

The Study of Cultural Requirements of Implication of Smart Making Plan in Bonab High Schools

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Abstract: Entrance to technology-based information age and promoting the global networks and computers have led to the emergence of smart schools. Therefore, cultural factors are one of those key substructures of technology development. The aim of the study is to analyze the cultural requirements of implementation of smart making plan of Bonab high schools. For evaluating organizational culture, Denison's Model and for smart making plan, smart schools model were used which the appropriate features of these schools were analyzed through six components: 1) management, 2) persons, skills, and responsibilities, 3) technology, 4) policies, 5) teaching and learning, and 6) processes. The method of the study was descriptive-survey method and the variables measured by using two questionnaires, organizational culture and schools smart making. Reliability of the questionnaires was determined by using Cronbach's Alpha coefficient. The results have been studied by using inferential and descriptive statistics (Pearson's correlation test, Friedman's test, and multivariable Regression). The corpus of the study was about 827 people measured 218 people by using Cochran formula. Findings of the study show that there is a significant relationship between all aspects of organizational culture and Bonab smart making plan of schools.

Keywords: Information and Communication Technology, Smart school, Organizational culture, Global Networks

1. Introduction

With the arrival of computers, the internet, and electronic networks, the limitations of time and place to get information has been removed (Gorjian, 1383, p. 4). Extensive use of Information and Communication Technology (ICT) in the learning process simultaneous with teaching evolution in the world, have provided predispose of smart schools creation (Mahmoodi, et al, 1387, p. 62). Malaysia, in its development program in the "twenty twenty" project, placed smart schools as part of its own programs. These schools are the key requirements of knowledge-based societies (Sroosh, 1385, pp. 1-6). So, in the Fifth Five-year Development Plan, the blossoming of software movement and steps up to the first position in science and technology has been emphasized in the region (Five-year Development Plan, 1389, chap. 2). Cultural factors especially the culture of the organization, have an important role in the adoption of new techniques and methods of work rather than other factors (Mamizadeh, 1375, p. 38). In the present study, the Denison model was used in order to consider the relationship between four types of participatory, consistency, adaptability, and mission culture on the establishment smart schools plan. In order to study the smart making of schools, the model provided by the "team of Malaysian smart school project" is used, so, this study sought to examine and identify what are the appropriate cultural factors for the deployment of smart making plan of Bonab high schools?

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Organization culture is a set of values, beliefs, perceptions, and ways of understanding and thinking that members of organization have common features (Deft, translator: Parsian&Arabi, 1388, p. 631). In smart school, control and management were done on the basis of computer and network technology and the content of its courses are electronic and its monitoring and evaluating system is smart (Mahmoodi, et al, 1387, p. 63).

2. Theoretical Framework of the Study

Denison, in his model, outlined the following cultural characteristics: 1) culture of flexibility: are investigated with three indicators of fundamental values, agreement, and coordination and coherence (Zarnegar, 1385, pp. 135, 136); 2) culture of participatory: which is consider with three indicators of empowerment, team building, and development of capabilities; 3) culture of adaptability: which is reviewed with three indexes of change making, customer orientation, and organizational learning; and 4) culture of mission: which is reviewed with three indicators of strategic trends and direction, goals and objectives, and prospects (Denison, et al, 2006, pp. 6-9).

Theoretical framework of the study is to investigate (implementation of smart school plan of Bonab high schools) the Malaysian smart school model which is provided by the Malaysian smart school project team and includes six key elements as follows: 1) teaching and learning: curriculum, teaching methods, assessment, teaching materials, and learning; 2) management and administrative affairs: administrative affairs, student affairs, educational resources, external resources, finance, equipment, human resources, security, and technology; 3) people, skills, and responsibilities: teachers, school administrators, support staffs, other staffs, parents, and society; 4) processes: re-evaluate the current system of schools, identify individuals, their skills, and responsibilities in today's schools, identify policies and activities of today's schools, marking technology, tools, and materials used, identify the problems and challenges and design a plan to overcome the challenges and problems, and design a plan for the use of enabling technologies. 5) policies: teaching and learning process, management tasks, people skills and responsibilities, and technology; and 6) technology: teaching-learning, management system, external organization (Smart School Project Team, 1997, p. 118).

