

Creativity influenced by management, not by facilities

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Abstract: This study is a descriptive and analytical study that aims to compare the factors effecting creativity in public and private organizations. This study was conducted with 34,350 people in 1,100 public and private organizations in Iran. During this study, we collected information through 346 questionnaires within several public and private organizations. Ratings for 30 questions was scored on a five-point Likert scale, and Cronbach's alpha coefficient of 0.94 was used to measure the reliability and internal consistency of the research. To analyze the assumptions, inferential statistics (t independent, correlation coefficient, Kendall, Pearson, Friedman test) were used. The finding shows that employees found 'management', 'individual staff characteristics' and 'corporate culture' the most important factors that influenced the creativity of staff in both public and private organizations. Government agencies have similarly found creativity alongside basic education effective in building staff, organizational structure, laboratory and other facilities. In the private sector, three factors were mentioned, 'basic and professional education' and 'laboratory facility' respectively, which more greatly influenced employee creativity. The study also found a correlation between organizational structure, management, organizational culture, creativity and personal characteristics within both types of organizations. The study also found the effect of basic and vocational education was more pronounced in the incidence of creativity in private organizations than public. Lab facilities where creativity was stressed found productivity increased by 94 percent.

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Introduction

With the business world having become more volatile in recent years, organizations have been forced to bring creativity and innovation to bear on their goals, trends and interests. In one of his treatises on the subject, Peter Drucker has said: "In the global economic system and (with) increasing competition, creativity and innovation in organizations are the keys to success and survival"(13). Some researchers believe that lack of creativity and innovation, leads organizations to long-term disaster (1). Identifying the factors affected managers and staff members' innovation and creativity can help strengthen organizations, and thus foster future creativity and excellence (3,14).

Strengthening and developing innovation and creativity of employees would only be achieved by the existence of a suitable climate for growth of ideas that help creative people deliver their innovations to the table.

Unfortunately, such a climate for creativity does not exist in more than a few Iranian organizations, and will likely not be until a suitable platform is created, using cross-sectional activities and sometimes shaking up these organizations, to foster ideas to improve companies' profit picture.

Identifying creative and innovative employees in organizations can help organizations strengthen themselves. Factors affecting the creativity and innovation are classified in two categories of individual factors and organizational factors:

Now, factors affecting the creativity and innovation among individuals depend on personal characteristics, such as self-confidence and abstract thinking. Organizational factors such as leadership style, organizational culture and structure can also ripen the company for innovation, especially if productive ideas are rewarded and encouraged with training facilities. Understanding the factors affecting public and private organizations can enable these firms to provide recommendations for rendering them suitable for creative and innovative talents to foster development and survival.

Theoretical Foundations of Research

Definitions

Creativity is defined in psychology texts as: "patent actions based on creative imagination, which is separate from intelligence." Creative thought has spawned new developments in art or mechanics, and simply new means of solving problems. In encyclopedia, creativity has been defined as the ability to create new and valuable products. But some researchers explain the creative process as one through which new and valuable products are created.

Even some Persian dictionaries have tried to narrow down the meaning of creativity as has the Oxford version, in explaining the creative act or process. Several definitions of creativity have been offered by management scientists, about 80 in all.. Let's examine some of these definitions:

- Creativity means trying to bring about a purposeful change in altering social or economic power within the organization as a new way of operating (10).

- Creative development process can be defined as evolution of innovative and imaginative views on different situations.

- The cognitive process of creativity can involve an idea, concept, product or discovery that is novel or unknown.

- Creativity is the ability to see things in new and unusual terms, to see problems that no one else would reckon on the possibility and to propose new, unusual and effective solutions.(2)

- Creativity can constitute the combination of ideas and approaches, involving individuals or groups in a new method.

- Creativity means the ability to combine ideas in a unique way or to create linkage between ideas. (4)

- Creativity is the expression of mental processes that lead to solutions, ideas, perceptions, theories and products that are unique, new and valuable (7).

