	.705	32.94***
A person cannot do things that are too different around here without provoking anger. (Reversed) (CIN7)	.764	38.60***
The best way to get along in this organization is to think the way the rest of the group does. (Reversed) (CIN8)	.796	40.60***
People around here are expected to deal with problems in the same way. (Reversed) (CIN9)	.749	37.38***
This organization is open and responsive to change. (CIN10)	.765	37.79***
The people in charge around here usually get credit for others' Ideas. (CIN11)	.787	38.50***
In this organization, we tend to stick to tried and true ways. (CIN12)	.823	42.48***
This place seems to be more concerned with the status quo than with change. (CIN13)	.747	36.21***
The reward system here encourages innovation. (CIN14)	.790	39.14***
This organization publicly recognizes those who	.773	38.41***

	are innovative. (CIN15)							
	The reward system here benefits mainly those who don't rock the boat. (Reversed) (CIN16)						.784	39.04***
Creative Self- efficacy	My past experiences and accomplishments increase my confidence that I will be able to perform successfully in this organization. (CSE1)	.910/.912	.723	.576	.293		.824	43.23***
	I believe I could have handled a more challenging job than the one I will be doing. (CSE2)						.856	44.23***
	I have confidence in my ability to solve problems creatively. (CSE3)						.841	51.62***
	I feel that I am good at generating novel ideas. (CSE4)						.828	50.28***
Creative Role Identity	To be a creative employee is an important part of my identity. (CRI1)	.895/.895	.680	.576	.275		.845	45.16***
	I often think about being creative. (CRI2)						.820	42.71***
	I have a clear concept of myself as a creative employee. (CRI3)						.819	42.15***
	I do not have any clear concept of myself as a Creative employee. (reverse-coded) (CRI4)						.814	42.10***
Employee Creativity	Employee searches out new technologies, processes, techniques, and/or product ideas. (EC1)	.936/.937	.712	.203	.148		.790	39.91***
	Employee generates creative ideas. (EC2)						.836	45.17***

Employee promotes and champions ideas to others. (EC3)	.853	46.93***
Employee investigates and secures funds needed to implement new ideas. (EC4)	.864	47.94***
Employee develops adequate plans and schedules for the implementation of new ideas. (EC5)	.865	48.21***
Employee is innovative. (EC6)	.853	46.65***

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*Note:* N = 480, Significance level, \*\*\*denotes p<0.001, \*\*denotes p<0.01 and \* denotes p<0.05

CR – Composite Reliability,  $\alpha$  – Cronbach Reliability

AVE – Average Variance Extracted

MSV – Maximum Shared Variance

ASV - Average Shared Variance

TL - Transformational Leadership

CIN - Climate for Innovation

CSE- Creative Self-efficacy

GC - Creative Role Identity

EC - Employee Creativity



**Table.4.9. Correlations, means and standard deviations**

N=480	Mean	S.D	Correlation									
			1	2	3	4	5	6	7	8	9	
1. Gender	1.431	.495	1									
2. Age	1.839	.974	.826**	1								
3.Education	1.370	.483	.882**	.827**	1							
4.Experience	1.852	.872	.698**	.878**	.695**	1						
5.Transformational leadership	3.272	.894	-.067	-.064	-.084	-.074	1					
6.Climate for innovation	3.233	.923	.068	.025	.022	.029	.480**	1				
7.Creative self-efficacy	3.302	.968	-.035	.011	-.045	.023	.470**	.423**	1			
8.Creative role identity	3.253	.963	-.031	-.009	-.040	-.019	.438**	.393**	.688**	1		
9.Employee Creativity	2.899	.798	-.320**	-.152**	-.255**	-.166**	.429**	.341**	.363**	.318**	1	

*Note:* N denotes Sample Size

1. \*\*denotes significance level of 0.01 (two-tailed). ,

**Table.4.10. Validity Analysis**

N=480	Correlation								
	1	2	3	4	5	6	7	8	9
1. Gender	-								
2. Age	.826**	-							
3. Education	.882**	.827**	-						
4. Experience	.698**	.878**	.695**	-					
5. Transformational leadership	-.067	-.064	-.084	-.074	<b>(.746)</b>				
6. Climate for innovation	.068	.025	.022	.029	.480**	<b>(.766)</b>			
7. Creative self-efficacy	-.035	.011	-.045	.023	.470**	.423**	<b>(.850)</b>		
8. Creative role identity	-.031	-.009	-.040	-.019	.438**	.393**	.688**	<b>(.824)</b>	
9. Employee Creativity	-.320**	-.152**	-.255**	-.166**	.429**	.341**	.363**	.318**	<b>(.843)</b>

Note: N = 480

1. \*\*denotes significance level of 0.01 (two-tailed). , 2. For discriminant validity, the square roots of AVE are in parentheses along the diagonal.

#### 4.6. Hypothesis Testing

The study applied SPSS macro, i.e., PROCESS (Hayes, 2013) for verifying the hypotheses 1 to 8. And this research work examined a mediation model for hypotheses 8(a), 8(b), and 8(c). Collectively, hypotheses 8(a), 8(b), and 8(c) suggested meditational indirect effect model. This study was analysed following the guidelines of Hayes, (2013), which suggested that the meditational analysis is highly reliable on the indirect effect of the independent and dependent variable, and this indirect effect is a significant test which is probably known as the Sobel test. The method is extra influential comparative to the stepwise process of Baron and Kenny (1986), because it addresses the mediation more directly. In the course of the process of bootstrapping confidence intervals (CIs), “it is possible to avoid power problems introduced by asymmetric and other non normal sampling distributions on an indirect effect” (p. 1175). The SPSS macro makes it easy to develop the indirect effect of the relationship with the help of normal theory approach (i.e., the Sobel test) and bootstrap approach to get the confidence intervals of the model (Preacher, Rucker & Hayes, 2007), and this approach also incorporates the stepwise process recommended by Baron and Kenny (1986). The steps involved are (1) “regressing dependent variable on independent variable”; (2) regressing the mediator (s) on independent variable; (3) “regress the dependent variable on the independent variable and mediator. And, if the independent variable shows significance on the mediator, mediator shows significance in the dependent variable and independent variable directly is not significant on the dependent variable, there is a fully mediation between independent variable and dependent variable” (Hayes, 2013).

**Table 4.11, 4.12 and 4.13**, contains the results of the SPSS PROCESS macro that was carried out for Hayes analysis (2013) which was performed to test the proposed hypotheses 1 to 8. The PROCESS macro facilitates bootstrap approach for estimating the indirect effect along with the SOBEL test. Hypothesis 1 proposed that transformational leadership is related to employee creativity. After controlling employee age, gender, education, and experience, it is observed that transformational leadership is positively associated with employee creativity ( $\beta = 0.163$ ,  $SE = 10.740$ ,  $p < 0.001$ ), as shown in **Table 4.11**. Thus, hypothesis 1 is supported.

Hypothesis 2 stated that transformational leadership is related to the climate for innovation and hypothesis 8 (a) stated that climate for innovation mediates the relationship between transformational leadership and employee creativity as shown in **Table 4.11**. **Table 4.11** demonstrates the results for hypotheses 1, 2, 5, and 8 (a). Transformational leadership

demonstrated significant as well as positive relationship with climate for innovation ( $\beta = 0.501$ ,  $t = 12.132$ ,  $p < 0.001$ ). The association between climate for innovation and employee creativity was found to be positively significant ( $\beta = 0.091$ ,  $t = 5.589$ ,  $p < 0.001$ ), this link satisfied the hypothesis 5. Transformational leadership indirectly influenced employee creativity through the effect of climate for innovation. This indirect effect was found to be significant and positive ( $\beta = 0.117$ ,  $t = 6.956$ ,  $p < 0.001$ ). The results of the SOBEL test (SOBEL  $z = 5.062$ ,  $p < 0.001$ ) revealed an indirect significant effect. Further, the analysis of the Bootstrap test verified the results of the SOBEL test with 95% CI and did not include zero (0.027, 0.067). Additionally, the direct effect of transformational leadership on employee creativity was found to be significant ( $\beta = 0.163$ ,  $t = 10.740$ ,  $p < 0.001$ ). Hence, it is observed that after controlling employee age, gender, education and experience, climate for innovation partially mediated the link between transformational leadership and employee creativity. Hence, the above explanation supported the Hypotheses 1, 2, 5, and 8 (a).

