
Mediating Effect of Organizational structure on the Relationship between Managers' Leadership Style and Employees' Creativity (Case study: Metal Industries of Kaveh Industrial City)

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Accepted: April 01, 2013 Published: May 21, 2013

Doi:10.5296/ijld.v3i3.3736 URL: <http://dx.doi.org/10.5296/ijld.v3i3.3736>

Abstract

This research was conducted with the aim of studying the impact of managers' leadership style on employees' creativity with considering the mediating role of organizational structure in Metal Industries of Kaveh Industrial City at 2012. The population of the research was including 4700 employee involved in metal industries of Iranian Kaveh Industrial City and among whom, 355 people was considered as sample by using Cochran formula and sampling method of rational random classification. Data collection was carried out through questionnaires. Technical characteristic of questionnaire including reliability and validity studied by using of various criterion, for example Alpha Chronbach method used as one of the methods of reliability assessment for this research, that reliability coefficient obtained for standard questionnaires MLQ leadership style 0.81, Torrance creativity 0.84 and Robbins organizational structure 0.78. Also to test the validity of questionnaires we used content validity and construct validity. Data analysis was carried out through SPSS, Smart PLS and Lisrel software in two aspects of descriptive (frequency, frequency percentage, mean, Standard deviation) and inferential (Structural Equation Modeling, Shapiro-Wilk Test, Pearson correlation coefficient, Exploratory factor analysis, Confirmatory Factor Analysis, Simple and multi-variable linear regression). The results showed that there is a significant relationship between manager's leadership style and its dimensions with employees' creativity; there is a significant relationship between manager's leadership style and its dimensions with organizational structure; besides, there is a significant relationship between organizational

structure and its dimensions with employees' creativity. Also in relationship between managers' leadership style and creativity, organizational structure variable play the role of mediator.

Keywords: Leadership Style, Creativity, Organizational Structure, Metal Industrial

1. Introduction and problem statement

Nowadays, the creativity forms and important part of the organizational life, because the rapid and all-inclusive changes have transformed the environments of the organizational activities so fundamentally that the organizations and managers have no other choice except to find new ways for their own activities in order to adapt themselves with such global changes. Thus in their attempt to survive, all organizations inevitably need new and fresh thoughts and ideas. New thoughts and ideas are indeed the soul of the organization and can survive it. But the compact and hard competitions, and the needs and tastes of the customers, has made the affairs of the organization unpredictable. In such a situation, the organizations have to invoke to the new ideas and innovative ways in order to preserve their contacts with the customers, prevent losing their market share, meet the needs of the customers, reach to a suitable portion of the global market, etc. (Bolanowski, 2008). Accordingly, nowadays creativity and innovation is known as a new competitive arena for the product developing companies, and it is expected from the product engineers and designers to be innovative and creative beside their needed qualifications (Kudrowitz, 2010). Moreover, the effective leadership has to provide the suitable ground to make the employees do their best attempts to fulfill the goals of the organization. Without the existence of the leadership, the linking circle among the personal goals and the organizational goals will be ruined. This can lead to an undesirable situation in which the personal works is conducted just toward the personal goals of the employees and ultimately leads to the inefficiency of the organization and its collapse. Thus to continue its success, the existence of the leadership is necessary for the organization. Even the best employees need to know how to participate in meeting the organizational goals (Shoghi and Shoghi, 2012). One of the ways of fertilizing the creativity is to invoke to an open and creative structure, so that the authorities of the organization are always willing to hear new and innovative ideas, reinforce the new solutions, and tolerate the process of change that is the prerequisite for the creativity. To do all these, the leaders have to pay enough attention to the dimensions of the organizations, i.e. the formalization, complexity, and centralization (Shafizadeh & Shoghi, 2012).

Iranian economy has been always dependent on its oil incomes. The most important role of the oil section in the Iranian economy is to supply the main portion of Iranian incomes and thus different Iranian economic sections are dependent on the oil-exporting incomes in order to supply their own importing needs. Due to this unipolar nature of the Iranian economy and the highly dependence of this economy on the oil, some factors such the sanctions will inevitably lead to huge problems in the economic and social fields. This is while Iran is a vast country with lots of professional capacities for developing its industry, agriculture, tourism, etc. though these sections have not been taken seriously enough. Of course to decrease such a dependency of the Iranian economy on the oil it is necessary to approach to a paralleled growth of the economy in different regions of the country. One of the factors that can be effective on leaving the dependency to the oil is the metal industry. Metal industry is the driving engine of the industrial growth and development of any country. Since Iran has very rich mines and resources of the metal, if it properly uses these resources and if it has a clear strategic plan for exploiting such resources, this industry can meet the internal needs and even promote its position in global markets by exporting its products outward. In August 28, 2011 Kaveh Industrial City was officially introduced as a "Kaveh Special Economic Zone" by the President

Deputy and the confirmation on Iranian Parliament. This shows the importance of this industrial city; while it is important to note that among the 113 companies that are active in Kaveh industrial city, 36 companies (31.8%) belong to the field of metal industries and this in turn shows the importance of the position of the metal industry in the industrial section. Like all other industries, the metal industry faces some problems among which one can refer to the unsuitability of the human resources structure quantitatively and qualitatively; governmental nature of the structure of most metal industry manufacturers and the state monopolies of this section; its dependency on the domestic markets and neglecting the development of the exports and international markets; the weakness in supplying the raw materials for the manufacturers; sanctions; the high price of the foreign currencies and its effect on producing the needed raw materials of the manufacturing units (Shahravan & Khouchechin Bahar, 2011). Different solutions have been offered to solve the above- mentioned problems. The most important offered solutions in this regard are as follow: the suspension of debts of the qualified units to the state, and injection of funds if necessary; granting finances and credits needed to the development, renovation, and reconstruction of the mentioned industries; creating some professional holdings for the metal industry; reinforcing the international and regional transactions in order to exchange the experiences and to access the high techs; and developing the technological cooperation with the universities, research centers, administrative offices, private section, and cooperative centers (ibid).