- Creativity means creating new ideas and new ways to discover the power of search problems and opportunities.

- Creativity allows us escape hypothesis and traditional beliefs, by which new ideas are created (5).

- Creativity is considered as key to personal and organizational social prosperity (9)

Different views on creativity

Although there are many definitions of creativity, the word can be summarized in one of three views of creativity:

Psychology perspective

In this view of creativity, new ideas are defined as one of the main aspects of thinking. The thinking process of creative people can involve symbols rearrangement or change information acquired in long-term memory.

Social perspectives

the perspective of creativity in the process of doing things in new ways and ability to offer new solutions to solve problems, i.e. providing new ideas and designs for new products and services.

Organizational perspective

that it means offering innovative thinking and new designs for quantity or quality improvement organization activities (e.g., increased productivity, increased production or service, reduce costs,

production or service of Better methods, new products or services used to....

Barriers to creativity

Managers may be aware that barriers exist to creativity, even though they may have attempted to facilitate all the required rules and protocols to encourage creativity and innovation in the organization. But employees may have not responded significantly, thus, there was a crying need for these barriers to come down, and that managers recognized that the very survival of the organization was at stake, even if they found change at times uncomfortable. They should note that there are two kinds of barriers.

Organizational barriers

Whether these obstacles can be surmounted, and whether they can deter creativity depends on certain conditions, which were studied separately.

Management

- Dictatorship Leadership style (manner)
- Intolerance of criticism
- Lack of willingness to risk failure
- Negative attitudes towards the capabilities of subordinates
- Reward-and-punishment system that incorrectly encourages obedience instead of creativity.
- Considering the cost of creative ideas as losses.

Organizational Structure

- Communication restricted and limited within factions of the organization
- Classification of jobs and job descriptions fixed instead of flexible
- Bureaucracy and flexible structure
- Incorrect evaluation of performance
- Issues arising from friction between management and staff

Organizational culture

- Lack of social responsibility
- Trying to maintain the status quo
- Product orientation rather than customer orientation
- Lack of space to support innovation
- Excessive emphasis on organizational goals, regardless of staff

Education

- Poor basic education
- Lack of creativity training

Personal obstacles

Personal barriers are those defined as self-induced; the ability to overcome obstacles is something the individual can most often work out himself or herself, and obviously, this ability has achieved some recognition within the social, educational and family system. There is the fact that 95% of talent in children aged five to eight disappears as they grow up, due to social pressures, training

systems, and traditional models of competition (Ministry of Industry, 1992). Personal barriers are divided into three categories:

- A. Perceptual barriers
- B. Cultural barriers
- C. Emotional barriers

Social barriers

Social barriers are obstacles that can be true for all people.

Many people may overcome personal obstacles, but social barriers cannot be overcome by individuals. Social barriers to creativity are:

- A. Childhood and upbringing
- B. Educational System

Literature Study

– Toyohira, a Management scientist who has researched factors in creativity and innovation, referring to the four following factors:

1. Recruiting and attracting creative and innovative people within an organization.
2. Adequate financial resources for research and innovation efforts
3. Sufficient scope in fostering creative activities and efforts
4. Applying the results of creative activities and giving appropriate rewards to creative people.

– If the organizational system is flexible enough to bring about a creative environment, then innovation within organization development will be expanded and strengthened.

Theoretical Research Framework

This comparative study, commissioned by the city of Kashan, investigated the factors affecting creativity within public and private organizations from behavioral and structural views. The six most prominent variable factors it found were organizational structure, management, organizational culture, personal characteristics, and basic education and professional, and laboratory facilities. These factors have been identified, according to previous research which mentioned some of them in the previous section and according to the theoretical resources available. This research has been conducted under the following theoretical framework:

Run pilot study

1.1. The main research question: within the city of Kashan,

“What are the most important factors affecting the creativity of employees within public and private organizations?”

1.1. Secondary hypothesis of this study include:

1. Organizational structure is an important factor among employees in both public and private organizations.

2. Management proved to be an important factor in fostering creativity within organizations, public and private, in Kashan.