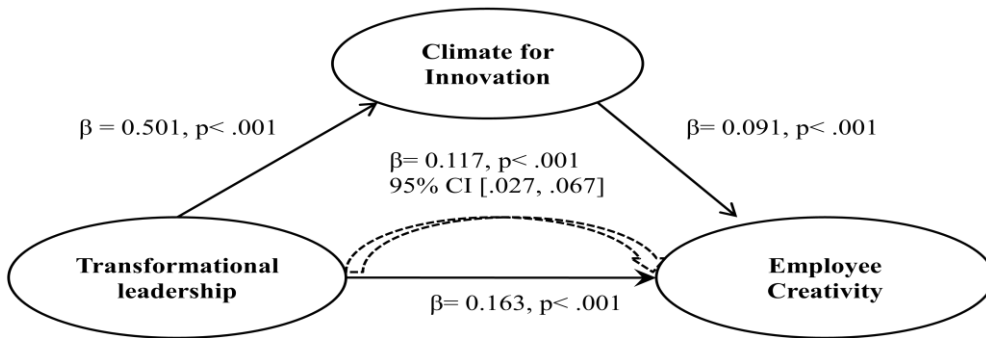
**Table 4.12** contains the results of the SPSS PROCESS macro that was carried out for Hayes analysis (2013) which was performed to test the proposed hypotheses 3, 6, and 8 (b). The PROCESS macro facilitates bootstrap approach for estimating the indirect effect along with the SOBEL test. Hypothesis 3 proposed that transformational leadership is related to creative self-efficacy. Hypothesis 6 stated that creative self-efficacy is related to the employee creativity, and hypothesis 8 (b) stated that creative self-efficacy mediates the link between transformational leadership and employee creativity as shown in **Table 4.12**. **Table 4.12** demonstrates the results for hypotheses 3, 6, and 8 (b). Transformational leadership demonstrated significant as well as positive relationship with creative self-efficacy ( $\beta = 0.140$ ,  $t = 11.619$ ,  $p < 0.001$ ), thus satisfying hypothesis 3. The link between creative self-efficacy and employee creativity was found to be positively significant ( $\beta = 0.257$ ,  $t = 4.559$ ,  $p < 0.001$ ), this relationship fulfilled hypothesis 6. Transformational leadership indirectly influenced employee creativity through the effect of creative self-efficacy. This indirect effect was found to be significant and positive ( $\beta = 0.127$ ,  $t = 7.524$ ,  $p < 0.001$ ). The results of the SOBEL test (SOBEL  $z = 4.230$ ,  $p < 0.001$ ) revealed an indirect significant effect. Further, the analysis of the Bootstrap test verified the results of the SOBEL test with 95% CI and did not include zero (0.020, 0.057). Additionally, the direct effect of transformational leadership on employee creativity was found to be significant ( $\beta = 0.163$ ,  $t = 10.740$ ,  $p < 0.001$ ). Hence, it is observed that after controlling employee age, gender, education, and experience, creative self-efficacy

partially mediated the link among transformational leadership and employee creativity. Hence, the above explanation supported the Hypotheses 3, 6, and 8 (b).

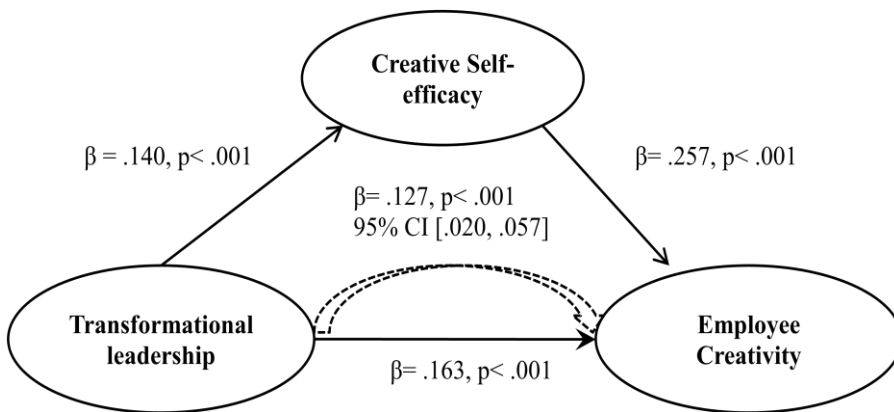
**Table 4.13** contains the results of the SPSS PROCESS macro that was carried out for Hayes analysis (2013) which was performed to test the proposed hypotheses 4, 7, and 8 (c). The PROCESS macro facilitates bootstrap approach for estimating the indirect effect along with the SOBEL test. Hypothesis 4 proposed that transformational leadership is related to creative role identity. Hypothesis 7 stated that creative role identity is related to the employee creativity, and hypothesis 8 (c) stated that creative role identity mediated the link between transformational leadership and employee creativity as shown in **Table 4.13**. **Table 4.13** demonstrates the results for hypothesis 4, 7, and 8 (c). Transformational leadership demonstrated significant as well as positive relation to creative role identity ( $\beta = 0.117$ ,  $t = 10.544$ ,  $p < 0.001$ ), thus satisfying hypothesis 4. The link between creative role identity and employee creativity was found to be positively significant ( $\beta = 0.222$ ,  $t = 3.604$ ,  $p < 0.001$ ), this relationship fulfilled hypothesis 7. Transformational leadership indirectly influenced employee creativity through the effect of creative role identity. This indirect effect was found to be significant and positive ( $\beta = 0.137$ ,  $t = 8.217$ ,  $p < 0.001$ ). The results of the SOBEL test (SOBEL  $z = 3.397$ ,  $p < 0.001$ ) revealed an indirect significant effect. Further, the analysis of the Bootstrap test verified the results of the SOBEL test with 95% CI and did not include zero (0.010, 0.046). Additionally, the direct effect of transformational leadership on employee creativity was found to be significant ( $\beta = 0.163$ ,  $t = 10.740$ ,  $p < 0.001$ ). Hence, it is observed that after controlling employee age, gender, education and experience, creative role identity partially mediated the link among transformational leadership and employee creativity. Hence, the above explanation supported the Hypotheses 4, 7, and 8 (c). Figure 4.1 (A, B, C) and Figure 4.2 illustrate the findings of this study.

