

## IMPACT OF TRANSFORMATIONAL AND TRANSACTIONAL LEADERSHIP STYLE ON EMPLOYEES' CREATIVITY AND INNOVATION

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**Abstract:** Current research aims at investigating impact of transformational and transactional leadership style on employees' creativity and innovation in Shahid Chamran University using structural equations. To this end, 244 employees of Ahwaz Shahid Chamran University took part in the study. They completed multi-factor questionnaires of leadership, creativity and innovation. Structural equations model and LISREL software was used for data analysis. Results showed that transformational leadership has positive direct and significant effect on employee creativity. Transactional leadership has positive direct and significant effect on employee creativity. Overall, findings emphasized role of transformational and transactional leadership style on employees' creativity and innovation.

**Keywords:** creativity, innovation, transactional leadership, transformational leadership.

### INTRODUCTION

Organizations and companies need to be creative and innovative for preserving survival and having competitive advantage, so that they are prepared for management of quick changes and deep global evolutions. To this end, industrial countries highly emphasize on creativity training and pay special attention in selection of creative, innovative and prospective people which provide novel and creative approaches for complex issues (Nayer and Jokar, 2012). In the current era, innovation helps organizations to overcome the turmoil and uncertainty in the external environment, and one of the key motives in long term success of organizations on today business area (especially dynamic and competitive markets) is innovation. For survival in changing and uncertain environments of today business area, the organizations should be able to adapt to increasing complexity and quick changes. In such spaces, organizations with high innovation

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capacity will be able to respond to environmental challenges quicker and utilize market opportunities better than non-innovative organizations (Jiménez-Jiménez and Sanz-Valle, 2010).

Innovation is regarded as an important issue for individuals, institutions and overall for all communities due to its relationship with flexibility and production (Drucker, 2014). Ker and Gagliardi (2003) believe that the main factor in progress and development of the human in all areas in innovation and creativity. Thus, creativity and innovation is main factor in survival of organizations in current competitive environment (Wong, 2007).

Creativity and innovation is necessary for stability of every organization and non-creative organizations would be diminished over the time, and though such organizations may be successful in periodical operations, they are finally forced to stop or change the system (Mohamadi and Tabari, 2008). The organization which is able to provide new ideas and utilize them is not reluctant to change; even it can act as a factor for creating change in its environment (Tidd and Bessant, 2014). To this end, it is necessary in the world with changing and dynamic conditions where production is not the art, and proper delivery and purchase is the art, the organization utilize creativity and innovation or they are diminished from the competition. Hence, due to importance of employees' innovation and creativity for the organization, identification of factors affecting it is very crucial. The question is that what the factors are causing increased innovation and creativity in the employees in organization. It is an important question for organizational experts so that they attempt to provide an answer for it. Therefore, the main research question is as follows: does transformational and transactional leadership style affect employees' creativity and innovation? In other words, current research aims at finding effect of transformational and transactional leadership style on employees' creativity and innovation in Ahwaz Shahid Chamran University.

## REVIEW OF LITERATURE

### **Transformational Leadership**

Transformational leadership theory is one of the theoretical frameworks in the world which was developed by Burns (1978) and Bass (1985). Transformational leader is one who encourages followers to act beyond expectations (Bass, 1985; Qu, Janssen and Shi, 2015). Burns defines transformational leadership as the process in which leaders and followers are directed toward higher levels of morality and motivation. Unlike traditional leadership theories, which mainly focus on logical processes, transformational leadership theories emphasize emotions and values. Today, transformational leadership play significant role in increasing power of

individuals and organizations for creation, utilization, renewal, and application of knowledge for developing necessary requirements for improvement of organizational learning (Grant, 2012; Mittal and Dhar, 2015).

## **Aspects of Transformational Leadership**

### **Transformational Leadership**

Transformational leadership includes four aspects: individualized consideration, intellectual stimulation, inspirational motivation, and *idealized* influence, which are called as 4Is.

