

Relationship between Organizational Innovativeness Types and Organizational Effectiveness in Private Universities in Iran

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Abstract

Empirical evidences indicate that if institutions of higher education are to survive and achieve long-run viability, they must be effective. Organizational innovativeness is viewed as an important factor for improving the organizational effectiveness in these organizations. The aim of this study was to examine the correlations between organizational innovativeness types and organizational effectiveness. The method used in the study was survey research. Based on cluster sampling method, 485 full time faculty members from Islamic Azad University, Iran, were selected as the respondents of the study. Two questionnaires were developed according to an extensive review of literature for measuring organizational innovativeness types and organizational effectiveness. The results indicated that both technical and administrative innovations positively and significantly predicted organizational effectiveness. Therefore, universities must implement administrative and technical innovations to improve organizational effectiveness. However, each type of innovativeness affects different aspects of organizational performance.

Keywords: Administrative innovation, Cameron's (1978) model, Higher education, Iran, Technical innovation

1. Introduction

Organizational effectiveness is the ability of an organization to access and attract resources and consequently achieve its aims (McLuhan, 2006). Accountability and institutional effectiveness are expected from universities for several reasons, including the rising student enrolments, increasing costs of education, decreasing research grants, diminishing learning-teaching resources, as well as growing needs for skilled workers and economic development (Burke, 2005; Skolits & Graybeal, 2007). According to the literature review, there are quite a few studies on the relationship between organizational innovativeness and organizational effectiveness (Subramanian & Nilakanta, 1996). Some studies have shown a positive relation between these two variables (Gopalakrishnan, 2000; Lin, 2006; Tajeddini, 2011; Wang, 2005).

Organizational innovativeness means the capability of an organization for innovation and its active ability to put new opinions, technology or products into practice (Lin, 2006). Innovation helps higher education organizations to grow and maintain their roles in changes. It helps them initiate cooperation of researchers and professors that can bridge the gap between research, training and innovation (Ghorchian & Salehi, 2005).

A key to achieving organizational effectiveness is faculty support and participation in all institutional effectiveness initiatives. Despite their multiple roles and responsibilities, faculty members, in any type of university, engage in three primary types of activity, including teaching, research, and service (Middaugh & Isaacs, 2003). Clearly, faculty involvement in effective institutional activities requires examination of faculty perceptions to improve institutional productivity, an idea earlier supported by K. M. Schilling and K. L. Schilling (1998).

Therefore, it seems that investigation of the relationship between organizational innovativeness and organizational effectiveness in universities based on faculty members' perception can help senior administrators and university policy makers. The findings of such an investigation can lead to their better understanding of a factor related to organizational effectiveness. Awareness of this factor can help administrators improve organizational performance.

2. Organizational Innovativeness Types

This study utilizes two innovation types, namely technical innovation and administrative innovation that are most widely used in conceptualizing and operationalizing innovation (Damanpour, 1987; Jaskyte, 2002; Obenchain, 2002). As Damanpour, Walker, and Avellaneda (2009) state, "administrative innovations pertain to changes in the organization's structure and processes, administrative systems, knowledge used in performing the work of management, and managerial skills that enable an organization to function and succeed by using its resources effectively" (p. 655).

In contrast, technical innovation is defined as the implementation of a service, program, or product that is new to the prevailing organizational practice (Jaskyte, 2011). Technical innovation can lie in: (1) the unprecedented new technological content present in the newly

introduced products or (2) the process that uses new instruments of the technological development (Wang & Ahmad, 2004). In the present study, the organizational innovativeness refers to the frequency of times each type of innovation (technical and administrative) is actually implemented in the organization during the past 3-year-long period (Jaskyte, 2002; Obenchain, Johenson, & Dion, 2004).

3. Organizational Effectiveness

In an effort to address the need for a meaningful model for effectiveness in educational institutions, Cameron (1978) identified nine dimensions of organizational effectiveness. These dimensions can be used to evaluate the performance of all forms of postsecondary institutions.

The first four dimensions focus on students, including students' educational satisfaction, professional development, academic development, and personal development. Effectiveness in the above-mentioned dimensions means to determine to what extent the students are satisfied with their studies and to what extent they are professionally, scientifically, and individually proficient.

