

The Impact of Organizational Slack Management on the Relationship Between Organizational Slack and Innovation Performance Through Information Sciences Technology in an Iranian University

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Abstract: One of the most important factors challenging the survival of organizations in this competitive environment is innovation performance that is under control of organizational slack. The present research aims at showing that organizational slack has an optimal amount and because of its U-shaped format in its relationship with innovation performance, investment more or less than this optimal point can have an adverse impact on innovation performance. Reaching to this optimal amount also needs a kind of slack organizational management that leads distributing resources so that maximize innovation performance in the organization. Information sciences technology is the best suggestion that can reach organizations properly to their best innovative positions.

Key words: Organizational Slack Management • Innovation Performance • Information Sciences Technology

INTRODUCTION

Although the ability of organizations to adapt to changes in the environment constitutes a basic foundation of strategic theory, the degree to which organizations have this ability has been questioned. Thus managers constantly seek the resources and competencies that enable them to obtain a long-term sustainable competitive advantage.

Innovation has emerged recently as the main resource or competence that enables organizations to change with the environment changes and thus to obtain a long-term, lasting competitive advantage [1]. However, it is not enough to talk about and believe in innovation performance; one must take it seriously and make it happen and who is better than a manager? But manager can do it only by a facilitator of strategic behavior, enabling organizations to develop new strategies, such as the introduction of new products or the entrance into new markets; which is organizational slack.

Organizational slack enables firms to respond to environmental changes. It also represents the degree to which uncommitted resources are available for the organization. Innovation and slack are concepts at the very correlation of organization theory. Innovation has

been an outcome of central interest to organization theorists because it is vital for organizational adaptation and renewal. Organizational slack has long been used to explain diverse organizational phenomena, including goal conflict, policy behavior, effectiveness and innovation itself.

This paper contributes to the above-mentioned literature by showing that although combination of these resources can be the key to develop and maintain sustainable competitive advantage as many of researches reveal, the amount of organizational slack that help promoting innovation performance in organizations should be near to an optimal point that is heavily dependent on the manager's leading system.

Problem Statement: Analysis of organizational slack and its relationship with innovation performance can contribute to a better understanding of how a specific organization functions and thus enable managers to reach optimal organizational slack through the adoption of measures or change through appropriate programs.

Because organizational slacks offer firms the freedom to have the experiment of various opportunities, decision makers are more likely to make satisfying rather than optimizing decisions [2] and that is true about organizational slacks.

Both advocates and opponents of organizational slack, agree that slacks promote experimentation and the pursuit of new projects. For innovation to occur, organizations must cope with the uncertainty associated with innovative projects. Slacks also frees-up managerial attention, another scarce resource [3]. In organizations that have little slack, managerial attention is more likely to be focused on short-term performance rather than on longer-term innovative projects.

The availability of slack resources can thus undoubtedly increase the number of new initiatives undertaken. Of course, the relationship may not be linear over the entire range of slack. We expect diminishing experimentation as slack increases because of the reduced incentives and possibilities for innovation. As opposing dynamic that needs to be simultaneously considered is the diminishing discipline that is placed on experimentation as slack increases. As slack increases, the discipline that is exercised in the selection, ongoing support and termination of projects becomes lax [4]. With increasing slack, projects with high risk may be funded simply because the resources exist to indulge agents for whom these are pet projects.

In this situation only a talented manager can lead the amount of slack to be optimized so that results in an easiest way to reach to highest risk opportunities for greater innovation to his or her employees and organization. The subject that optimal amount of organizational slack may result in a beneficial innovation performance is what this paper is going to proceed.

Research Questions:

- Does optimal amount of organizational slack result in high organizational innovation performance?
- How can a manager reach organization to the best innovation point through leading the amount of organizational slack?

The Significance of Research: What is the optimal amount of slack for promoting innovation in organizations and can it result in a competitive advantage in an organization?

