

The Relationship between Organizational Structure and Employee Creativity

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Abstract: This study is performed with the target of explicating the relationship between organizational structure with its dimensions (formalization, complexity and centralization) and employee creativity in Saveh Aluminum Pars Company during 2012. Research statistical community was comprised of 650 employees among whom 242 employees were considered as sample size using Jessi-Morgan table and stochastic sampling method. Data collecting method was carried out on the basis of questionnaire. The reliability of the questionnaires by using Cronbach's alpha method for Robbins organizational structure questionnaire was obtained 0.89 and for Randeep creativity standard questionnaire was obtained 0.91. Content validity was also employed in order to test the questionnaire validity and the questionnaires were approved by the relevant experts. Analysis of the acquired data obtained from running questionnaires was performed through spss software in two sections: descriptive (frequency, percentage frequency, mean and standard deviation) and deductive (multi-variable regression, Pearson correlation coefficient and Shapiro-Wilk test). The study results showed that there is a significant relationship between organizational structure with its dimensions with employee creativity.

Key words: Employee creativity, Organizational structure, Formalization, Complexity, Centralization.

INTRODUCTION

Organizational structure and manpower constitute two main bases in an organization and must exist to form it. Each organization can improve its performance and efficiency by modifying its structure and increasing the creativity of its organizational and human resources and move towards accomplishing its predetermined targets. In our age, to survive and progress and even to maintain the status quo, one must continue the innovation flow in the organization in order to prevent its recession and decimation (Marhemati, 2009).

The creativity process has been proposed in all times but its intensity is more in today's organizations. Despite the high importance of organizational creativity and innovation, its coming into existence depends on the structure of the organization. Creative organizations are able to solve their problems better and faster and take the best advantage of their opportunities. If an organization is a creative one, the quantity and quality of the decisions and activities improve leading to growth and prosperity (Ketabdar, 2008).

Modern world is full of complexities which have confronted organizations with numerous difficulties in the field of growth and development; and managers, as humankind planners, organizers and leaders, are faced with plenty of challenges. In our society, due to specific difficulties and restrictions, this problem is more visible. Our current industry indicates low strength of the organizations against organizational problems and difficulties. Here, the role of appropriate creativity and organization structure, as two important influential factors on efficiency and productivity, have importance and organization development, improvement of product and service quality, success in competition, employee motivation increase, job satisfaction, cost reduction, wastage of resources, product diversity, reduction of administrative bureaucracy and sitting behind a desk, and is an incentive of pragmatism and needs further studies and investigations (Sabunchi, 2007).

For increasing environment growth, the organizations are required to be adapted to the changes, since this is necessary to the survival of that organization and if a system remains stagnant and no creativity and innovation is introduced in it, after a time period, this system will have tendency toward erosion and descent and will turn into a parasitic system. In addition to technological innovations in public companies, similar situation exists in creativity and innovation of governmental organizations and its obvious signs are: lack of job motivation, non productivity, inefficiency, bureaucracy and ultimately dissatisfaction over the society. One of the ways to build creativity is to form open and creative structure such that organization officials continuously are ready to listen to innovative and new thoughts, strengthen new opinions and ways and tolerate the continuous change process which is necessary for creativity (Taleb Bidokhti and Anvari, 2008).

The target of organizational structure is coordination between manpower and existing resources in order of increase in organization productivity and efficiency. In fact organizational structure is a process which plays a

major role in attaining organization targets. Organization structure is a framework in which basic fields, basic missions, basic managements, general mission, communication system and decision center are determined.

Organization structure is a combination of complexity, formalization and centralization that refers to the number of different jobs in an organization, organizational levels and hierarchy, location frequency, the amount of use of rules and regulations, authority domain, defined procedures for affairs, the amount of centralization in decision making, among others. Organizational structure, in one categorization, is classified into two types of mechanistic, which has maximum rigidity and stationary and this rigidity is a hurdle in the path of achieving the high performance of the organization, and organic (level of complexity, formalization and centralization is minimum and is flexible) (Robbins, 2005). Generally, the Robbins' definitions of complexity, formalization and centralization are as follow:

Complexity: it indicates limits and separation within an organization; moreover, it refers to the level of specialization, division of labor and number of levels in organization hierarchy.

Formalization: the limit that an organization sets in order to direct its employees' behavior towards rules and regulations.