**Fig.4.1 (A, B, C) Meditational Analysis of the Model**

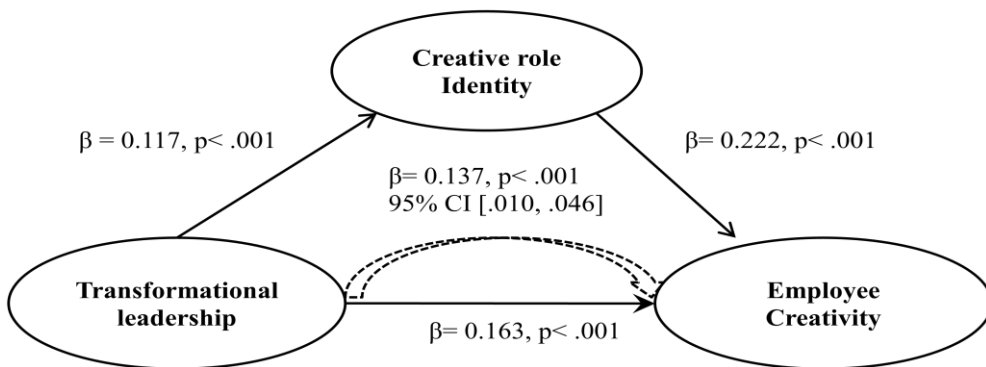
**A**

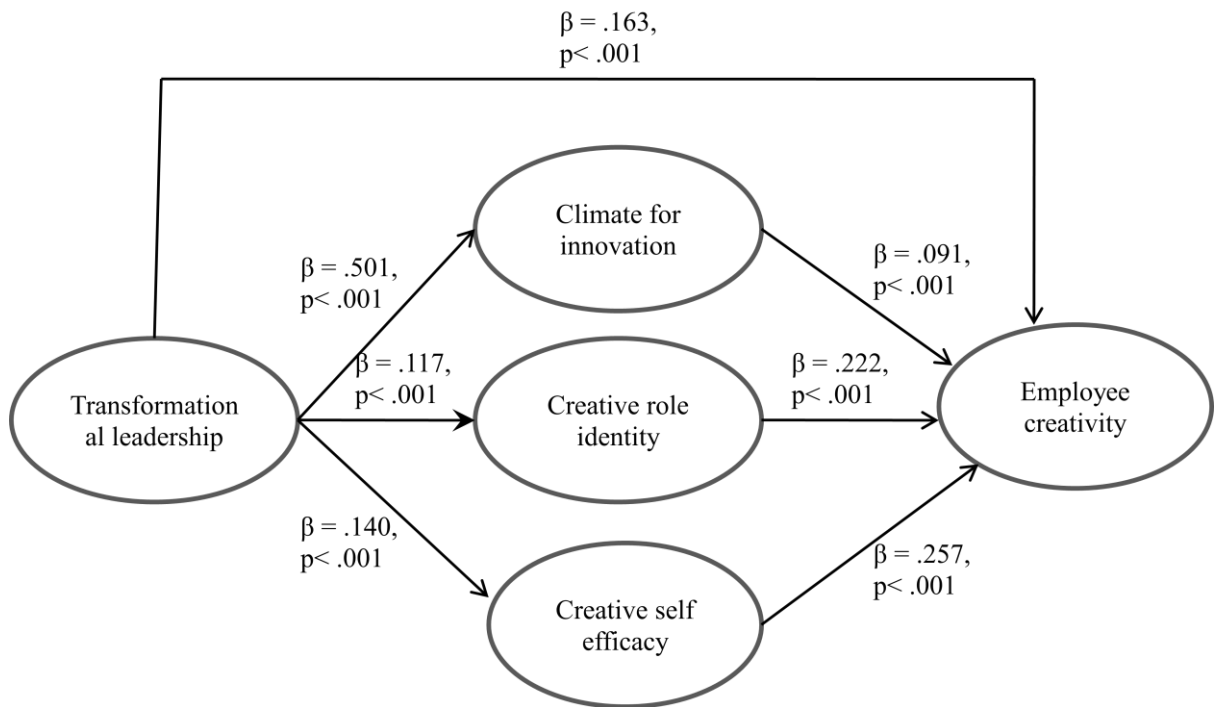


**B**



**C**





**Fig.4.2. Final Results Model**

**Table.4.11. Regression results for Climate for innovation mediating between Transformational Leadership and Employee Creativity**

Variable	$\beta$	SE	t	P
<b>Direct and total effects</b>				
<i>Control variable</i>				
Gender	0.501	2.710	2.561	0.010
Age	-2.137	1.698	-1.258	0.208
Education	-2.580	2.789	-0.925	0.355
Work Experience	1.433	1.426	1.005	1.000
<b>Employee creativity on transformational leadership</b>				
<i>Gender</i>	-7.024	0.995	-7.054	0.000
<i>Age</i>	3.199	0.623	5.127	0.000
<i>Education</i>	-0.044	1.024	-0.043	0.965
<i>Work Experience</i>	-1.227	0.523	-2.343	0.019
<b>Climate for innovation on transformational leadership</b>				
<b>Creativity regressed on CIN, controlling for transformational leadership</b>				
Gender	-7.024	0.995	-7.054	0.000
Age	3.199	0.623	5.127	0.000
Education	-0.044	1.024	-0.043	0.965
Work Experience	-1.227	0.523	-2.343	0.019
<b>Creativity regressed on transformational leadership, controlling for CIN</b>				
	0.163	0.015	10.740	0.000



	Value	SE	z	P
<i>Indirect effect and significance using normal distribution</i>				
Sobel	0.045	0.009	5.062	0.000
	<i>M</i>	<i>SE</i>	LL 95%	LL 95%
			CI	CI
<i>Bootstrap results for indirect effect</i>				
Effect	0.045	0.010	0.027	0.067

*Note:* N = 480. 1.) CIN represents Climate for innovation. Bootstrap sample size = 1000, LL = lower limit, UL = upper limit, CI = confidence interval. 2.) \*\*\* p value represent  $p < 0.001$ , \*\* p value represent  $p < 0.01$  and \* p value represent  $p < 0.05$ .

**Table.4.12. Regression results for CSE mediating between Transformational Leadership and Employee Creativity**

Variable	$\beta$	SE	T	P
<b>Direct and total effects</b>				
<i>Control variable</i>				
Gender	-6.887	0.976	-7.056	0.000
Age	3.101	0.611	5.069	0.000
Education	0.128	1.004	0.128	0.898
Work Experience	-1.324	0.513	-2.578	0.010
<b>Creativity on transformational leadership</b>	0.127	0.016	7.524	0.000
<i>Gender</i>	-0.531	0.793	-0.669	0.503
<i>Age</i>	0.381	0.497	0.767	0.443
<i>Education</i>	-0.670	0.816	-0.821	0.411
<i>Work Experience</i>	0.376	0.417	0.902	0.367
<b>Creative self-efficacy on transformational leadership</b>	0.140	0.012	11.619	0.000
<b>Creativity regressed on CSE, controlling for transformational leadership</b>	0.257	0.056	4.559	0.000
Gender	-7.024	0.995	-7.054	0.000
Age	3.199	0.623	5.127	0.000
Education	-0.044	1.024	-0.043	0.965
Work Experience	-1.227	0.523	-2.343	0.019
<b>Creativity regressed on transformational leadership, controlling for CSE</b>	0.163	0.015	10.740	0.000

	Value	SE	Z	P
<i>Indirect effect and significance using normal distribution</i>				
Sobel	0.036	0.008	4.230	0.000
	<i>M</i>	<i>SE</i>	LL 95% CI	LL 95% CI
<i>Bootstrap results for indirect effect</i>				
Effect	0.036	0.092	0.020	0.057

*Note:* N = 480. 1.) CSE represents Creative Self-efficacy. Bootstrap sample size = 1000, LL = lower limit, UL = upper limit, CI = confidence interval. 2.) \*\*\* p value represent  $p < 0.001$ , \*\* p value represent  $p < 0.01$  and \* p value represent  $p < 0.05$ .

**Table.4.13. Regression results for CRI mediating between Transformational Leadership and Employee Creativity**

Variable	$\beta$	SE	T	P
<b>Direct and total effects</b>				
<i>Control variable</i>				
Gender	-6.975	0.983	-7.092	0.000
Age	3.108	0.611	5.039	0.000
Education	0.035	0.012	0.035	0.971
Work Experience	-1.201	0.517	-2.321	0.020
<b>Creativity on transformational leadership</b>	0.137	0.016	8.217	0.000
<i>Gender</i>	-0.220	0.731	-0.302	0.762
<i>Age</i>	0.410	0.458	0.896	0.370
<i>Education</i>	-0.359	0.752	-0.477	0.633
<i>Work Experience</i>	0.792	0.451	1.755	0.079
<b>Creative role identity on transformational leadership</b>	0.117	0.011	10.544	0.000
<b>creativity regressed on CRI, controlling for transformational leadership</b>	0.222	0.061	3.604	0.000
Gender	-7.024	0.995	-7.054	0.000
Age	3.199	0.623	5.127	0.000
Education	-0.044	1.024	-0.043	0.965
Work Experience	-1.227	0.523	-2.343	0.019
<b>Creativity regressed on transformational leadership, controlling for CRI</b>	0.163	0.015	10.740	0.000

	Value	SE	Z	P
<i>Indirect effect and significance using normal distribution</i>				
Sobel	0.026	0.007	3.397	0.000
	<i>M</i>	<i>SE</i>	LL 95% CI	LL 95% CI
			CI	
<i>Bootstrap results for indirect effect</i>				
Effect	0.026	0.008	0.010	0.046

*Note:* N = 480. 1.) CRI represents Creative role identity. Bootstrap sample size = 1000, LL = lower limit, UL = upper limit, CI = confidence interval. 2.) \*\*\* p value represent  $p < 0.001$ , \*\* p value represent  $p < 0.01$  and \* p value represent  $p < 0.05$ .

#### **4.7. Summary of the chapter**

In this chapter, the statistical analysis of the relationship and hypotheses were performed. To test the fitness of measurement model, CFA was performed and to check the reliability and validity of the scale were also performed. The whole process of measurement model was explained with the help of mean, standard deviation; intercorrelations and Hayes Process technique. To check the hypotheses and direct as well as indirect effects, the Hayes Process technique was performed. The final results and analysis supported all the hypotheses.

