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Optimization of Outsourcing ICT Projects in Public Organizations; Case Study: Public Center of Iranian ICT Studies

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ABSTRACT

Outsourcing is a strategic decision and consequently, it has a fundamental impact on the performance and costs of an organization. If the spiritual and economic costs are not allocated appropriately, it will be led to competitive advantages and will drag the organization on the verge of destruction. In this paper by using over a decade outsourcing experience of outsourcing in a national center as well as presented models in this regard, an integrated model has been presented which could be of great help in remarkable cost reduction and it would result in high productivity in national projects. This contribution is based on a knowledge management module. In this paper, Momma, J. and Hvolby's four-stage model will be introduced for outsourcing as the base model. Then, with an interview to outsourcing of the research projects in Public center of Iranian ICT studies and its analysis, the results and knowledge obtained will be discussed in a model framework for the research project outsourcing. In the end, the required points will be introduced for using proposed model and the benefits of its usage.

Keywords

Outsourcing, Public center, Research management, Research projects.

1. INTRODUCTION

Moving from an industrial society to the information society, turning national economy into the global economy, centralization to decentralization, and finally, hierarchical structure to the network system are obvious signs of fundamental changes in today's environment which undoubtedly answering them requires new solutions and strategies. One of



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these solutions is outsourcing that takes a wider range every day so that not only the government but also the private sector have taken the approach of a warm welcome. Given the key role of outsourcing in developing and enhancing the skills, predicting valid statistical and scientific centers suggest that the volume of global outsourcing markets in the current year will reach one trillion dollar. Moreover, given the predictions made, volume of design work and outsourcing research and development from 2004 to 2009 has reached from 179 billion dollars to 345 billion dollars [1]. According to Gartner research study group, global market for IT outsourcing in 2008 was equivalent to U.S. \$ 253.1 billion and will grow 7.2% per year. Meanwhile, Forrest predicts that European organizations will cost more than 238 billion Euros in the field of IT outsourcing in 2008.

Outsourcing enjoyed particular complexities with the growth and evolution of other management issues. Therefore, the concept of outsourcing becomes a complex issue in conjunction with the organizational growth so that not only in terms of financial savings, but also in different prospects, including remaining in a competitive market, the need to join the global markets, rising customer expectations and market competitiveness are raised and outsourcing is becoming a need, a requirement and a pressing issue for an organization [4].

Outsourcing has its own characteristics and different sectors of activities can be outsourced in different industries. Thus, this perception that outsourcing is a strategy, a guideline and a method, refers to this issue that what characteristics have the things being transformed and what are the outcomes of the outsourcing for that organization? Therefore, according to the issue of outsourcing, its characteristics can be studied and an appropriate name can be given to. In most current industrialized and manufacturing companies, a part of production process has been usually outsourced. But there is a bilateral cooperation between research centers for outsourcing. The prerequisite for large and innovative companies is having an open and a competitive economy. On the other hand, outsourcing occurs in an organization when a management need is felt within. If there is no management belief and resource allocations, outsourcing will not occur as it should. Iran has various experiences of outsourcing, but this kind of outsourcing is basically different from what is being done in the companies such as Cisco, IBM and Microsoft and has changed from product-oriented to a service-oriented company [4]. On the other hand, without a previous planning for the entire process and its consequences, some measures have been taken for changing organizational strategy, but poor results have been obtained.

In this proper, outsourcing will be first studied as a strategic activity in the global organizations. Since the presented models for outsourcing are very



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rare, one of them which is more consistent with Iran is Alpha after its introduction. Then, the experiences of this center for a decade of outsourcing with various strategies will be analyzed and finally, a developed model of outsourcing activities for research centers will be presented. In the end, the parameters and inputs and outputs of the presented model and the benefits of its usage will be presented.

