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# The effect of transactional leadership on innovation with respect to intermediary role of knowledge absorptive capacity

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## ABSTRACT

In today's dynamic environment, proper strategies are not enough for companies and they should also be able to work in harmony with their environment. Innovation is one of the factors that allow companies to achieve sustainable competitive advantage through appropriate leadership style and knowledge absorptive capacity. The purpose of this study was to investigate the intermediary role of knowledge absorptive capacity between transactional leadership style and innovation. The population of the study included medium and large-scale manufacturing companies in the industrial estates of Mashhad County. The data were collected by means of a questionnaire. Structural equation modeling and partial least squares were used for data analysis. The results of the analyzing the questionnaires distributed among the sample population - 82 senior managers of companies - showed that there was a significant and positive relationship between transactional leadership and knowledge absorptive capacity as well as knowledge absorptive capacity and organizational innovation. Therefore, the significance of the intermediary role of knowledge absorptive capacity was confirmed.

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## Introduction

Rapid changes in business environment have shortened the competition cycle by eliminating the concept of long-term competition. Innovation is one of the strategies used to respond to these changes. Under these conditions, it seems that businesses have to maintain their competitive advantage through market perception and innovation development, so that they can continue their activities in the current situations (Liao et al, 2009). The Iranian organizations also need to adopt this principle for the survival as they have failed to appreciate the importance of innovation [2]. Therefore, recently growing attention has been paid to the concept of innovation by managers in Iran. To encourage innovation, as a crucial factor, we need to first provide its necessary conditions in the organization, and constantly develop it under a proper process. Leadership style is one of these factors that play an important role in the development of innovation. Innovation is among the key abilities of a leader in every organization that allows him/her to promote the growth and profitability of the organization. In other words, the leader plays a pivotal role in fostering innovation and preparing the environment which can help encourage the methods and capabilities of innovation (Tushman and Nadler, 1986). On the other hand, inadequate innovation in the competitive market is one of the problems facing manufacturing companies in Iran, which is mainly due to the lack of pertinent knowledge. Development process requires access to the latest knowledge and the spirit of entrepreneurship in order to cope with the competition at the global scale. In fact, knowledge is the key to innovation, and knowledge and technology play an important role in industrial development (Jensen et al., 2007; Nonaka and Takeuchi, 1995). In other words, creating absorptive capacity is a superior strategy that helps organizations gain external knowledge about product and process innovation, which plays a critical role in the process of creating cultures and structures that encourage absorption, integration and application of knowledge (Kavanagh and Ashkanasy, 2006). Iranian companies'

to the factors influencing the organizational innovation (Agha Zadeh et al., 2007). Therefore, to be successful in the market and enjoy a competitive advantage, Iranian manufacturing companies should know the factors influencing organizational innovation and pave the way for organizational innovation. In this study, we try to investigate the relationship between interactional leadership and innovation in light of the intermediary role of knowledge absorptive capacity. In fact, if managers appreciate the importance of knowledge absorptive capacity and leadership style, it would help them make more accurate and effective plans to improve innovation and organizational performance, and thereby make way for more informed decisions of the managers (Cambell, 2007). On the other hand, as innovation improves and the necessary conditions are provided for the development of innovation in an organization, it allows economic development and the expansion of exports in the country. The results of this research draw the attention of researchers and organizational managers to the aspects that are more important, which can improve the efficiency of the organization as a result of their enhanced understanding of the factors affecting innovation. The importance of innovation lies in the fact that it can gain and sustain competitive advantage and success of companies in the market, thus allowing and consequently organizations to obtain capabilities that would lead to economic growth, job creation, welfare promotion in the community, fair distribution of income and the creation of added value (Agha Davood, 2010).