As it is seen in the mentioned solutions, in most cases the solution is dependent on the financial resources. This is while Sadeqi and Sephehrdust (2001) stated that the effect of the granted finances of the banks on the efficiency of the metal industry is negative. In other words, due to the reducing output, the increase of the granted finances that act as the working capital will lead to the reduction of the final efficiency. This fact indicates that the problem of the Iranian metal industry is not limited to financial issues, but we have to look for some other issues such as the lack of personal and organizational creativity. We believe that studying the effective factors on the creativity and detecting the weaknesses and strengths of this field can help the industry uses the opportunities and enter into the international markets and consequently lead to the reduction of the oil- dependency and the reduction of the effects of sanctions. This this research aims to find an answer to the following question: considering the mediating role of the organizational structure, is the any relationship between the leadership styles of the managers and the employees' creativity in metal industry of Iranian Kaveh Industrial City?

2. Theoretical concepts

In this part of the paper, we introduce some concepts and definitions of the variables of creativity, leadership style, and organizational structure.

2.1. Creativity

Creativity is one of the hottest terms in the business world. Especially with regard to the globalization process and the very rapid development of the modern technology, creativity is now the most effective way of survival and competition in the global markets for the companies (Zheng, Pablo and Pelayo, 2009). Santrock (2004) believes that the creativity is the ability to think in new and unusual ways and to come to exclusive and original solutions for the problems (Shoghi and Mortazavi, 2012). Indeed the creativity is the interaction of the talent, process, and environment, through which the person or group produces an understandable product that is both new and useful for its targeted society (Makel and Plucker, 2008). Besides, Torrance (1989) believes that creativity is formed out of 4 following components:

- *Fluency*: the ability to establish a meaningful relationship between thought and the expression, measured on the basis of the number of thoughts or solutions in a specific piece of time;

- *Originality*: the ability to think in unusual ways with coming to unusual, odd, and subtler answers;
- *Flexibility*: the ability to think to a single new problem in different ways;
- *Elaboration*: the ability to pay attention to all details during a task (Shoghi and Mortazavi, 2012).

2.2. Leadership style

Leadership style is the set of attitudes, attributes, and skills of the managers that is formed on the basis of the value system, trust in the employees, leadership tendencies, and sense of security in the ambiguous situations. Generally speaking, leadership style determines the atmosphere, culture, and strategies of the organization (Rowold, 2009). In this research we have used Bass and Avolio's model (2000) in which the dimensions of the leadership style are classified into three groups, mainly the transformational leadership, transactional leadership, and non-intervening leadership; yet in this research we have just studied the two former leadership styles.

2.2.1. Transformational leadership:

is the performance of a leader who is going to motivate his/ her followers by idealized influence (Charisma), inspiring motivation, intellectual stimulation, and individual consideration in order to push them in a direction beyond their own transient interests (Bass and Bass, 2008). The objective of the transactional leadership goes beyond meeting the transient needs. Transactional leader employs his/ her optimism, intellectual charisma, and many other personal skills to promote the goals of the others, and runs the persons and organizations toward a higher performance (Skakon, et al, 2010). At the following part we will refer to some dimensions of the transformational leadership.

Charisma (idealized influence): this dimension implies the idealized influence of the leaders who act as the real model of act so that their act leads to the manifestation of the desirable behaviors (Nielsen & Cleal, 2010). Charismatic leadership is a part of the transformational leadership and includes the idealized characteristics and idealized behavior. The most prominent idealized characteristics of a leader are to inspire the sense of honor and pride in the followers and to participate in their activities in order to gain the interests of the group (Shoghi and Shoghi, 2010).

Inspirational motivation: inspirational motivation is one of the capabilities of the transformational leader that offers a character of the leader that that inspirationally stimulate the followers to have a suitable behavior. This factor describes the leaders who make the followers participate in illustrating the future vision, and accordingly strengthen their commitment and who encourage the followers to come along the mentioned process (Moriano & Molero, 2011). Thus the transformational leaders have to act in a specific manner and encourage and stimulate their followers. This specific behavior implicitly includes to show their enthusiasm and optimism and to encourage the team work (Shoghi and Shoghi, 2010).

Intellectual stimulation: as a capability of the transformational leaders, intellectual stimulation plays an important role in the process of transformation of the organization. The transformational leaders try to encourage their followers to be innovative and creative. These leaders encourage the change of thinking methods of the problem solving and always use analogies and metaphors in order to increase the knowledge of their followers (García-Morales, et al, 2011; Bass & Riggio, 2006), thus they may use the new and creative ideas for solving the problems. Bass believes that the intellectual stimulation is a main stimulus in the followers to think to their beliefs, their values, their problems, and solving the problems (Avolio, et al, 1999, quoted in Shoghi and Shoghi, 2010).