The fifth dimension in organizational effectiveness is the satisfaction of the faculty and the administrators with their employment. It indicates that the members of the faculty are satisfied with the situations they are in. The next dimension is progress in profession and efficiency which the faculty bears. It means to identify how much the faculty members have improved in their profession and how well the faculty has gained progress. Furthermore, the incentives which the institution provides for the members can be identified, too. The seventh dimension is system openness and community relationship. It indicates the focus on the relationship and compatibility with and working inside and outside the organization. The next dimension is the capability in attracting resources. It deals with identifying to what extent the organization has access to outside resources such as financial resources and legal support. This dimension also seeks to identify to what extent the organization can attract well-qualified students and faculty members. The last dimension is organizational health that will determine to what extent the organization supports its staff and faculty members. In this study organizational effectiveness is studied based on nine dimensions of Cameron's (1978) model mentioned above. The capacity of the model is well documented and seems quite suitable to be used for higher education studies (Ashraf & Kadir, 2012; Kwan & Walker, 2003; Smart, 2003).

4. Aim and Questions of the Study

The aim of this study was to explore the relationship between organizational innovativeness types and organizational effectiveness in private universities in Iran as perceived by the faculty members. This study pursued the following questions:

- Is there any significance relationship between organizational innovativeness types and organizational effectiveness in private universities as perceived by the faculty members?

- Which type of organizational innovativeness is the best predictor of organizational effectiveness in private universities as perceived by the faculty members?

5. Methodology

5.1 Design and Participants

Based on its research objectives, this study follows a quantitative method in which the survey research technique is used. Using one-stage cluster sampling the five branches were selected among 24 branches of Islamic Azad University, Pars Province, Iran by simple random sampling. Then, all the full time faculty members within these five branches were included in the sample. The total number of faculty members in the selected branches was 485 lecturers. The actual size of the respondents who completed the questionnaire comprised 369 faculty members (a response rate of 76%). The respondents received the questionnaires in person in their colleges, classes and offices.

5.2 Instrument

For measuring organizational innovativeness types, a 17- item questionnaire was developed, based on review of the literature and discussions with five experts. The respondents would determine the frequency of implementation of each innovation activity in the last three years, following a Likert scale of 1 (rarely) to 5 (very frequently). The other instrument was developed by the researchers for measuring organizational effectiveness in higher education institutes in Iran. It was an 81-item questionnaire developed based on an extensive review of the literature and Cameron's (1978) model.

5.3 Validity and Reliability

The face validity and content validity of the research instrument was checked in a pilot study by some experts. The reliability of the questionnaire was measured by Cronbach's alpha based on 50 faculty members' responses. The coefficients for the technical innovation (.774) and administrative innovation (.748) results indicated acceptable internal consistency, according to George and Mallery's (2003) rules of thumb for Likert-type scales. The coefficient for organizational effectiveness was .958, which indicates excellent internal consistency of the instrument. Table 1 shows the reliability estimates for the study variables from the pilot test.

Table 1. Reliability estimates for the organizational innovativeness types and organizational effectiveness from the pilot test (n = 50)

scale	Number of items	Cronbach's Alpha
Technical innovation	9	.774
Administration innovation	8	.748
Organizational effectiveness	81	.958
Total items	98	

Moreover, the results of item analysis indicated no item-total correlation of less than .30,

which meant that all items were correlated very well with the scales (Field, 2009; Leech, Barrett & Morgan, 2008).

Then, a principal component factor analysis with varimax rotation was conducted to assess the construct validity of research instrument upon completion of the final data collection. In reference to Hair, et al (2006), since the number of innovativeness types and organizational effectiveness dimensions in this study have been reported in a number of other studies in the domain of higher education (e.g. Cameron, 1978; Dela Cruz, 2011; Obenchain, 2002), the number of factors is already known. For each of the two innovativeness subscales and nine effectiveness subscales, one component was extracted. It was consist with the number of factors that were found in previous studies.

Based on results of rotated component matrix, there were two subscales of technical and administrative innovations for organizational innovativeness scale. Both factor loadings were .895. In addition, there were nine subscales for organizational effectiveness scale in the present study. Their factor loadings were ranged between .979 and .913. In other words, each subscale was unidimensional. These results are shown in Table 2.

Table 2. Factor loading for organizational innovativeness types and organizational effectiveness dimensions (n = 369)

Organizational innovativeness		
Factors	Number of items	Factor loading
Technical innovation	9	.895
Administration innovation	8	.895
Organizational effectiveness		
Factors	Number of items	Factor loading
Student educational satisfaction	8	.965
Student academic development	8	.938
Student career development	10	.936
Student personal development	10	.934
Faculty employment satisfaction	9	.930
Professional development and quality of faculty	10	.913
System openness and community interaction	9	.960
Ability to acquire resources	10	.965
Organizational health	7	.979

6. Findings

6.1. Research Question 1

In order to answer the first research question, Pearson's product moment correlations (r) were computed between the two organizational innovativeness types and organizational

effectiveness. The results in Table 3 indicate medium significant positive correlations among the two organizational innovativeness types of technical ($r = .452$) and administrative ($r = .460$) with organizational effectiveness according to Cohen's (1992) guidelines.