## CHAPTER- 5

### DISCUSSION AND IMPLICATIONS

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#### 5.1. Introduction

In a fast emerging country and economy like India, the quest of maintaining sustainable success, today's organisations are looking for the leader who are not only visionary, but are capable of building creative self-efficacy and employee creativity among their employees (Mittal & Dhar, 2015). This study tried to examine whether transformational leadership is capable of promoting creative self-efficacy and in turn develop employee creativity in view of the necessary results. These factors are the necessity to today's business environment for maintaining the performance and for achieving the competitive advantage. So, the present research work is an effort to expand the literature of IT SMEs. This research is the first to construct and examine the association among transformational leadership and employee creativity in the context of Indian IT SMEs.

The present study investigated the following objectives:

1. To study if transformational leadership style had a role in fostering creativity amongst the employees in Indian IT SMEs.
2. To study if transformational leadership style played a role in building a climate for innovation in the Indian IT SMEs.
3. To understand the role of transformational leadership styles in developing creative self-efficacy of the employees of the Indian IT SMEs.
4. To study if transformational leadership style had a role in developing creative role identity amongst the employees of the Indian IT SMEs.
5. To examine if climate for innovation, creative self-efficacy and creative role identity play a role in influencing the association among transformational leadership style and creativity of the employees of the Indian IT SMEs.

On the basis of results and findings, this chapter discusses the objectives and findings derived from the hypotheses along with the implications.

## **5.2. Discussion/ Interpretation of the Research Findings**

### **5.2.1. The Impact of Transformational Leadership on Employee Creativity**

The finding of the research work showed that transformational leadership is having a positive and significant relation with employee creativity according to the beta value ( $\beta = .117$ ). The research work also revealed that transformational leadership fosters employee creativity and develops a work environment which performed creativity. Sequentially, for maintaining the competition in IT SMEs, and sustained competitive edge, creative employees are required (Mittal & Dhar, 2015, Robinson and Beesley, 2010). To maintain the growth of the organisation IT SMEs heads need to have an in-depth knowledge about the association between transformational leadership and employee creativity.

Therefore, IT SMEs' heads need to implement transformational leadership style because this is the first and best way for the development of the creative skills among the employees.

Numerous studies have examined the relation between transformational leadership and employee creativity (Gong et al., 2009; Jaiswal & Dhar, 2015; Qu, Janssen & Shi, 2015). This research work is the first attempt to review the direct and indirect effects of transformational leadership on employee creativity in IT SMEs. In the area of IT SMEs, organisations need to involve creative employees to get better quality and quantity as well as to maintain the productivity (Harris-Boundy, 2015; Robinson & Beesley, 2010; Hon, Chan, & Lu, 2013; Wong & Pang, 2003). Inclusion of all hypotheses in a single model is the major contribution of this research work, and these hypotheses have a highly influential practical contribution. This strong theoretical groundwork can be used to analyse the impact of transformational leadership on many of the creative outcomes such as employee creativity in the context of Indian IT SMEs.

Now days, IT SMEs are facing a big problem to retain the highly creative and educative employees. This research work is the first attempt to explore the function of the transformational leadership style in the promotion of employee creativity in the IT SMEs of India. Employee creativity has always a major challenge for the IT industry (Ahuja, & Thatcher, 2005; Charbonnier-Voirin et al., 2010) especially SMEs. Numerous studies in the past have revealed that SMEs play a crucial role in developing the GDP of the economies like India (Goyal, 2013); and thus puts forth the importance of the present study.



Previous research studies have also revealed that leadership style plays a key function in creativity and employee decisions even if it be reforms for effective performance (Chen et al., 2013; Doh et al., 2011). In this process, behavioural researchers have emphasized the positive relation that exists between transformational leadership and employee creativity, though there is a doubt about how transformational leadership affects the employees to develop and maintain their skills within the organisation. With the help of this research work, we have tried to find an explanation regarding the underlying mechanism that is largely based on the transformational leadership style because it improves the employee creativity.

### **5.2.2. The Impact of Transformational Leadership on climate for innovation**

The findings of the study also revealed that leadership play an important role in building climate for innovation with significant beta value ( $\beta = 0.501$ ). This study suggested that transformational leadership has a significant, direct and positive relationship with climate for innovation. The findings have been supported by a lot of previous research works that have examined the relation between transformational leadership and climate for innovation (Erkutlu & Chafra, 2015; Aarons & Sommerfeld, 2012). Therefore, IT SMEs' heads need to adopt a transformational leadership style because this leadership style is the best process which can develop and promote the climate for innovation.

Transformational leaders often encourage employees to use different approaches as per their discretion to come up with better solution for the existing problem (Bass et al., 2003). They tend to pass the message about their commitment to cater to the employees' developmental needs, which creates an environment that allows employees to acquire new knowledge as well as encourage them to apply the same in the work for improving their creative performance (Bass et. al, 2003; Howell & Avolio, 1993).

This study can be regarded as one of the first to examine the role of transformational leadership and climate for innovation in Indian IT SMEs. The study empirically supported the fact that employees' perception about the transformational ways of their leader in guiding them to enhance climate for innovation and their beliefs about their ability to perform creatively have profuse impact on their creative performance.

On the basis of the recent studies (Diliello, Houghton & Dawley, 2011; Dragoni, 2005; Venkatesan & Ahmed, 2012), it is observed that transformational leaders in the IT industry promote climate for innovation among their subordinates. The present research work explored the role of transformational leadership and climate for innovation together and also analyzed

the association between transformational leadership and climate for innovation. The findings of the study further disclosed that transformational leadership has a high impact on improving the climate for innovation.

Moreover, based on the finding, it is observed that transformational leadership has a direct link with climate for innovation, hence, organisation heads in IT SMEs are advised to develop their leadership style so as to foster climate for innovation. Previous studies have shown that service organizations such as the hotel industry focus much on developing their transformational leadership for enhancing their climate for innovation (Gebauer, 2011; Vashisht, 2006; Furtmueller, Wilderom & Rao, 2011). Based on these findings, it can be suggested that even service organizations such as tourist hotels and IT SMEs can dedicate their precious resources towards developing transformational leadership for enhancing climate for innovation. This would not only help IT SMEs in supporting the innovation, but would also aid in brand building of IT SMEs by developing the sense for ‘creativity’ of the IT SMEs. In this regard, the organisation can take the initiative of devising policies related to leadership and climate for innovation in such a way that the IT SMEs get inspired to develop transformational leadership and climate for innovation.

### **5.2.3. The Impact of Transformational Leadership on Creative Self-efficacy**

This study highlighted that transformational leadership has a significant, direct, and positive relation with creative self-efficacy as supported by the beta value ( $\beta = 0.140$ ). In transformational leadership, leaders and their subordinates are made to judge that both of them are creatively active as well as demonstrate creative performance. As a result, effective leadership style can improve their creative self-efficacy (Bandura and Locke, 2003). Hence, for the development of the creative work outcome, creative self-efficacy is vital.

The findings also revealed that the reinforcement of creative self-efficacy can develop employee creativity toward attaining a given task. Additionally, this research work tried to add to the existing literature by incorporating the transformational leadership theory and creative self-efficacy. Specially, this study pointed that the dimensions of a transformational leader such as optimism and enthusiasm, give support and intellectual flavour to the employees to get organization’s recognition and rewards, and it can be possible to perform differently and creatively. It develops the scope for individuals who believe in their ability to produce innovative and creative ideas for organizational outcomes.

Chapman and his colleagues (2003) also mentioned that high creative self-efficacy may foster the creative performance of the employees; which plays an important role in upholding and uplifting the social system with the organization. Other studies (Chong & Ma, 2010; Fellows, 2010) also talked about the importance of support from supervisor or manager for creating a positive ambience in the organization and arousing a feeling of creativity. All these studies established that there is a positive association between transformational leadership and creative self-efficacy, but researches are still focussing upon this relationship to find out the workings within the relationship. Furthermore, researches have focussed now upon the question that the relation between transformational leadership with creative self-efficacy is direct or through mediation or moderation mechanism (Wang et al., 2014). The findings of the research work also emphasize the relevance of transformational leadership for creative self-efficacy.