Individual Considerations: paying attention to the individual differences of the followers, communicating with each of them, and stimulating them by assigning the responsibilities to them for the sake of their learning experiences are the main subjects of the individual considerations. Transformational leaders help their followers activate their own potential talents in order to increase their accountability in the organization. On other words, the leaders attempt to develop the potential abilities of the individuals (Horwitz & Horwitz, 2008). Individual consideration is a key element in the relationships between the transformational leader and the followers. Transformational leaders may use the strategy of assignment as a tool for the growth of their followers relying on the personal challenges (Nurthouse, 2001).

2.2.2. Transactional leadership:

According to Burns (1978), transactional leadership is a style of leadership based on the transaction between the leader and the follower so that the mutual interests of the both parties are met. This leadership style includes some dimensions such as the contingent rewards and management –by- exception (active- passive) (Shoghi and Shoghi, 2010). At the following part we will refer to these factors of the transformational leadership.

Contingent reward: contingent rewards refer to the process of the transaction between the leaders and followers in which, the followers' attempts in transacted against some specific rewards. In this type of the leadership, the leader tries to gain the agreement of the followers about what is needed to do and what is granted for doing that things (Bass & Bass, 2008).

Management -by- exception (active-passive): management -by- exception refers to those behaviors of the leaders that implies the corrective criticisms, negative feedbacks, negative reinforcement, and predicting the failures and problem solving. Management-by-exception emerges in two forms: passive and active. In active form of management -by- exception, transactional leaders supervise the tasks of their subordinates and make sure of the completion of those tasks. The leader in this form, do all necessary and needed things to prevent any deviation from the standards and findings the bugs and mistakes. But the passive leaders in this form of management -by- exception apply some due punishments just if the standards are not met; that is, they passively wait for the mistakes of their followers so that attract their attention to the negative feedbacks or official reproach before dealing with the corrective activities. Although this latter form of the management has been proved to be ineffective but some managers still apply it to supervise over a large number of the subordinates who report him directly. This process is less effective than the contingent awards and the components of the transformational leadership (Northhouse, 2001).

2.3. Organizational structure

Organizational structure and human resources are two basic pillars of any organization and they are both needed to form an organization. every organization can correct its structure and increase the creativity of its organizational and human resources in order to improve its performance and efficiency and hence approaches to its predetermined goals (Katsikea, et al, 2011). Organizational structure is the set of ways through which the activities of the organization are divided into some known tasks and these tasks are coordinated (Shoghi and Nazari, 2012). In this research, to determine the dimensions of the organizational structure we have used Robins Organizational Structure questionnaire that classifies the dimensions of the organizational structure to *complexity*, *formalization*, and *centralization*, as explained in the following section of the paper.

Complexity: is the scale of the separation in each organization as measured and tested through three channels: horizontal, vertical, and spatial or geographical;

Formalization: is the scale of standardized jobs, as understood from the variables of organizational chart and organizational guideline;

Centralization: is the concentration of the power in one point, while decentralization is the lack or shortage of such concentration. It is to be noted that the centralization refers back to the

dispersion in the decision- makings, not in geographical separation and dispersion (Robbins, 1998).

3. Literature review

Shogi and Mortazevi (2012) studied the relationship between the leadership style of the managers and the employees' creativity using Sochkin's model. Their results showed that there is a significant relationship between the leadership style and the employees' creativity. In another research, Gumusluoglu & Ilsev studied the transformational leadership, individual creativity, and organizational innovation. They found that there is a positive and significant relationship between the transformational leadership and the employees' creativity; and the transformational leadership affects the creativity of the employees by their mental empowerment. Moreover, the findings show that the transformational leadership has a positive relationship with the organizational innovation. Besides, in yet another research, Shoghi, Rezaei and Rezaei (2012) studied the relationship between the transformational leadership and the employees' creativity and showed that there is a significant relationship between the employees' creativity and the transformational leadership and its dimensions including the idealized influence, inspiring motivation, intellectual stimulation, and individual considerations). Macaux (2009) studied the role of the leadership and organizational process on the successful growth of the small and middle companies. He founded that the small and middle companies usually grow rapidly at the beginning of their establishment, but this rapid growth stops very soon. The main reason for this stop is the lack of the organizational structure and the lack of leadership and trainings in order to create new plans or the implementation of the changes. Additionally, Haritha and Venkat studied the effect of the followers' personality and the organizational structure on the transformational leadership. Their research used a pilot plan whose aim was to understand the effect of the followers' open-mindedness in taking the experience as one of the five personality characteristic and organic organizational structure on the transformational leadership. The five dimensions of the transformational leadership in the mentioned research include idealized influence (attributes), idealized influence (behavior), inspiring motivation, individual considerations, and intellectual stimulation. The results of this research showed that the followers' open-mindedness for the experiences will increase the idealized influence (behavior), inspiring motivation, and intellectual stimulation; and although an organic organization has no effect on the transformational leadership, but if it is combined to the followers' personality it can make an effect on the transformational leadership. Besides, the idealized influence (behavior) and the intellectual stimulation will reach to their highest rate when there is an organic organization and followers' open-mindedness.

In another research, Shafizade and Shoghi (2012) studied the relationship between the organizational structure and the employees' creativity and found that there is a significant negative and direct relationship between the organizational structure and its dimensions (i.e. complexity, centralization, and formalization) on one hand and the creativity of the employees on the other hand. Finally, Shafiqi (2010) studied the relationship between the organizational structure and the creativity on the employees of Qazvin Alborz Cable Company. He found that there is a significant negative relationship between the organizational structure and the employees' creativity. Other findings showed that there is no significant relationship between the formalization in the organization and the creativity of the employees' and there is a significant negative relationship between the variables of the creativity and the complexity and centralization in the organization.

