



## **A Study on Pakdasht's Schools from Complexity, Centrality and Formality Perspective**

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### **Abstract**

The main objective of the present study is to study Pakdasht's schools from complexity, centrality and formality. Population of this study was all teachers and school managers of Pakdasht amounted to 314 subjects. Sample size was determined using Cochran formula and 173 teachers and school manager were selected through random sampling. Data collection tool includes a standard questionnaire, schools organizational structure questionnaire. Organizational structure questionnaire has acceptable validity and Reliability of the questionnaire in organizational structure section is determined as 0.89 using Cronbach's alpha and Kolmogorov-Smirnov Test was applied to assess normality of data and SPSS software and one sample t-test was used to test hypothesis and access to objectives of the study. Results of the study indicated that Pakdasht's organizational structure is somewhere between organic and mechanics from complexity, centrality and formality perspective.

**Key words:** Complexity, Centrality, Formality, Structure, Pakdasht City.

### **Introduction**

Having structure is one of the main features of every organization base on which activities are differentiated and tasks are coordinated. Meanwhile, the process for delegating authority, responsibility, controlling regulations and standards between the activities and their executants are specified with the structure. In another definition, organizational structure is a communicational pattern between sections and components of an organization. On the other hand, organizations consciously are generating sections and units as subsystems in the min system and governing communicational and interactional pattern

among these subsystems. This internal differentiation between the sections and communicational patters between them is called structural organization.

Studies indicated that one of the main problems in the way of efficiency and productivity in the organizations of a country including education department and schools are structural issues in such a way that organizational structures are usually old structures based on traditional defaults which are not consistent with current tasks of their labor force. Dynamism and external changes have not been taken in to account and built accordance with current society demands and human and motivational

dimensions of the labor force have been neglected too (Robbins Stephen, 2016).

Organizational structure originated from organizational process and is presented as organizational chart and has the features of formality, complexity, centrality, hierarchy, and specialty and having standard that three first features will be assessed in this study in the framework of Robbins' triple dimensions of organizational structure theory. Indeed organizational structure is a communicational system which is formed informally and approved formally and governs the activity of those who are dependant to each other to gain mutual objectives (Daft Richard, 2019). On the other word, if three components of organizational structure, complexity, formality and centrality, are integrated and merged then organizational structure is generate of their collection. Here we describe in details triple components of organizational structure and their relationship with innovation and creativity.

Centralization: In some organizations, top executives take all decisions and low level managers just fallow directives of top authorities. These kinds of organizations are called centralized. On the other side are organizations that decisions are taken by managers and employee at lower levels who are directly involved in executive affairs. These kinds of organizations are called decentralized (Osborn, 2016), in highly centralized organizations, given that employees at low levels of organizational hierarchy has limited authority cannot apply their thoughts and recommendations easily

then creativity and innovation level declines (Montana & Bruce, 2017).

Formalization: Formalization or formality oriented or stereotyping is said to regulations, procedures and written documents hereby description of tasks, directives and guidelines that staff and members of the organization should fallow are specified (Daft Richard, 2019). In high formalization given that the incumbent has how and ,the least authority over his job when doing it then can not provide his ideas and openions easily then ,thoughts creativity and innovation level declines.

Complexity: It indicates separation limits inside the organization. On the other word, complexity describes the amount of specialization (work division to dub components or horizontal separation), number of levels in organizational hierarchy (vertical separation or organizational depth) and limits of geographical scattering of the organizational units (spatial separation) (Daft Richard, 2019). Generally, the more horizontally, vertically and spatially an organization is separated, the more complexity it has. Given that in organizational structure discussions more emphasized is on horizontal separation then the component of organizational structure complexity is called specialization.

Now if three elements of centralization, specialization and formalization have been in high level at a organization then structure of that organization would be mechanical or automotive (bureaucratic and vertical) but if three elements of centralization, specialization and formalization have been



in low level at a organization then structure of that organization would be organic or flexible (non hierarchical and horizontal). In differentiation between mechanical and organic it can be pointed out that mechanical structure is consistent with Max Weber's bureaucracy model and classic school of management. Therefore mechanical structures are called traditional, automotive, hierarchical, bureaucratic, task or vertical structures too.