This study is in response to call made by Wang et al. (2000) for carrying out research on the causal link between transformational leadership and creative self-efficacy.

These findings add to the existing literature of transformational leadership and its association with creative self-efficacy. The present study's results are in confirmation with the two famous meta-analyses (Mittal & Dhar, 2015; Wang et al., 2014), which stated that there exists a positive correlation among transformational leadership and creative self-efficacy. This proves that transformational leadership is supportive in fostering creative self-efficacy among employees. Another explanation to this could be that after getting supervisor's support in the form of transformational leadership, employees are in good mental state which may encourage them to develop creative skills (Lemons, 2010). Here, transformational leadership and creative self-efficacy can also be seen in the light of social cognitive theory (Bandura, 1986) framework.

#### **5.2.4. The Impact of Transformational Leadership on Creative Role Identity**

Transformational leadership has a positive, direct and significant relation with creative role identity and it is empirically supported ( $\beta = 0.117$ ). This result also extends the findings of Paulsen and his colleagues (2009) and Wang and Zhu (2010) by establishing the effective association between transformational leadership and role identity.

Every individual do have impact on the working of the organization. With the interdependence of task and skills, it is a source of information regarding work and also beliefs for creativity (Farmer et al., 2003). Every individual required an extent of creativity for a particular task which is identified with the help of creative role identity (Tierney & Farmer,

2011). With the increase in the creative role identity, employees go beyond the job description to perform a particular task. Thus, in the study, high level of association between transformational leadership and creative role identity would be fruitful for the organisation.

Another explanation can be based upon the norms of reciprocity, which advocates one good turn in return of another. As noticed by Jaussi, Randel, and Dionne (2007), if the individual has the ability to perform a particular task then transformational leadership style would be preferred. Wang and Cheng (2010) also found reciprocal relation between transformational leadership and role identity. With the help of transformational leadership individual can understand the creativity required for a key task.

Through transformational leadership, individual can understand the creative role identity for creative outcome of the organisation. High quality of creative role identity makes the communication process quite easier and rich in content. Employees learn about changes in and around the organisation from the creative role identity (Wang, 2014). This kind of interaction is not possible in lower level of creative role identity and transformational leadership because the association between transformational leadership and creative role identity should be stronger. Additionally, the findings and results of the present research work recommend that employees of the IT SMEs should promote the link between transformational leadership and creative role identity.

#### **5.2.5. The Impact of climate for innovation on Employee Creativity**

As employee creativity is strengthened in the course of high innovation climate, our results also explored that there is a positive, direct and significant link among climate for innovation and employee creativity ( $\beta = 0.091$ ). In consistence with the prior studies, this study revealed that an organisation requires a high innovation climate to persist in creative endeavours (Fidan & Oztürk, 2015; Wang, 2010).

Williams and Foti (2011) also mentioned that high climate for innovation may foster the creativity in employees; which plays a key function in upholding and uplifting the social system with the organization. Other studies (Gumusluoglu et al., 2013; Hofmann, Morgeson & Gerras, 2003; Ceylan & Aytac, 2008; Pacoy, 2013) also talked about the importance of climate for innovation in creating a positive and innovative ambience in the organisation and by arousing a feeling of creativity in the minds of employees. Previous research works have established that there is positive association between climate for innovation and creativity, but with the help of this study, researchers are still focussing upon the relationship between climate for innovation and employee creativity. Furthermore, research has focussed now upon the

question that the relation between climate for innovation and creativity is either direct or through any mediation.

The findings of the present research work emphasize the relevance of the climate for innovation to develop creativity in the organisation. This study provides response to the call made by Bain and his colleagues (2001) for carrying out research on climate for innovation its antecedents and relationship with creativity. These findings add to the increasing literature on climate for innovation and its association with outcome variable such as creativity. Another explanation of this research could be that after having climate for innovation, employees have full freedom to show their creativity.

This relationship provides some favourable actions for employees towards their performance because this relationship creates creativity towards the organisation.

Additionally, the research findings propose that IT SMEs employees should create an innovative climate for promoting creativity among the employees.

#### **5.2.6. The Impact of Creative Self-efficacy on Employee Creativity**

The study empirically supported that an employee has their perspective about his or her capability to carry the results creatively and it influences their creative performance. Further, the findings of the study suggested that creative self-efficacy has a positive, direct and significant association with employee creativity ( $\beta = 0.257$ ).

The findings of the study also demonstrate that if employees feel that they are enough competent to perform a creative task, then their creative ability, creative skills and self-efficacy can be enhanced (Karatepe et al., 2006; Bandura & Locke, 2003). These relationships can easily work for service industry such as IT SMEs for maintaining competition and improving their performance (Mittal & Dhar, 2015; Rao, Arora & Vashisht, 2013).

The present study is in confirmation with the past study conducted by Bain and his colleagues (2001), who investigated the effect of self-efficacy on work related outcome such as creative behaviour in manufacturing industry and the researchers provided a positive, direct and significant result on the link between self-efficacy and creative behaviour. Another study by Ma and his colleagues (2013) was based upon a study of 309 employees from China, and the study observed that self-efficacy acts as a mediator between leadership and creativity. This relationship promotes the effective correlation between self-efficacy and creativity. Furthermore, Yang and Cheng (2009) observed that creative behaviour relates positively to all the factors of the creative self-efficacy. Although creative self-efficacy states that the individual

should understand their creative skills and be ready to perform a particular creative skill beyond the expectations. Every work needs some creative skills and employees have to understand those skills to perform the task in the window assigned. This is how, creative self-efficacy and creativity becomes an integral part of an organisation related to performing a particular task. So, highly involved creative self-efficacy employees choose to engage in creative behaviour, which generally is under the control of employee's only. This is the reason why employees who are creative do show high creative self-efficacy.

### **5.2.7. The Impact of Creative Role Identity on Employee Creativity**

The empirical model of present research examined the effective association between creative role identity and employee creativity as supported by the beta value ( $\beta = 0.222$ ). This approach fills a research gap by investigating the whole process and the dynamics among determinants of creative role identity and the consequences of creative role identity (namely, employee creativity in IT SMEs).

The results of this study showed that if the employees of the organisation know to what extent creativity is needed for a particular task, he will be able to perform that task effectively. As a result, both employees and organisation build a strong situation to compete with other organisations. Erkutlu and Chafra (2015) also propagated that creative role identity is not a response but a pro-active approach to achieve certain creative behaviours. The relation between creative role identity and creativity can be explained by the social cognitive theory, which states that individual learns by observing the behaviours of others and adopts those which are necessary for improving their skills. If employees have examples in front of them regarding the role identity, they will also perform creative behaviour to achieve the benefits.

It may be related to getting benefit from management or peers. Studies like Grube and Piliavin (2000) and Gupta and Singh, (2012) mentioned that managers considers employees' creative role identity while developing the creativity performance. Large number of studies state that role identity promotes creative behaviour (Hurria, 2000; Sinha, 2008; Wang and Cheng, 2010). Also, creative role identity provides a benchmark for comparing the behavioural input in the form of individual identity and creative behaviour and the return received in the form of employee creativity.

Therefore, employees having with a high level of creative role identity will give extra consideration to new idea, and hence develop individual creative self-efficacy, which will ultimately lead to high creativity (Tierney & Farmer, 2011). As a result, this research work is

the extension of the findings of Farmer and his colleagues (2003) by establishing the effective association between creative role identity and employee creativity.

### **5.2.8. The Mediating Role of Climate for Innovation, creative Self-efficacy, and Creative Role Identity**

**Mediating Role of Climate for Innovation** -The findings also revealed that climate for innovation was acting as a partial but strong mediator between transformational leadership and employee creativity. This might be mainly due to the existing high correlation between transformational leadership and employee creativity which leads to the inference that even though the climate for innovation acts as a key role in nurturing employee creativity, the initiative taken by the transformational leader also plays a key role in motivating the employees by intellectually stimulating them to resort to their creative skills so as to come out with innovative work outcomes. This is in line with the outcomes of a high power distance culture where the leader's one to one relationship with the worker plays an important role in fostering employee creativity. With the high level of inspiration that they get from the leader, the Indian IT SMEs employees, who are generally ranked high in power distance, respond quickly to the transformational leader who tend to empower them (Sun et al., 2012; Thakur and Hale,2013). Indian employees, perhaps, still give more emphasis on individualized relationship as compared to the supportive climate to foster innovation as more important to them (Sampat, 2007; Singh and Sinha, 2013).

