

Investigating the Effect of Reward and Reinforcement on Middle Managers' Entrepreneurial Behavior of Tehran University

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Abstract: One of the most important issues in academic research is the issue of “entrepreneurial university”. Retaining human resources and motivating them to increase productivity by using different mechanisms, including reward is the primary tasks of any organization. In this study, the effect of reward on the managers' entrepreneurial behavior is investigated and research method is descriptive and correlation analysis and research tool was a questionnaire. The population was middle managers of Tehran University (N = 132) that based on Cochran formula, the sample of 97 subjects was determined. For determining reliability, Cronbach's alpha coefficient (0.745) was used and data were analyzed using the software LISREL8.5, reward has a positive effect on university managers' entrepreneurial behavior.

Key words: Entrepreneurial behavior, reward, middle managers, Tehran University, Iran

INTRODUCTION

Entering entrepreneurship to university area called “Entrepreneurship University” is one of the most important issues in academic research. Acceleration of changes and also emergence of scientific discoveries and demographic composition of the country, the inability of the manufacturing sectors to absorb labor, the necessity to create job opportunities led policy-makers and planners of the country to solve the problem are actively looking for a new strategy, as entrepreneurship, because entrepreneurship is engine of economic development of countries, the necessity to tend to entrepreneurship is due to increase of competition, distrust to traditional management and withdrawal of forces and act to independent entrepreneurship. Entrepreneurship, requires removing barriers such as stereotypes in the people and removing barriers of organization in enterprise-level. Pursue very variable entrepreneurial opportunities is a good way to detect organizations growth and strategic renewal (Shepherd *et al.*, 2009).

Managers have more structure power for the implementation of their entrepreneurial ideas. There is a significant relationship between top management support, freedom and number of implemented ideas, freedom in top and middle management levels is caused to increase entrepreneurial ideas (Hornsby *et al.*, 2009). Universities are the main factors of social, economic and cultural extension (Niknami, 1999) human growth and development is one of the main tasks of universities. And achieve different goals of education, research and development

and participation in international arenas, depends on the culture of entrepreneurial behavior, dynamic and innovative in universities. Holy Quran has been widely used the method of encouragement to stimulate human to good behavior and prevention of abuse. O Prophet, encourage believers to Jihad (Al-Anfal: 65) God expresses encouragement with words such as “victory” and “annunciation” that “Of those who believe, if you help Allah, He will help you and will firm your steps”. Monetary reward in addition to the salary is paid to the employee. Helrigel write: “reward is to provide a happy outcome to do a desired behavior from individual to increase the possibility of repetition. In Today's very competitive market, organizations need to maintain skilled human resources is revealed more than ever and providing reward is a strategy to achieve to important issue.

Literature review

Brief review of the theoretical foundations: At the beginning of the 1980s, industrial development, the importance of thinking and entrepreneurial processes in organizations was emphasized more than ever and researchers paid their attention to how to induce entrepreneurship in administrative structures of organizations. Entrepreneurship is an objective and practical concept that at the same time with the beginning of human life on Earth and trying to make money and provide the necessities of life has been created. Entrepreneurship is a phenomenon that occurs in different environments and collections and caused to economic

growth through innovation that people have created in response to economic conditions and the values are created for individuals and for society (Shepherd *et al.*, 2009). Entrepreneurship is the engine of growth and development (Schumpeter, 1934). Entrepreneurial is an activity that involves the discovery, evaluation and exploit of opportunities for new services, methods of organizing, markets, processes and raw materials through organizing efforts that previously did not exist (Shane, 2004). Entrepreneurship: creating valuable insights from none (Timmons and Spinelli, 2007). Corporate entrepreneurship is one who under the umbrella of organization discovers and exploits products, activities and new technology. Corporate entrepreneurship is characteristic and range of organizations that have challenge to entrepreneurial activities (Brazeal and Herbert, 1999). Corporate entrepreneurship is a process that interact with the environment. The more organization is dynamic and diverse organizational activities are more (Zahra *et al.*, 1999). Corporate entrepreneurship is considered a competitive advantage to create value within the organization. Corporate entrepreneurship: an organization follows the entrepreneurial approach and provides mechanisms to encourage entrepreneurship. Corporate entrepreneurship is an individual which under the umbrella of organization discovers and exploits products, activities and new technology. Corporate entrepreneurship is the development within large organization with local markets and small units and independent to create, investigate the internal market and development of innovative services of technologies or methods within the organization (Nielson *et al.*, 1985). Corporate entrepreneurship is a process in which the person with the support of his employment place discovers and exploits products, activities, procedures and new technology and actually brings to fruition entrepreneurial activities (Zahra *et al.*, 1999). So, corporate entrepreneurship includes entrepreneurial behaviors in a stable organization. The importance of corporate entrepreneurship is so that authorities know it as one of the factors of production (Schumpeter, 1934). Organizational factors affecting the entrepreneurial orientation are five factors of proper use of reward system, excellent managers' support, access to resources, supporter organizational structure, support and risk (Holt, 2007). Organizations can benefit more from entrepreneurial tendencies if they have appropriate strategic responses (Green *et al.*, 2008). Characteristics of good atmosphere of academic for entrepreneurship are supported by management support, integrity, risk and risk tolerance, reward systems, resources and organizational structure and middle managers are interface between senior