3. Organizational culture factors also affected the incidence of employee creativity in Kashan, in both governmental and private organizations.

4. Personal characteristics were also important factors in making public and private organizations more creative.

5. Basic and professional education were also crucial factors in the incidence of creativity within public and private Kashan.

6. Laboratory facilities were also essential for developing creativity.

7. Statistical population.

The population study of 34,350 included all employees of 1,100 public and private organizations in the city of Kashan in 2009.

Statistical Population

The sample size for this study of personnel involved 346 people from companies in different Kashan industries. Of the 346 questionnaires distributed, 284, or 92%, were returned. Thus, the final sample study was performed carried out on all 284 in which the statistical analysis.

Data collection methods

This study is a descriptive and analytical study aimed at describing the actual and regular characteristics of a position or a subject while examining post-analysis issues. The study population included all administrators and staff, from public and private organizations in the city of Kashan. Total sample size included 284 subjects were taken from statistical population using random samples method, and data was collected for this study in the form of a questionnaire containing 30 questions, the choice of which was based on the five-degree Likert range. The validity of this questionnaire was based on virtual validity, and the reliability of the questionnaire was confirmed using Cronbach's alpha coefficient about 0.94, which was determined to be an acceptable value for continuing the research (See Appendices section article). Finally, for data analysis and data research, the Friedman test was used, as well as Pearson correlation coefficients, Kendall, Spearman, and t tests for independent groups.

Results and Conclusion

Evaluation of creativity levels in public and private sectors

To examine the subjects' creativity in the public and private sectors in the field study, the Independent Samples t test was used. According to the results of the analysis, the rate of creativity was significantly different between the public and private sectors. The difference was considered significant at 1% level. In

fact, findings show that creativity exhibited in the private sector proved greater than in the public sector.

The major study question

“What are the most important factors affecting the creativity of the public and private sector employees in Kashan?”

To study this question test, the "Friedman" test was used. The results of findings in public and private sectors were studied separately. These results are as follows:

A. Public sector

B. According to the ranking factors for public sectors in field study, organization management was seen as most effective in creating innovation; the next highest ranking factors were personal characteristics, organizational culture, organizational structure, facilities and laboratory facilities, and basic and vocational education in Staff.

C. Private sector

D. The factors leading innovative private sector employees in order of priority were: Organizational management, personal characteristics, organizational structure, organizational culture, basic and vocational training, and laboratory facility.

Minor research hypotheses:

To evaluate the minor research hypothesis, the Kendall correlation coefficient is used.

1. In the city of Kashan, the most important factor in the incidence of creativity in public organizations and private employees was organizational structure.

Correlation between organizational structure and innovation in both public and private sectors was generally calculated separately. In both cases, levels were significantly less than 0.05. In fact, it's accepted that organizational structures was one of the most important factors affecting the incidence of employee creativity in public and private organizations in Kashan.

2. Organizational Management was an important factor in the incidence of employee creativity in public and private organizations in Kashan.

The significance level obtained, -- less than 0.05 for both the public and private sectors, -- leads to the conclusion that there is a close relationship between organizational management and innovation. In fact, considering the results, the idea is confirmed that management is an important factor in the occurrence of employee creativity in public and private organizations in Kashan.

3. Organizational culture factors affecting the incidence of employee creativity in public and private organizations in Kashan.

The correlation between organizational culture and creativity in both public and private sectors is calculated separately.

In both cases, the relationship is significant. In fact, the hypothesis is confirmed of organizational culture is an important factor in the incidence of employee creativity in both the public and private organizations in Kashan.

4. Personal characteristics factors affecting the incidence of employee creativity in public and private organizations in Kashan.

The significance level obtained, which was less than 0.05 for the public and private sectors, leads to the conclusion that the relationship between personal characteristics and organizational innovation is significant. In fact, considering the results, the hypothesis is confirmed that personal characteristics is an important factor in the occurrence of employees creativity in both public and private organizations in Kashan.