Centralization: refers to the place in which decision making authority is centralized (Robbins, 2005).

Organization structure stipulates how the duties are allocated, who reports to whom and what the coordination and formalized mechanisms are; also what the interactive patterns of the organization which must be observed are.

There are researches done in relation to this study which are briefly referred to here:

Yung and Chen (2010), in a research with the title of "Impact of role ambiguity and role conflict on employee creativity", concluded that job satisfaction is a mediator in the relationship between role ambiguity and creativity as in the relationship between role conflict and role creativity.

Annick and Mark (2009), in a research with the title of "The impact of organizational Structure dimensions on Knowledge ratio in organizations", showed that there was no relationship observed between formalization and centralization, and organization knowledge.

Rukar *et al.* (2008), in a research done, showed that horizontal organizations are more suitable for information age; they also showed that in environments with rapid and competitive changes, flexible business has more effects.

Hamidi and Safari (2008), in a research with the title "the relationship between organizational structure and creativity of the physical education organization staff managers", showed that there was a significant relationship between organizational structure and staff managers' creativity; however there was no significant relationship observed between complexity and staff managers' creativity. Furthermore, the relationship between staff managers' creativity and formalization, centralization and education level was significant.

Aziznejad and Abbaszade (2010), in a research with the title "Investigation of the relationship between organization structure and creativity of the teachers of the high schools in Urmia's district 1", showed that there is no significant relationship between formalization and creativity; it was also shown that there is a significant relationship between teachers' creativity and centralization, complexity, education level and teachers' ages.

Therefore the major question in this study is whether there is a significant relationship between organization structure and creativity of Aluminum Pars Company's employees. The hypotheses of this research in order to investigate the main question are as follow:

First hypothesis: There is a significant relationship between organizational structure and creativity of Saveh Aluminum Pars Company's employees.

Second hypothesis: There is a significant relationship between level of formalization and creativity of Saveh Aluminum Pars Company's employees.

Third hypothesis: There is a significant relationship between level of complexity and creativity of Saveh Aluminum Pars Company's employees.

Fourth hypothesis: There is a significant relationship between level of centralization and creativity of Saveh Aluminum Pars Company's employees.

Research Methodology:

Research statistical community is 650 people from the staff of Saveh Aluminum Pars Company which includes all the staff and line employees. The company which is located in Kaveh industrial area, 10 kilometers from Saveh city, as the largest domestic manufacturer of aluminum coil, sheet and foil with successful experience of 34 years presence in country's aluminum industry and with the target of customer orientation, has achieved to express itself as a crucial factor in domestic market and an important rival in foreign markets.

By using Jessi-Morgan table for the society of 650 employees, a sample size equal to 242 people was calculated using simple stochastic sampling method. The method adopted in this study is of application type considering target and is descriptive correlation regarding data gathering.

Considered variables in this study which are originated from research literature are: organizational structure and employee creativity. Here, formalization, complexity and centralization are investigated of the dimensions

of organizational structure. In order to collect the information about organizational structure, the Stephen Robbins twenty-four-question standard questionnaire was deployed. This questionnaire is created by considering the three dimensions of formalization, centralization and complexity. It is comprised of 24 questions with first seven questions measuring complexity, second seven questions measuring formalization and third ten questions assessing centralization. For all the expressions, one score is given to 'A' choices, two scores to 'B's, three scores to 'C's, four scores to 'D's and five scores to 'E's and eventually these scores are added up to obtain the total score. To evaluate the degree of complexity and formalization, if the total score falls within 22 and 35, the organization has complexity and formalization and the closer the obtained score is to 35, the more is the formalization and complexity and in case the obtained score is less than 21, the formalization and complexity will decrease. Furthermore, to evaluate the centralization or decentralization, if the obtained score is between 31 and 50, the organization is centralized and the scores lower than 30 indicate the decentralization in the organization. This scale is also utilized to determine the organizational structure type (organic, mechanistic).

Furthermore, in order to measure employee creativity, Randeep's creativity questionnaire, which was published in 1979, was used. This questionnaire includes fifty questions and its measurement scale is Likert's five point spectrum (including very much, much, average, little, very little).