Table 3. Means, standard deviations, and correlations for organizational effectiveness and independent variables ($n = 369$)

Variable	M	SD	1	2
Organizational effectiveness	3.130	.271	.452*	.460*
Independent variables				
1. Technical innovation	3.110	.615		
2. Administrative innovation	3.094	.690		

* $P < .001$

6.2. Research Question 2

A simultaneous multiple regression was conducted to determine the best linear combination of technical innovation and administrative innovation for predicting organizational effectiveness. Table 4 indicates that this combination of variables significantly predicts organizational effectiveness, $F(2,366) = 55.059$, $p < .0001$, with two variables significantly contributing to the model. The adjusted R squared value was .227. This indicates that 22.7 % of variation in the organizational effectiveness was accounted by the model. The beta weights, presented in Table 4 show that the largest beta coefficient is .274 which is for administrative innovation. The Beta value for technical innovation is the second highest (.233). According to B weights, the regression equation is as follows:

$$\text{Organizational effectiveness} = .103 \text{ Technical innovation} + .108 \text{ Administrative innovation} + 2.477$$

Table 4. Estimates of Coefficients for the Model ($N = 369$)

Variables	B	SEB	β	t	p
Technical innovation	.103	.034	.233	3.062	.002
Administrative innovation	.108	.030	.274	3.610	.000
Constant	2.477	.065		38.251	.000

Notes: $R = .481$; $R^2 = .231$; Adj. $R^2 = .227$

7. Discussion

Although innovation is risky, and its success is not guaranteed (Damanpour et al., 2009), a number of researchers over time have demonstrated a positive relationship between organizational innovativeness and organizational performance (Aragon-Correa, Garcia-Morales & Cordon-Pozo, 2007; Ho, 2011; Orfila-Sintes & Mattsson, 2009; Kasim & Noh, 2012).

The findings of the present study indicate that organizational effectiveness is predicted by

both technical innovation and administrative innovation. In this respect, Damanpour et al. (2009) recognized that there is a negative relationship between focus on adopting a definite type of innovation over a period of time and performance. They maintained that there is a balanced operation of the technical and social systems in effective organizations. More specifically, the adoption of both technical and administrative innovations is of equal priority. In the educational context, a study by Liaw, Huang, and Chen (2007) indicated that proper availability of new technical resource and administrative support positively influence students' satisfaction towards learning

As stated by Roberts and Amit (2003) as well as Damanpour and Daniel Wischnevsky (2006), while there are inadequate external sources along with an environmental force for making change, senior executives and managers consider innovation as something quite required in order to gain and improve organizational effectiveness. Thus, the implementation of every type of innovation will be improved and promoted because innovation is supposed to be indispensable for realizing performance objectives.

In this line, Chen, Liu, and Wu (2009) found that organizational performance is significantly related to technical and administrative innovation. They concluded that organizations should both enhance administrative and technical innovations. If organizations implement technical innovation, while neglecting administrative innovation, it is difficult to achieve the effect of technical innovation. Therefore, organizations must implement administrative and technical innovation simultaneously to achieve better organizational performance.

The findings of the two research questions showed that the organizational innovativeness types have direct correlations with organizational effectiveness. Therefore, academic administrators should continuously be open to new ideas, processes, and products. Although managers often assume that innovation is an expensive and risky effort (Tajeddini, 2011), the present study suggests that in the context of private universities, applying diverse types of innovations serve as factors that can enhance organizational effectiveness.

8. Conclusion

The objective of this study was to determine the organizational innovativeness type that best predicts the organizational effectiveness in private universities in Iran as perceived by the faculty members. The statistical findings revealed that both administrative and technical innovations were positive and significant predictors for organizational innovativeness.

The results illustrated that adoption of the two types of innovation does seem to be organizationally anchored and subject to private universities in Iran. Drawing on Kimberly & Evanisko (1981), the adoption of technical innovations can be seen as one vehicle for both solving increasingly complex and non-routine problems in the technical core and enhancing the attractiveness of the private universities for faculty members as a place to teach students.

In the case of administrative innovation, the adoption of innovation requires various skills in managing the adoption process in private universities. For instance: creating a climate for innovation, integrating the innovation into existing organizational processes, maintaining a sense of urgency to enable successful implementation and facilitating its use by

organizational members (Damanpour & Schneider, 2009). Therefore, both organizational innovativeness types need to be strengthened within private universities in Iran in order to enhance the effectiveness of universities.

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