managers and staff and their understanding of the entrepreneurial atmosphere will have a huge impact on entrepreneurial activities of University.

Rewards include valuable positive consequences for people (Shermerhern, 1984) reward is to provide a happy outcome for doing the desired behavior from a person to increase the possibility of repetition. Manager uses of reward power to influence and control the behavior of their subordinates. Management of reward and pay system to create entrepreneurial conditions, requires attention to four issues: good rewards, short-term and long-term perspective, using various rewards, attention to the principle of equality (Cornwall and Perlman, 1990) management support, reward, time, open extra organizational borders, working autonomy are as key elements affecting corporate entrepreneurship. (Kuratko *et al.*, 1990) corporate entrepreneurship initiatives include: job rotation, reward system, training and experiment period, research results show that the most important factor is experiment period and then training, reward system and, ultimately, job turnover (Zampetakis and Moustakis, 2007) create encourage and reward systems is essential to create the culture of entrepreneurship in organizations (Markovska, 2008). Four factors of reinforcing entrepreneurship include management support, giving rewards, independence and organizational constraints. Strategic leadership and management support, independence and reward to entrepreneurship activities are domestic factors of raising the corporate entrepreneurship. The most important rewards of entrepreneurship are independence that leads to job satisfaction.

Entrepreneurial behavior in the organization is called to all activities related to the discovery, evaluation and exploitation of entrepreneurial opportunities that is done by members of organization (Kuratko *et al.*, 2005; Cornwall and Perlman, 1990). Entrepreneurial behavior in organizations is a series of activities and the ways in which people at different levels, spontaneously for production using a combination of innovative resources to identify and pursue opportunities (Mair, 2005). Entrepreneurial behavior includes reliable and innovative measures and defense of credit and considered measures (Bird and Schjoedt, 2009). Entrepreneurial behavior is a series of conducted measures by each member of which is related to the discovery, evaluation and exploitation of entrepreneurial opportunities (the Shane and Venkataraman, 2000; Smith and Di Gregorio, 2002). In the view of Zahra and Dess (2001). One of the most complete definitions in the field of entrepreneurial behavior is to perform actions by individuals (in the organization) through the creation and operation of innovative composition, so that it is possible to identify and follow up the opportunities (Mair, 2005; Mair and Marti, 2006). In the meantime, some researchers, such as Gibb and Ritchie

(1982) and Scheiner (1973) considered entrepreneurial behavior as an inherent phenomenon that exists in some people since birth (Rauch and Frese, 2007). Creativity and innovation is a tool for entrepreneurs that must pay attention to develop these capabilities in the organizations because the amount of creativity and innovation potentially exists in everyone, but actualize these abilities requires proper planning by managers.

MATERIALS AND METHODS

This study is applied objectively, in terms of the degree and significance and control of variables is field and in terms of data collection is survey. The population of this research is middle managers of Tehran University in 2014 that their number has been about 132 people. In this study, the random sampling method is used. Using Cochran formula, a sample of 97 people was determined. In order to collect data using questionnaire of personal characteristics and for investing variable of reward standard questionnaire of corporate entrepreneurial atmosphere, “according to the Corporate Entrepreneurship Assessment Instrument (CEAI), which was designed by Hornesby *et al.* (2002) standard questionnaire of investigating entrepreneurial behavior of managers is used (Zampetakis and Moustakis, 2007). To