The literature provides no clear answer because theorists stand divided on whether slack Facilitates or inhibits innovation. Proponents of slack argue that it plays a crucial role in allowing organizations to innovate. They contend permitting organizations to more safely experiment with new strategies and innovative projects that might not be approved in a more resource

constrained environment [3]. Opponents of slack counter that slack diminishes incentives to innovate and promotes undisciplined investment in R and D activities that rarely yield economic benefits [4].

Some argued that one way of reconcile this theoretical debate is to recognize that the relationship between slack and innovation is curvilinear or inverse U-shaped; too little slack is as harmful for innovation as too much slack.

Building upon areas of agreement among proponents and detractors of slack, we propose that too little slack inhibits innovation; because it discourages any kind of experimentation whose success is uncertain. Equally, too much slack inhibits innovation because it breeds complacency and a lack of discipline which makes it likely that more bad projects will be pursued than good. Taken together, these ideas suggest that an intermediate level of slack is optimal for innovation in any given situation.

So, if a manager can lead the amount of organizational slack to its optimal level, a revolution can be done in organizational innovation performance so that it has a competitive edge to be pioneer in its market.

Literature Review and Theoretical Frame of Research:

Relation between organizational slack and innovation is approved in many of scientific researches and in some of them we can see that there are a lot of variables interfere with this relationship.

Ruiz-Moreno, Garcia-Morales and [3], found that perception of support for innovation and organizational climate are affected moderately by organizational slack.

Douglas Moses (1992) believes that organizational change as an encouragement for innovation inevitably involves uncertainty and some degree of risk taking that can have a complete relationship with organizational slack.

Sharfman, Wolf and Tansik (1988), pay attention to environmental contingencies, organizational characteristics and the values and beliefs of dominant coalition as predictors of organizational slack in relation with innovation.

In an attempt to discover the impact of organizational slack on the productive opportunity of high technology innovative firms [6], finds that the growth of the firm is a function of its innovative opportunity.

Lawrence (1995), in an empirical research to find the relationship between organizational slack and business turnaround, found that organizational slack as a multidimensional construct permits firms to survive in the face of adversity by playing a stabilizing, innovative and adaptive role.



Fig. 1: Relationship between organizational slack management and Innovation performance

Capital market differences can have an essential impact on organizational slack and directly on the innovative roles in organizations. Young(1999) also tells us that compensation packages as a kind of organizational slack can have a moderate effect on the relationship between markets and the capacity for innovation.

So, these researches reveal that there is a relationship between organizational slack and innovation in all organizations. But none of them claims that more organizational slack means more innovation. It is obvious that there should be an optimal amount of organizational slack in such a way that more or less of this amount, can have an adverse impact on innovative achievements in any organization.

The goal of this research is to show that how this phenomenon happens and what is its shape so that managers can use it as a guideline to make their organization more innovative and to survive in the crucial business competition.

Figure 1, is the theoretical frame of research.

Now, we can suggest research hypotheses as follows:

Hypothesis 1: In order to reach to the best innovation performance in an organization through organizational slack, there is an optimal amount of organizational slack.

Hypothesis 2: Managers can lead the amount of organizational innovation performance through controlling organizational slack.

Operational Definition: We have an optimal amount of organizational slack to have the best amount of innovation performance. If we produce organizational slack more or less than optimal point, we can not reach to the top of what we expect from our investment in

organization to reach innovation and this is the management's role. Positive and negative impacts of organizational slack are shown below so that making decision for manager to have the optimal amount of organizational slack in any given situation could be easier.

As we notice to the table we can find that through organizational slack management, the organization can reach to its favorite innovation needed to survive in the competitive environment.

Methodology: The steady growing innovations in the area of information and communication technology have raised new concepts and possibilities in different life aspects. In the field of further education and professional training, electronic learning and Web-based education are perhaps the most prominent ones. Proponents of this technology claim that e-learning courses are at least as effective as corresponding traditional ones and therefore sometimes a very good substitute for it. Although there are so many similarities between traditional and e-learning systems, confronting the extended range of e-learning users - with very different prior knowledge of the domain, backgrounds, learning styles, interests and preferences- is no more possible with the “one-size-fits-all” approach. Hence, creation and management of instructional content would be the major hazard in e-learning industry. Contents should be provided considering social, cultural and pedagogical characteristics of the learners. E-learning covers a wide set of applications and processes.