## Literature review

### Innovation

Many definitions have been offered for innovation by various experts. This term covers a wide range of business activities and can be applied to new or improved products, processes or business models. According to Schumpeter, innovation can be defined as a new combination of production factors and different modes of a system, the emergence of a new production function through access to resources, the new

production processes or new markets and finally the design of a new organization. In Schumpeter's theory, innovation can be divided into five categories: the introduction of a new product or a qualitative change into existing products, the introduction of a new process in an industry, penetration into new markets, development of new sources of supply for raw materials or other inputs, and changes in the organization (Schumpeter, 1942). organizational innovation is defined as the successful implementation of creative ideas in an organization (Amabile, 1988). In another definition, scholars classify innovation into four categories: product, process, paradigm and situation (Tidd et al., 2005). Other scholars posit three areas of product innovation, process and management (Tsai et al., 2001). According to the above definitions, it seems that different definitions and classifications can be divided into two general classes of product and service. Therefore, in this research, innovation has been used in the sense of product and process innovation. Product innovation is the introduction of new products and services or changes that bring benefits to the customers, or respond to market needs. Process innovation refers to the change in the methods of creating and delivering products and services (Tidd et al., 2005).

#### **Transactional leadership**

According to Burns (1978) leaders use two different kinds of behaviors to influence their followers: transformational leadership and transactional leadership. The latter is a type of leadership which is widely used in studies of organizational behavior. According to Burns (1978), transactional leadership is a kind of leadership that involves some sort of interactions between the leader and followers with the aim of meeting personal interactional desires. Transactional leadership refers to the relationship between a leader and followers with the aim of providing personal interests (Burns, 1978). This approach highlights the relationship between the leader and followers and also the mutual benefits that can be created through a contract. Under the contract, the leader acknowledges the followers and motivates them in return for their commitment and loyalty (Robbins, 2002). Burns (1978) argues that transactional leadership is very common in organizations in which the leader uses the exchange of stimuli and incentives to get the support of the followers. The leaders motivate their followers to achieve the expected level of performance by helping them to identify their job responsibilities and goals and promote their self-confidence to achieving their desired performance (Bass and Avolio, 1999). In this study, we take the three dimensions of Bass (1985) as a measure of transactional leadership for they include all the features that a transactional leader should have. Their definitions are as follows:

- Contingent rewards: Leaders offer different types of bonuses for achieving the specified objectives. Leaders may provide contingent material and psychological rewards for their followers if the desired objectives and commitments are fulfilled.
- Management based on exception (active): Leaders are careful about slips and deviations from standards. The leader is cautious to ensure that followers observe predetermined standards.
- Management based on exception (passive): A leader does not get involved even when a problem arises. He takes no action until the problems get serious. Distinction between these two types of exception-based management mainly depends on the intervention of the leader. In management based on active exception, the leaders intervene only when standards are not observed, but in a more active form of exception-based management leaders try to predict flaws or problems (Bass, 1985).

#### **Knowledge Absorptive Capacity**

Knowledge absorptive capacity is the ability of an organization to identify, acquire and use information outside the organization in the process and final products (Cohen and Levinthal, 1990). In other words, knowledge absorptive capacity increases the ability to create and utilize knowledge, to understand organizational environment for the business and to maintain a competitive advantage. From another view, absorptive capacity is a set of organizational routines and processes, by which the organization may acquire, absorb, transfer and utilize knowledge to create an organizational dynamic capability (Zahra and George, 2002). In most studies, given the qualitative nature of knowledge absorptive capacity, it is difficult to measure knowledge absorptive capacity, which explains why some researchers take the number of publications, patents or registered inventions as a measure of knowledge absorptive capacity. Other studies use the ratio of R & D expenditure and sales volume as the measure (Liao et al., 2009). In the framework proposed by Zahra and George (2002) two dimensions have been proposed for the assessment of knowledge absorptive capacity: potential and realized absorptive capacity. Potential absorptive capacity consists of two main processes, namely knowledge acquisition and knowledge assimilation. Realized absorptive capacity is a function of transformation and exploitation capacities of the company (Zahra and George, 2002). According to above statements, the four following dimensions are intended to evaluate the capacity of an organization as an organization's ability to identify, acquire, and implement data outside the organization largely depends on these four-dimensions: the relation between the company and its environment; the level of knowledge and experience; diversity and overlapping of knowledge structures and strategic situation (Fiol and Lyles, 1985; Bass, 1985).

#### **The relationship between the company and its environment:**

Frequent interactions with other companies promote the company's ability to evaluate and acquire knowledge from other firms (Yli-Renko et al., 2001). Thus, the organizations can identify new knowledge and their related businesses through these communication channels and their surrounding environment with the aim of institutionalizing it in the organization.

