





Validation of the Model of Technology Acquisition Strategies of the Welfare Organization

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Abstract

Choosing a macro strategy in every organization and economic enterprise has a great role in the future of that organization. Since the organization's resources are limited and the organization cannot invest in all its technologies, it is very important to determine the priority of the organization's technologies and to determine the appropriate strategy for these technologies. The aim of the current research was to provide a model to determine the technology acquisition strategies in the welfare organization based on the classical contextual theory. This research is classified as applied. Also, in terms of how to collect the required data, it is in the "exploratory mixed research" group. The statistical population of the research in the qualitative part included experts in the field of technology management and senior managers of Tehran Welfare Organization, but the sampling method was theoretical. The statistical population of the quantitative part included all the managers and experts of Tehran welfare organization. Non-probability sampling method is used in the quantitative part of the research. Therefore, the sample size was determined based on Cochran's formula, including ۲۹۲ managers and experts of Tehran welfare organization. Based on the data of Glaseri Classical Foundation, the model map for determining the technology acquisition strategies in the welfare organization was determined. Based on this, organizational strategies based on technical strategies and through financial strategies and environmental strategies and taking into account the intervening factors lead to the consequences of the organization's effectiveness, client satisfaction and compliance with the needs of the target society. The type of relationships between the indicators and themes of the model for determining technology acquisition strategies in the welfare organization was also presented according to the coding done in the form of the model.

Keywords: Strategy Determination, Technology Acquisition, Welfare Organization, Foundation Data.

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Introduction

Due to the speed of globalization and tight competition in the global arena, superior technologies have been proposed as a competitive advantage to be present in global markets. If organizations want to keep up with technological changes, they must be able to acquire the technologies they need and exploit their technologies. Therefore, decisions made in this regard should be considered in the strategy design and planning activities of an organization. If in an organization it is not possible to access technology internally, it means the inability to use key technology that must be provided from outside (McGrath and Astill, ۲۰۱۷).

In setting the technology strategy, one of the most critical steps is how to get the required technology. Technology acquisition considers whether to acquire technology through internal development, collaboration with other companies and institutions, or purchasing technology. The diversity of technology acquisition strategies (styles) and the complexity of the modern business environment have led to the fact that it is very difficult to make a decision. Therefore, there is an urgent need to identify the internal and external factors influencing the technology acquisition method, and also the effect of each group of factors on other groups can ultimately affect the technology acquisition style, and the research results can be different without considering the effect of the groups. incomplete, that is why their influence on each other should be considered (Farkhi, 2016) .

Many studies have been conducted that identify the key components influencing technology acquisition style (Buckley and Park, 2014). But until now, no research has been done in the field of investigating the process of determining the application of knowledge acquisition strategies. However, there is a gap between the final decisions and the influencing factors. Although many factors have been identified that are effective in the acquisition style, there are few studies on how a strategic decision based on a large set of factors can be made with a quantitative and systematic approach. In this research, according to the specific conditions of the welfare organization on the one hand, and on the other hand, the variety and difference of acquisition strategies, according to the type of needs of the welfare organization, the appropriate strategy is chosen. The basic problem of the present research is, what is the model for determining the technology acquisition strategies in the welfare organization of the classical contextual theory?

Technology management and its elements

Technology management is an important and continuous process in business and the technical principles of planning, development, and application of technological capabilities to produce products and services. The Technology Management Group in 1986 defined technology management as follows: Technology management connects the principles of engineering, science and management in order to plan, develop and realize technological capabilities so that an organization can form its operational strategic goals and realized (Talon et al., 2017).

While explaining the main elements that shape the life cycle of technology, Samant believes that technology management is not a one-time thing, but rather a continuous process that includes five different elements as follows:

1. Awareness of technology.
2. Learning technology, whether through internal production or through transfer.
3. Matching.
4. Evolution and advancement of technology.
5. Obsolete technology.