5. Basic and vocational training factors affecting the incidence of employee creativity in public and private organizations in Kashan.

The significance level obtained, which was more than 0.05 in the public sector, leads to the conclusion that there is no relationship between personal characteristics and innovation in organization with t confidence level of 0.94.

This relation for the private sector is significant because the Sig value was less than 0.05. In fact, considering the results, basic and vocational training is an important factor in the occurrence of employee creativity in private organizations, but not an important factor in public organizations.

6. Laboratory facilities are necessary for developing employee creativity in both public and private organizations.

The significance level obtained, which was more than 0.05 for the public and private sectors, leads to the conclusion that there is no significant relationship between the laboratory facilities and innovation with a confidence level of 0.94.

This relationship for private sector organizations is significant because the Sig value was less than 0.05.

In fact, considering the results, the hypothesis is NOT confirmed of laboratory facilities as being important factors in the occurrence of employee creativity in both public and private organizations.

Suggestions

The following suggestions are offered based on the priority that was obtained by the Friedman test on the main research question.

1. As confirmation of the hypothesis shows management is an important factor in the occurrence of staff creativity in public and private organizations

in Kashan, to strengthen the operation, and thus its impact on creativity, it is recommended that:

A. Management changes its theoretical and practical approaches to its workforce. This means that employees should be allowed independence and free rein to practice creative thinking. With this interpretation, surely the highest and most valuable resource organizations employees are creativity and open-mindedness.

B. Creativity and innovation need participatory and devolved leadership style. Definitely, creativity clashes with the authoritarian style. With this interpretation, it is suggested that managers of organizations use the appropriate leadership style according to the maturity level of their employees and should try to use gradual methods to help raising employees to the higher levels.

C. Managers should not look at the expenses spent in employees' creativity as a cost, but as an investment in the future of their organization.

D. Fostering creativity requires management flexibility and tolerance to risk. Therefore, it is recommended that management adjusts its predictions, risk- and failure-tolerance along with their professional approaches.

E. Creativity requires effective goal-setting and accurately engaging personnel in the innovation and it is therefore recommended that directors use of modern methods such as Management by Objective, and bottom-up methods in their planning.

F. Continuing the process of creativity requires offering moral and material encouragement to creative people, therefore it is recommended that managers professionally appreciate creative people.

G. Managers are role models for many employees in organizations therefore it is recommended that manager should set good examples for others by practicing creativity themselves.

1. According to the confirmed hypothesis, that personal characteristics are strong factors affecting the incidence of employee creativity in public and private organizations in Kashan, in order to strengthen it is recommended that:

A. Employees, increase their tolerance of ambiguity (and doubt filled) in the face of problems, in order to increase creativity.

B. In order to increase creativity, new methods of work should be employed, therefore, recommended that the staff avoid routine and repetition as far as possible.

C. To establish the required creative thinking, it is recommended that a mechanism be adopted so that criticism is in line with issues rather than individuals.

D. VIII) Creativity requires that following the community in organizations does not become an

absolute, so that it is recommended that people have different motivation and thoughts.

E. Innovation in organizations requires adequate understanding towards the subject, therefore it is recommended that the use of management information systems, staff at various levels in enough organizations to share information.

1. Confirming the hypothesis of organizational culture factors affecting the incidence of employee creativity, in public and private organizations in Kashan, in order to strengthen this factor is suggested that:

A. Cultural organizations embrace creativity and innovation as having organizational value, so it is suggested that managers and employees attempt to creativity and innovation as a high value on organization,

B. Accept change as a principle in order to raise creativity. It is therefore recommended that organizations manage change in the way Lmysvrt to accept something undesirable to change the employee is not converted.

C. As research shows a direct relationship with the creativity of social responsibility is therefore recommended that the philosophy of social marketing organizations are recommended.

D. Creativity is inversely related to prejudice, therefore recommended that organizations that govern cultural prejudices rather than to perform analysis based practice should be implemented.

