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The Elaboration of the Transformational Leadership Effect on Organizational Performance Through Innovation and Organizational Learning (Case Study: Khouzestan Cement Company)

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Abstract: The objective of the present study is to survey the relationship between transformational leadership and organizational performance intermediated by innovation and organizational learning. The study population is consisted of 200 individuals working in Khouzestan Cement Company. The sampling method used in the present study has been simple randomized method and the total study sample volume by taking advantage of Cochran's formula has been selected to be 131 individuals. The data required for the present study has been collected using a questionnaire the credibility of which was previously tested. To determine the validity and credibility of the questionnaires there has been made use of content validity and Cronbach's alpha coefficient. And the reliability coefficient was obtained 0.89 for the transformational leadership questionnaire, it was found to be 0.79 for the organizational performance questionnaire and it was obtained 0.80 for the innovation questionnaire and it was calculated as equal to 0.81 for the organizational learning questionnaire. Structural relationships model has been used in the current study to analyze the data. To analyze the data and to perform the hypotheses test LISREL statistical software was taken into use. The results indicated that there is a significant relationship between transformational leadership variables, organizational performance, innovation and organizational learning and the intermediary role played by innovation variables and organizational learning in the relationship between transformational leadership and organizational performance has also been confirmed.

Key words: Transformational leadership, organizational performance, innovation and organizational learning, effect, test

INTRODUCTION

Nowadays, organizations are continuously seeking for the new methods of enhancing their performance. Human performance is defined as a result to a collection of activities and actions which are undertaken with the purpose of reaching to the predefined objectives and goals based on a specific standard. These activities can include observable behaviors or unobservable mental processing (in the form of problem-solving, programming and planning, reasoning). On the other hand, the changing and diverse organizational environment urges the managers in the present era to make a better and more use of tool called knowledge to be able to face and resist the factors of uncertainty and maintain and develop the holding position. This necessitates for an important priority to be given to the innovation management by the managers' side. That is because the organizations are more successful in responding to the changing environments and the creation and development of the novel capabilities which enable them achieve better performance through being more innovative (Montes *et al*., 2004). Moreover, it is evident that every social organization needs a sort of leadership to achieve the designed objectives and according to its structure. In order for the organization to remain successful the existence of leadership is deemed to be necessary and vital, even the employees with the best performance need to know how can they cooperate and participate in the organizational activities to get to the organizational objectives. The organizations should be able to develop strategies to guide and control such variations and changes aided by the transformational leader to adapt themselves with the today's changing and altering world and to be able to institutionalize creativity and innovation atmosphere. In the meantime, transformational leadership

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is one of the newest approaches proposed regarding the topic of leadership but there are very few number of researches performed in our country regarding the topic of transformational leadership. The transformational leadership research background dates back to 1987 and Burns activities. Burns determined that the transformational leaders exhibit discretion and urge the others into challenge and effort to accomplish extraordinary tasks. Following the researches performed by Burns in 1985, Bass introduced a model which prescribed transactional and transformational leadership, respectively for the stability and transformation situations in an organization. The informed influence process on the individuals or groups is regarded as a general principle for creating discontinuous change and evolution in the current status and functions of an organization. Transformational leadership creates evolution and change in the whole society through his or her speech and conduct and enjoys a great deal of influence on his or her followers. Such a leadership is actualized when the leaders augment their followers' interests and aspirations to work, make them fully aware of the goals and missions and encourage them to think well beyond self gain (Moghali, 2003). Transforming leaders act in the direction of creating change and evolution in the organizations and they are the messengers of organizational performance development and improvement through establishing new ideas and perspectives and through creating trust, enthusiasm and zeal as well, among the managers and employees (Osborn and Marion, 2009). They are also connected to a vast spectrum of positive outcomes for the employees, teams and organization which eventually lead to an enhancement in the employees and organization performance (Wang *et al*., 2011; Gundersen *et al*., 2012). Also, an organization is supposed to develop its human resources and expand the operating available knowledge to outperform other organizations. The staff and the knowledge in its head is a very valuable source to the organization. Knowledge and the method of knowing and figuring out knowledge are the two strategic sources for the organization which need to be managed and developed. Therefore, organizational learning and knowledge production have been highly focused on during the several recent years (Hornstein, 2006; Paajanen *et al*., 2006). Organizational learning is a dynamic process which enables the organization to adapt to the change. This process includes the production of new knowledge, skills and behaviors. Organizational learning is the main way that the knowledge work is created and the organizational efficiency is improved. So, a successful organization should be dynamic in its learning programs (Zhang *et al*., 2006). Thus, the current study aims at the survey of the relationship between transformational leadership and organizational performance via the intermediary role played by innovation and organizational learning.

Literature review

Transformational leadership: The leadership style is a collection of managerial attitudes, attributes and skills which are formed based on four factors including value system, trusting the employees, leadership tendencies and perceiving safety and security in uncertain situations. Generally speaking, leadership style is the factor determining the atmosphere, culture and strategies governing an organization (Rowold and Rohmann, 2008). Based on the model proposed by Bass and Avolio, the leadership style dimensions can be divided into three parts including transformational, transactional and non-intervention styles. Transforming leadership is applied to the performance offered by a leader who is seeking to personally get his or her followers move in an orbit well beyond the transient self gains and interests through factors such as idealized influence (charisma), inspirational motivation, intellectual stimulation and individualized consideration (Bass and Bass, 2008).