With such an extended scope, covering number of available e-learning tools is extensive. Though, in recent years, features and capabilities of authoring tools have been drastically improved. Concepts such as “adapting to the needs of learners” and “personalized content” make authoring tools play a more prominent role in the process of creating learning contents [9].

Table 1: Positive and negative impacts of organizational slack [6]

Positive influence of organizational slack	Negative influences of organizational slack
Influences fit between structure and strategy	Organizational complacency
Influences ability of a firm to adapt to its environment	Organizational inefficiency and non-optimizing behavior
Facilitates innovation	Encourages a lack of discipline
Reduces goal conflict	Diminishes incentives to innovate
Promotes political behavior	Promotes uncalculated investment decisions
Facilitates creative strategic behavior	Firms become vulnerable to takeovers
Buffer between the organization and its environment	Leads to careless spending and wasted resources
Encourages experimentation	
Expand organization capability	
Flexibility for future scenarios or strategic changes; generate future options	
Absorbs environmental fluctuations	
Safeguards organization from downside risk	
Encourages increased risk-taking	
Prevents organizational decline	
Enables a firm to forego short-term gains in favor of long-run outcomes	
Increases access to information	
Supports exploitation of opportunities	
Provides incentive for expansion	

Table 2: Research variables

Dependent variable	Innovation performance		
Independent variable	Organizational slack management		
Moderating variable	Organizational slack	Absorbed slack	Repair fund Inventory fund Accounts payables
		Unabsorbed slack	Depreciation fund Reserve fund Loans Sales expenses Retained earnings
Control variables	Firm age R and D intensity Industrial competitiveness Industrial profitability Environmental uncertainty		

Table 3: Descriptive statistics and Pearson correlation coefficients

	Mean	S.D.	1	2	3	4	5	6	7	8
1. firm age	25.3	9.14								
2. R and D intensity	0.0	0.05	-0.16***							
3. Industrial competitiveness	9.4	5.15	0.02	-0.09						
4. Industrial profitability	25.3	10.11	0.13*	-0.01	-0.11					
5. Environmental uncertainty	24.6	36.8	-0.04	-0.01	0.11	-0.04				
6. Absorbed slack	-0.1	1.05	0.05	-0.01	0.05	0.04	0.1			
7. Unabsorbed slack	0.8	32.3	0.00	-0.02	-0.09	0.12*	0.28*	0.43***		
8. organizational slack management	0.0	0.06	-0.0	-0.01	-0.15	0.13*	0.63*	0.55***	0.23***	
9. Innovation performance	0.1	0.63	0.05	-0.01	-0.05	0.04	0.00	0.18***	0.09*	0.46

N=305

* p = 0.05 ** p = 0.01 *** p = 0.001

So, we selected fars payame noor University with 40 branches as an E-learning university and the sample of research. We attempt to show that organizational slack management that has been done through 1384 to 1388, made the organization more innovative. Provision of this

amount of slack, had some positive and negative impacts and anyone can conclude that with managing producing these slacks, it can reach to the optimal point so that can compete with any university of this kind. Variables are shown in the below table.