3.1. Theoretical framework of the research

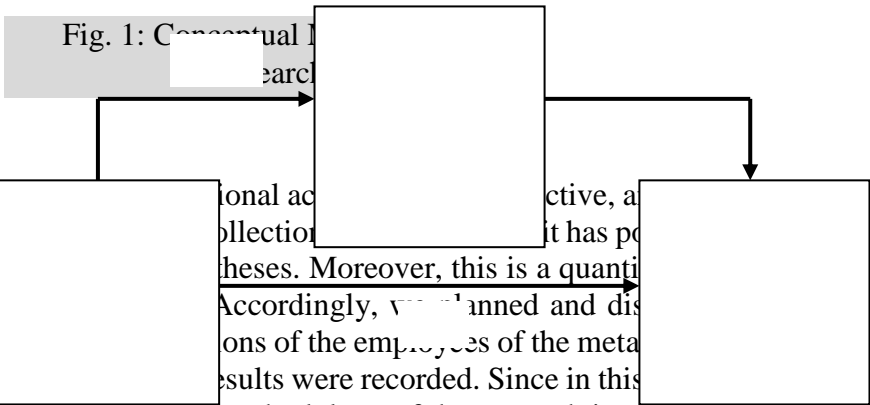
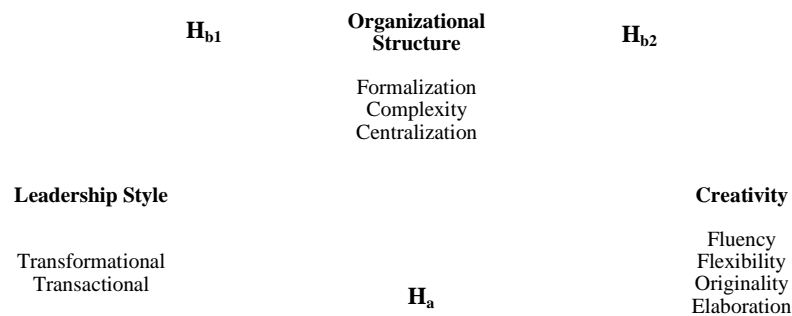
The conceptual framework of this research has been designed with regard to the existence of three main constructs (leadership style, organizational structure, and creativity), so that the leadership style plays the role of independent or predictive variable; creativity plays the role of

dependent or criteria variable, and finally the organizational structure plays the role of mediating variable. Considering the relationship between the construct, we have looked for the effect of the managers' leadership style in the employees' creativity on one hand, and the mediating role of the organizational structure in the relationship between the leadership style and the employees' creativity on the other hand. Fig. 1 shows the conceptual model of the research. Additionally, the main and subsidiary hypotheses of this research are proposed as follow:

Main hypothesis (H_a): Leadership style has an effect on the employees' creativity.

First subsidiary hypothesis (H_{b1}): Leadership style has an effect on the organizational structure.

Second subsidiary hypothesis (H_{b2}): Organizational structure has an effect on the employees' creativity.



4. Methodology

The methodology of this research is a combination of qualitative and correlative one according to the involved subjects to study the relationship between leadership style and organizational structure regarding to the type of it. The data were collected through questionnaires in order to study the relationship between leadership style and organizational structure in Kaveh Industrial City, and the relationship between organizational structure and creativity. Accordingly, we planned and distributed questionnaires to the employees of the metal industry in Kaveh Industrial City. The results were recorded. Since in this research the relationship was going to be studied, the methodology of the research is causal with regard to the relationship between the variables; and we have used the structural equation model to come to a comprehensive analysis of our conceptual model. This model is the best one for analyzing the researches in which the observed variables have some measurement errors and the relationship between their variables is complicated. Using this method, one can measure the precise of the factors or observed variables on one hand, and study the causal relationship between the latent variables and the scale of explained variance on the other hand (Hair, et al, 2010).

4.1. Statistical population, sampling method, and sample size

The population of the research contains all employees in the companies of metal industry in the Iranian Kaveh Industrial City, which includes 4700 employees. The companies of the metal industry in the Iranian Kaveh Industrial City (36 companies) were divided into 4 groups: aluminum metal manufacturing companies, non-aluminum metal companies, household appliances, and automobile. Relying on the relative stratified random sampling method, 12 companies out of the 36 active companies in the metal industry were selected as the sample.

Then using the Cochran formula, we specified the sample size for our 4500 subject population. To use the Cochran formula it is necessary to consider its assumptions. The assumptions of the Cochran formula include: $p=q=50\%$ (on the basis of probabilistic method); z is the standard statistic for normal distribution that is equal to 1.96 at the confidence level of 95%; d is the maximum allowable error (equal to 5% for this research); and N is the number of the employees in all relevant companies. The sample size (n) is calculated according to equation 1 on the basis of the Cochran formula (Saraei, 2000):

$$n = \frac{z^2 pqN}{Nd^2 + z^2 pq} \quad (\text{equation 1})$$

Thus using the equation 1, considering the number of the statistical population (4700), 355 subjects were selected as the statistical sample. At the last step, regarding the number of the employees of each company and the total sample, we calculated the sample of each company separately. It is to be mentioned that 370 questionnaires were distributed among which the number of 360 questionnaire were completed and got back (response rate of 97%), and 5 questionnaires were removed due to their incompleteness. Thus the statistical operation was conducted on 355 subjects.