#### **A. Idealized Influence**

It describes leaders which act as strong models for the followers. Followers are recognized by these leaders and want to compete with them. They often enjoy high standards of moral and spiritual behavior, and are respected by the followers (Bigharaz et al., 2010). In this aspect, the leader determines high standards for moral and spiritual conduct and such leaders are admired, respected and trusted by subordinates (Northouse, 2015), and subordinates want to imitate their leader. Central core of this aspect is creation of values which inspire and provides purposefulness feeling for individuals and instill them (Fernet et al., 2015; Li, Zhao and Begley, 2015; Linde, 2004).

#### **B. Inspirational Motivation**

These are leaders which have high expectations of their followers and inspire them through motivation so that their commitment is enhanced and shared outlook realization is facilitated. They use emotional symbols for attracting attempts of group members for achieving beyond personal interests and hence improve spirit of their followers to achieve the goals (Bigharaz et al., 2010). In this aspect, the leaders behave such that they motivate their surrounding people through provision of specific challenges and issues. They increase team and individual spirit, strengthen optimism and enthusiasm of subordinates and stimulate their subordinates regarding future attractive situations (Bass et al., 2003). Inspirational motivation increases understanding of the followers about organizational missions and encourage them to perceive and grasp the mission (vision), which is a key element in this aspect (Northouse, 2015; Li, Zhao and Begley, 2015). In addition, this mission (vision) indicates the existential foundation of the organization (Linde, 2004).

#### **C. Intellectual Stimulation**

Intellectual stimulation is stimulating followers by the leader in order to discover new solutions and rethinking about solving organizational problems by the

followers. In fact, leader's behavior creates a challenge for the followers so that they rethink about their work they do (Fernet et al., 2015; Tonkenejad, 2006). In this aspect, the leaders stimulate their subordinates through specific questions and presumptions, re-describing the problems and approaching old situations to the new ones. There is no public criticism of errors of the group members. New ideas and creative solutions are asked from the subordinates so that they are involved in problem solving process and finding solutions (Bass et al., 2003).

#### **D. Individualized Consideration**

Individualized consideration is attention to individual differences of followers and communication with them separately and stimulating them through delegating responsibilities for learning and supervision and supportive behaviors (Fernet et al., 2015). Transformational leadership pays special attention to its followers which suggests respecting and valuing them, and serve them as a trainer (Dogger et al., 2007). Individualized consideration occurs when the leader serves his followers for achieving their optimal needs and attempts for developing potential ability of individuals (Horwitz et al., 2008). Aim of individualized consideration is determining needs and strengths of individuals, and using such recognition, transformational leaders help the subordinates and colleagues to achieve high potential levels successfully and take responsibility of their personal growth (Hoy and Miskel, 2008).

#### **Transactional Leadership**

In 1960s, the dominant paradigm in leadership theories was studying on characteristics and situation as factors affecting the leader and followers. Meanwhile, transactional leadership model was developed by social transaction approach (Frey, 2007). Before introduction of charismatic–transformational leadership theory, most of authors considered contingent reinforcement and transactional leadership as a core component of effective leadership in organizations (Bass et al., 2003). In this theory, social transaction between the leader and subordinates is emphasized as a feature affecting performance, because persuasion is emphasized instead of traditional use of authority in transactional models (Frey, 2007; Hamstra et al., 2015). Leaders consider benefits and rewards for fulfillment of expectations of subordinates, and in turn, subordinates counteract with increasing appreciation and their accountability toward the leaders (Holander, 1986; quoted in Frey, 2007). Supply and delivery of transactional leadership meant that subordinates agree with their leader, accept him, or accompany him in transaction for rewarding or avoiding some special affairs. Rewards and recognition are granted conditionally when the subordinates properly perform their roles and tasks (Podsakoff, Todor and Skov, 1982; quoted in Bass et al., 2003). Bass and Yammarino state that transactional

models lead to inequality in an ineffective evaluation system due to emphasis on transaction and reward which brings about stop in affair an processes and results in lack of effective reinforcement use. For effectiveness, the leader should control over rewards and the reward should be valued (in terms of value and fairness). Also, they acknowledge that something beyond being transactional is needed for effectiveness (Frey, 2007).