assess the reliability of research, Cronbach’s alpha coefficient was used that the value of the questionnaire coefficient of questions was obtained equivalent to 0.745, which indicated that the survey instrument has appropriate reliability and its validity by professors of entrepreneurship was confirmed and data using SPSS: WIN 16 and LISREL 8.5 were analyzed and to analysis of information obtained from research, tests of factor analysis and confirmatory factor analysis was used. To analyze the relationship between variables, the Spearman correlation coefficient was used and as there was correlation between variables then to test the hypothesized causal relationships, structural equation modeling was used. Spearman correlation test provides an opportunity to consider the significance level ($\alpha = 5\%$), can be investigated the significant. Since in this study, statistical software Spss 16 is used and considering that this software after Spearman correlation coefficient provides a significant level, so in the results of analysis when significance level has been $>0.05\%$ the result has been obtained that there is a significant relationship between the two variables. If the significance level is $>0.05\%$. In this section, the hypothesis is analyzed and studied.

Hypothesis: Reward and reinforcement of performance has impact on middle managers entrepreneurial behavior of Tehran University (Fig. 1).

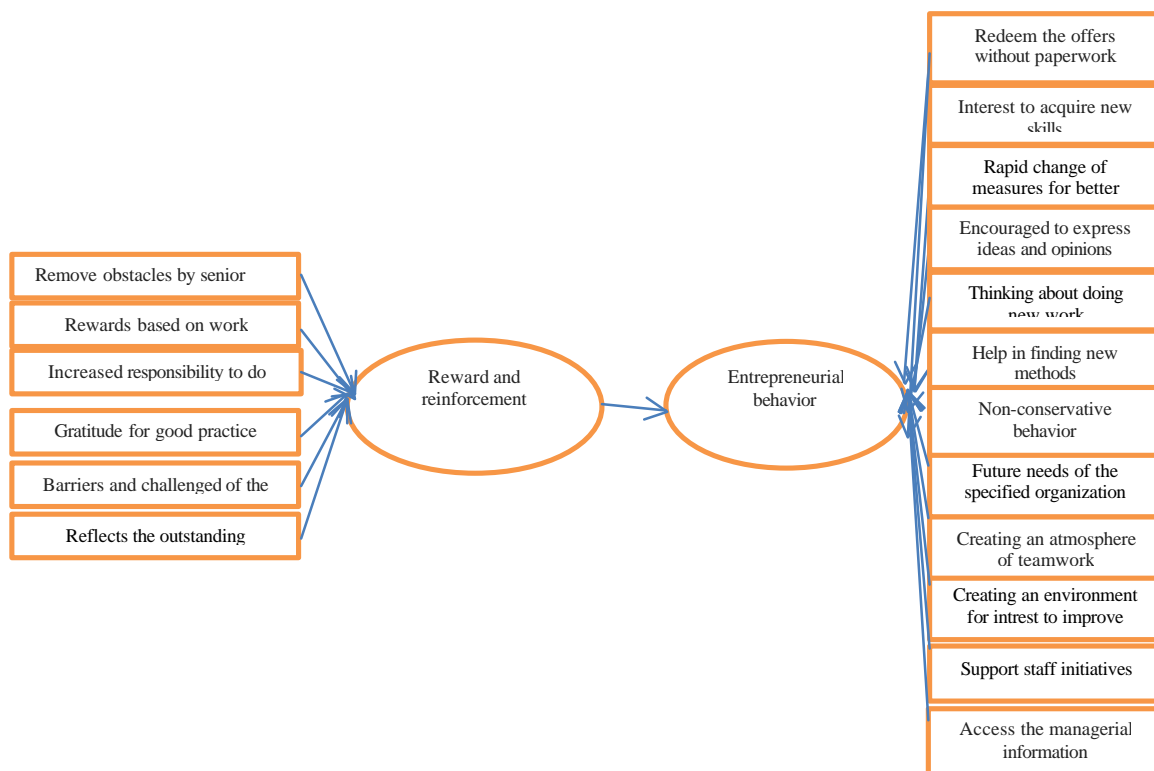


Fig. 1: Research modal

RESULTS AND DISCUSSION

The results on gender following 91.8% were male respondents and 8.2% were female respondents, in terms of education 58.2% have Ph.d, 28.4% have MA degree and 13.2% have BA degree. In men 22.4% in range of 40-50 and 44.9% have not responded and 28.6% in the range of 40-50 years and 4.1 have not responded, about work experience 6.1% in the range of 1-5 years, 14.3% in the range of 10-6 years, 19.4% in the range of 15-11 years, 22.4% in the range of 20-16 years and 33.7% in the range of >20 years and 4.1 did not respond about management experience 34.7% in the range of 1-5 years, 29.6% in the range of 6-10 years, 15.3% in the range of 15-11 years, 10.2% in the range of 20-16 years, 6.1% are in the range of more than 20 years and 4.1% did not respond on the field of study respondents of 5.1% of agriculture field, 24.5% management, 10.2% Technical, 8.2% art, 1% physicians, 25.5% literature and humanities, 1% PE, 10.2% Science and 11.2% did not respond, there was no significant relationship between these variables and middle managers entrepreneurial behavior (Table 1).

Spearman: The level of significance (sig) is <0.05 that is less than the standard significance level ($\alpha = 5\%$). Therefore, there is a significant relationship between these two variables at a confidence level of 95% equal to 0.195. According to the correlation coefficient between these two variables has positive sign, so the variation of these two variables together were positive means it is associated with the increase in reward and reinforcement of managers' performance and entrepreneurial behavior and vice versa. Despite the correlation relationship, causal relationship between reward and reinforcement of managers' performance and entrepreneurial behavior can be assessed using structural equation modeling.