The transforming leadership style theory is one of the theoretical frameworks which is taken into consideration globally and it has been proposed by Bass (1985). During recent years, there has been a great deal of attention paid to testing the transformational leadership modern managerial pattern. And it has been in such a manner that only during the years from 1990-1995 >100 dissertation and thesis attempted to survey and investigate the concept of transformational leadership in various universities at a global level. Bass stated, in 1990, that the leaders can guide their followers to a performance overly beyond what is expected through making use of transforming leaders' behavioral characteristics (Humphreys and Einstein, 2003). Bass and Avolio describe transformational leadership as: transformational leadership is substantiated when a leader incites his or her followers for a common insight, encourages them in reaching to a perspective and provides them with the required sources and resources to bring about a growth in their individual and personal growth. Meanwhile emphasizing their followers' needs to grow and develop, leaders as a role model, create optimism and augment commitment. As it was pointed by Gardner and Stough, transforming leaders enhance their followers' needs and motivations and cause outstanding changes and alterations to take place in the individuals, groups and

organizations (70). Transformational leadership style proposed by burns has been studied and investigated by many researchers and under various titles (Bass, 1985).

Generally, such researches have expressed behaviors and features of the transforming leaders as "affability and empathy, need for power, eloquency and good speech skills, intelligence and being considerate of the others". Such leaders are capable to stimulate their followers have inspirational competencies, attract commitment from their followers and are able to change individuals' beliefs, attitudes and goals as well as organizational norms. Transforming leader creates this feeling in the subordinates that they are looks upon as human and help the individuals to see things through new binoculars (Landrum *et al*., 2000).

Transformational leader to be operationalized is in need of four components or factors known as the constituents of the transformational leadership theory. These factors are: idealized influence (idealized features-idealized behaviors): in such a state, the individual is characterized as a charismatic leader who is trusted and admired by the subordinates and they recognize him or her as a pattern or role model and try to become him. Idealized influence is inclusive of the idealized attributes and idealized behaviors.

Inspirational motivation: Leader encourages the staff members to believe in the goals and that they are achievable through making efforts. Such individuals are usually optimistic regarding the future and the access-ability of their goals and objectives.

Intellectual stimulation: The leader stimulates the employees mentally. Such leaders encourage their followers to behave creatively in problem-solving and question evident and certain suppositions and hypotheses. They encourage the followers to evaluate the problems from various aspects and implement innovative problem-solving techniques.

Individualized consideration: The leader satisfies the subordinates' emotional needs. Such leaders know the individuals' needs and help them foster skills needed for achieving and getting to the goals and objectives. Such leaders may spend a sufficiently a lot of time for culturing, teaching and training.

To adapt to the today's changing and evolving world and to institutionalize creativity and innovation atmosphere, the organizations should be able to create and develop strategies to guide and control such changes by the aid of the transformational leaders. In fact, transformational leaders create a flexible organizational atmosphere through the use of their followers' intellectual stimulation and inciting their innovative thoughts in the entire organization which challenges the employees' feelings and emotions and makes them to be looking for new innovative perspectives in their occupations (Gumusluoglu and Ilsev, 2009). On the other hand, such leaders cause their followers' motivation to grow, make the organizational performance and efficiency increase and also bring about the grounds for their own selves efficiency augmentation (Rafferty and Griffin, 2004).

Organizational performance: Performance is a collection of job-related behaviors exhibited by the individuals (Griffin, 2004). Performance of an individual in an organization depends on the type of his or her personality and the role s/he takes in the organization and also on the organizational conditions. The predicted standard or the key associated scale performance should be within the framework presented below and this framework is a tool for judging the individuals, groups and organizations' efficiencies. Occupational performance is the individual's product and output in relation to the actions and performances conducted by the individual, in other words, performance is the very real work undertaken by the individuals according to their job description criteria. In fact, occupational performance is to accomplish and fulfill tasks and duties which have been assigned by the organization to the human workforce. Vaithisvaran and Vance realize job performance as the behaviors by which the employees get engaged in the organizational goals and contribute to the organizational objectives. Rogelberg has defined performance as the activities which are normally part of the individual's job and undertakings which should be accomplished. Life in knowledge-based communities brings about new challenges to the workforce and the organization as well. To survive and compete there is a strong need for constant development an learning. In the meantime, managers and superiors as the main premises of an organization have a great need to be trained with the managerial skills. The managers should have a clear and bright perspective regarding the skills required for the management to be effective. In addition, they should be completely aware of the skills and abilities required for the managers in the same level as they are and also the other managerial levels in the organization. If there is a lack of such awareness they will not be able to work effectively and receive the proper feedback and/or prepare for the other activities related to their work variations and education and growth in the vocational activities (Gentry *et al*., 2008).

The extent to which one moves towards reaching the organizational objectives is in a direct relationship with the way the human workforce perform in an organization. In organizations, according to the various needs and the managers' attitude the objectives and goals expected from the performance evaluation may be prioritized differently and these can be classified into three main groups:

- Strategic objectives which include strategic management and revisions regarding the strategies
- Relational objectives, including maintaining the current status, illustration of the future trends and benchmarking all of the other organizations
- Motivational objectives including organizing a reward system and also encouraging improvement and learning

The functions and applications intended for the performance evaluation in the organizations are: human workforce planning and programming, locating employees, setting recruitment tests, determination of the educational needs and attempting to satisfy them, determination of job careers, determination of a standard for materialistic rewards, pinpointing the staff potential talents and decision making about encouragements, promotions, transfers and downgrading the staff.

Mooray Insvert and Naywil Smith recognized performance as a function of role description clarity, competencies, environment, values, preferential fitness and reward. In the equation proposed by Insvert and Smith the performance factors in Mayer's equation have been introduced by the titles such ascompetencies and preferential fitness. Studies have continuously indicated that besides knowledge, skills and talents, personality is another characteristic which is a valid predictor of the occupational performance particularly field performances and the individual-organization interaction. Performance is assessed in three fields: knowledge, skills and abilities.