#### **The level of knowledge and experience in an organization:**

Knowledge absorptive capacity depends on past orientation of the organization, which is the result of the cumulative nature of knowledge. The cumulative knowledge is derived from the employees' knowledge which includes the level of job skills, deployment of technology, awareness of managerial procedures of employees and managers in the organization (Brown, 1997). In order to acquire new knowledge, organizations need the records of knowledge which are close to the new knowledge with the aim of applying the new knowledge (Nonaka and Takeuchi, 1995).

#### **Diversity and overlapping of knowledge structure:**

Diversity of knowledge structures is important for both knowledge overlapping and absorptive capacity in an organization. Although some overlapping knowledge among individuals is required for internal communication, one can benefit from the knowledge diversity among individuals.

Homogeneity in the field of knowledge limits creativity and the probable relation between new and existing knowledge in the organization. In other words, the diversity of the fields provide insights for the development and integration of our understanding of new knowledge, thereby increasing the knowledge absorption (Cohen and Levinthal, 1990).

### Strategic situation:

Strategic situation of an organization is an important factor that determines the capacity and capability of an organization for learning. In other words, the strategy determines the goals, objectives and scope of activities to be undertaken for the development of knowledge absorptive capacity (Fiol and Lyles, 1985).

### Research hypotheses

#### Transactional leadership and knowledge absorptive capacity

Leaders may improve the individual absorption, design the organizational structure that fits the organizational features, increase investment in R & D and make a great effort to strengthen the absorptive capacity (Cohen and Levinthal, 1990, Bosch et al., 1999).

Transactional leaders typically seek to improve learning and strengthen the procedures, processes and structures. They also encourage the exchange of information only to the extent that the requirements of roles and responsibilities are fulfilled (Bass and Steidlmeier, 1999). The transactional leadership makes the way for the creation and sharing of knowledge because this kind of leadership affects the interaction between people and exchange of knowledge in creation of new knowledge and thereby strengthens the absorptive capacity of knowledge. Therefore, the first research hypothesis is formulated as follows: there is a significant and positive relationship between transactional leadership and knowledge absorptive capacity of medium and large industries in Mashhad.

#### Knowledge absorptive capacity and organizational innovation

Organizations need vast knowledge and information from the external environment and internal departments to find innovative ideas. The mere existence of external and internal information does not guarantee the success of an organization not to mention the fact that the organization is not able to recognize, understand and use this information. Thus, the absorptive capacity of knowledge plays an important role in increasing the organization's ability to detect and collect important information (Cohen and Levinthal, 1990). The ability to utilize external knowledge is a key component of innovation's capabilities. Absorptive capacity is assumed to increase the pace, iteration and intensity of innovation. At the same time, innovation creates knowledge which is part of organizational absorptive capacity (Lane et al., 2001). Zahra and George (2002), reviewing the literature associated with the absorptive capacity of knowledge, found a positive relationship between absorptive capacity and innovation. These factors work together to create competitive advantage for the organization. Thus, the second research hypothesis is formulated as follows: there is a significant positive relationship between knowledge absorptive capacity and innovative organizational changes made by medium and large-scale industries in Mashhad.

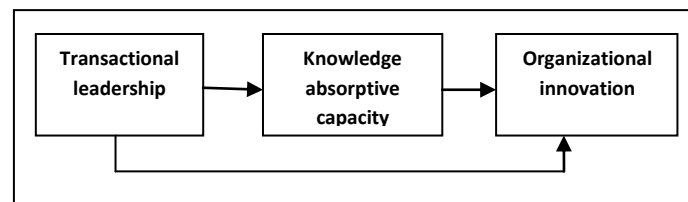
#### Transactional leadership and organizational innovation

Leadership style in organizations plays an important factor in shaping the perceptions of employees, replying to the organizational changes and fostering innovation. Transactional leadership is focused on the role of performance rather than stimulation of new and innovative activities. Transactional leaders clarify expectations and provide feedbacks about meeting the expectations, so it may be understood as a control and a barrier to innovation, which compared to transformational leader, exhibits less-innovative behavior (Deci and Ryan, 1987). Transactional leaders promote innovation and performance through giving rewards to their employees (Gregory, 2006, Jung and Sosik, 2002). Thus, the third hypothesis was formulated as

follows: there is a significant relationship between transactional leadership and organizational innovation in medium and large-scale industries of Mashhad.