Transactional leader possesses three components (Antonakis, Avolio and Sivasubramaniam, 2003):

**Reward Dependent Leadership (Reward-Centered):** It refers to leadership behaviors which emphasize clarification of working roles and requirements and stimulate subordinates through rewards proportionate to their performance (Deichmann, and Stam, 2015). In other words, in this subset of behavior, the leader provides things that subordinates ask in turn of performing his wants (by subordinates) (Hoy and Miskel, 2008). Using transactional contingent reward, the leader clarifies expectations and identifies recommendations when the goals are realized. Clarification of goals and indentations and their proper identification leads to achievement of expected levels of performance by the individuals and groups (Bass, 1985; Birasnav, 2014). In contingent rewarding aspect, give and take relationship is established between the leader and partners who mostly refers to material aspects (Noorshahi and Yamani, 2006).

**Management by Exception (Active):** It means that leaders are at high level of consciousness and readiness to ensure that the standards. That is, the leaders actively supervise the performance and provide correct reaction at time of problem (Bass and Riggio, 2006). The leader sets standards for realization of goals and he may describe inefficient performance and subordinates are punished or rewarded according to their achievement to standards. This style of leadership accurately examines deviations, mistakes and errors and then applies correct and corrective performance quickly (Bass et al., 2003; Lussier and Achua, 2015). Overall, in management by exception (Active) aspect, attention of leader is to the errors and deviations of standards in the organization (Roueche, Baker and Rose, 2014).

**Management by Exception (Passive):** It means that leaders do not interfere in problems until they don't get serious. This class of leaders react after occurring errors or other performance problems (Bass and Riggio, 2006). In more passive forms, the leader waits until the problems appear totally before taking measure for them, or overall they do not take any measure which is also known as "passive avoidance" or "non-interference policy". Such leaders essentially avoid setting agreements, specifying expectations and describing goals and standards for their subordinates (Bass et al., 2003; Lussier and Achua, 2015). Considering this aspect,

the leader takes measure only when the problem occurs and he does not act until the issues are acute and serious (Noorshahi and Yamani, 2006).

### **Employees' Creativity**

According to Herbert Fuchs, "creativity process is any thinking process which solves problem usefully and innovatively". According to Erich Fromm, "creativity is the ability to see (inform) and respond". Thus, it seems Kaiser provides a more general definition about creativity: "creativity includes utilization of mental abilities for developing a new idea or concept" (Rezaeeian, 2007). Taylor considers creativity as shaping experiences in new organizations (Samadaghaee, 2006). Creativity, like justice, democracy, and freedom, has different meanings for different individuals, but the shared factor in all creativities is that creativity always includes dealing with new factors in which creativity factor is present, and overall act as cultural heritage, but what is new is combination of these factors in a new pattern (Newton, 2012). The main features of divergent thinking include as follows:

1. *Fluency*: The ability to establish significant relationship between thinking and thought and expression, which enables individuals to provide various solutions in problem solving. In other words, fluency is related to quantity of one's responses to a problem. This feature is based on the belief that quantity leads to quality.
2. *Originality*: (innovation) it is the ability to think in non-conventional manner. Originality and innovation are based on provision of non-usual, strange and smart solutions to problems.
3. *Flexibility*: It is the ability to think in different ways to solve a new problem. Flexible thinking designs new patterns for thinking.
4. *Elaboration*: It is the ability to pay attention to details during performing an activity. Elaborated thought addresses all details necessary for a plan and does not overlook anything.

Achievement to creativity is the issue which influences all organizational aspects from its culture to structure and system, products and services. Creativity or its absence is not an abstract problem which can be separately investigated and organized; rather it is something which acts in a dynamic, sophisticated and complex manner in the organizations. Following cases should be considered in development of creativity in organization (Gart Louise, 2005).

1. Teamwork and effective cooperation
2. Specialized training

3. Morale and motivation
4. Work and management style

### **Employees' Innovation**

Shumpiter was the first person who expressed innovation in the form of a scientific concept. In fact, he sought to find factors affecting economic growth of the countries and thus he found role and critical importance of innovation on growth of organizations. Innovation is leaving old patterns and it is among the major features of creative human mind. Today innovation is increasingly regarded as one of the main factors for preserving competitive advantage and long term success in competitive markets. It is because the organizations with high innovation capacity will be able to react to environmental challenges quicker and better than non-innovative organizations, which increases efficiency of the organization (Jimenez-Jimenez et al., 2008).