Knowledge: Points to the experience and the educations learnt in line with performing one's assigned tasks and duties, information organization, knowing and having information regarding the rules and regulations, circulars and procedures, believing in documentation, knowing what to do.

Skills include useful and applied experience, the art of blending the knowledge and the wanted tasks and responsibilities, acts of gathering, analyzing and purifying the data, working and operating new systems, solving trivial problems, documentation skills.

Ability includes the use of knowledge and learnt skills to conduct the tasks, accomplishment of the assigned duties and works in the best way possible and fulfilling one's duties in complicated conditions.

Innovation: Kunter calls innovation a process of compiling any sort of new and useful ideas for problem-solving and believes that innovation includes taking ideas, accepting it and implementing it. Barigheh believe that innovation is regarded as the creation of novel knowledge and business ideas to facilitate the production of new products with the objective of improving the internal business processes, market structure and stretch towards products and services provided.

Innovation is generally the formation of ideas, acceptance and implementation of novel ideas in the processes, products and services and tendency and inclination towards change through the adoption of technologies, resources, skills and modern managerial systems.

Organizational innovation indicators

Production innovations: Production innovation provides for an instrument for manufacturing and production (Ojasalo, 2008) which points to the development and offering new improved products and services. In fact, it can be stated that innovation is intended to mean the extent to which an organization offers new services, allocates financial resources to research and development and the organization holds the lead in other such cases.

Procedural innovation: It is a tool used in the direction of maintaining and improving the quality of services and products offered and cost-effectiveness (Jimenez-Jimenez *et al*., 2008) and it includes the adoption of new or improved production methods, distributing or delivering service. In fact, innovation is intended to mean the extent to which the organization applies novel technologies and tries the novel methods of fulfilling and accomplishing jobs and tasks.

Administrative innovation: It refers to the novel organizational procedures, policies and forms (Jimenez-Jimenez *et al*., 2008). In fact, administrative innovation is the extent to which the organization managers make use of the latest managerial systems and things alike in the administration of the organization.

Types of innovation from Betz perspective: Betz explains that any sort of innovation is to be found in one of the following classes.

Essential: Innovation is the essence and foundation of development. Basic innovation is the elimination of the barriers which do not allow for the next coming changes to be actualized within an industry. That is because it is evident that the risk likelihood is very high in laying the foundations of a novel thought which is seeking to be transformed into a completely novel subject.

Organizational: Organization can be the place for a type of innovation to be commercialized. The possibility of innovation acceptance risk in this class is less than the basic innovation.

Evolutionary: This stage has the lowest risk possibility in innovation being accepted and generalized. This stage is comprised of two stages which are completion and production capacity building.

Innovation: Peter Drucker states that business entities only have two main tasks and he highly emphasizes these two duties which are: marketing and innovation. Fulfilling these two duties leads to fruitful results and the results bring about value-added and the other activities performed in an organization are only money-consuming.

Innovation is a process which provides the organizations, suppliers and customers with new solutions, products and services, value-added and a degree of revitalization via developing new transactional methods and creation of new strategies and approaches (McFadzean *et al*., 2005). Innovation is the process of adopting creative ideas and transforming it to products, services and new operational methods. Innovation causes the talent and the ability to adapt to the changes to come to existence.

Innovation fundamental principles: Managers should find out that the creation of an innovative environment necessitates the correct understanding of its fundamentals and they are:

Cost: Organizations are mostly needful of innovation and one way to reduce the organizational costs and expenditures is through innovation. And all of the individuals in an organization are required to remember the cost reduction issue in their daily efforts and activities and this will automatically result in innovation.

Quality: If all of the individuals in an organization from the senior management to low-ranking staff act and talk in a global level they will spontaneously transform into innovative individuals and improve the products and services in a constant manner.

Productivity: Innovation does not only imply good and well-formed ideas which are expressed occasionally, rather it has to mean that whatever is more needed for productivity should be continuously the focus of the attention.

Relevance: Organizations should know what is more related to their businesses and the market in which they are active and what seems to be irrelevant. Innovation is valuable when it is put into practical use.

Market awareness: Innovation is a topic which depends on the identification of the market gap and this implies that the organizations should be aware of the market opportunities to the maximum extent possible.

Competition: Many of the organizations working in the production area forget that they are rivaled and their earnings and revenues depend on their being better and more innovative in contrast to their competitors. The individuals mentality should be in the form that if they are not qualified and competent they may lose their jobs any moment (Barden, 2008).

Types of innovation from the organizational perspectives: Essential innovation; this type of fundamental innovation leads to the creation of a new market.

Performance development innovation: When a type of product is innovated the organizations try to increment the use of the lately manufactured product.

Technology reconstruction innovation: Technology reconstruction process necessitates importing materials and equipments from other industry areas for the purpose of producing a new product.

Naming and commodity labeling advertisement innovations: Innovation in commodity labeling is the creation of the zeal to buy a special product.

Innovation in the processes: Production process innovation causes the organization to come up with advantages, respective to its rivals which are the acceleration of the production process and the enhancement of the flexibility in producing one product in comparison to another.

Innovation in design: One of the important issues in designing a product is the flexibility which means that the commodity should be adaptable and adjustable to the market conditions and changes in the consumers' interests and concerns.

Innovation in reformulation grounds: Reformulation includes the change in the current product structure without its components and constituents being altered.