### Conceptual model

By using literature review, conceptual model of the research can be according figure 1.



**Figure 1. A Conceptual model of the research**

### Method

The present study is practical in terms of nature and aims and descriptive in terms of data collection method 100 questionnaires were distributed among top executives of medium and large scale manufacturing companies in Mashhad. 18 questionnaires were incomplete and useless, and eventually 82 questionnaires were analyzed. To test the hypotheses, the researcher employed three variables. To measure the variables of transactional leadership, knowledge absorptive capacity and organizational innovation, the researcher employed the indices present in the questionnaires of Bass (1985), Nieto and Kodo (2005) and Wang and Ahmad (2014) respectively. Table 1 shows the measures used to assess each variable, Cronbach's alpha coefficient, and reliability of the variables.

**Table 1. Cronbach's alpha coefficient, and combined reliability of the variables**

Variables	Transactional leadership	Absorptive Capacity	Organizational innovation
Cronbach's alpha	0.759	0.699	0.855
Combined reliability	0.829	0.804	0.903

### Construct validity (convergent)

Table 2 shows the number of measures designed to assess the validity of each variable. To evaluate the construct validity (convergent), exploratory factor analysis was used. In factor analysis, first the usability of data for analysis should be proved. In other words, we should know whether the data is appropriate for factor analysis. To this purpose, KMO index and the Bartlett test were used KMO is an index for sampling adequacy which ranges from zero to one. If the value of the index is close to one, the data are suitable for factor analysis; otherwise (usually for values less than 0.5) the results of factor analysis would be invaluable for the data.

Bartlett test is used when the correlation matrix is mathematically known (from identity matrix), and thereby inappropriate for identifying the structure (of factorial model). If the level of significance in Bartlett test, is less than 5%, factor analysis will be suitable for identifying the structure, as it rejects the assumption of a known correlation matrix. Having recognized the appropriate value of KMO index and the significance of Bartlett test, we used communalities table to examine the convergent validity. Convergent validity is confirmed when all extracted values are greater than 0.3. If the value of communalities for an item is less than 0.3, that item must be excluded (Wixom and Watson, 2001, Pallant, 2009).

Bartlett and KMO tests, as indices of sampling adequacy, indicated that values of both indices were desirable. The value of KMO for all variables was greater than 0.5, and the significance of Bartlett test was less than 0.05.

**Table 2. Exploratory factor analysis of the variables**

Variable	Items	Factor loading of the first stage	Factor loading of the second stage	Significance of Bartlett test	Degrees of freedom	Approximate value $\chi^2$	Measure of sampling adequacy
Transactional leadership	PL1	0.471	0.490	0.000	10	95.821	0.741
	PL2	0.363	0.367				
	PL3	0.541	0.523				
	PL4	0.060	-				
	PL5	0.538	0.562				
	PL6	0.622	0.617				
	PL7	0.002	-				
	PL8	0.017	-				
Knowledge absorptive capacity	AK1	0.135	-	0.000	10	74.897	0.687
	AK2	0.141	-				
	AK3	0.258	-				
	AK4	0.437	0.506				
	AK5	0.550	0.652				
	AK6	0.236	-				
	AK7	0.351	0.310				
	AK8	0.219	-				
	AK9	0.299	0.397				
	AK10	0.248	-				
	AK11	0.370	0.432				
Organizational innovation	IN1	0.763	0.807	0.000	6	153.407	0.798
	IN2	0.787	0.784				
	IN3	0.705	0.729				
	IN4	0.198	-				
	IN5	0.137	-				
	IN6	0.442	0.490				

After ensuring adequacy of sample size, common values of the items were examined and the items whose value was less than 0.3 turned out to be incompatible with other items and thereby lacking the explanatory power required for that dimension; therefore, excluded from the analysis, they are shown with a different color.