In contrast organic structures are called human, flexible, dynamic, alive, horizontal, without boundary and non hierarchical structures too (Sadeghpour & Moghadas, 2018). In addition, Charles Handy, one of the contemporary Irish experts, in an article named "Ideal management" writes: "In an indefinite and unpredictable world there is nothing for support and assurance. In such a world we need organizations which learns and to be entrepreneur and are changing, recruiting forces and empowering employees constantly. In his point of view, change and transformation in the contemporary world is unpredictable, indefinite and does not fallow rational procedure." (Woodman Richard et al., 2002). Meanwhile one of the American thinkers believes that increasing profit, saving, efficiency, productivity and elevating staffs' sprits can be considered as second factor of organizational life but the main factor determines value of an organization is that innovation or acceptance of transformation which is considered as the survival factor of the organization (Sadeghpour & Moghadas, 2018). Then it can be concluded that the

most important issue that every organization is facing today.

### **Study Hypotheses**

Structure of Pakdashts' school is flexible.  
Structure of Pakdashts' school is at desirable level from complexity point of view.  
Structure of Pakdashts' school is at desirable level from formality point of view.  
Structure of Pakdashts' school is at desirable level from centrality point of view.

### **Background**

(Patterson, 2019) arrive to this conclusion in this study that there is a significant relation between low formality and complexity, low formality factor with efficiency. (Rahman Sereshtm, 2018) in a study assessed the organization structure fits to growth and development of creativity of innovation. Their findings indicated that personal organizational variables such as technology, structure, strategy, culture as well as environmental variables affect on creativity innovation of the organization of these three categories organizational variables have greatest impact and finally organizational structure can be considered as the main factor affecting on innovation creativity of the organization.

(Stenmark, 2015) concluded that the more intense the dimensions of organizational structure (formality, complexity and centrality), the lower the organizational transformation. (Robbins Stephen, 2016) informed that there is a negative significant relation between mechanical organizational

structure and organizational creativity and its six dimensions (Failure Tolerance, Ambiguity Acceptance, Encouragement, New Theories, Acceptance of Change, Conflict Tolerance, External and Low Control). concluded that the more flexible the structural dimensions of formality, complexity and centrality, the greater the creativity.

In addition, (Daft Richard, 2019) in a study titled “The effect of centrality and formality on entrepreneurship” reached the following results that the more centrality, the lower entrepreneurship. (Osborn, 2016) concluded in his study that in simple structures, entrepreneurship and creativity is low. In mechanical structures there are not any entrepreneurship and creativity but in professional structures there are entrepreneurship and creativity. (Montana & Bruce, 2017) reported that if centrality is more in organization, there is not any interaction between entrepreneurship styles and organizational structures. In decentralized organizational structure, entrepreneurship is more and the more formality there is, there is no interaction between entrepreneurship styles and organizational structure.

## Methodology

The present study is a descriptive, survey study. Population of the current study includes all teacher and school managers of Pakdasht who amounted to 314 persons. Sample size was determined as 137 persons of teachers and managers using Cochran formula for random sampling. Data collection tool includes a standard questionnaire, schools organizational structure questionnaire (Daft Richard, 2019). Above questionnaire has acceptable validity and reliability of the questionnaire in organizational structure section is determined as 0.89 using Cronbach’s alpha and Kolmogorov-Smirnov Test was applied to assess normality of data and SPSS software and one sample t-test was used to test hypothesis and access to objectives of the study.

## Results

The test of research hypotheses are as follow:

Test of normality.

**Table 1.** Studying normality of the data

Item	School structures	complexity	formality	Centrality
Number of samples	173	173	173	173
Statistic	0.598	1.107	1.091	0.610
Significance level	0.866	0.172	0.185	0.851

Given to (Table 1) statistic of test for schools organizational structure and its

components are significant in 0.05 alpha. As significance level is higher than 0.05 then



the null hypothesis suggested normality of data is rejected indeed data related to these variables follows normality distribution then

to test hypotheses parametric tests are used (one sample t-test). Structure of Pakdasht schools is organic.