Innovation in offering service: Studies indicate that the costs of attracting a customer is seven times the cost of the customer retention, therefore innovation in providing service to the customers is one of the important issues in staying competitive.

Packaging innovation: The change in packaging styles generally brings about a change in the amount certain product is purchased or used in a time interval and opens new markets and venues before the product.

Organizational learning: Organizations are confronted with an unceasing change in the 21st century. In order to enable the organizations to strive in the competitive markets the key point is that they should know how to learn and how to create new knowledge. Organizations' growth and survival in the highly changing world of the current era necessitates the ability to appropriately and timely react to the consecutive environmental changes. Only those organizations can predict the necessities and the environmental changes in a timely manner and continue striving in the incessantly changing environment which are concentrated on organizational learning and put a great emphasis on it. Learning makes it compulsory that the individuals put into practice the knowledge they acquire in their organizations. Learning is consisted of three stages: recognition, behavior and performance. According to Garvin idea the organizations are in need of five skills to be able to make use of novel thoughts in improving their organizational performance and transforming it into workable plans and programs and they are: problem-solving, acquiring experience, learning from experiences and history, learning from the others and transferring and executing the learnt materials. Learning is the most significant long-term performance improvement and in near future only those organizations can claim superiority which are capable of exploiting the individuals' competencies and learning capacities in every organizational level to the best interests of the organization. In the today's changing and competitive world, the organizations can continue their existence or claim that they are superior respective to the other organizations that are better able to take advantage of the individual employees' capabilities, commitment and learning capacity in every single level of the organization and in other words, they should be learning organizations (Sobhaninejad and Yuzbashi, 2006). It seems that the term "organizational learning" was first used by March in 1963 in his preliminary work on organizational decision making behavioral aspects (Dawes, 2003). But some believe that the attention paid to the methods of organizational learning by the academic schools dates back to 1950s (Bayraktaroglu and Kutanis, 2003). Disregarding the exact date the organizational learning discussions appearance, the subject did not get much of an attention till late 1970s. It was at this time that a number of theoreticians concentrated their activities on organizational learning (Argyris and Schon, 1978; Jelinek, 1979). Although research activities on the same topic continued during 1980s in 1990s the subject of organizational learning was one of the pertinent subject matters in various majors in management such as production management and strategy and from this time on the discussions regarding organizational learning was overshadowed by modern managerial discussions such as the subject of learning organizations.

According to the above-mentioned definitions it can be said that the organizational learning is not a fixed situation or status or it cannot be regarded as a limited target; rather, it is a continuous process of adaptation to the environmental conditions and perfection during which the intra-organizational groups are encourages to develop skills, knowledge and consensus regarding their targets and destination (Bayraktaroglu and Kutanis, 2003).

Argyris and Schon (1978) divided learning process into three sets of single-loop, double-loop and Deutero learning. In Figueiredo (2002) idea learning in the organizations is comprised of four subordinate processes including the acquisition of knowledge from outside the organization, acquisition of knowledge from inside the organization, knowledge generalization and knowledge codification and compilation. Choe (2004) points out that the main organizational learning facilitators are the interaction and communication between the group members, occupational and experience circulation, interaction and communication including inter-group state, direction and frequency of the information flow and the occupational and experience group refers to the real exchangeability and interchangeability of the occupations and jobs among the members (Choe, 2004). Some of the researchers underlie the point that the organizational learning is the main constituent of the learner organization and for the accomplishment of which factors related to organizational culture such as entrepreneurship, innovation and market awareness and factors related to the organizational atmosphere such as dynamic structure, facilitating leadership, decentralized strategic planning

and the presence of knowledgeable human force seems to be necessary. Also, the results obtained in the previous studies have indicated that the existence of information and knowledge positively affects the organizational learning (Choe, 2004).

The term organizational learning seemingly points to the individuals' learning in an organization but organizational learning is more referring to the group or organizational-level learning. Individual learning is carried out through study, interview, recognition, experience and practice and the effective mental models development but organizational learning takes place when the group learns, interacts, shares knowledge and acts collectively in such a manner that the combined capacity of the group is incremented and it obtains an effective capability to understand and act (Bennet and Bennet, 2008).

The aspects of organizational learning from Nief (2001) perspectives are

Common perspective: The importance of a common perspective to be transformed into a learning organization: first of all, common perspective provides for the concentration and energy for learning. Second, this perspective streamlines the individual towards action and taking steps. Perspective is suggestive of the ideals and dreams the organizations have and renders it meaningful and sensible. Third, being drawn and attracted towards higher favorable and optimum targets confronts with the governing current status. Common perspective is the creator of the final and ultimate goal, encourages venturing and innovation. Fourth, the values and common understandings are important in the determination of the type of the knowledge stored and transferred by an organization (Marquardt, 1996).

Organizational learning culture: When the members of every community, organization or group attempt to adjust themselves to the external environment, solving problems and internal integration they have unconsciously taken steps to learn. That is because they are not only different from the perspective of theorization, learning and problem-solving but it has to be said that different perspectives also possess identical essential processes.

Group work and learning: It has been emphasized on forces and organizational staff parallelism importance in teamwork and group learning in order to prevent from the energy wastage and loss. Collective learning is the process during which the group members' capacities can be developed and they move in the same direction in parallel to one another the result of which would be what was really asked for (Senge, 1990). Knowledge sharing, knowledge transfer and distribution, organizational and technological data transfer involves information and knowledge. The organizational capacity to dislocate knowledge is indicative of the transfer capability and knowledge sharing is considered as a strong point which is the precondition for the organizational success as well. Knowledge should be precisely and swiftly distributed in the entire organization or companies' departments and divisions (Marquard, 1996).