Average variance extracted (AVE) was also analyzed to examine the convergent validity in the PLS model with a standard measure. The index shows the variance of a construct in its indicators. Farnale and Locker (1981) suggest values greater than 0.5, as this value explained at least 50% of the variance of a structure defined by its indicators. As shown in Table 3, for all values, the average variance is greater than 0.5; therefore, the convergent validity of the measurement model is confirmed.

**Table 3. Convergent validity of the variables**

Latent variable Convergent validity	Transactional leadership	knowledge absorptive capacity	Latent variable Convergent validity
Average variance extracted ( AVE )	0.501	0.557	0.702

To assess the reliability of the latent variables, which are determined by the amount of factor loadings in PLS model for each indicator, the factor loadings value of the latent variable should be greater than or equal to 0.5 (Falk and Miller,1992). Table 4 presents the factor loadings for indicators of the latent variables in this study.

**Table 4. The value of factor loadings for indicators of latent variables**

Latent variable Indicators	Transactional Leadership	Knowledge Absorptive Capacity	Organizational innovation	P values
PL1	0.612			05,>0
PL2	0.513			05,>0
PL3	0.718			05,>0
PL5	0.784			05,>0
PL6	0.858			05,>0
AK4		0.670		05,>0
AK5		0.822		05,>0
AK7		0.493		05,>0
AK9		0.673		05,>0
AK11		0.681		05,>0
IN1			0.901	05,>0
IN2			0.880	05,>0
IN3			0.855	05,>0
IN6			0.699	05,>0

As shown in the highlighted part of Table 4, the values of all measures related to latent variables, are greater than 0.5. Therefore, the reliability of the measurement model is sufficient for indicators of latent variables. Table 4 shows the values of probability for indicators, which are usually introduced as validity parameters associated with confirmatory factor analysis,

for the relationships between indicators and latent variables have already been identified. As can be seen, all probability values are less than 0.05, which confirms the acceptable validity of the research instrument. .

### Normality of the variables

Normal distribution of variable is a prerequisite of all parametric tests. Overall, parametric tests are generally based on the mean and standard deviation. If the distribution is not normal, true inferences from the results cannot be drawn.

Shapiro–Wilk test is used to test the normality of the variables the results of which are presented in Table 5. All significant values are greater than 0.05, which confirms that the data are normal (Pallant, 2009).

**Table 5. Results of data normality test**

Variables	Degrees of freedom	significant number
Transactional leadership	80	0.139
Knowledge absorptive capacity	80	0.535
Organizational innovation	80	0.143

### Data Analysis

#### Participants

Personal information of the participants was summarized in the following table in terms of four variables of gender, age, education, and number of employees.

**Table 6. Personal information of the participants**

Variables	Levels	Frequency	Relative frequency
Gender	Woman	14	17.2
	Man	66	82.8
Age	below 30 years old	17	21.3
	31 to 40 years old	30	37.5
	41 to 50 years old	26	32.5
	51 to 60 years old	6	7.5
	over 60 years old	1	1.2
Number of Employees	Less than 50	29	36.2
	50 to 99	27	33.8
	100 and more	24	30
Level of Education	High school diploma and lower	8	10
	Associates Degree	3	3.8
	Bachelor's degree	50	62.5
	Master's degree	17	21.2
	PhD	2	2.5

**Table 7. The results of the hypothesis testing**

Row	Hypothesis	The path coefficient	t-value	Test result
1	Interactional leadership organizational innovation	0.369	5.369	test approved
2	Interactional leadership knowledge absorptive capacity	0.501	5.996	test approved
3	knowledge absorptive capacity organizational innovation	0.514	8.076	test approved
	Hypothesis	Through		Test
4	Interactional leadership organizational innovation	knowledge absorptive capacity		test approved

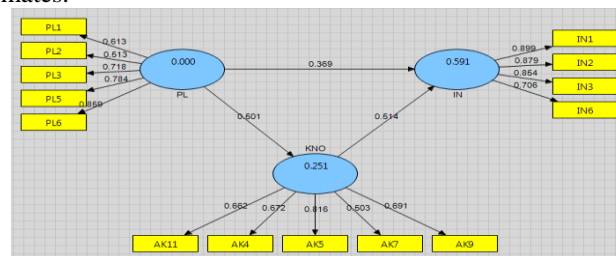
### Data analysis and hypothesis testing