Modeling structural equations: If the value of X^2 less, the ratio of X^2 to degree of freedom (df) <3, RMSEA <0.08 and also GFI and AGFI are >90%, it can be concluded that the model implemented has a good fit. If the standard rate of t is >1.96 or <0.96, at 99% significant level would be significant (Fig. 2 and 3).

As can be seen, firstly due to the significant value of t, the hypothesis is confirmed at the confidence level of 95%. Secondly, credit and fitness model is appropriate, because the value of square, RMSEA and square proportion to the degree of freedom is low and the amount of GFI and AGFI is close to 90% show in Table 2. It can be said that reward and reinforcement of managers at the confidence level of 95% is effective on middle managers entrepreneurial behavior of Tehran University. These results correspond with the following results. Whatever the reward philosophy is more entrepreneurial, behavior

Table 1: The results of spearman correlation between reward and entrepreneurial behavior

Correlations	EB	Reward
Spearman's (EB)		
Correlation coefficient	1.000	0.195 [*]
Sig. (2-tailed)		0.031
N	96	90
Reward		
Correlation coefficient	0.195 [*]	1.000
Sig. (2-tailed)	0.031	-
N	95	96

Table 2: The results of the structural model between managers' reward and entrepreneurial behavior

Research hypothesis	Standard coefficient	t-value	Result
Reward and reinforcement of managers performance-entrepreneurial behavior	0.24	2.18	Accept

0.90 AGFI = 0.92; GFI = 0.066; RMSEA = 134; df = -18418; X^2 T value is significant at confidence level of 99%

is formed, leading to the creation of added value for the organization and followed the growth of organization in the long-term and increases the probability of searching opportunity by employees (Jones and Butler, 1992). This reward philosophy leads to higher levels of commitment and confidence for the employees in the organization. Appropriate encourage and reward system is one of the most important factors in entrepreneurship of organizations. Staff satisfaction of internal and external rewards has positive relationship with success and the rewards greatly contributes to satisfaction of organization and increase of productivity (Tyman *et al.*, 2010). Reward system for performance causes to retain employees in order to organizational goals and motivate them (Lawler, 2003). There is a significant relationship between reward and ethical field (Augustus, 2008). Reward to employees and thank them according to their performance, is underlying towards the success (Narasimhan and Glazer, 2005). Behavior strategies, reward of faculty members can be caused entrepreneurship. One of the most important factors affecting organizational entrepreneurship is internal conditions and characteristics such as structure, management practices and ways to reward and encourage in the organization (Table 3 and 4).

Research Results of (Antonicic and Hisrich, 2001) and (Hornsby *et al.*, 2002) suggests the impact of organizational and managerial factors like reward system in the formation and development of entrepreneurial activities within the organization. Reward mechanism as one of the strategies of entrepreneurship of the managers' organization has impact in entrepreneurial behavior in the organization (Hornsby *et al.*, 2002).

The results of confirmatory factor analysis: To investigate the relationships between variables coherently great efforts have been made in the last decade. One of the promising methods in this regard is <<structural equation model>> or <<multivariate analysis with latent variables>> (Hoyle, 1995).