One of the organizational factors which may have effective role in employees' creativity and innovation and authors and managers emphasize its key role is leadership. According to studies, leadership styles influences creativity and innovation of employees (Shin and Zhou, 2003; Gumusluoglu and Ilsev, 2009; Wang, Tsai and Tsai, 2014; Qu, Janssen and Shi, 2015; Henker, Sonnentag and Unger, 2014; Al-Husseini and Elbeltagi, 2014; Zhao and Begley, 2015).

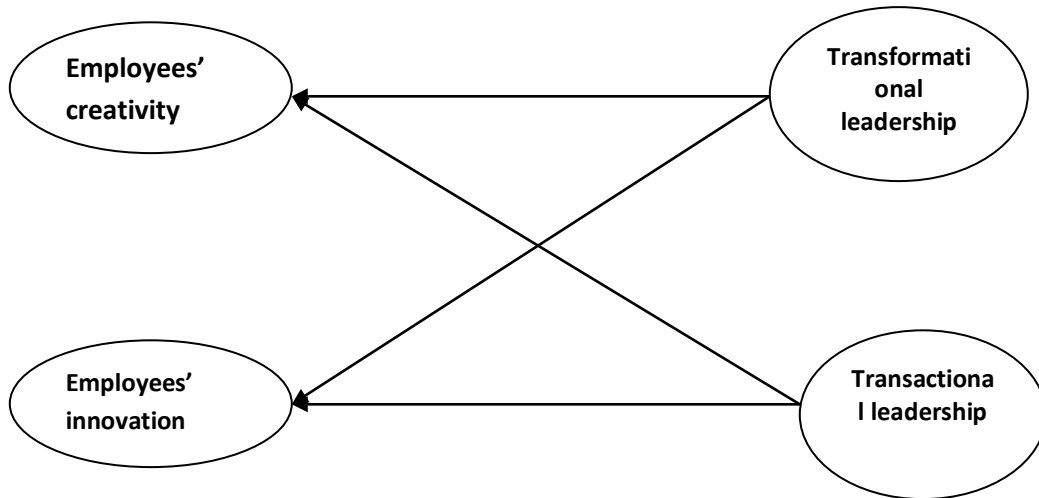
Overall, review of experimental studies indicate no research has addressed relationship between transformational and transactional leadership style and employees' creativity and innovation in the form of structural equations model. Thus, current research aims at investigating relationship between transformational and transactional leadership style and employees' creativity and innovation in order to enhance research literature in this regards.

### **Research Conceptual Model**

Considering theoretical and research literature, research conceptual model is drawn in Fig 1. As observed, transformational and transactional leadership styles are regarded as independent variables and employees' creativity and innovation are considered as dependent variables. Thus, research hypotheses are stated as follows:

- H1: Transformational leadership affects employees' creativity.
- H2: Transformational leadership affects employees' innovation.
- H3: Transactional leadership affects employees' creativity.
- H4: Transactional leadership affects employees' innovation.

Figure 1: Research conceptual model



## Methodology

Descriptive (non-experimental) method was used in the current research, and research design was correlation of structural equations type, because relationships between variables are investigated in the form of causal model in this work.

## Statistical Population and Sample

Statistical population of current research includes employees and managers of administrative and educational area of Ahwaz Shahid Chamran University, and 244 of them were selected randomly as the research sample.

## Data Collection Tool

In the current research, questionnaires of transformational leadership, transactional leadership, creativity and innovation of employees were used to measure variables. In order to examine validity and reliability of variables, confirmatory analysis and Cronbach's alpha coefficient were used. Confirmatory factor analysis is actually a theoretical testing model, in which the author starts his analysis with a previous hypothesis. This model, which is based on a strong experimental and theoretical foundation, specifies which variables are correlated with factors. To validate reliability of the construct, it provides a reliable method to the author so that the hypotheses on data factor structure, resulting from a pre-determined model with specific number and combination of factors, are tested. Confirmatory method tests optimal match between observed and theoretical factor structures