E. Because the philosophy of modern organizations is to provide customer service, creativity's purposes provides that the dominant cultural organization that the customer is accepted as paramount.

1. Based on the hypothesis that organizational factors affecting the incidence of employee creativity, public and private organizations in Kashan, the following suggestions are offered:

A. Administrative rules and regulations exist to prevent incidence can largely be creative, so it is suggested that especially in public sector organizations as possible administrative rules and regulations be reduced.

B. One of the requirements incidences of creativity, organizational flexibility is therefore recommended organizations flexibility as possible as one of its structural elements is considered.

C. One of the important elements of organizational structure is size. As staff have stated in response to the questionnaires, organizational size is the determining factor in creativity, so it is suggested that the methods employed in determining the size Lmyv professional organizations are considered.

D. Concentration and decentralization, one of the candidates is an important organizational

structure. Focus refers to the level of the organization where decisions are taken. According to the answers provided is concluded that creativity is directly related to decentralization. In other words, managers and other members of the organization shall attempts possible decisions to lower levels of the organization should move.

E. Non-responses provided by members of samples shows that the freedom and intensity of formal and informal communication determine the level of creativity. Therefore it is recommended that members of the organization focused exclusively on informal communication within organization and it should be considered that external communication and organizational members of the organization be extended.

2. Basic hypothesis level and professional training in the incidence of creativity in the private and public organizations is effective in Kashan, in the case was overturned governmental organizations, therefore, suggest that investigate the type of training, courses and general content of the efficiency and effectiveness education, and professional practice.

3. Organizations' employees in the sample survey, there have stated that laboratory facility failed to develop their creativity, so it is suggested to assess

the type of equipment, user manual, and the technology used in them.

Proposal for future research

1. Analysis has been based solely on self - report of respondents. The researchers recommended further comments about the classification of supervisors on subordinates to achieve creativity.

2. In order to inference to create inclusive, research in other fields and industries becomes a stage run.

3. Since the present study is an interdisciplinary research (sociology, psychology, management and...), therefore it is recommended that look more carefully on the subject in headings presented in the specialized sections.

4. Since many problems about creativity and innovation in the country is therefore recommended to develop the theoretical and implementation issues, the pathology research and implementation efforts in the country to be appointed.