**Table 2.** Studying structures of Pakdasht's schools

Test value = 3						
Upper limit	Lower limit	Mean difference	reciprocal significance level	Degree of freedom	T	
0.0549	-0.0395	0.00771	0.748	172	0.322	Schools' structure

Confidence level of 95% is considered. Significance level is 0.748 which is higher than 0.05. Therefore null hypothesis of the test indicated that equality of schools structures mean is not rejected by value 3 which is moderate level. Therefore it can be concluded that structure of Pakddasht's

schools has been somewhere between organic and mechanic at 1395 (Table 2).

*Sub hypotheses*

Structures of Pakdasht's schools are at desirable levels from complexity point of view.

**Table 3.** Structures of schools from complexity point of view

Test value = 3						
Upper limit	Lower limit	Mean difference	reciprocal significance level	Degree of freedom	T	
0.0906	-0.0790	0.00578	0.893	172	.135	Formality of schools' structure

Confidence level of 95% is considered. Significance level is 0.893 which is higher than 0.05. Therefore null hypothesis of the test indicated that the equality of mean of schools structures complexity is not rejected by value 3 which is at moderate level.

Therefore it can be concluded that complexity of Pakddasht's schools structure at 1395 has been at moderate level and is not at desirable level. Pakdasht's school structure is at desirable level from formality point of view (Table 3).

**Table 4.** Studying structures of schools from formality point of view

Test value = 3						
Upper limit	Lower limit	Mean difference	reciprocal significance level	Degree of freedom	T	
0.0869	-0.0737	0.00661	0.871	172	0.162	Formality of schools' structure

Confidence level of 95% is considered. Significance level is 0.871 which is higher than 0.05. Therefore null hypothesis of the test indicated that the equality of mean of schools structures formality is not rejected by value 3 which is at moderate level (Table 4). Therefore it can be concluded that

formality of Pakddasht's schools structures at 1395 has been at moderate level and is not at desirable level. Pakdasht's school structure is at desirable level from formality point of view. Pakdasht's school structure is at desirable level from centrality point of view (Table 5).

**Table 5.** Studying schools structure from centrality point of view

Test value = 3						
Upper limit	Lower limit	Mean difference	reciprocal significance level	Degree of freedom	T	
0.0561	-0.0397	0.00816	0.737	172	0.336	Formality of schools' structure

**Discussion**

Confidence level of 95% is considered. Significance level is 0.115 which is higher than 0.05. Therefore null hypothesis of the test indicated that the equality of mean of schools structures centrality is not rejected by value 3 which is at moderate level.

Therefore it can be concluded that centrality of Pakddasht's schools structures at 2016 has been at moderate level and is not at desirable level (Table 6).

The results of the hypotheses are as follow:



**Table 6.** Results of the hypotheses

Hypothesis	Reject/ Accept
Structure of Pakdasht's school is organic.	Reject
Structure of Pakdasht's school is at desirable level from complexity point of view.	Reject
Structure of Pakdasht's school is at desirable level from formality point of view.	Reject
Structure of Pakdasht's school is at desirable level from centrality point of view.	Reject

## Conclusion

The efficient education is witness of a committed internal pain, concern and challenge to function and performance of the education of the country; that pay attention not only to efficiency (the amount using resources) but also to effectiveness (the amount of accessing to objectives). Therefore, studying structures of schools in educational system and appropriateness of this structure is of great importance. In this study we examined structures of Pakdasht's schools from complexity, centrality and formality perspective. Population of the study includes all teachers and school managers of Pakdasht city who amounted to 314 persons. Sample size was selected as 173 teachers and school mangers using Cochran formula for random sampling.

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Organizational structure questionnaire has acceptable validity and Reliability of the questionnaire in organizational structure section is determined as 0.89 using Cronbach's alpha and Kolmogorov-Smirnov Test was applied to assess normality of data and SPSS software and one sample t-test was used to test hypothesis and access to objectives of the study.

## Recommendations

In future studies, structures of other organizations are assessed and the current structure is compared with desirable structure fits for that organization. In the future studies the effect of organizational structure in efficiency of staffs is addressed.

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