In order to measure the reliability, an initial sample containing forty questionnaires from each of the Randeep's creativity and Robbins organizational structure questionnaires was pretested and then by using the acquired data from those questionnaires and with the aid of SPSS statistical software, the reliability rate was calculated via Cronbach's alpha method leading to the values of 0.89 for Robbins organizational structure questionnaire and 0.91 for Randeep's creativity questionnaire; these values indicate that the questionnaires used, enjoy necessary reliability. To test the validity of questions in the questionnaires, content validity (face validity) was used, on the basis of which, the questionnaires were investigated and approved by relevant experts.

3-Research Findings:

3-1- Findings Obtained from Demographic Specifications:

In this research, all the participants are men. 57% of whole sample are single, while only 43% of them are married. Majority of the sample group are employees with associate's degree (i.e. 54.7%); while only 31% of them have bachelor's degree. The percentage of the employees with high school diploma and under that is 14.3%. The age range of subjects is between 22 and 43 that the maximum frequency is pertaining to the employees whose age is equal to 31. The age distribution of the employees has the mean of 33.29 and the standard deviation of 4.17. Furthermore, 40.8% of the employees have between 10 to 20 years of experience, 49.7% have less than 10 years of experience, and the rest of the staff, 9.5% of the employees, have more than 10 years of experience.

3-2 Normality of Variables Test:

To investigate the normality of the variables of this study, Shapiro-Wilk test was used. As it can be seen in the table 1, the test significance level, in all distributions, is greater than 0.05; in other words, workers' scores, in all variables, follow normal distribution.

Table 1: Shapiro-Wilk Test Summary

Variables	Test statistic	Significance Level
formalization	0.987	0.39
complexity	0.981	0.36
centralization	0.982	0.29
employee creativity	0.979	0.16

3-3 Hypotheses Test:

First to forth hypothesis:

As it can be noticed in table 2, first to forth hypotheses, which dealt with the investigation of the relationship between organizational structure with its dimensions (formalization, complexity and centralization), and employee creativity, showed that at 99% confidence level, there was a negative and significant relationship between organizational structure with its dimensions with employee creativity, that the level of correlation is shown in the table 2.

Table 2: Correlation test between organizational structure with Its dimensions and employee creativity

Variable name	Correlation coefficient	Significance number	Significance relationship
Organizational structure	-0.568	0.008	exists
formalization	-0.540	0.005	exists
complexity	-0.525	0.009	exists
centralization	-0.566	0.007	exists

4- Discussion and Conclusion:

We have entered from a stable time into an era in which the variations are rapid and, at the same time, ambiguous. Science and technology progress has triggered changes in modern world, changes that if organizations do not adapt to, they may even be decimated. These changes require that organizations learn how to solve the problems and be creative; because gradually, non-creative organizations will phase out or will have to modify their system. One of the major dimensions of organization, which is regarded as the organization frame, is its structural dimension which can be a factor to improve the organization. For this purpose, the relationship between organizational structure and employee creativity in Saveh Aluminum Pars Company was studied and provided us with some information and results.

4-1 Research Findings Interpretation:

First hypothesis:

“There is a significant relationship between organizational structure and Saveh Pars Aluminum Company employee creativity.”, By using Pierson correlation coefficient, we concluded that there is a negative, direct and significant relationship between organizational structure and employee creativity, the value of which is -0.568. This means that the more flexible an organization is and the more it moves toward an organic structure, the more the creativity becomes and vice versa. This result is consistent with Hamidi (2007) and Azizinejad and Abbaszade (2010) findings; so first hypothesis is confirmed. It is suggested that this organization attempt to design and build an appropriate and flexible structure to ever increase the creativity of employees and organization. Furthermore, organization officials must continuously be ready to listen to innovative and new thoughts and boost new ideas and method proposals. It is recommended to use the experts who are specialized in designing organizational structure, modification and restructuring and also nurturing creativity methods in the organization.

Second Hypothesis:

“There is a significant relationship between level of formalization and Saveh Pars Aluminum Company employee creativity.”, By using Pierson correlation coefficient, we came to the result that there is a negative, direct and significant relationship between level of formalization and employee creativity with the value of -0.540. Emphasis on rules and regulations and criteria performance in organization indicate the level of organization formalization; in other words, formalization is referred to documents and certificates which exist in the organization. Hence the level of formalization, rules and regulations and policies effect on level of creativity in this organization; this means that the more formalized is an organization, the more decreases its creativity. This result is in agreement with Hamidi’s (2007) findings while is not in the direction of Azizinejad and Abbaszade’s (2009) research.