for data sets through determining factor model fit following specifying pre-experimental factors. In this research,  $\chi^2/df$ , RMSEA, GFI, and AGFI features are used for evaluating confirmatory factor analysis.  $\chi^2/df$  index lacks a constant criterion for acceptable model, but small values of  $\chi^2/df$  denote better model fit (Hooman, 2008). Brownly and Kadek recommended that Root Mean Square Error of Approximation (RMSEA) is used, which was provided by Steiger (1990) as difference size for each degree of freedom. RMSEA index is 0.05 or lower for good models. Higher values up to 0.08 indicate logical error for approximation in the population. Models with RMSEA as 0.10 or above have weak fit. Joreskog and Sorbom (1989) introduced goodness of fit index (GFI) and adjusted goodness of fit index in LISREL program. They show that the model to what extent has good fit versus its absence. By contract, GFI and AGFI should be equal or larger than 0.90 so that respective model is accepted (Hooman, 2008).

Multi-Agent Leadership Questionnaire (MLQ): Multi-Agent Leadership Questionnaire was used for measurement of transformational and transactional leadership styles. 20 items in transformational leadership style questionnaire includes aspects of idealized features (4 items), idealized behaviors (4 items), inspirational motivation (4 items), intellectual stimulation (4 items), and individualized consideration (4 items). 12 items in transactional leadership style questionnaire includes following aspects: contingent reward (4 items), management by exception (active) (4 items) and management by exception (passive) (4 items). Internal consistency coefficient of this scale was obtained as 0.92 for transformational leadership and 0.80 for transactional leadership using Cronbach's alpha. Also, indexes obtained from confirmatory factor analysis for investigating validity of this questionnaire included as follows: GFI = 0.94, RMSEA = 0.061, AGFI = 0.91 suggesting good fit of model with data.

Employees' Creativity: Torrance standard questionnaire (1959) was used for measurement of employees' creativity. This questionnaire contains 60 items including fluency (16 items), flexibility (11 items), originality or innovation (22 items) and elaboration (11 items). They are measured with three-point scale. Internal consistency of this scale was obtained as 0.92 using Cronbach's alpha.

Employees' Innovation: An author-made questionnaire was used for employees' innovation measurement. This questionnaire contains 6 items. Internal consistency of this scale was obtained as 0.89 using Cronbach's alpha. Also, indexes obtained from confirmatory factor analysis including GFI = 0.96, RMSEA = 0.039, AGFI = 0.94 suggest good fit of model with data.

### **Data Analysis Method**

Following calculation of descriptive indexes of research variables, structural equations model was used for investigating causal relationships between

variables. To overcome limitations of previous methods, the authors increasingly use structural equations modeling as suitable solution. In comparison with regression methods, in which only one level of relationship between dependent and independent variable is simultaneously analyzed, it is possible to model relationship between multiple independent and dependent constructs in structural equations modeling as a secondary method (Gefen, Straub and Boudreau, 2000). SPSS and LISREL software were used for data analysis.

## Results

Considering the fact that correlation matrix is basis analysis in causal models, correlation matrix, mean, and SD of research variables are given in Table 1.

**Table 1**  
**Correlation matrix of research variables**

| <i>Variable</i>             | <i>Mean</i> | <i>SD</i> | <i>Transformational leadership</i> | <i>Transactional leadership</i> | <i>Employees' creativity</i> | <i>Employees' innovation</i> |
|-----------------------------|-------------|-----------|------------------------------------|---------------------------------|------------------------------|------------------------------|
| Transformational leadership | 3.10        | 0.68      | 1                                  |                                 |                              |                              |
| Transactional leadership    | 3.34        | 0.48      | 0.30**                             | 1                               |                              |                              |
| Employees' creativity       | 2.23        | 0.28      | 0.50**                             | 0.37**                          | 1                            |                              |
| Employees' innovation       | 3.01        | 0.93      | 0.47**                             | 0.34**                          | 0.42**                       | 1                            |

\*\*P < 0.01

As observed in Table 1, correlation coefficient of transformational leadership with transactional leadership ( $r = 0.30$ ), employees' creativity ( $r = 0.50$ ), and innovation ( $r = 0.47$ ) is positive and significant at level  $P < 0.01$ . Correlation coefficient of transactional leadership with employees' creativity and innovation ( $r = 0.42$ ) is positive and significant at level  $P < 0.01$ .