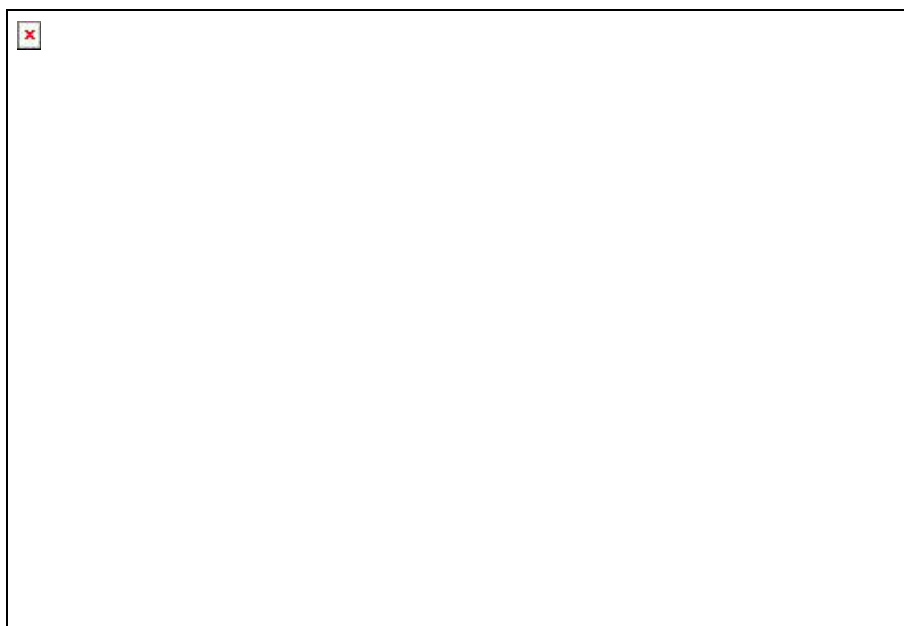


Fig. 2: The moderating effect of organizational slack management on the relationship between organizational slack and innovation performance

RESULTS

This study attempts to understand the contingent role of organizational slack management and organizational slack in determining organizational innovation performance. Table 3 presents means, standard deviations and correlations for all measured variables in this study. As we draw Figure 2 from the table data, hypothesis 1 is supported. Now we can conclude that In order to reach to the best innovation performance in an organization through organizational slack, there is an optimal amount of organizational slack.

Through the regression analysis of the table's data, coefficient of the interaction term between organizational slack management and absorbed slack is positively signed and significant (1.45) ($p < 0.001$) and On the contrary, the coefficient of the interaction term between organizational slack management and unabsorbed slack is negatively signed and significant (-.087) ($p < 0.001$). So, any organizational management can have a vital role in determining the resources which should be used in any section and activity of the organization through the practice of information sciences technology.

By the appropriate use of information technology, organizations can achieve sustainable competitive advantages. This technology because of including some characteristics such as being up-to-date, fast and precise

and having different geographic localities all the time has improved organizational efficiency, effectiveness and performance [10]. Accordingly, this finding support hypothesis 2 that Managers can lead the amount of organizational innovation performance through controlling organizational slack. So we can see that among many tried ways such as working harder than ability and increasing branches in Fars Payame Noor University, information sciences technology had the most benefits for both students and organization.

Although recent surveys show that some of online learning systems are rapidly growing phenomena [11], but when Payame Noor managers found that their employees have no time to be specialized enough to deal with new technologies and new electronic educational plans and as some research findings revealed that electronic information sources like E-journals as a way of getting new information has got no sufficient acceptance even among faculty members of some of Iranian universities[12], forced them to go through several progressive programs in order to acquire absorbed slacks so that be more able to be in contact properly with systems, computer programs and also face to face contact with students, so reach to customer satisfaction as the bottom line and main result of the organization; Because they sensed that the need for intercultural awareness and skills emerges strongly in both distance learning courses and in social life in multicultural societies [13].

Suggestions:

- The best suggestion for organizational managers is the use information sciences technology as the best optimal organizational slack and the base for any progress in innovative programs and activities for survival, customer satisfaction and development of organization in the competitive future in any organization.
- It is proposed to pay serious attention to the qualitative subjects to be managed from now on. When organizational quantitative slack management made this university bigger than expectations and brought this pride for their superiors and students, it is the time for qualitative slacks to be considered as a crucial need for its future retention.
- Combination of specialized and creative organizational employees is another factor that can have an effective impact on the inverse U-shaped relationship between organizational slack and innovation performance. Employee creativity power, for instance, can be considered as an essential element in an organization to be more innovative.

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