Third Hypothesis:

“There is a significant relationship between level of complexity and Saveh Pars Aluminum Company employee creativity.”, By using Pierson correlation coefficient, we concluded that there is a negative, direct and significant relationship between level of complexity and employee creativity, the value of which is equal to -0.525. This means that the more the structure has complexity, the less creativity appears to it. Totally, this means that the more separation an organization has of the point of horizontal, vertical and locality, the more it is complex. Vice versa, the organizations with simpler structure have more creativity. Hence it is suggested that organizations reduce the complexity as much as possible and move toward minimal complexity. This finding is consistent with Hamidi (2007), Fouladi (2002), Azizinejad and Abbaszade (2009) and many other researchers’ findings.

Forth Hypothesis:

“There is a significant relationship between level of centralization and Saveh Pars Aluminum Company employee creativity.”, By using Pierson correlation coefficient, we concluded that there is a negative, direct and significant relationship between level of centralization and employee creativity, the value of which is -0.566. This means that the more centralized the structure is, the more the creativity is reduced and these two have an inverse relationship; i.e. when one of them increases, the other decreases. At extreme organizational centralization, considering that employees at lower levels in organizational hierarchy have limited authority, they cannot apply their thoughts and suggestions easily and level of creativity and innovation lowers. Therefore it is suggested that organization move toward decentralization to observe creativity increase. The conclusion of this hypothesis is consistent with Esmi (2009) and Azizinejad’s (2009) researches while it is not in agreement with Hamidi’s (2009) research.

Moreover, to investigate the simultaneous relationship between three dimensions of structure and creativity, multi-variable regression was used and we just imported and tested the formalization dimension into the model, because with the increase in other dimensions, the value of correlation coefficient square does not change;

however it is noticed that with one unit increase in formalization, 1.4 is decreased from employee creativity ($\{\text{predicted employee creativity}(Y) = 102.9 - 1.4 (\text{level of formalization})\}$) and since centralization, complexity and formalization component, have a significant relationship and are correlative, their relationship with creativity cannot be evaluated simultaneously by using regression equation. Centralization and complexity have relationship with creativity independently; however by introducing formalization in regression, they lose their role.

4-2- Suggestions On The Basis Of Research Findings:

In Pars Aluminum Company, considering the results obtained from this research, following suggestions are proposed:

1- On the basis of first hypothesis, it is suggested that:

- Considering that the structure of this organization is bureaucratic and that organic or biological structure rapidly adapts to complex environmental conditions and provides possibility of flexibility and freedom of action for members, organizational designers along with senior and middle managers, avoiding specifications of bureaucratic organizations and restrictions and their rigid and stable criteria, form an appropriate environment for employee creativity and innovation; in other words, they design a structure that instead of mechanistic structure (high centralization, complexity and formalization), an organic structure (low centralization, complexity and formalization) is formed in the organization; as a result, we will observe an everyday increase in organization creativity.

2- On the basis of second hypothesis, it is suggested that:

- It is suggested that efforts are made in order to ease vertical communication especially with organization's senior managers, such that employees are able to propose their suggestions in minimum possible time, without going through extra and time-consuming courses (administrative bureaucracy) and away from paperwork and out of administrative rules and regulations. Furthermore, express their job problems and receive appropriate answer.

3- On the basis of third hypothesis, it is suggested that:

- Despite negative significant relationship between creativity and complexity, it is suggested to decrease the number of management levels (complexity) in the organization and reduce extra expertise.

4- On the basis of fourth hypothesis, it is suggested that:

- Moving toward decentralization; since in neo-classic management discussions, human communications has special place and it is proved that in small organizations, due to more employee proximity, productivity and efficiency increase leading to more creativity.

- Delegation of information and control of affair to employees.

- Delegation of authority and responsibilities relative to it to the staff, in affairs that they can do easily and without centralized control; since on the one hand, centralized control makes organization senior manager spend time doing simple and repetitive tasks and prevents him/her from thinking about long-term and strategic plans, and on the other hand, increases confidence between employees and senior manager and centralized control leads to more lack of control specially on resources.

- Forming a mutual trust atmosphere between employees and organization senior management and using suggestion system, a system that employees propose suggestions depending on their expertise and the task they do.

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