5. In future research the use of open response questions to be asked most of the employees is opinions.

6. In subsequent studies of other data collection tools to be used.

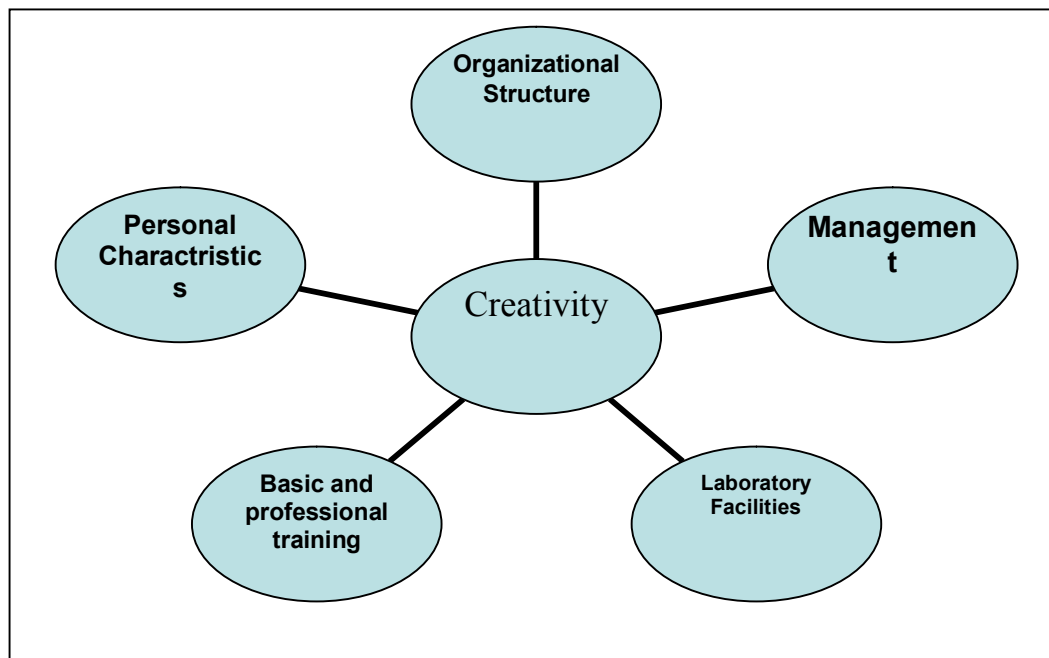


Figure 1: Theoretical Research Framework

Table 1: The relationship between organizational structure and creativity

			Rate of creativity in public sector	Rate of creativity in private sector
Kendall's Correlation Coefficient	Organizational Structure	Correlation Coefficient	-.14	-.35
		Significance Sig	.041	.003
		Total	115	169

Table 2: Relationship between organizational management and the rate of innovation in public and private sectors

			Rate of creativity in public sector	Rate of creativity in private sector
Kendall's Correlation Coefficient	Organizational Structure	Correlation Coefficient	.45	.46
		Significance Sig	.003	.007
		Total	115	169

Table 3: Relationship between organizational culture and the rate of innovation in public and private sectors

			Rate of creativity in public sector	Rate of creativity in private sector
Kendall's Correlation Coefficient	Organizational Structure	Correlation Coefficient	.28	.17
		Significance Sig	.000	.000
		Total	115	169

Table 4: Relationship between personal characteristics and Rate of innovation in public and private sectors

			Rate of creativity in public sector	Rate of creativity in private sector
Kendall's Correlation Coefficient	Organizational Structure	Correlation Coefficient	.39	.42
		Significance Sig	.021	.000
		Total	115	169

Table 5: Relationship between basic and vocational training and the rate of innovation in public and private sectors

			Rate of creativity in public sector	Rate of creativity in private sector
Kendall's Correlation Coefficient	Organizational Structure	correlation Coefficient	.08	.12
		Significance Sig	.061	.050
		Total	115	169

Table 6: Relationship between laboratory facilities and the rate of innovation in public and private sectors

			Rate of creativity in public sector	Rate of creativity in private sector
Kendall's Correlation Coefficient	Organizational Structure	Correlation Coefficient	.18	.15
		Significance Sig	.403	.367
		Total	115	169

Variable Type	Rank	Factors
Structural variables	1	Reduce the cumbersome administrative rules and regulations
	2	Organizational flexibility
	3	Small organizations
	4	Decentralization
	5	Freedom and intensity of formal and informal communication
Management variables	6	Theoretical and practical attitude of managers to employees
	7	Management and leadership style
	8	Attitude to innovation costs as infrastructure investment
	9	Lack of willingness to risk failure
	10	Effective and accurate goal setting and labor participation in the goal
	11	Offering rewards and moral and material encouragement to creative people
Organizational cultural	12	Creative director and being able rule model for employees
	13	Creativity and innovation being considered as a high value on organization
	14	Accepting changes
	15	Social responsibility
	16	Prejudice to the act rather than mere analysis
Personal characteristics	17	Accepting customer orientation
	18	Tolerance of ambiguity in the face of problems
	19	Avoid carrying out routine and repetitive tasks
	20	Intolerance of criticism
	21	Motivation for having different thinking and ideas
	22	Having sufficient understanding of subjects
Basic and professional training	23	Curiosity
Laboratory facilities	24	Workshops and training courses related to the topics of creativity
Creativity	25	providing necessary facilities for creativity and innovation
	26	How you describe your creativity?
	27	Whether the presence of creative action, is an important goal of your life?
	28	Whether you are keen to the use of tools that can increase your creativity?
	29	How familiar are you with the creativity issues?
	30	Do you believe that creativity in any business is used?

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