In this study, structural equation modeling and partial least squares (PLS) were used to test the hypothesis and fitness of the model. PLS is a variance-based approach that compares similar techniques of structural equations such as LISREL and AMOS (Liljander, 2009). For example unlike LISREL, PLS Path Modeling is more suitable for real applications especially when the models are complex or data distribution is not normal (Wen, 2010). The main advantage of Modeling PLS over LISREL is that it needs fewer samples (Wixom and Watson, 2001). However, in this study, a relatively large sample size was used. PLS examines two models at the same time: 1. the external model (measurement model) which explores the relationship between latent and observable (manifest) variables; 2. the internal model (structural model) which measures the relationship between the latent variables and the other latent variables (Wen, 2010).

### Results

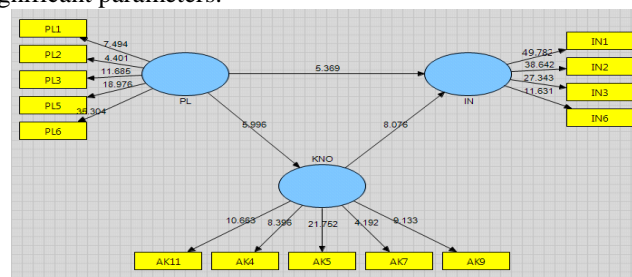
The results of hypothesis testing are summarized in Table 7. It should be noted that the hypothesis would be confirmed at a significance level of 0.05 only if t-value is beyond the range (-1/96, 1/96).

In Figure 2, the research model is shown in terms of standard estimates.



**Figure 2. The research model in terms of standard estimates**

In Figure 3, the research model is shown in terms of the significant parameters.



**Figure 3. The research model in terms of the significant parameters**

**Table 8. Cross validated communality index (CV Com)**

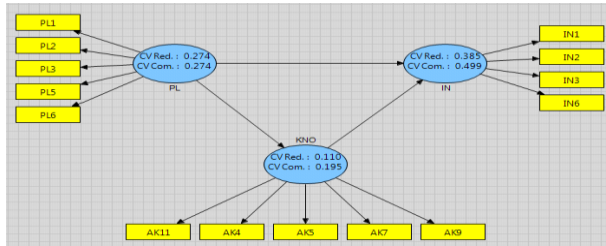
Cross validated communality index (CV Com)		
Cross validated Redundancy index ( CV Red )		
Variable	CV Com	CV Red
Transactional leadership	0.274	0.274
Knowledge absorptive capacity	0.195	0.110
Organizational innovation	0.499	0.385

### Fitness index of the model

To examine the validity of the model, we draw on cross validated communality index and cross validated redundancy index. CV-communality index examines the quality of a measurement model for every block. CV-redundancy index also known as Stone-Geisser Q<sup>2</sup> measures the quality of structural model for each inbred block with regard to measurement model. Positive values of these indices show that measurement and structural model are qualified and acceptable. In Table 8, the values of the parameters associated with independent, dependent and intervening variables have been given. As you see, the



indices are positive and greater than zero. In Figure 4, the Fit indices of the research model is shown.