The present study is an extension of the research work conducted by Scott and Bruce (1994), in which climate of the organisation plays a significant role in fostering creativity amongst the employees. Creative performance gets largely influenced by the perception of the employees about the extent to which such activities are arranged by the organisation, the extent to which the organisation wishes to support by providing the resources required to do so. In order to build up a climate for innovation in the workplace, an organisation needs to encourage its employees to take risk and challenges themselves to follow creative approach in the workplace. Leaders can have a positive impact on the creative behaviour of the employees by developing their employees' perception of innovative climate. All these key factors show that climate for innovation mediates the association between transformational leadership and employee creativity.

**Mediating Role of Creative Self-efficacy-** Creative self-efficacy mediates between transformational leadership and EC. The result of the study extends the findings of Shin and Zhou (2003) and Jaussi and his colleague (2003) by establishing the mediating role of creative self-efficacy between leadership and creativity. Additionally, the results of the study also suggested that individual should trust in their skills and abilities and make stronger their autonomy and self-determination to develop creative ideas. The results of this study are a possible description of the importance of employee's creative self-efficacy. It is an intrinsic aspiration of an employee which can be supported by their creativity, knowledge and skills.

The finding of the study is also an extension of the work conducted by Tierney and Farmer (2011), wherein the mediating role of creative self-efficacy among transformational leadership and creativity in tourist industry. More specifically, this work examines the mediating roles of employees creative self-efficacy in the association between leadership style and employee creative behaviour in IT SMEs. The results of the study are reliable with Bandura's social cognitive theory (Bandura, 1986), which concludes that individual should trust their skills and abilities and make stronger their autonomy and self-determination for developing creative ideas at work. All these key factors of the social cognitive theory have significant role in the association between transformational leadership and creative performance. As a result, creative self-efficacy works as a mediator among transformational leadership and employee creativity.

**Mediating Role of Creative Role Identity-** The findings of the study also mentioned that creative role identity mediates the association between transformational leadership and employee creativity. Creative role identity was found to be partial as well as strong mediator between transformational leadership and employee creativity. It is an important finding because it helps us to understand the importance of individual's creative role identity which helps us in expecting creative outcome from them. One reason for creative role identity to be a strong mediator could be that Indian IT SMEs employees are generally ignored or neglected by the management. In this context, when someone, out of the blue, recognizes and gives importance to polish their creative skills, it certainly increases their morale and hence acts as creative enhancing force which channelizes their energy towards creative outcomes.

In extension of the works of Wang and Cheng (2010) and Wang and his colleagues (2014), it was found that creative role identity was acting as a mediator between leadership and creativity of hotel employees. A possible explanation of the mediating role of employee's



creative role identity could be that it understands the need of creative skills and the extent to which it is needed to perform a particular task creatively.

With the assistance of transformational leadership, individual can understand the creative role identity for creative outcome of the organisation. High quality of creative role identity makes the communication process quite easier and rich in content. Employees learn about changes in and around the organisation from the creative role identity (Gautschi, 2001; Gupta et al., 2012; Pless, 2007). This kind of interaction is not possible in lower level of creative role identity and transformational leadership, because the relation between transformational leadership and creative role identity should be stronger for creative performance. Additionally, the findings of the research recommended that employees of the IT SMEs should promote the relationship between transformational leadership and creative role identity for getting high level of creativity.

Hence, the finding enhanced the componential model developed by Erkutlu and Chafra (2015) which highlighted empowerment, leadership, innovation, role identity, and creative skills. Hence, in this process, the study tried to affirm the above componential model.

### **5.3. Implications of the Research**

The study suggests both theoretical and managerial implications:

#### **5.3.1. Theoretical Implications**

The study findings also contributed to the theoretical implications. Firstly, some research has been done to develop the association between transformational leadership and employee creativity in the context of manufacturing industry (Hon, 2012; Pathak and Patwardhan, 2011; Robinson and Beesley, 2010), less concentration has been given to the function that transformational leadership plays in developing the employee creativity. Throughout this research work, researchers have made an effort to solve the problem by entirely focusing on the employees' behaviour which displays creativity. The study also suggested that transformational leadership is effective in managing employee creativity, by enabling employees to internalise their organisation's values and mission, and thus encouraging them to be proud of being a part of their organisation. As a result, the findings of the study showed a positive and significant relation between transformational leadership and employee creativity in IT SMEs.

Secondly, the findings of the study gave some novel insights keen on how transformational leadership can realize those factors which stimulate the employee creativity. The findings of the study proposed that while there are varieties of influencers playing the role at the similar zone of time on the employees to develop creativity, therefore, it is suggested that transformational leader needs to concentrate on getting out the things within the organisation that eventually influence the employee creativity. This study focused on the rapidly growing IT SMEs industry, where creativity is essential to perform beyond the expected level (Antonakis and House, 2002; Goyal, 2013).

Thirdly, the study confirmed the indirect role that transformational leadership plays in promoting employee creativity with the help of climate for innovation, creative self-efficacy, and creative role identity. Fourthly, climate for innovation, creative self-efficacy, and creative role identity act as a mediator between transformational leadership and employee creativity in IT SMEs. This study also added to behavioural literature in the area of creativity on the basis of social cognitive theory. Finally, this study added to the behavioural literature on employee creativity by studying its application in the IT SMEs.

Hence, climate for innovation, creative self-efficacy, and creative role identity are important variables that play a vital role in developing the link between transformational leadership and employee creativity. This study concluded that service industries like IT SMEs could also significantly contribute towards caring for the organisational performance by using a set of creative activities such as transformational leadership and creativity. Further, organisations are required to adopt effective leadership styles and come up with higher levels of employee creativity.

One potential contribution of this study is to enhance the factors such as climate for innovation, creative self-efficacy and creative role identity, which are involved in the process of developing employee creativity in IT SMEs.

### **5.3.2. Practical/Managerial Implications**

Now a day in organisation, to maintain the competitive advantage and achieve a sustainable growth, creativity is an important factor (Shalley and Gilson, 2004, Amabile et al., 2004). Organisational heads have to develop a deeper understanding for maintaining creativity and it could be developed with the help of an effective leadership style. A leadership style can promote employee morale towards the work and can get creative outcome. Therefore, the findings suggested that managers of the IT SMEs need to adopt a climate that promotes

innovation. In the presence of innovative climate, an effective leader can improve creative skills. The combination of innovation climate and leadership style is the best way to develop the skills required for creativity and so can get the helpful results for the given problem. As, the IT SMEs is an employee sensitive industry, achieving the self-confidence of the individuals becomes a key problem for developing creative results.

Therefore, transformational leadership is the best way for leaders to develop the creative skills of their employees and consequently to develop effective solutions to their problems. Since the IT industry is an employee-intensive industry, gaining the confidence of employees becomes critical for producing creative outcomes. The findings of the study also revealed that CSE and creative role identity are both important for developing employee creativity because they develop confidence in the employees' ability and in their knowledge to implement specific tasks.

The findings of the present research work also showed that creative self-efficacy and creative role identity are important for developing employee creativity because it enhances the confidence in their ability and knowledge to execute a particular task.

Hence, from this, it could be suggested that IT SMEs managers should do everything possible to understand the transformational leadership style because it has an important implication in shaping the creative performance of employees who are connected with the customers. Managers should give an individual approach which means the one to one attention to their employees. It helps them to understand employees' needs, wants and perception towards the work. Managers should give them appropriate training, resources and support to complete the task for the organisation. Managers' free expression gives confidence to their employees and it is also important for the employee's vision related to creative outcome. They could also provide a regular training and coaching to their followers. It will work as a catalyst to make stronger their creative skills and allow them to develop a creative process for their work. By using a transformational leadership style, IT SMEs managers can play a very important role by creating an environment that fosters the creative self-efficacy of employees.

Managers can also act as a creative role model by developing an example for their employees and encouraging them to be creative. These skills should develop the employee's observational and technical skills in order to achieve creativity. Further, by boosting the morale of the employees, managers can control the fear of failure and anxiety among the employees as well as encourage their creative effort.