4.2. Data collection instrument; reliability and validity

In order to collect the needed data of the research, we used three questionnaires with totally 116 questions. The questionnaire of this research contained the followings: Employees' Creativity Questionnaire with 60 questions (16 questions for fluency, 11 questions for flexibility, 22 questions for innovation, and 11 questions for elaboration) (Torrance, 1959, quoted by Rezaei and Manouchehri, 2009); Managers' Leadership Style Questionnaire with 32 questions (20 questions for transformational leadership and 12 questions for transactional leadership) (Bass and Avolio, 2000); and finally the Organizational Structure Questionnaire with 24 questions (7 questions for complexity, 7 questions for formalization, and 10 questions for centralization) (Robbins, 1998). In order to measure the reliability of our instrument, we conducted a pre-test on 30 separate subjects. To do this, the Cronbach's alpha was calculated by SPSS20 software, where the reliability coefficient for the questionnaires of leadership style, creativity, and organizational structure were 0.81, 0.84, and 0.78 respectively. Moreover, we retested the reliability of the questionnaires on the same pilot subjects and the results of these two pre-tests were compared. The results showed that there is no significant between the two test results, and thus the reliability of the questionnaires was confirmed. After the pretest, the reliability of the main test was calculated using the whole sample data. To do this, we used PLS method. In this method, item reliability is being used to determine the reliability of the questionnaires. The item reliability itself is calculated by testing the factor loadings through evaluating correlation value of the items of one construct to that construct, then of this value is equal to or higher than 0.4, then we can claim that the reliability of that model is acceptable (Hulland, 1999), and if the relevant factor loading is less than 0.4, then we can remove that specific question from our model and its subsequent analyses. In this step, the researcher has to be careful about removal of the questions and do this removal only when he ensures that such a removal will not interrupt the research process. In this research, we removed some questions after calculating the factor loading of the questions, so that 2 questions from the first part of the questionnaire (creativity) and 1 question from the third part of the questionnaire (organizational structure) were removed and 113 items remained to be analyzed.

4.2.1. Convergent and divergent validity

To determine the validity of the questionnaires of the pretest, we used the content validity method and so the questionnaires were confirmed by the supervisors, advisors and experts of the field after doing the needed corrections. After completing the pretest, the validity of the questionnaires of the main test was specified by two criteria of the structural equation model, mainly the convergent and divergent validity criteria. Besides, to specify the construct validity,

we used structural equation model and SMART PLS software. Construct validity is divided into convergent and divergent validity. In convergent validity, AVE¹ criterion was used whose results for the variables of the research are shown in table 1.

Table 1. AVE values for the convergent validity

Variable	Transformational leadership	Transactional leadership	Fluency	Flexibility	Innovation	Elaboration	complexity	Formalization	centralization
AVE	0.691	0.643	0.709	0.716	0.767	0.701	0.791	0.751	0.738

The criterion value for the acceptance level of AVE is 0.5 (Hulland, 1999). As it is shown in table 1, all AVE values for the constructs are higher than 0.5 and these values confirms the convergent validity of the research questionnaire at an acceptable level. On the other hand, in divergent validity, the difference between the items of a construct is compared to the items of other constructs of the model. To do this, the square root of the AVE in each construct is being calculated against the values of the correlation coefficient between the constructs (Devellis, 2003). In this regard, we will need a matrix that includes the matrix main diagonal of the AVE coefficient of each construct, and the values of the upper and lower of the main diagonal includes the correlation coefficient between each construct and the other constructs. In this research, the root square of the AVE of each construct was higher than the correlation coefficients of that construct against the other constructs (values of the column and row of that same construct), and this fact shows the acceptable divergent validity of the constructs.

5. Data analysis

5.1. Model fitness

In this step, we used LISREL 8.8 to do the confirmatory factor analysis in order to assess the measuring models of the research. In this process, if the following conditions are met, the fitness of the model is suitable: the obtained significance level of chi-square (p-value) is higher than 0.05; Chi-square to degrees of freedom is less than 3; the statistic value of the Root Mean Square Error of Approximation (RMSA) is less than 0.05; the value of Comparative Fitness Index (CFI), General Fitness Index (GFI), Adjusted General Fitness Index (AGFI), and Non-Norm Fitness Index (NNFI) are higher than 0.9 (Joreskog & Sorbom, 1996). All above cases were confirmed in this research, thus the models of measuring the construct of this research are of suitable fitness.

5.2. Findings of the demographic characteristics

The findings of the research in descriptive statistics part (characteristics of the participants) showed that 92% of participants were male and remaining 8% were female. Marital status of the subjects implied that 42% of them were single while remaining 58% of them were married. Educationally, the biggest group of the subjects was the group of employees with associate degree (46%), while 23% of the subjects had the education lower than high school diploma, 27% of them had bachelor degree, and 4% of the participants had master degree or higher. The findings on the participants' fields of study showed that 36% of the subjects had studied in technical and engineering fields, 26% had studied in humanities and social sciences, and remaining percent of the subject had studied in other fields of study. The age range of the

¹ Average Variance Extracted

subjects was something between 20 to 52 years old among which 12% of the subjects were less than 25 years old, 56% were between 25 to 35 years old, and remaining 32% if the subjects were higher than 35 years old. With respect to the employment status of the subjects, 89% of the subjects had a mid-term contract, 8% of the subjects were permanent contract, and 3% of the subjects were subcontractors. And finally with regard to the work experience of the participants, 28% of the subjects were less than 5 years experienced, 40% of the subjects had something between 5 to 10 years' experience, 19% of the subjects had something between 10 to 15 years' experience, and remaining 13% of the subjects had a work experience more than 15 years.