Mr. Frederick Betz offers a cyclical logical process for technology management, which includes five basic steps as follows:

1. Anticipation or expectation of technology.
2. Learning or acquiring technology.
3. Technology components.
4. Exploitation of technology.
5. Drivers of technology (Farrokhi, 2016).

Research method

The current research method is qualitative and has been carried out by focusing on the tradition of classical contextual theory. To explain this process, it is necessary to move from the boundaries of the functionalist paradigm to interpretive paradigms such as contextual theory. Glaser also presented the emergent approach or Glaser (1992) to provide a theory based on foundational data methodology, which is done through stable comparison of codes to codes, codes to classes and classes to classes. The statistical population of the research in the qualitative part includes experts in the field of technology management and senior managers of the welfare organization of Tehran city, and the sampling method will be targeted and snowball. Sampling of senior managers of the welfare organization of Tehran will continue until the discovery and analysis process reaches the theoretical saturation point.

In the quantitative part, the statistical population consists of all employees and experts of the country's welfare organization, based on Cochran's formula:

292 employees were selected as the statistical sample of the research.

Results

According to the obtained results, Cronbach's alpha coefficient and composite reliability of the variables are given, and according to the mentioned limits for both criteria, it is concluded that the value of Cronbach's alpha coefficients and composite reliability are acceptable for all research constructs. to be

Table (1). The results of convergent validity with the AVE criterion

CR>AVE	CR	AVE	Variables
OK	0.867	0.698	Organizational strategy
OK	0.925	0.718	environmental
OK	0.917	0.764	Financial
OK	0.911	0.725	technical
OK	0.875	0.655	Strategies
OK	0.8872	0.643	consequences



Table (2). Divergent validity results by Fornell and Larcker method

Variables						
Organizational strategy	0.816					
environmental	0.569	0.654				
Financial	0.387	0.482	0.754			
technical	0.491	0.593	0.634	0.654		
Strategies	0.486	0.474	0.465	0.457	0.633	
consequences	0.551	0.611	0.494	0.558	0.553	0.467

Table (3) the results of the overall fit of the model with the GOF criterion

R^2	<i>Communality</i>	<i>GOF</i>
0.508	0.519	$\sqrt{0.519 \times 0.508}$ = 0.513

As can be seen in the above table, the standard value of GOF equal to 0.513 and more than 0.36 was obtained, which indicates the strong fit of the overall research model.

Conclusion

In order to check the validity of the identified elements and components of a model for determining technology acquisition strategies in the welfare organization, based on classical contextual theory, confirmatory factor analysis was used. Considering that in the current research, the variables of organizational strategies, environmental strategies, financial strategies, technical strategies, intervening factors and consequences have items that can act as indicators of this structure, therefore, first-order factor analysis in line with the model test The measurement and validity of the structural components have been checked. The results of the factor analysis of the suitability of the factor loadings of the indicators (questions) related to each component in predicting the capacity of the variable and also the suitability of the factor loading of each component as a variable indicator in the prediction of this variable, as well as fit indices The measurement model according to the results of confirmatory factor analysis indicators show that the model has a very good fit. In order to check the content validity of the identified elements of a model for determining technology acquisition strategies in the welfare organization based on the classical theory, it was provided to experts in the field of technology management to make the necessary corrections and remove similar and ambiguous questions.

For validation, the proposed conceptual model was used to estimate the model through structural equation modelling, partial least squares method. Based on the research findings, the research variables have a significant effect on each other at the level of (0.01). The research results are consistent with the findings of Tsai and Wang (2007), Daim et al. (2008), Lee et al. (2010), Shen et al. (2011), Fartash et al. (2018) and Farrokhi (2016). Tsai and Wang (2007) conducted a five-year study from 1998 to 2002 regarding the effect of foreign technology acquisition on company performance in Taiwan on 341 electronics manufacturing companies. The results of this research



show that the acquisition of foreign technology by itself does not play an important role in improving the company's performance, although the positive aspects of the acquisition of foreign technology on the company's performance increase with the amount of internal research and development efforts.

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