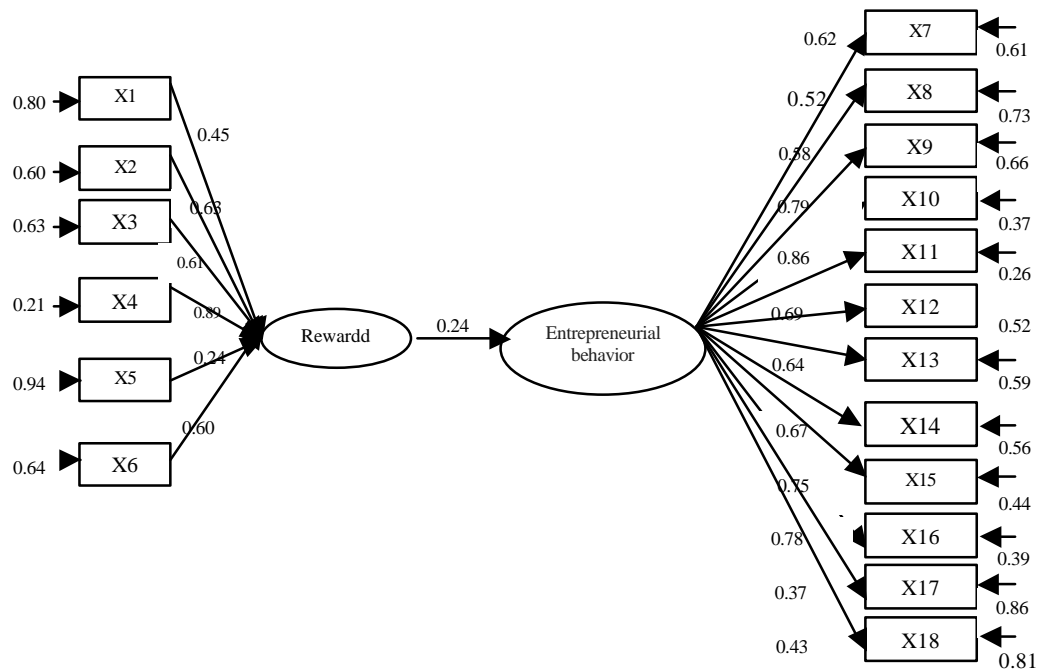


Fig. 2: Test output of causal relationship between manager's reward and entrepreneurial behavior

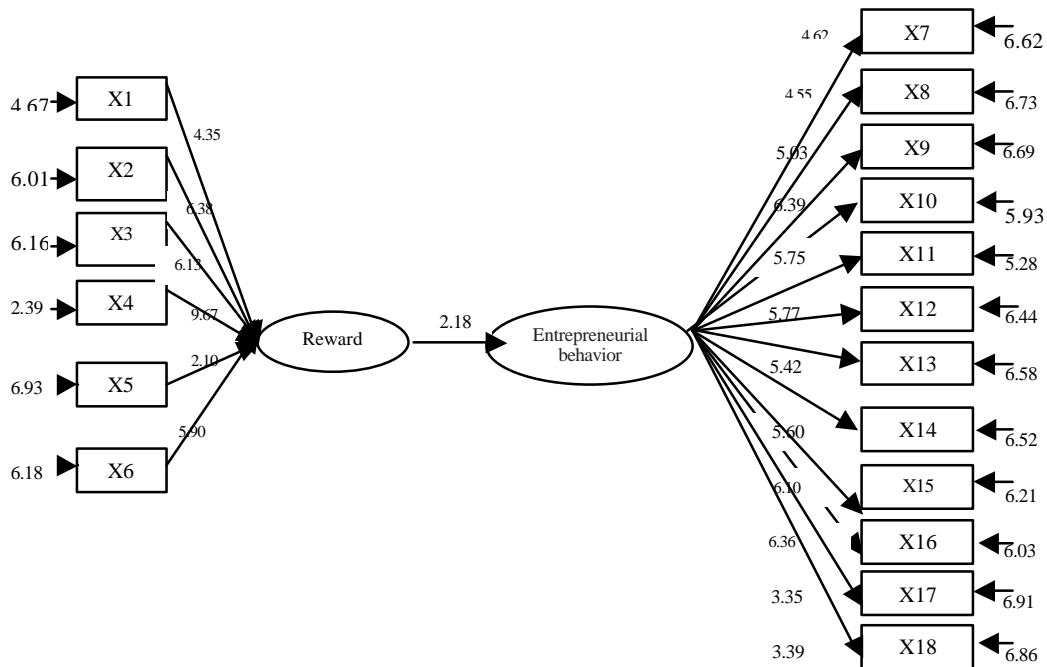


Fig. 3: Test output of causal relationship between manager's reward and entrepreneurial behavior