5.3. Testing the hypotheses

One assumption of using the correlation and regression tests is the normality of the distribution of the research variables. In this research we used Shapiro- Wilk test to investigate the normal distribution of the research variables, and since the significance level test in all distributions were higher than 0.05, thus we can claim that the scores in all variables follow a normal distribution. Since the correlation coefficient is the basis for determining the accuracy of the estimated regression, thus these two technics has to be used simultaneously (Kalantari, 2009). In order to test the hypotheses of the research, we first applied Pearson's Correlation test (to determine the direction and intensity of the relationship between the variables) and then the regression (to predict the changes of the dependent variable by the independent variables). These were done in SPSS 20. Finally, the structural equation model was used in SMART PLS 2 in order to show the final confirmation of the hypotheses, as illustrated in the next parts of the paper.

5.3.1. Testing the main hypothesis:

there is a relationship between the managers' leadership style and the employees' creativity. To test this hypothesis we first used Pearson's correlation test and then applied the multiple linear regression test. The results can be seen in tables 2 and 3.

Table 2. Pearson's correlation matrix between the constructs of the main hypotheses

Constructs	Managers' Leadership style	Employees' creativity	Organizational structure	Organizational culture	Significance level
Managers' Leadership style	1	0.718	0.702	0.834	0.000
Employees' creativity	0.718	1	-0.672	0.702	0.000
Organizational structure	0.702	-0.672	1	-0.630	0.000

Table 3. Matrix of the coefficients for the multiple linear regression of the main hypotheses

	Significance level	Statistic t-values	Non-standardized β values	standardized β values
Fixes value	0.000	3.553	3.654	
Transformational	0.000	44.911	0.923	0.861
Transactional	0.000	-7.112	-0.129	-0.133

Since in the regression and correlation matrix, the significance level is less than the error value (0.01), thus there is a significant relationship between the managers' leadership style and the employees' creativity at 95% level of confidence. Moreover, as shown in table 3, beta coefficients indicate that 86% of the employees' creativity is predicted through the transformational leadership style and 13% is predicted through the transactional leadership

style (remaining percentage results from the measurement error). Hence as the results show, transformational leadership style has a stronger role in increasing the creativity of the employees. The linear regression equation for the main hypothesis is as follows:

$$Y = 3.654 + (0.861) X_1 - (0.133) X_2$$

Thus for each unit of changes in the transformational leadership style and transactional leadership style, the creativity of the employees will change 0.86% and 0.14% respectively.

5.3.2. Testing the first subsidiary hypothesis:

There is a relationship between the managers' leadership style and the organizational structure. To study this hypothesis, we refer to the tables 2 and 4.

Table 4. Matrix of the coefficients for the multiple linear regression of the subsidiary hypotheses 1

	Significance level	Statistic t-values	Non-standardized β values	standardized β values
Fixes value	0.000	4.443	3.331	
Transformational	0.003	34.654	0.843	0.802
Transactional	0.002	-5.766	-0.140	-0.193

Since in the regression and correlation matrix, the significance level is less than the error value (0.01), thus there is a significant relationship between the managers' leadership style (and its dimensions) and the organizational structure at 95% level of confidence. Moreover, as shown in table 4, beta coefficients indicate that 80% of the changes in organizational structure are predicted through the transformational leadership style and 19% are predicted through the transactional leadership style; that is, transformational leadership style has a stronger role in creating a suitable organizational structure. The linear regression equation for the first subsidiary hypothesis is as follows:

$$Y = 3.331 + (0.802) X_1 - (0.193) X_2$$

Thus for each unit of changes in the transformational leadership style and transactional leadership style, the organizational structure will change 0.80% and 0.19% respectively.

5.3.3. Testing the second subsidiary hypothesis:

There is a relationship between the organizational structure and the employees' creativity. To study this hypothesis, we refer to the tables 2 and 5.

Table 5. Matrix of the coefficients for the multiple linear regression of the subsidiary hypotheses 2

	Significance level	Statistic t-values	Non-standardized β values	standardized β values
Fixes value	0.000	3.367	3.188	
Centralization	0.001	-21.932	-0.470	-0.391
Formalization	0.000	-6.165	-0.395	-0.302
complexity	0.001	-31.932	-0.531	-0.344

Since in the regression and correlation matrix, the significance level is less than the error value (0.01), thus there is a significant relationship between the organizational structure (and its dimensions) and the employees' creativity at 95% level of confidence. The negative sign of the correlation coefficient in table 2 shows the reverse relationship between the organizational structure and the employees' creativity. Moreover, as shown in table 5, beta coefficients indicate that 39% of the changes in employees' creativity are predicted through centralization, 30% are predicted through the formalization, and 34% are predicted through the complexity; that is, centralization plays a stronger role in determining the creativity of the employees. According to these results, the linear regression equation for the second subsidiary hypothesis is as follows:

$$Y = 3.188 - (0.391) X_1 - (0.302) X_2 - (0.344) X_3$$

Thus for each unit of changes in the centralization, formalization, and complexity, the creativity of the employees will change -0.39%, -0.30% and -0.34% respectively.