3. Review of the Related Literature

Mir-Esmaili (1386) reported that there are differences between learning and knowledge management in smart schools and ordinary schools (pp. 15-169). Batmani (1387) conducted the evaluation of smart school management system in order to provide appropriate strategies for managing the schools in Iran. The results showed that the rates of all related components and areas features were lower than desirable state and there is significant difference between the current states of smart schools, with regard to their goals, appropriate strategies for improving existing state of the schools, and move to the desire position within the related components and areas framework (Batmani, 1387, pp. 175-202). Lateh and Muniandy (2010) presented the barriers and opportunities for implementation of ICT in geography teaching and examining the ways of increasing students' interest in geography, and solutions to reduce and overcome the obstacles are (p. 2846).

4. Methodology

The present study, according to the nature and methods of data collection, is descriptive-survey study and also based on its aim, this study is the type of applicable.

4.1. Methods of data collection

1) databases, computer networks, books, papers, theses, etc. are the secondary tools of the research. 2) questionnaire: the culture of organization questionnaire was set on the basis of Denison questionnaire, and also the researcher-designed questionnaire of smart schools has been set on the basis of smart making of schools plan provided by the team of smart schools project.

In this method, with a pilot study on 25 people from the corpus and using SPSS software, the validity of the culture of organization questionnaire is obtained 0.852 and the smart schools questionnaire 0.969.

4.2. Inferential Analysis of Data (Statistical Hypotheses Test)

The main hypotheses test: there is a significant relationship between the organizational culture and implementation of smart making plan of Bonab high schools.

H₀: There is no significant relationship between the organizational culture and implementation of smart making plan of Bonab high schools.**H₁:** There is a significant relationship between the organizational culture and implementation of smart making plan of Bonab high schools.

Table 1: Pearson’s correlation (r) test to examine the relationship between organizational culture and schools smart making

		Organizational culture	Smart Making of Schools
Organizational culture	Pearson Correlation	1	0/707
	Sig. (2-tailed)		0/000
	N	218	218
Smart Making of Schools	Pearson Correlation	0/707	1
	Sig. (2-tailed)	0/000	
	N	218	218

The significance level of Pearson’s correlation (r) test to examine the relationship between two variables, organizational culture and smart making of schools, was 0.000 and this is lower than 0.05 which is the minimum level of significance. Thus, the H₀ hypothesis is rejected and H₁ is confirmed.

• **Testing the sub-hypotheses 1**

There is a significant relationship between the participatory culture and implementation of smart making plan of Bonab high schools.

H₀: There is no significant relationship between the participatory culture and implementation of smart making plan of Bonab high schools.**H₁:** There is a significant relationship between the participatory culture and implementation of smart making plan of Bonab high schools.

Table 2: Pearson’s correlation (r) test to examine the relationship between participatory culture and schools smart making

		participatory culture	smart making of schools
participatory culture	Pearson Correlation	1	0/623
	Sig. (2-tailed)		0/000
	N	218	218
smart making of schools	Pearson Correlation	0/623	1
	Sig. (2-tailed)	0/000	
	N	218	218

Therefore, the significance level of Pearson’s correlation (r) test to examine the relationship between two variables, participatory culture and smart making of schools, was 0.000 and this is lower than 0.05 which is the minimum level of significance. Thus, the H₀ hypothesis is rejected and H₁ is confirmed. So, the significant relationship between these two variables is confirmed.

• **Testing the sub-hypotheses 2**

There is a significant relationship between the adaptability culture and implementation of smart making plan of Bonab high schools.

H₀: There is no significant relationship between the adaptability culture and implementation of smart making plan of Bonab high schools.**H₁:** There is a significant relationship between the adaptability culture and implementation of smart making plan of Bonab high schools.

Table 3: Pearson's correlation (r) test to examine the relationship between adaptability culture and schools smart making

		adaptability culture	smart making of schools
adaptability culture	Pearson Correlation	1	0/581
	Sig. (2-tailed)		0/000
	N	218	218
smart making of schools	Pearson Correlation	0/581	1
	Sig. (2-tailed)	0/000	
	N	218	218

There is a significant relationship between the adaptability culture and implementation of smart making plan of Bonab high schools.

- **Testing the sub-hypotheses 3**

There is a significant relationship between the compatibility culture and implementation of smart making plan of Bonab high schools.

H₀: There is no significant relationship between the compatibility culture and implementation of smart making plan of Bonab high schools.**H₁:** There is a significant relationship between the compatibility culture and implementation of smart making plan of Bonab high schools.