Systemic thinking method: Systemic thinking means the use of a systematic method in analyzing and administrating the organizational affairs and taking the effect of organizational factors on each other into consideration. By the use of a holistic approach, business activities and generally the other human efforts and struggles look like a system. They are constrained and limited by the related activities constructs, activities which takes years to be accomplished and influence each other. Since, we are considered as part of this system we are confronted with additional difficulties to figure out the change pattern (Senge, 1990).

Participatory leadership: Participatory leadership outcome is the feeling that the employees share. The result of such an effort is that the employees and staff feel that they are needed and their being is useful and prosperous. Studies have proved that participation reduces resistance to change, increases commitment to the organization and lowers the psychological pressure level.

Employees' competencies development: Competency in the literature of human resources is the collection of knowledge, skills and assessable and observable behaviors which play a role in a job success or position. To appropriately manage the human resources the knowledge, information, skills and capabilities levels should be enhanced in the staff and create the required qualifications in them. Human resources development is not obtained via much education and training, rather the human resources department of an organization should operate in a programmed and systematic manner.

Based on the study literature and definitions presented regarding the study variables and their components the preliminary conceptual model extant among the variables is designed for the determination of the relationship between them and through conducting the study hypotheses tests the existence of the relationship between the study elements will be surveyed.

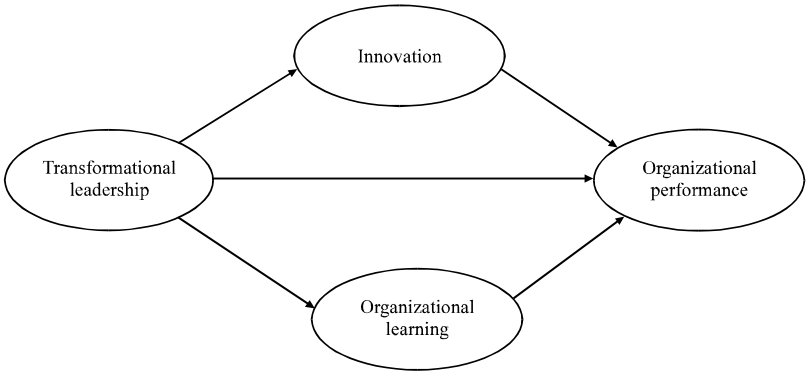

Fig. 1: Study conceptual model

In the following conceptual model, the relationships between the variables have been taken into consideration. (Fig. 1).

Study hypotheses:

- There is a significant relationship between transformational leadership and innovation
- There is a significant relationship between transformational leadership and organizational learning
- There is a significant relationship between innovation and organizational performance
- There is a significant relationship between organizational learning and organizational performance
- There is a significant relationship between transformational leadership and organizational performance
- There is a significant innovative-mediated relationship between transformational leadership and organizational performance
- There is a significant organizational learning-mediated relationship between transformational leadership and organizational performance

MATERIALS AND METHODS

The current study methodology is of a causative-applied research type from its objectives points of view, since according to the characteristics of the study population the study has been undertaken in a certain time interval and in a determined spatial territory and the researcher is seeking to generalize the results obtained via the applied methodology to the other similar units and departments. The current study data has been collected based on questionnaire. The current study uses a correlation matrix analysis or covariance analysis method in which structural equations modeling has been performed. The study population in the present study includes all of the employees and staff working in Khouzestan Cement Company. The study sampling has been made based on a simple randomized method and the study sample volume has been estimated to be 131 individuals by taking advantage of Cochran formula. The data required for conducting the current study has been gathered by a questionnaire the credibility of which had been previously tested. To determine the questionnaire validity and credibility there has been made use of content validity test and Cronbach's alpha method and the transformational leadership and Avolio questionnaire reliability coefficient was found to be 0.89, for Patterson organizational performance questionnaire it was estimated as equal to 0.79, for Pragogo and Ahmad's innovation questionnaire reliability obtained was 0.80 and for Nief's organizational learning questionnaire the value was calculated to be 0.81. In the present study, structural relationships model was applied to analyze the extracted data. To analyze the data and to conduct the hypotheses test and the other study surveys LISREL Software was taken into use. Therefore, in the current study the measurement model was obtained after the analytical model was plotted based on the acquired data by applying path diagram application through running the Perlis program from LISREL Software and it has to be mentioned that the study hypotheses have been tested by the use of B coefficients and the use of t-test as well.

Data analysis: In the first step, the Chi square index was calculated to test the null hypothesis implying that the selected study population is capable of accounting for the variations and changes observed. Significant Chi-square test indicates that the null hypothesis should be rejected and the model does not exist in the study population. GFI and AGFI (LISREL sizes) can be influenced by the study sample volume and it can be larger for the models which have been configured weakly.

NFI: The normalized fitness, if it indicates a value ranging from 0.90-0.95 it is considered acceptable and values above 0.95 are excellent.

NNFI: Non-normalized fitness index and if this index is larger than 0.1 it is regarded to be 0.1.

RMSEA: The root mean square error of approximation which is reported in a decimal format. Among the a fore mentioned indices RMSEA and GFI have greater importance. RMSEA index for the good model indicates a value equal to 0.05 or lower. Models with RMSEA index equal to or larger than 0.1 show weak goodness of fitness. GFI index is indicative of a good fitness of the model when approaching a value of 0.1.

As it is observed in Table 1, the adjustment rate indices or the goodness of fitness index are all in an acceptable level.

The two following models are indicative of the general models outputted from the LISREL Software which at the same time incorporate both the structural model and the measurement model and these are going to be analyzed and evaluated in details in the following sections (Fig. 2-5).