5.4. Testing the research hypotheses in structural equation model

After testing the hypotheses by regression and correlation tests, it is the time to use the SEM model to confirm the research hypotheses. SMART PLS 2 is a suitable instrument to study SEM models as used in this research. The research hypotheses have been assessed in the section of the structural model. As shown in Fig. 2, all previous- mentioned conditions for the suitability of model fitness are true here again. Besides, the relationship between the leadership style and the creativity is direct and significant; that is the leadership style has a significant and positive effect on the creativity, and as indicated by the standard output coefficients of the SMART PLS software, 67% of the changes in creativity are predicted by the leadership style. The available difference between this value and the resulted value of the regression test is due to the calculation of the measuring error that is calculated in SEM software and thus the causal coefficient is lower (more real). The output of the SMART PLS software confirms the subsidiary hypotheses as well as shown in table 6. When t-values at an interval higher than +1.96 and lower than -1.96, then we can see the significance of the relevant parameter. T-values of the table 6 show the significance of the relationships of the main and subsidiary hypotheses.

Table 6. Results of testing the research hypotheses

Hypotheses	Standardized coefficients	t-value	Result
Leadership style → Creativity	0.67	3.35	confirmed
Leadership style → Organizational structure	0.67	5.16	confirmed
Organizational structure → Creativity	-0.53	9.16	confirmed
$\chi^2 = 144.21$ $df=61$		RMSEA= 0.016	GFI= 0. G93
A FI= 0.92			

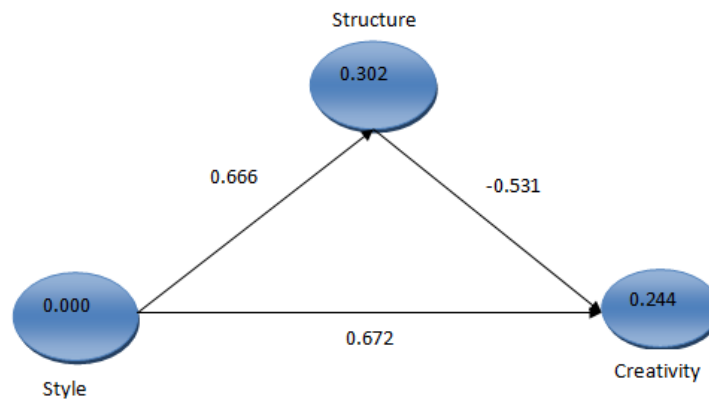


Fig. 2: Standardized coefficients of the structural model

5.5. Direct and indirect effects of the variables in the model

The structural part of the structural equation model shows the effects of the model's constructs in two types of effects: direct effect and indirect effect. Table 7 shows the direction coefficients of the research.

Table 7. Direction coefficients using structural equation model

Effects of the model		t coefficients	Effect value	Confirmation or rejection
Direct effect	Leadership style → Creativity	3.35	0.67	Confirmed
Indirect	Leadership style → Structure → Creativity	5.16	0.67* 0.53=	Confirmed

effect	Creativity		0.36	
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6. Conclusion and discussion

Nowadays, innovation is a fundamental need for the organizations that look for their survival and effectiveness, and many companies are now search for innovative and entrepreneurial ways and approaches for improving their effectiveness, efficiency, and flexibility. In this regard, now the creativity is promptly becoming a necessary tool for many organizations. Moreover, to survive in the current strongly competitive world and to be hopeful to their future, the organizations need creative employees to get compatible with the new situations and transformations. Let us discuss on the basis of the research hypotheses.

Main hypothesis: There is a relationship between the managers' leadership style and the employees' creativity.

The findings showed that relationship between the two variables of managers' leadership style and the employees' creativity is significant at 0.01 significance level ($p = 0.000$; $r = 0.718$). Thus with 99% confidence level we can conclude that there is a significant and positive relationship between the managers' leadership style and the creativity of the employees of metal industry of Iranian Kaveh Industrial City. The direct relationship indicates that the change in the leadership style (transformational and transactional styles) will lead to change in the creativity of the employees. Additionally, the findings show that in the relationship between the managers' leadership style and employees' creativity, the variable of the organizational structure organizational culture play a mediating role. Transformational leaders create a suitable environment and so play a necessary and key role in facilitating the innovative and creative activities and behaviors in the employees. These leaders help their followers to look their old problem from a new point of view. On the other hand, considering the characteristic of the intellectual stimulation (in which the leader helps the followers to come to initiatives and constructive creativities), it is expected that the transformational leadership facilitate the reinforcement of the culture of innovation and creativity in organization. Transactional leadership has a reverse relationship with the creativity because the transactional leaders try to preserve the current situations, bureaucratic organizational structures, and established organizational structure all of which cannot lead to any change; thus these leaders have no effect on the improvement the culture that encourages creative behaviors among the employees. The organization whose managers apply suitable leadership style can affect the creativity of its employees and nurture the new and fresh ideas, and these ideas in turn lead to the creativity and such creativity cause the organizational innovation and entrepreneurship. The results of the hypothesis is consistent with the findings of Shoghi and Mortezaei (2012), Oumlou and Aolsou (2009), and Shoghi, Rezaei and Rezaei (2012).

First subsidiary hypothesis: There is a relationship between the managers' leadership style and organizational structure.

