

Designing and Validating the Model of the Characteristics of Boundary Spanner Faculty Members

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ABSTRACT

The aim of the research was to design and validate the model of the characteristics of Boundary Spanner faculty members in state universities. The research was conducted using the sequential-exploratory combined method. In the qualitative part, it was considered to identify the characteristics of Boundary Spanner faculty members in the public universities of Tehran. For this purpose, 15 faculty members of Tehran's public universities were selected and interviewed in a targeted manner and based on their Boundary Spanning experience. The interviews were analyzed using open, central and selective coding. By coding the interviews, 48 open codes and 9 central codes were identified and placed in three classes, and the names of the personal characteristics of the academic boundary spanner, the job characteristics of the academic boundary spanner and the organizational characteristics of the academic boundary spanner were chosen for these classes. In the quantitative part, the research sought to validate the model obtained from the qualitative part by designing a questionnaire and a quantitative survey. The statistical population of the research in this department was 2189 faculty members of technical-engineering faculties of Tehran state universities, and the sample size was determined using Cochran's formula to the number of 327 people and sampling was done by stratified-proportional random method. Data collection was done using a researcher-made 19-question questionnaire (resulting from the analysis of interviews in the qualitative section). The data were analyzed by confirmatory factor analysis methods. The findings showed; The factor loading of the dimension of personal characteristics of the academic boundary spanner is equal to 0.89, the factor loading of the dimension of the job characteristics of the academic boundary spanner is equal to 0.73, the factor loading of the dimension of the organizational characteristics of the academic boundary spanner is equal to 0.85, which according to the t value obtained at the level of 0.10 is significant. The fit indices of CFI=0.98, GFI=0.92, AGFI=90 and RMSEA=0.05 also showed that the measurement tool has good validity. **Keywords:** boundary spanner, boundary spanning, faculty members, characteristics of faculty members.

Introduction

Along with the mission of education, which has always been among the main missions of universities, research, entrepreneurship and community-oriented missions have been added to their main missions (Samandar Ali Eshtehardi, 2022). Among these missions, community-oriented and interaction with society is one of the general missions of universities (Papadimitriou, 2020). Based on this mission, universities provide economic enterprises and industry by creating fields of knowledge-based innovation, technology development and entrepreneurship (Esmaeili, et al, 2023). Based on this, it is no longer possible to evaluate the performance of faculty members by relying on their teaching and research abilities within the university. It can be clearly said that the aforementioned abilities and activities within the framework of the college and university are not responsive to the needs of today's society and universities, and the faculty members should have a deep understanding of boundary spanning and its related roles, Equip the necessary skills and capabilities. In order to participate in boundary spanning and respond to the needs of industry and society, faculty members must have a series of characteristics that make a successful boundary spanning. Therefore, this research has answered the following questions:

- 1- What are the characteristics of Boundary Spanner faculty members?
- 2- What is the validity of the model of the characteristics of of Boundary Spanner faculty members?

Methodology

The research is of a combined exploratory-sequential type. The data was collected in the qualitative part from 15 faculty members of the public universities of Tehran. The data were analyzed using open, central and selective coding methods. In the quantitative part, the researchers sought to validate the model obtained from the qualitative part. The statistical population in this section was 2189 faculty members of technical faculties of Tehran state universities, and 327 people were selected. The data collection tool was a researcher-made questionnaire based on the findings of the qualitative section. Quantitative data analysis was done using first-order confirmatory factor analysis and second-order confirmatory factor analysis. Quantitative data analysis using spss v. 26 and LISREL 8.80 were performed.

Findings

Question 1. What are the characteristics of Boundary Spanner faculty members?

After conducting the interviews, the interviews were analyzed by coding method, which resulted in 71 primary codes, in the next step, duplicate, similar and synonymous codes and themes were removed, leaving 48 open codes, in the next step, axial coding was done and 9 codes A core was obtained and finally the core codes were categorized into three categories and in the selective coding stage the names 1-personal characteristics of the Academic Boundary Spanner, 2-occupational characteristics of the Academic Boundary Spanner, 3-organizational characteristics of the Academic Boundary Spanner were selected for these three categories.

Question 2. What is the validity of the model of the characteristics of Boundary Spanner faculty members?

According to the results of the first-order confirmatory factor analysis: the value of the explained variance, the personal characteristics of Academic Boundary Spanner is equal to 0.78, which according to the T value of 12.54, the occupational characteristics of Academic Boundary Spanner is equal to 0.54, which according to the value T 8.37, the organizational characteristics of Boundary Spanner University is equal to 0.72, which according to the value of T, 11.53, the explained variance is significant at 0.01 level. According to the results of the confirmatory factor analysis, the fit indices were also favorable; Chi-square value (286/97), D. F (149), ratio of chi-square to degrees of freedom (1/925), CFI=0.98, GFI=0.92, AGFI=90 and RMSEA=0.05.

Cronbach's alpha coefficient of the instrument components (individual characteristics of Academic Boundary Spanner 0.891, job characteristics of academic Boundary Spanner 0.781 and organizational characteristics of Academic Boundary Spanner 0.814) and total reliability for the variable of academic Boundary Spanner characteristics (0.909) were calculated. According to the accepted criterion (0.70), it can be said that the manufactured tool has good reliability.

Conclusion

Identifying the characteristics of the members of the academic faculty of Boundary Spanner can reveal many of the neglected capacities of the universities for the higher education system, and the management of the universities can provide a platform for the development and use of these capacities. According to the definitions of Boundary Spanner and the findings of this research, it can be said that Boundary Spanners can bring out the academic staff members, especially the universities, from the state of stagnation and by acting beyond the organizational boundaries of the university, department and specialized field in addition to identifying and solving the society's problems, he should also provide the grounds for his own growth and prosperity as much as possible.

Boundary Spanner faculty members have individual characteristics, characteristics related to the job field, and characteristics related to the organizational field. In previous research, topics such as boundary spanner competencies and competent boundary spanners (Williams, 2002), boundary spanner activities (Ancona & Caldwell, 1992), boundary spanner roles (Van Meerkerk & Edelenbos, 2018; Williams, 2010, 2012; Weerts & Sandmann, 2010;) or the characteristics of academic boundary leaders (Nazarzadeh Zare & Ghorashi Khorasgani, 2022; Purcell et al, 2020). In the current research, the boundary-spanning characteristics of university faculty members were discussed under the title "Academic boundary-spanner characteristics" and the identification of these characteristics and its application in the academic community is a path that can, in addition to developing boundary-spanning and formalizing Many activities that have the aspect of Boundary Spanner, help to formulate and develop models of academic Boundary Spanning at different levels and fields in future research as well as in policy making for the development of Boundary Spanning.

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