Table 1: The study model fitness indices

Goodness of fitness index	Standard values	Estimated values
Degrees of freedom	-	461.00
Chi-square	Due to its dependence on the sample volume is disregarded as not being a good model	1180.93
RMSEA	0.05	0.089
NFI	0.90	0.900
NNFI	0.90	0.940
CFI	0.90	0.950
RMR	0.05	0.061
GFI	0.90	0.730
AGFI	0.90	0.690

Hypotheses test

First hypothesis

The author's claim: There is a significant relationship between transformational leadership and innovation.

H_0: There is no statistically significant relationship between transformational leadership and innovation.

H_1: There is a statistically significant relationship between transformational leadership and innovation.

Based on Table 2, the path coefficient value between transformational leadership and innovation is equal to 1.40 and the related t-value is 5.63>1.96 and based on the t-test with the critical value of 0.05 the null hypothesis can be rejected in the confidence level of 95%. Therefore, the claim made by the researcher can be confirmed accordingly and with a confidence level of 95% it can be stated that there is a statistically significant relationship between transformational leadership and innovation.

Second hypothesis: There is a statistically significant relationship between transformational leadership and organizational learning.

H_0: There is not a statistically significant relationship between transformational leadership and organizational learning.

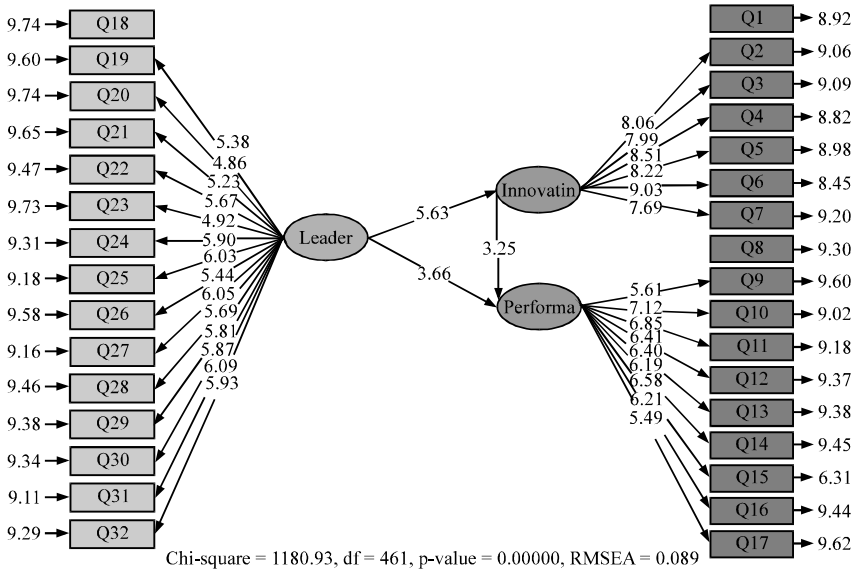

Fig. 2: The basic model and path coefficients

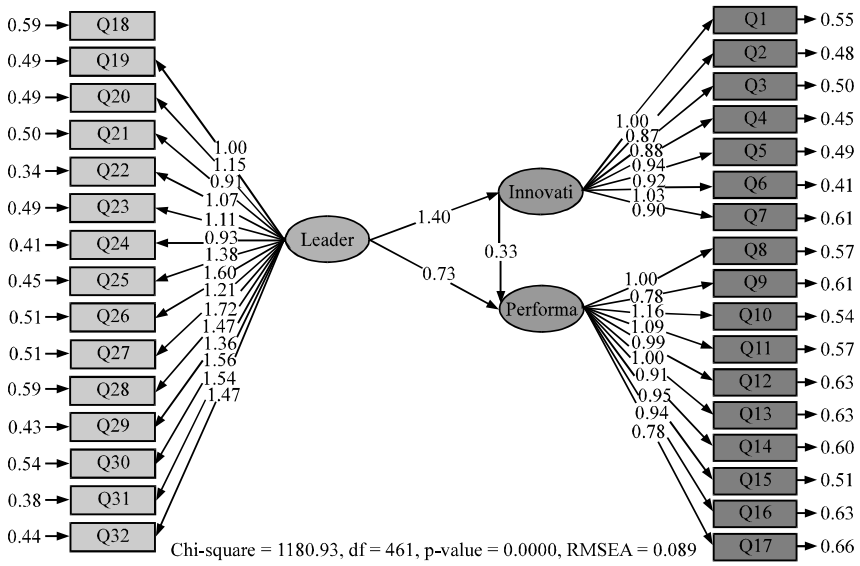

Fig. 3: Basic model with t-values

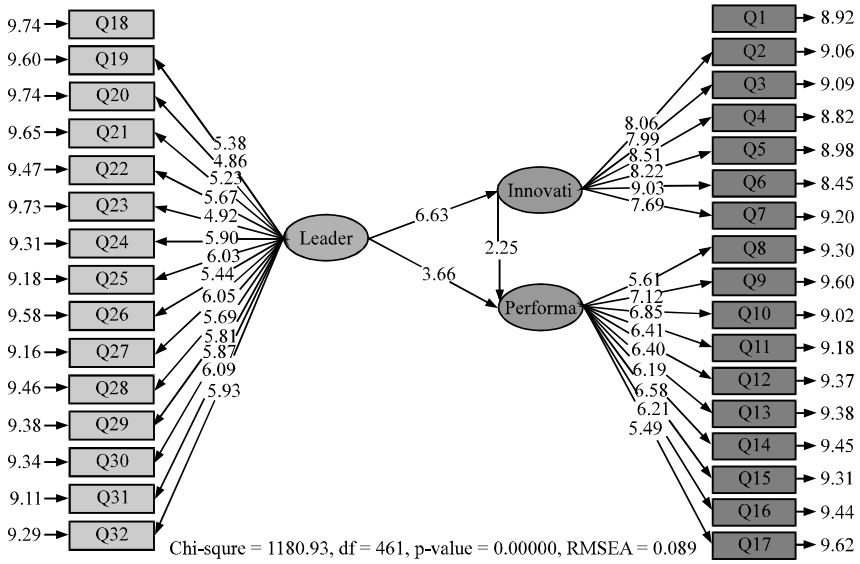

Fig. 4: Basic model with path coefficients

H_1: There is a statistically significant relationship between transformational leadership and organizational learning.