The findings showed that relationship between the two variables of managers' leadership style and the organizational structure is significant at 0.01 significance level ($p = 0.000$; $r = 0.702$). Thus with 99% confidence level we can conclude that there is a significant and positive relationship between the managers' leadership style and the organizational structure in metal industry of Iranian Kaveh Industrial City. As the findings show, the leadership style has a relationship with the organizational structure; the transformational leadership style has a positive relationship with the organizational structure; and the transactional leadership style has a negative relationship with the organizational structure. These findings indicate that in the transformational leadership style, the organic structure, formalization, complexity, and centralization are low, and in the transactional leadership style, the organic structure, formalization, complexity, and centralization are high. Transformational leaders make the

organizations form their organic structure and reduce their complexity and to do so, the transformational leaders use their idealized influencing characteristics such as team work and make the employees participate in the important organizational decisions. One of the most important characteristics of the inspiring motivation of the transformational leadership that fits to the organic organizational structures is to welcome the changes. In organic organizational structures, the organizations welcome the changes because they know that there is an opportunity beyond each piece of change, and these opportunities will lead to the success of the organizations in the competitive markets. Moreover, the individual consideration emphasizes on the assigning of the authority to the employees, and such an assignment is a parameter that directly links to the centralization because through such a process, the employees will be able to decide on their own related works. All these facts illustrate that the transformational style of the leadership focuses on the external environment and flexibility. Conversely, the transactional leaders look for preserving the current situation; they hate changes' they consider the needs of their followers just by focusing on the mutual transaction; they do not pursue the development of their employees' capabilities, and impose an intense control over their employees by applying active management -by- exception method. These facts show that the transactional leaders are willing to have mechanical organizations. The results of this research are consistent with Macaux's findings (2009), while inconsistent with the findings of Haritha and Venkat (2004).

Second subsidiary hypothesis: There is a relationship between the organizational structure and the employees' creativity.

The findings showed that relationship between the two variables of the organizational structure and the employees' creativity is significant at 0.01 significance level ($p = 0.000$; $r = 0.672$). Thus with 99% confidence level we can conclude that there is a significant and negative relationship between the organizational structure and the employees' creativity in metal industry of Iranian Kaveh Industrial City; that is, when the organization is more flexible and steps toward the organic structure, the creativity will be increased; and conversely, when the organization moves toward the mechanical structures, the creativity will be decreased. Moreover, the results of the research showed that there is a significant and negative relationship between each of the complexity, formalization, and centralization on one hand and the creativity on the other hand. Burns and Stalker (1962) and Mintzberg (1989) had shown that the organizational structures are effective on the creativity. They believed that the organic structure facilitate the creativity, while the mechanical structure prevent the creativity. According to Mintzberg, in mechanical structure, some issues such as the routine professional works, official instructions, close supervision on the basis of the rules and regulations, the exact hierarchy for the authority, and the official planning will block the minds of the employees because in such structures, the machines are more important than the humans, and so there is no room for the commitment and creativity of the employees. Thus is the organizations with simple and organic structures we can naturally find more creativity than the mechanical structures like the mechanical bureaucracy, professional bureaucracy, and independent department based organizations (Shoghi and Mortezaei, 2010). In the organizations that have gone farther from the traditional level and approached to the modern organizational structures (such the network structures, star structures, etc.), there will be more attention to the changing and variable environment and the human resources. Self-confidence, self- controlling, independence, multiple skills, creativity, role-playing, flexibility, risk- taking, and entrepreneurial skills are among the characteristics that the modern organizations grant to their employees. Such organizations believe that if the organizational structure accepts the risks, then the individuals will be willing to try their risky ideas; and in such an atmosphere, the organization can nurture the creative people and reinforce their entrepreneurial motivations. The results of this research are consistent with the findings of Shafizade and Shoghi (2012) and

Dawson and Claudia (2009). Additionally, Shafiqi (2010) confirmed the negative relationship between the organizational structure and the creativity, and found that there is a negative relationship between the centralization and complexity of the organizational structure and the creativity, while there is no significant relationship between the formalization and creativity.

6.1. Suggestion on the basis of the research findings

Considering the results of the findings of this research the following suggestion can be proposed for the metal industry:

The main hypothesis of the research indicated that there is a relationship between the managers' leadership style and the creativity of the employees. Accordingly we suggest the followings:

- To train the managers on the different styles of leadership (i.e. transformational and transactional) and the importance of each style, because if the managers are familiar with the leadership styles, they can play role in growing the employees' creativity and finally lead to the entrepreneurship of the organization.
- to use their intellectual stimulation in order to challenge the thoughts, perceptions, and the creativity of their followers and to know their values and beliefs. This requires that the leaders train their followers to retest their traditional method of problem solving.
- To reform and revise the reward and encouragement system against the employees, because the rewards and encouragements will motivate the creativities.

The first subsidiary hypothesis of the research indicated that there is a relationship between the managers' leadership style and the organizational structure. Accordingly we suggest the followings:

- To decrease the centralization and increase the creativity by encouraging the team work and make the employees participate in decision makings.
- To have a continual contact with the employees through unofficial communications.

The second hypothesis of the research indicated that there is a relationship between the organizational structure and the employee's creativity. Accordingly we suggest the followings:

- Small companies of the metal industry try to re-plan their structure, and in such re-planning they have try to minimize their department and combine the department in each other, to outsource their projects, to remove additional departments, to decrease the levels of their hierarchy, and to flatten their structure.
- The organizations try to facilitate the vertical communications, especially with the top managers of the company, so that the employees can offer their suggestions to the managers at the soonest possible time without any official bureaucracy. To fulfill this objective, the companies can assign a box or email for the suggestions of the employees so that the manager of the organization can directly check their suggestions.
- To invite all employees to participate in decision makings because the participatory environment can lead to more creativity and innovation and it can help the employees' growth. to do this, the managers can officially confer some authorities to the qualified employees. Of course such an action will not reduce the responsibilities against the probable problems.

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