**Figure 4. Fit indices of the research model**

## Discussion and Conclusion

The purpose of this study was to investigate the relationship between transactional leadership and innovation with regard to intermediary role of knowledge absorptive capacity among senior executives of medium and large-scale manufacturing companies in Mashhad. The general overview suggested that the transactional leadership style and the absorptive capacity of knowledge could have a significant role in fostering innovation. The relationship between transactional leadership and knowledge absorptive capacity was positive and significant which, was also in agreement with the findings of Anderson and Sun (2012), Bass (1998), Vera and Crossan (2004). Anderson and Sun (2012) presented a model in which transactional leadership was positively related to knowledge absorptive capacity. In this model, knowledge absorptive capacity was explained in terms of learning theory. Vera and Crossan (2004) also found that transactional leadership made way for creation of new knowledge and thereby fostered knowledge absorptive capacity, because this kind of leadership, given the interaction between people and exchange of knowledge, was effective in creation of new knowledge and thus strengthened the absorptive capacity of knowledge. Therefore, it could be concluded that leaders should constantly make considerable investment in knowledge development in organizations and take measures that improve knowledge absorptive capacity. For example, they can encourage more modern structures and organizational flexibility to improve knowledge transfer. The relationship between absorptive capacity of knowledge and innovation in enterprises was significant and positive. Since absorptive capacity plays a major role in development of innovation in a firm, it can be said that the higher absorptive capacity may increase the company's ability with respect to innovation. The findings of this study are in consistent with the findings of Cohen and Levinthal (1990), Knudsen et al (2001), Zahra and George (2002), Lenny et al (2001). According to Cohen and Levinthal (1990) absorptive capacity of knowledge is very useful in implementing innovation. Knudsen et al (2001) found that the absorptive capacity of knowledge was a significant factor in predicting organizational innovation capability. In fact, an organization that can utilize the knowledge acquired from different external sources would be more successful in improving the flexibility of production or providing services, decreasing the cost of work and materials, diversifying the range of products or services, increasing the market share and improving the quality of products or services.

The direct relationship between transactional leadership and organizational innovation was also significant, which was consistent with literature (Gregory (2006), Jung and Sosik (2002)). They believed that transactional leaders could improve innovation and performance through giving rewards to their employees. In fact, material incentive is one of the factors that motivate people for innovation (bonus). Through exchanges with the staff, interactional leaders give rewards for the greater efforts of the employees that in turn strengthen the institutional

innovation. This finding also suggests that transactional leaders in most organizations should take note of material incentives by rewarding individuals and encouraging them to be more innovative. According to the findings, it can be concluded that the knowledge absorptive capacity plays an intermediary role between transactional leadership and organizational innovation. This can be generalized to the today's businesses, especially manufacturing industries. Given the dynamic environment and competition, (interactional) organizational leaders need innovation as the key to life and survival, and to this purpose, they need to draw on knowledge absorptive capacity as one of the factors that facilitates and enhances innovation. In other words, using the absorptive capacity of knowledge, organizational leaders need to provide fertile a ground for innovation to overcome the intensity of competition, gain a competitive advantage over competitors, and become aware and responsive to customers' needs,

## Practical implication and future research

According to the final model of the study and also with regard to approved direct and indirect relations, some suggestions for improving the current state of medium and large-scale manufacturing companies in industrial estates of Mashhad County can be made. Based on the positive effect of the interactional leadership on absorptive capacity of knowledge, and also the important role of communication channels in strengthening the knowledge absorptive capacity, executive of manufacturing companies are required to optimize communication channels, establish an effective relationship between the payments and performances, and adopt fair policies in workplace decisions. Further, executives should design the manufacturing jobs in a way that encourage cooperation among employees. In this way, the employees of organizations can share their knowledge through partnership, and promote knowledge absorptive capacity, which help organizational innovations. Other measures may include arranging group meetings to exchange ideas, creating a friendly and reliably atmosphere amongst employees, preparing group discussion and bulletins in order to make decisions in specific cases, increasing interactions between the authorities and employees, and facilitating employees' access to information pertinent to their occupation.

To foster innovation, the enterprises should pay due attention to efficiency by taking the advantage of important sources of knowledge outside their boundaries, and drawing on knowledge absorptive capacity as a way of transferring new ideas to the organization. They should look for innovative ideas even in other companies and organizations. Thus, the leaders should try to develop the individual capacity of the employees, motivate them and build up an air of self-confidence, accountability and commitment. To this purpose, they must establish a suggestions system as a healthy, dynamic and permanent management instrument between managers and staff, which can significantly foster innovation process. Therefore, it is recommended that companies hold training workshops for their staff to make use of innovative thinking methods in the form of a suggestion system, avoiding the traditional methods of trial and error and reduce the time required to come up with innovations and reduce the innovation costs.

Researchers in their future studies may investigate the relationship between other leadership styles and organizational innovations which were not used in this study. They may also examine the intermediary role of organizational learning in leadership styles and organizational innovations, which could be effective in fostering and improving the innovation. Since the present study was conducted at a specific period of time, it is recommended that future research be conducted in several time

periods to achieve better outcomes which are comparable with the results of other time periods.

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