According to Table 3, the amount of the path coefficient between transformational leadership and organizational learning is equal to 1.30 and the t-value is found to be 6.63>1.96 and according to t-test with the critical value of 0.05 the null hypothesis can be rejected in 95% confidence level, therefore the researcher second claim has been confirmed and with a confidence level of 95% it can be said that there is a significant relationship between transformational leadership and organizational learning.

Third hypothesis: There is a significant relationship between innovation and organizational performance.

H_0: There is no significant relationship between innovation and organizational performance.

H_1: There is a significant relationship between innovation and organizational performance.

Based on Table 4, the amount of path coefficient between innovation and organizational performance was found as equal to 0.33 and the t-value was 3.25>1.96 and it can be said that based on t-value with the critical value of 0.05 the null hypothesis is rejected in 95% confidence

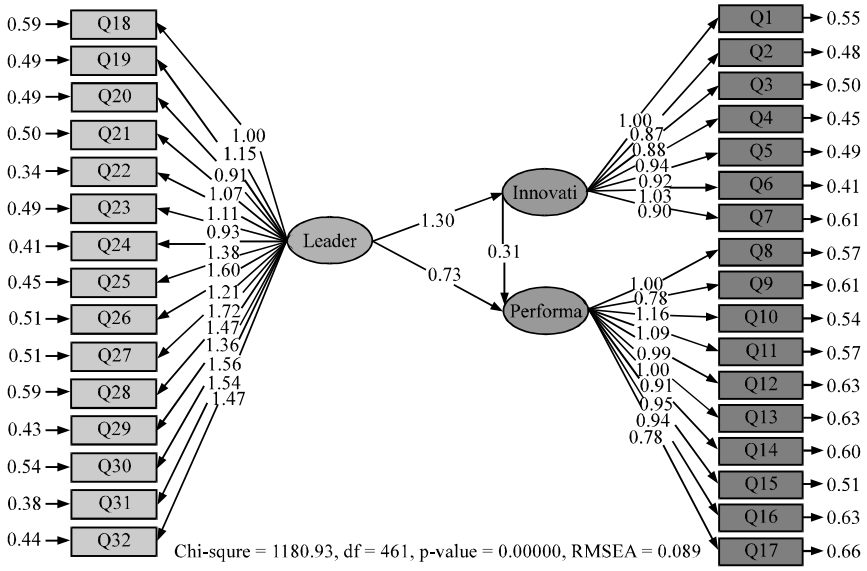

Fig. 5: Basic model with t-values

Table 2: Standard coefficients results and t-value (1st hypothesis)

Predictor variable	Predicted variable	Estimated coefficient	t-value
Transformational leadership	Innovation	1.40	5.63

Table 3: The standard coefficient results and t-value (2nd hypothesis)

Predictor variable	Predicted variable	Estimated coefficient	t-value
Transformational leadership	Organizational learning	1.30	6.63

Table 4: The standard coefficients results and t-value (3rd hypothesis)

Predictor variable	Predicted variable	Estimated coefficient	t-value
Innovation	Organizational performance	0.33	3.25

Table 5: Standard coefficients and t-value results (4th hypothesis)

Predictor variable	Predicted variable	Estimated coefficient	t-value
Organizational learning	Organizational performance	0.31	2.25

level, so the third claim made by researcher is confirmed accordingly, therefore there is a significant relationship between innovation and organizational performance.

Fourth hypothesis: There is a statistically significant relationship between organizational learning and organizational performance.

H_0: There is no statistically significant relationship between organizational learning and organizational performance.

H_1: There is a statistically significant relationship between organizational learning and organizational performance.

According to the data presented in Table 5, the amount of the path coefficient between organizational learning and organizational performance is equal to 0.31 and the related t-value has been found to be 2.25>1.96 and it can be said that based on t-test with a critical value of 0.05 the null hypothesis is rejected in 95% level, so the researcher's third claim can be confirmed with a confidence level of 95% and it can be stated that there is a statistically significant relationship between organizational learning and organizational performance.

Table 6: Standard coefficients and t-value results

Predictor variable	Predicted variable	Estimated coefficient	t-value
Transformational leadership	Organizational performance	0.73	3.66

Fifth hypothesis: There is a statistically significant relationship between transformational leadership and organizational performance.

H_0: There is not a statistically significant relationship between transformational leadership and organizational performance.

H_1: There is a statistically significant relationship between transformational leadership and organizational performance.

Based on Table 6, the amount of path coefficient between transformational leadership and organizational performance is equal to 0.73 and the related t-value is 3.66>1.96 and according to t-test with the critical value of 0.05 it can be stated that the null hypothesis can be rejected with the confidence level of 95%, so the researcher's third claim can be confirmed and with a confidence level of 95% it can be said that there is a statistically significant relationship between transformational leadership and organizational performance.