Fig 2 indicates fitted model of employees' creativity and innovation prediction. Values on paths are standardized parameters. According to Fig 2, all paths are significant.

Figure 2: Tested model of employees' creativity and innovation

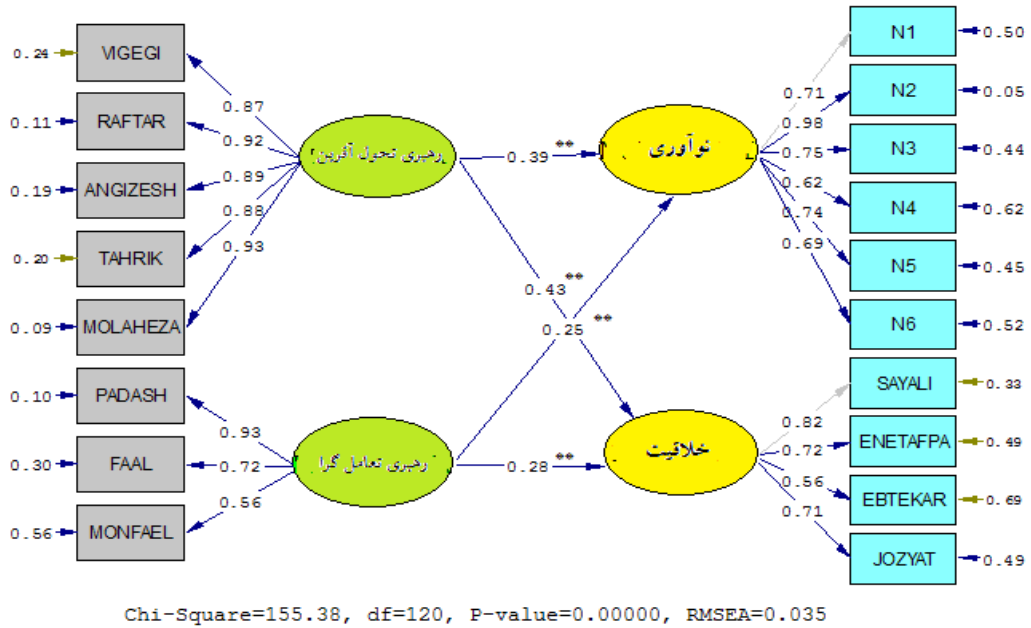


Table 2 gives path coefficients and described variance of research variables.

Table 2  
Estimation of standardized coefficients of model's described variance

| Path  | Direct effect | Described variance |
|---|---------------|--------------------|
| To employees' creativity from Transformational leadership | 0.43**        | 0.26               |
| Transactional leadership                                  | 0.28**        |                    |
| To employees' innovation from Transformational leadership | 0.39**        | 0.21               |
| Transactional leadership                                  | 0.25**        |                    |

\*\*P < 0.01

As observed in Table 2, effect of transformational leadership on employees' creativity ( $\beta = 0.43$ ) and employees' innovation ( $\beta = 0.28$ ) is positive and significant at level  $P < 0.01$ . Effect of transactional leadership on employees' creativity ( $\beta = 0.28$ ) and employees' innovation ( $\beta = 0.25$ ) is positive and significant at level  $P <$

0.01. According to Table 2, 26 percent of employees' creativity and 21 percent of employees' innovation is described by the research model.

Fit characteristics of path analysis model are given in Table 3.

**Table 3**  
**Fit characteristics of structural equations model**

| <i>NFI</i> | <i>CFI</i> | <i>AGFI</i> | <i>GFI</i> | <i>RMSEA</i> | $\chi^2/df$ |
|------------|------------|-------------|------------|--------------|-------------|
| 0.99       | 0.99       | 0.94        | 0.97       | 0.035        | 1.29        |

According to Table 3, chi square ratio to degree of freedom ( $\chi^2/df = 1.29$ ), goodness of fit index ( $GFI = 0.97$ ), adjusted goodness of fit index ( $AGFI = 0.94$ ) and Root Mean Square Error of Approximation ( $RMSEA = 0.035$ ) are at acceptable level. Thus, this model fit of employees' creativity and innovation prediction is at good level.