Evaluation of fit or goodness of fit of confirmatory factor analysis: The most important index of fit model is " χ^2 test" but because the test χ^2 operates under specific conditions and always not achieved these conditions, there fore, a series of "secondary factors" is also offered. The most important are: Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI) Root Mean

Square Error of Approximation (RMSEA) optimum conditions for this test is as follows: the more χ^2 test is less the better, if χ^2 is less and the ratio of χ^2 to degrees of freedom (df) is <3 , the state is very good. If RMSEA is <0.08 and >0.05 and GFI and AGFI are $>90\%$ (Lavee, 1988) can be concluded that the model has good "fit" (according to the reported amount of model are in good

Table 3: Average of statistical population, indicators of reward and reinforcement

Indicators	Number	Average	SD	T number	Results
x1	98	3.0102	0.96852	3.99	Appropriate
X2	97	2.4845	1.05192	2.166	Inappropriate
X3	98	3.3061	1.17015	4.35	Appropriate
X4	98	2.7857	1.07694	3.35	Inappropriate
X5	98	3.8776	0.98719	3.31	Appropriate
X6	97	3.2062	1.07953	3.12	Appropriate

Table 4: The average of population, entrepreneurial behavior indicators

Indicators	Number	Average	SD	T number	Results
x11	98	3.9388	0.84727	10.969	Appropriate
entrepreneurial behavior					
X12	98	4.3367	0.75905	17.434	Appropriate
X13	98	3.9490	0.82951	11.325	Appropriate
X14	97	4.1959	0.77234	15.248	Appropriate
X15	98	4.2551	0.67825	18.319	Appropriate
X16	98	4.8776	0.81564	10.651	Appropriate
X17	98	3.9552	0.73103	12.989	Appropriate
X18	98	3.7449	0.80439	9.178	Appropriate
X19	97	3.8351	0.87417	9.408	Appropriate
X20	98	4.1429	0.60921	18.571	Appropriate
X21	98	3.6633	1.06436	6.169	Appropriate
X22	98	3.5000	0.93335	5.303	Appropriate

condition in terms of fit indices because the chi-square ratio on degree of freedom is equal to 1.72 and smaller than the maximum allowed 3 and RMSEA value is equal to 0.08. In the amounts of loading of each component indicators and the level of significance with respect to the value of t is in the second-order factor analysis. Table 2 shows that all indices are properly in place.

Therefore, it could be concluded that the used indices have acceptable agreement with the theory foundation of research. The considered indicators with t-values were >1.96; the entire index has significant loadings on the components of its own. In this study, using an average test of a population, the constituent questions of reward variables in terms of suitability or not is investigated.

In this study, using average test of a population, variable parameters of entrepreneurial behavior in terms of good or not are investigated.

Proposals: If entrepreneurship is aimed at Tehran University should follow the innovative of new mechanisms in addition to tips and followed advices. In this regard, it is suggested. Encourage and reward criteria are clearly to inform public employees and essentially encouraged risk-taking, innovation and teamwork and actively behaviors. Tehran University can use intrinsic incentives, incentives that cause to satisfy mental needs of employees such as merit and esteem feel, belonging to the group, independence and progress and institutionalize risk as a positive feature at Tehran University. From entrepreneurial activities, individuals accept support and responsibility of these activities. Appreciate people with ideas and projects and provide financial support. Special appreciation from managers who are doing things well,

reflecting the outstanding and specific performance of managers to university officials, remove obstacles and job problems and create the right conditions, continuous monitoring and control of different categories of managers and lack of conservatism, management appreciation of the risky people, thanked the management of people with ideas, tolerance of deviation from the rules of the staff, understanding of entrepreneurial ideas, identify entrepreneurial projects, the diversification in financial supports of management and also proposed to replace the spirit of self-control of employee instead of control and direct supervision of the manager also by rise of new competitors and creating a sense of mistrust to traditional management practices in organizations as well as the loss of the workforce, the need for entrepreneurship in organizations is serious. Managers need to encourage owners of the ideas because when employees know that managers give reward to new ideas, they will try to make idea.

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