Table 7: Standard coefficients and t-value results

Relationship	Variables	Estimated coefficient	t-value
Direct	Transformational leadership →innovation	1.40	Significant
	Innovation→organizational performance	0.33	Significant
Indirect	Transforamtional leadership →organizational performance	1.40×0.33	Significant

Table 8: The standard coefficient and t-value results

Relationship	Variables	Estimated coefficient	t-value
Direct	Transformational leadership →organizational learning	1.30	Significant
	Organizational learning →organizational performance	0.31	Significant
Indirect	Transforamtional leadership →organizational performance	1.30×0.31	Significant

H_0: There is not a statistically significant relationship between transformational leadership and organizational performance intermediated by innovation.

H_1: There is a statistically significant relationship between transformational leadership and organizational performance intermediated by innovation.

According to Table 7, the indirect relationship between transformational leadership and organizational performance intermediated by the role played by innovation was surveyed according to the transformational leadership direct effect on innovation and then the direct effect exerted by innovation on the organizational performance was evaluated. If the direct effects are found to be confirmed and statistically significant the indirect effect can also be confirmed. Based on Table 7, the indirect effect exerted by transformational leadership on organizational performance intermediated by innovation is obtained as equal to 0.46.

Seventh hypothesis: There is a statistically significant relationship between transformational leadership and organizational performance intermediated by the role played by organizational learning.

H_0: There is not a statistically significant relationship between transformational leadership and organizational performance intermediated by the role played by organizational learning.

H_1: There is not a statistically significant relationship between transformational leadership and organizational performance intermediated by the role played by organizational learning.

According to Table 8, the indirect relationship between transformational leadership and organizational performance intermediated by organizational learning was surveyed by the direct relationship between transformational leadership and organizational learning. If the direct relationship is found to be confirmed and statistically significant then the indirect effect can also be confirmed. According to Table 7, the indirect effect exerted by transformational leadership on the organizational performance intermediated by organizational learning was found as equal to 0.40.

RESULTS AND DISCUSSION

The results of the first hypothesis indicated that the amount of the path coefficient between transformational leadership and innovation was found to be 1.40 and the related t-value was obtained as equal to 5.63>1.96 and according to the t-test with a critical value of 0.05 the null hypothesis can be rejected in the confidence level of 95%, so the researcher's first claim is confirmed and with a confidence level of 95% it can be stated that there is a positive relationship between transformational leadership and innovation.

The results obtained by the second hypothesis indicated that the amount of path coefficient between transformational leadership and organizational learning is equal to 1.30 and the amount of related t-value was 6.63>1.96 and based on the t-test with the critical value of 0.05 it can be said that the null hypothesis can be rejected in the confidence level of 95%. Therefore, the researcher's second claim is confirmed and with a 95% confidence level it can be said that there is a positive relationship between transformational leadership and organizational learning.

The results of the third hypothesis indicated that the amount of the path coefficient between innovation and organizational performance is equal to 0.33 and the related t-value was obtained as equal to 3.25>1.96 and according to t-test with a critical value of 0.05 it can be said that the null hypothesis is rejected with a 95% confidence level. Therefore, the researcher's third claim is confirmed and with a 95% confidence it can be said that there is a positive relationship between innovation and organizational performance.

The results of the 4th hypothesis indicated that the amount of path coefficient between organizational learning and organizational performance was obtained as equal to 0.31 and the amount of the related t-value was 2.25>1.96 and according to the t-test with a critical value of 0.05 it can be asserted that the null hypothesis can be rejected in 95% confidence level. Therefore, the researcher's fourth claim is confirmed and with a confidence level of 95% it can be stated that there is appositive relationship between organizational learning and organizational performance.

The results of the 5th hypothesis indicated that the amount of path coefficient between transformational leadership and organizational performance was 0.73 and the related t-value was obtained 3.66>1.96 and based on t-test with a critical value of 0.05 it can be stated that the null hypothesis is rejected in the 95% confidence level. Therefore, the researcher's fifth claim is confirmed and it can be stated with a confidence level of 95% that there is a positive relationship between transformational leadership and organizational performance.

The results of the 6th hypothesis were surveyed according to the information presented in Table 8. To investigate the innovation intermediary role played between transformational leadership and organizational performance, if the transformational leadership is found to exert a direct effect on innovation and then the innovation direct effect on the organizational performance can be confirmed the innovation-intermediated effect between transformational leadership and organizational performance can be confirmed as well. The transformational leadership path coefficient over innovation was found as equal to 1.40 with a t-value equal to 5.63 and error level of 0.05 and confidence level 0.95 the obtained value can be said to be statistically significant and the innovation path coefficient over organizational performance was 0.33 with a t-value of 3.25 in error level of 0.05 and confidence level of 0.95 it can be said that the obtained value is statistically significant. Therefore, the effect of the intermediary role played by innovation between transformational leadership and organizational performance was found to be equal to 1.40×0.33 = 0.46, so the researcher's claim is confirmed.

The results of the seventh hypothesis were evaluated according to the information presented in the table. To survey the intermediary role played by organizational learning between transformational leadership and organizational performance if the direct effect exerted by the transformational leadership on organizational learning and then the direct effect of the organizational learning on the organizational performance can be confirmed, the intermediary role played by organizational learning between transformational leadership and organizational performance can be confirmed as well.

CONCLUSION

The transformational path coefficient over organizational learning was 1.30 with a t-value equal to 6.63 and error level of 0.05 and confidence level of 0.95 the studied value is found to be statistically significant. Therefore, the organizational learning intermediary effect exerted between transformational leadership and organizational performance was found as equal to 1.30×0.31 = 0.40 and the researcher's claim was confirmed.

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