## **Discussion and Conclusion**

Current research aims at investigating impact of transformational and transactional leadership style on employees' creativity and innovation in using structural equations. Results of structural equations showed that proposed model is in relatively good fit to data of this research and 26 percent of employees' creativity and 21 percent of employees' innovation is described by the research model.

Results of structural equations showed transformational leadership style has positive significant effect on employees' creativity. This finding is consistent with findings by Jung (2001), Shin and Zhou (2003), Gumusluoglu and Ilsev (2009), Wang, Tsai and Tsai (2014), Qu, Janssen and Shi (2015), and Henker, Sonnentag and Unger (2014). This finding indicate that transformational leadership provides ground for emergence and increase of employees' creativity through the ability to motivate, communicate with others, to create opportunities for the development of the ability of subordinates, make a difference, authorization and protection of common values. Transformational leadership motivates subordinates through changing their attitudes and presumptions for change. These leaders make change in their followers with directing and inspiring individual attempts of their followers and by increasing their awareness and consciousness about importance of organizational outputs and products, and thus lead to activation of their higher level needs and stimulating them to go beyond personal interest for the sake of the organization and hence their creativity is increased. To this end, Bass et al. (2003) state that in transformational leadership, subordinates are paid attention and hence their potential abilities are developed, and new opportunities for learning

through supportive conditions are created in the organization (Bass et al., 2003). Therefore, employees' creativity is increased.

Results of structural equations showed transformational leadership style has positive significant effect on employees' innovation. This finding is consistent with findings by Li, Zhao and Begley (2015) and Slåtten and Mehmetoglu (2015). To this end, it can be stated transformational leaders are those with vision and encourage others to do exceptional works for challenge, and hence influence employees' innovation. Transformational leaders create new ideas and outlooks, provide new path of growth and development for the organization, and mobilize organization's members for developing fundamental changes in foundation of organization and increasing innovation to acquire readiness and necessary capabilities to move in new path. It is achieved by developing commitment and enthusiasm among employees. In addition, transformational leaders delegate necessary authorities to the organization's members and give them opportunities to be independence and trying new ideas, and challenge employees' thoughts and perceptions with intellectual stimulation, and promote innovation and creativity among them.

Results of structural equations showed transactional leadership have positive and significant effect on employees' creativity. This finding is consistent with findings by Jung (2003) and Politis (2004). It can be stated that transactional leadership style emphasizes clarification of working roles and requirements and motivate subordinates through rewards appropriate to their performance. In other words, in this subset of behavior, the leader provides things that subordinates ask in turn of performing his wants by employees. Using transactional contingent reward, the transactional leader clarifies expectations and identifies recommendations when the goals are realized. Clarification of goals and indentations and their proper identification leads to achievement of expected levels of performance by the individuals and groups and hence creativity and innovation of employees is influenced.

Results of structural equations showed transactional leadership have positive and significant effect on employees' innovation. This finding is consistent with findings by Howell and Avolio (1993) and Pieterse et al. (2010). It can be stated that transactional leaders motivate their subordinates by rewarding because of service delivery. When subordinates are performing their job at organization, transactional leaders seek for finding that what subordinates want from the work, and attempt to provide it. They offer reward for attracting and developing more attempt and stimulating personal interest, and hence influence tendency to innovation in employees.

Overall, research findings emphasize role of transformational and transactional leadership style on employees' creativity and innovation. Thus, considering these

two styles use different methods for their collection, but they affect employees' innovation and creativity. Thus, leaders of the organizations can utilize a combination of both types of styles considering different situations and conditions and they influence their employees' creativity and innovation. Therefore, leadership is one of the main factors in directing the organization toward creativity and innovation, because leadership plays a critical role for motivating and directing organization to absorb knowledge and improve learning capabilities and thus employees' creativity and innovation. On the other hand, leadership encourages and promotes creativity and innovation by providing a creative atmosphere using such processes as challenging current processes, stimulating followings for questioning previous fundamental presumptions and providing novel working processes, and directing employees' creativity and innovation. In this project, only a sample of employees of Ahwaz Shahid Chamran University was investigated, thus generalization of findings to other organizations and universities has limitations. Also, findings are based on self-reporting data. It is suggested that qualitative and mixed research methods are used in the future works for identifying factors affecting employees' creativity and innovation.

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