Climate for innovation is similarly useful to develop a trustworthy and bold climate (Slatten et al., 2011; Sekhar, Patwardhan & Singh, 2016). So, IT SMEs managers have to give an innovative, autonomous, safe and compassionate climate to develop their employee's skills. For this reason, they can act in non-conventional customs to add employee creativity and customer worth. They should conduct the knowledge exchange program to develop the creative skills and should give importance to the creative ideas.

The findings of the study also show that the mean value of all variables used in this study is comparatively less (See **Table 3.2** and **Table 4.1**). So, IT SMEs managers should focus on promoting their leadership style and employee creativity. Because an effective leadership style such as transformational leadership can easily promote the employee creativity.

Free and unbiased communication between employees and management reduces the distrust and increases the urge for doing well in favour of employees' in the organisation. If the employees feel motivated with their job, they analyse their creative skills required for a particular job. Therefore, for promoting and enhancing creative self-efficacy in employees, organization needs to focus on transformational leadership style.

Creative role identity is a key area in the promotion of employee creativity because the extent to which creativity is needed for a particular work is explained by creative role identity. The excessive use of creativity can become a disaster for the organisation. Hence, creative role identity is a key factor in promoting the employee creativity. To achieve this, both management and employees need to be open about expectations they have toward each other. Leader plays an important part in creative self-efficacy, hence, climate for innovation and creative role identity and leader should be encouraged to have cordial relationship with each other and also to be vocal about their expectations to each other for creative outcome.

Therefore, the study suggests that managers or leaders of IT SMEs should give additional effort to train the supervisors. Training of the supervisors and employees will improve the cordial relationship among them and will improve their reciprocal relationships. In the presence of this, supervisors should be highly capable of identifying the direct or indirect relationship between transformational leadership and employee creativity. Furthermore, with the help of training, transformational leader can analyse the creative skills necessary for developing creative outcomes. It will also enhance IT SMEs employees' confidence and morale of getting task creatively.

#### **5.4. Summary of the chapter**

This chapter presents the conclusions drawn from the results and discussions made about various hypotheses derived from the literature review. The research concludes that by providing proper transformational leadership and climate for innovation, the organisation could motivate the employees to perform work creatively. The influence of transformational leadership on creative self-efficacy and creative role identity was also concluded to be positive and significant. This also threw light on the mediating role of creative role identity, climate for innovation and creative self-efficacy on the relationship between transformational leadership and employee creativity. The implications included both managerial and research aspects which highlighted the contributions made by the study to the academia as well as to the corporate world.

## CHAPTER-6

### LIMITATION, FUTURE RESEARCH AND CONCLUSION

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The last chapter of the present study highlights the limitations and propose future research direction in the light of the research findings. The chapter is separated into three sub-sections. Section one discusses the limitations of the study and the other sections propose the future research directions and conclusion of the study.

#### **6.1. Limitations**

Just like most of the studies, this study is also not free from limitations. They are:

First, the study followed cross sectional design of research. Although it has been advocated by various researches to be used while collecting data of huge ample size, it constrains the causality of the relationship. It could be argued for our study that employee creativity is not only predicted transformational leadership, climate for innovation, creative role identity and creative self-efficacy but there are other variables leading to creativity like psychological empowerment, technology usage, and job complexity etc. (Kark, Shamir and Chen, 2003).

Second, the small sample size of female respondents in comparison to male respondents may have given false results while performing various demographic comparisons for various variables. For example, most of the dimensions of transformational leadership show higher score for male respondents as compared to female employees. This might be because of small representation of female participants. So, the generalization of such findings is not possible.

Third, the responses were taken in one time period; there can be chances of common method biasness.

Fourth, in this research work, cultural aspect was ignored or less emphasized. It could play an important role in developing the relationship.

Fifth, the study being based on the IT SMEs operational in the Delhi NCR, India, there is a need to conduct further studies in other regions as well as sectors such as banking industry, hotel industry, and airlines so as to generalize and validate the findings of this study.

Sixth, due to time and financial constraint there are some variables which were not included in this study such as employee age, gender, education and experience. These variables might have important role in developing the relationship.

Seventh, this research work did not focus on the moderating variable. There could be some variables which can moderate the association among independent and dependent variables like age, gender etc.

Eighth, the study used self-administered questionnaires to consider the used constructs. The employees have the chances to report the socially desirable answers leading to self-serving bias. The respondents self-serving bias is another limitation of the study as the data was collected through survey based.

Ninth, the study did not focus on the impact of transactional leadership style (Bass et al., 2003), which means that employees are getting reward based on their roles and assignments (Jung & Avolio, 1999; Northouse, 2004; Sosik et al., 1997).

## **6.2. Directions for future research**

Future researches on the topic could use longitudinal research design to achieve more valid results. Longitudinal research design will provide the interesting information on how the policies of transformational leadership and employee creativity change with time. Furthermore, the impact of transformational leadership, creative role identity, climate for innovation and creative self-efficacy on employee's creativity changes with time.

The study just focused upon transformational leadership and employee creativity. Future studies could use the actual amount spent on other leadership style such as transactional and servant leadership, so as to compare the actual value given by organisations and perceived value given by employees to transformational leadership style.

Scale validation of creative role identity was performed first time in the context of the IT SMEs, India. On the basis of practical implication, this scale is needed to be tested frequently to remove any discrepancy.

The present study focused upon transformational leadership's impact on employee creativity. The future researches could explore other variables as outcome. The future research could look for other variables like turnover intentions, career commitment creative behaviour, etc., to know their true nature of predictive power. Similarly, more variables can be added as independent variables such as green transformational leadership so as to get the entire picture of how leadership is shaped in the organisation.

Variables like psychological empowerment, technology usage, and job complexity can be used to mediate the relationship in the study, so as to understand the underlying mechanisms.

The future researches should consider providing equal representation for both male and female respondents which will help in drawing conclusions that will be better suited for both the genders.

Future studies could consider those variables which were not included in this study such as Employee age, gender, education and experience and other leadership style for achieving effective employee performance.

Future studies can take the cultural factor into consideration while examining the relationship among the factors considered in the study.

Finally, there is a need to conduct further studies in other regions as well as sectors such as banking industry, hotel industry, and airlines in the future, so as to generalize and validate the findings of this study.

### **6.3. Conclusion**

The present study intended to examine the least explored variables such as transformational leadership, creative role identity, and employee creativity in the Indian context. The study started with the examination of the theoretical foundations and phenomenological development of the said variables. Later on, the theoretical link among the variables was developed with categorization into predictor variables and criterion variable with the help of literature. A quantitative research design was deployed to answer the research questions based on the literature. Many of the assumptions made were supported by the analysis, which clearly demonstrated the contribution of transformational leadership, climate for innovation, creative role identity, and creative self-efficacy in predicting employee creativity.

The findings of the study based on a computational tool for path analysis SPSS macro, i.e., PROCESS that used a sample of 480 supervisor-employee dyads from Indian IT SMEs professionals, reveals a strong relationship between transformational leadership and employee creativity. Further, the relationship is also mediated by the climate for innovation, creative self-efficacy and creative role identity. Limited sample size is a probable limitation of the study. One more limitation of the study is the factors used for the survey were self-reported by the respondents. It may not be a completely accurate response. Since the findings of the study were derived from the SME IT companies of Delhi NCR, India, they cannot be generalised to include other industrial contexts.



This study has examined the role that transformational leadership plays in promoting creativity among employees of IT SMEs, India. Further, it has also examined the intervening role of climate for innovation, creative role identity, and creative self-efficacy. Hence, this study has been able to provide a greater understanding of the determinants and outcomes of creative things such as creative self-efficacy, creative role identity and employee creativity in the context of IT SMEs. The study further explored the mediating role of climate for innovation, creative role identity and creative self-efficacy in the relationship between transformational leadership and employee creativity.

Organisations are giving much time to develop and polish creative skills. This study is a small effort to solve the problem regarding employee as well as organisational creativity. The findings may prove to be beneficial for the forerunners of the organisations in the IT SMEs for re-designing their policies in a way that fosters an innovation driven climate in their organisation. Therefore, the forerunners of the IT SMEs are required to counsel their employees and redesign their training programmes so that the employees are able to develop performance and work creatively.