Table 4: Pearson's correlation test to examine the relationship between compatibility culture and schools smart making

		compatibility culture	Smart making of schools
compatibility culture	Pearson Correlation	1	0/382
	Sig. (2-tailed)		0/000
	N	218	218
Smart making of schools	Pearson Correlation	0/382	1
	Sig. (2-tailed)	0/000	
	N	218	218

The significance level of Pearson's correlation (r) test to examine the relationship between two variables, compatibility culture and smart making of schools, was 0.000 and this is lower than 0.05 which is the minimum level of significance. Thus, the H₀ hypothesis is rejected and H₁ is confirmed.

- **Testing the sub-hypotheses 4**

There is a significant relationship between the mission culture and implementation of smart making plan of Bonab high schools.

H₀: There is no significant relationship between the mission culture and implementation of smart making plan of Bonab high schools.**H₁:** There is a significant relationship between the mission culture and implementation of smart making plan of Bonab high schools.

Table 5: Pearson's correlation test to examine the relationship between mission culture and schools smart making

		mission culture	smart making of schools
mission culture	Pearson Correlation	1	0/593
	Sig. (2-tailed)		0/000
	N	218	218
smart making of schools	Pearson Correlation	0/593	1
	Sig. (2-tailed)	0/000	
	N	218	218

The significance level of Pearson's correlation (r) test to examine the relationship between two variables, mission culture and smart making of schools, was 0.000 and this is lower than 0.05 which is the minimum level of significance. Thus, the H_0 hypothesis is rejected and H_1 is confirmed. So, the significant relationship between these two variables is confirmed.

- **Prioritizing the relationship between various aspects of organizational culture smart making of schools**

According to Pearson's correlation coefficients, participatory culture, among different dimensions of organizational culture and smart making of schools, has the highest correlation with smart making schools variable, i. e. 0.623, and in relation to this variable, is allocated the highest priority. Mission culture, adaptability culture, and compatibility culture are respectively in second to fourth priorities.

Table 6: The priority of the various dimensions of organizational culture and schools smart making relation

Correlation Coefficient	Independent Variables of the Study
0/623	Participatory Culture
0/593	Mission Culture
0/581	Adaptability Culture
0/382	Compatibility Culture

Multivariate regression test to analyze the relationship between characteristics of organizational culture and smart making of schools

Table 7: ANOVA

Model		Sum of Squares	Degrees of Freedom	Mean Squared	F statistics	P-value
1	Regression	25/959	4	6/490	12/143	0/000
	Remaining	112/227	214	0/534		
	Total	138/186	218			

The P-value is less than 0.05, therefore, the hypotheses of ineffective all regression coefficients is rejected.

Table 8: The summary of regression model

Model	R	R Square	Revised R	Standard Error
1	0/892	0/796	0/775	0/33104

The coefficient of variation is 0.89, i.e. 89 percent of the variations are estimated by this model.

Table 9: The regression coefficients

Model		Not Standard Coefficient		Standard Coefficient	t Statistics	P-value
		B	Std. Error	Beta		
1	(Constant)	1/859	0/198		9/388	0/000
	Participatory Culture	0/168	0/105	0/151	1/605	0/000
	Adaptability Culture	0/172	0/125	0/146	1/379	0/000
	Compatibility Culture	0/226	0/097	0/223	2/330	0/021
	Mission Culture	0/226	0/091	0/241	2/476	0/014

All variables of participatory culture, adaptability culture, compatibility culture, and mission culture are effective in smart making of schools.

5. Results

According to the results of hypotheses testing by using Pearson's correlation test, there is a significant relationship between organizational culture and smart making of Bonab high schools, i.e. all the hypotheses were confirmed. And also the results of multivariate regression model between dimensions of organizational

model and the dependent variable of schools smart making, the effect of each variable on schools smart making variable were confirmed. According to Pearson's correlation coefficients between the different dimensions of organizational culture and schools smart making, participatory culture with highest correlation with schools smart making variable, i.e. 0.623, has the highest priority in relation to this variable. So, participatory culture has the most and compatibility culture has the least correlation with schools smart making variable.

6. Suggestions

1) team activities should be encouraged in order to implement "schools smart making plan". 2) a central team should be located at the Ministry of Education responsible for implementing the smart making plan. 3) in formulating strategies should use the thought of school personnel and new ideas. 4) goals and objectives of organization should be clear for everyone by organization of regular meetings at school. 5) innovation and risk-taking at school should be encouraged and they should be rewarded.

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