#### **6.4. Summary of the chapter**

The chapter highlighted the limitations of future research directions and conclusion of the research work. While listing down the limitations of the study, the self-reported measure of data collection, cross sectional research design were found to be the major limitations of the study. In the second sub-section of the study, future research implications like use of longitudinal research design to properly understand the causal relationships were discussed. Use of other dependent as well as independent variables is encouraged for understanding the true nature of the relationship.

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**ANNEXURE-A**

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**EMPLOYEE SURVEY**

1. Name (Optional)\_\_\_\_\_ 2. Age: \_\_\_\_\_
3. Qualifications [Please tick]:
- U.G. (Please specify)\_\_\_\_\_
- PG (Please Specify)\_\_\_\_\_
4. Gender [Please tick]: Male / Female
5. Marital Status: [Please tick]: Married/Unmarried
6. Designation: \_\_\_\_\_
7. Experience [in years]:\_\_\_\_\_
8. Name of the organization\_\_\_\_\_
9. Department: \_\_\_\_\_
10. Duration in current organization: \_\_\_\_\_

Indicate the degree to which you are agreeing with the statements by tick marking the appropriate responses, for example if you are strongly Agree you would tick mark the 5 next to the statement.

7=Strongly Agree; 6=Agree; 5= Partially Agree, 4= Neutral, 3=Partially Disagree, 2=Disagree;  
1 = Strongly Disagree



Sr. No.	Particulars							
<b>1.</b>	<b>Transformational Leadership (Avolio et al., 1999)</b>	1	2	3	4	5	6	7
	<i>Idealized influence (behavior)</i>							
<b>1.1</b>	My leader talks to us about his/her most important values and beliefs.	1	2	3	4	5	6	7
<b>1.2</b>	My leader expresses his/her confidence that we will achieve our goals.	1	2	3	4	5	6	7
<b>1.3</b>	My leader emphasizes the importance of having a collective sense of mission.	1	2	3	4	5	6	7
<b>1.4</b>	My leader has strong purpose.	1	2	3	4	5	6	7
	<i>Inspirational motivation</i>							
<b>1.5</b>	My leader expresses his/her confidence that we will achieve our goals.	1	2	3	4	5	6	7
<b>1.6</b>	My leader articulates a compelling vision of the future.	1	2	3	4	5	6	7
<b>1.7</b>	My leader talks optimistically about the future.	1	2	3	4	5	6	7
<b>1.8</b>	My leader talks enthusiastically about what needs to be accomplished.	1	2	3	4	5	6	7
	<i>Intellectual stimulation</i>							
<b>1.9</b>	My leader seeks differing perspectives when solving problems.	1	2	3	4	5	6	7
<b>1.10</b>	My leader re-examines critical assumptions, whether they are appropriate.	1	2	3	4	5	6	7
<b>1.11</b>	My leader got me to look at the task from many different angles.	1	2	3	4	5	6	7
<b>1.12</b>	My leader suggests new ways of doing work.	1	2	3	4	5	6	7
	<i>Individualized consideration</i>							
<b>1.13</b>	My leader spends time in teaching and coaching me.	1	2	3	4	5	6	7
<b>1.14</b>	My leader helps group members to develop their strengths.	1	2	3	4	5	6	7

<b>1.15</b>	My leader treats me as an individual rather than as a member of the group.	1	2	3	4	5	6	7
<b>1.16</b>	My leader considers me as having different needs.	1	2	3	4	5	6	7
<b>2.</b>	<b>Climate for Innovation (Scott and Bruce, 1994)</b>							
<b>2.1</b>	Creativity is encouraged here	1	2	3	4	5	6	7
<b>2.2</b>	Our ability to function creatively is respected by the supervisor	1	2	3	4	5	6	7
<b>2.3</b>	Around here, people are allowed to try to solve the same problems in different ways	1	2	3	4	5	6	7
<b>2.4</b>	The main function of members in this organization is to follow orders, which come down through channels. (Reversed)	1	2	3	4	5	6	7
<b>2.5</b>	Around here, a person can get in a lot of trouble by being different. (Reversed)	1	2	3	4	5	6	7
<b>2.6</b>	This organization can be described as flexible and continually adapting to change.	1	2	3	4	5	6	7
<b>2.7</b>	A person cannot do things that are too different around here without provoking anger. (Reversed)	1	2	3	4	5	6	7
<b>2.8</b>	The best way to get along in this organization is to think the way the rest of the group does. (Reversed)	1	2	3	4	5	6	7
<b>2.9</b>	People around here are expected to deal with problems in the same way. (Reversed)	1	2	3	4	5	6	7
<b>2.10</b>	This organization is open and responsive to change.	1	2	3	4	5	6	7
<b>2.11</b>	The people in charge around here usually get credit for others' Ideas.	1	2	3	4	5	6	7
<b>2.12</b>	In this organization, we tend to stick to tried and true ways.	1	2	3	4	5	6	7
<b>2.13</b>	This place seems to be more concerned with the status quo than with change.	1	2	3	4	5	6	7
<b>2.14</b>	The reward system here encourages innovation.	1	2	3	4	5	6	7
<b>2.15</b>	This organization publicly recognizes those who	1	2	3	4	5	6	7

	are innovative.							
<b>2.16</b>	The reward system here benefits mainly those who don't rock the boat. (Reversed)	1	2	3	4	5	6	7
<b>3.</b>	<b>Creativity Self-efficacy (Tierney and Farmer, 2002)</b>							
<b>3.1</b>	My past experiences and accomplishments increase my confidence that I will be able to perform successfully in this organization.	1	2	3	4	5	6	7
<b>3.2</b>	I believe I could have handled a more challenging job than the one I will be doing.	1	2	3	4	5	6	7
<b>3.3</b>	I have confidence in my ability to solve problems creatively.	1	2	3	4	5	6	7
<b>3.4</b>	I feel that I am good at generating novel ideas.	1	2	3	4	5	6	7
<b>4.</b>	<b>Creativity Role identity (Farmer et al., 2003)</b>							
<b>4.1</b>	To be a creative employee is an important part of my identity.	1	2	3	4	5	6	7
<b>4.2</b>	I often think about being creative.	1	2	3	4	5	6	7
<b>4.3</b>	I have a clear concept of myself as a creative employee.	1	2	3	4	5	6	7
<b>4.4</b>	I do not have any clear concept of myself as a Creative employee. (reverse-coded)	1	2	3	4	5	6	7

**Thanks for your kind cooperation**

## SUPERVISOR SURVEY

1. Name (Optional)\_\_\_\_\_ 2. Age:

\_\_\_\_\_

3. Qualifications [Please tick]:

U.G. (Please specify)\_\_\_\_\_. PG (Please Specify)\_\_\_\_\_.

4. Gender [Please tick]: Male / Female

5. Marital Status: [Please tick]: Married/Unmarried

6. Designation: \_\_\_\_\_ 7. Experience [in years]:\_\_\_\_\_.

8. Name of the organization\_\_\_\_\_

9. Department: \_\_\_\_\_

10. Duration in current organization: \_\_\_\_\_

12. Name of the subordinates: \_\_\_\_\_

Indicate the degree to which you are agreeing with the statements by tick marking the appropriate responses, for example if you are strongly Agree you would tick mark the 5 next to the statement.

7=Strongly Agree; 6=Agree; 5= Partially Agree, 4= Neutral, 3=Partially Disagree, 2=Disagree;  
1 = Strongly Disagree.

<b>Sr. No.</b>	<b>Particulars</b>							
<b>1.</b>	<b>Employee Creativity (Madjar et al., 2002)</b>	1	2	3	4	5	6	7
<b>1.1</b>	Employee searches out new technologies, processes, techniques, and/or product ideas.	1	2	3	4	5	6	7
<b>1.2</b>	Employee generates creative ideas.	1	2	3		5	6	7
<b>1.3</b>	Employee promotes and champions ideas to others.	1	2	3	4	5	6	7
<b>1.4</b>	Employee investigates and secures funds needed to implement new ideas.	1	2	3	4	5	6	7
<b>1.5</b>	Employee develops adequate plans and schedules for the implementation of new ideas.	1	2	3	4	5	6	7
<b>1.6</b>	Employee is innovative.	1	2	3	4	5	6	7

**Thanks for your kind cooperation**