2. BACKGROUND STUDY AND AN OVERVIEW ON RESEARCH OUTSOURCING AND ITS GLOBAL ADVANTAGES

2.1. Definitions

Outsourcing means organizing that part of one's redundant activities that are not involved in the organization's chain value and should be transferred to external parts of an organization. Outsourcing in its particular concept means organizing one's tasks and activities that are involved in the organization's value chain [4]. In the field of research, research management means managing in doing one or more research project. To manage a research project in the organization, it requires that major research approaches to be defined along with organization's major goals as well as multiple smaller research projects to be defined along with each approach and required budgets are allocated to them. Then, one of the capable staff should take the responsibility of research management of this approach and takes actions towards the activities related to projects outsourcing with a group of colleagues[5].

2.2. Research Outsourcing

The outsourcing of R&D activities became popular from the late 1990 by pharmaceutical companies. One reason for this issue is filling the research gap among organizations. Another reason in using R&D outsourcing is that producing new products requires a long time in the process of innovation and market introduction. Other incentives that make the outsourcing of research and development by the company include:

- R&D productivity is increased (reduced costs and increased revenues)
- The success of similar companies in the field of outsourcing research and development
- The acquisition of knowledge generated by the outsourcing partner
- Multilateral engagement of the organization with colleagues, competitors and customers and thus more information in doing research
- Ability to access the above-mentioned data through a partner organization outsourcing

In doing such outsourcings, the general process of outsourcing has been used and a specific principle or stage is not added or removed [6].



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The first advantage of state's research outsourcing is reducing costs and time for such projects. The second advantage of this work is that the organization performing the project is obligated to enforce laws that have been enacted for public agencies. Since the number of these laws is led to reducing the speed of these issues in state organizations and rising some problems in the field of budget allocation, the outsourcing of these projects is a way to overcome these legal problems, The static nature of government organizations, people's lack of commitment to this organization, the need for mobility in research projects, the need for coordination and integration and minds of people in such projects, little and slow governmental monitoring (which often takes the form, not the content) and problems alike can be solved by research projects outsourcing in governments [7].

3. RELATED WORKS

In 2003, a research has been done by the students of research in operations that integrated strategic management and organizational theory and used it for inter-organizational communications [16]. Holcomb, H. and Hitt, M proposed a theoretical model for strategic outsourcing with the resource-based and transaction-based approaches in 2007 using the above research. In his article written in 2008, McIvor, R presented the strategic decisions towards outsourcing or lack of outsourcing of these activities as a model [18].

Several theories have been presented previously for outsourcing, but it has not often been led to a structural model. Existence a scientific model can be effective in a successful outsourcing. The stationary and non-intelligent nature of information that are produced through current tools and techniques neither support management and control of dynamic processes nor the key activities for operational and tactical levels. Therefore, they should use trainings in the time of working, tacit knowledge and the colleagues' suggestions, expert advices and finally trial and error method. Many authors have discovered the impacts of outsourcing over flexibility and value creation in that flexibility. Value creation can be obtained through the combination of strategy, economy, technology and human factors [19, 20, and 21]. A significant issue in doing outsourcing is that doing a successful outsourcing, production characteristics and market considerations should be consistent with the legal personality, functional strategies and company's business. The evidences indicate that a small number of researchers have been attempted to develop the scientific model in an experimental level in that their aim was to publicize their results in the books, scientific and nonfunctional communities [22, 23]. Momma, J. and Hvolbyhave indicated that there is no outsourcing framework that is consistent with the harsh conditions of a real atmosphere in business and they themselves presented a model and framework for outsourcing [24].



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4. METHODOLOGY

In this article, the model and framework introduced by Momma, J. and Hvolbywill be introduced as the base model and will be criticized and thenitwill be developed given the experience of alpha center subsequently. This model includes a wide range of tools and techniques to search for suitable suppliers, monitoring and improving them as well as performing outsourcing projects and communications management in this project. Overall, the tools and techniques help implement the models and collecting, structuring and accessing to the required data will help its stages. The decisions of outsourcing companies for outsourcing are based on three criteria:

- The company outsources the product which its production is the vital resources and capabilities.
- Outsourcing will be assigned to the suppliers who create competitive advantages (such as a larger scale, lower costs or greater efficiency)
- Sometimes, outsourcing is a way to improve production efficiency, creating the staff's commitments and as a result increasing the competitiveness and profitability of the company.

Figure 1 shows the stages and outsourcing methods in Momma, J. and Hvolby'smodel.

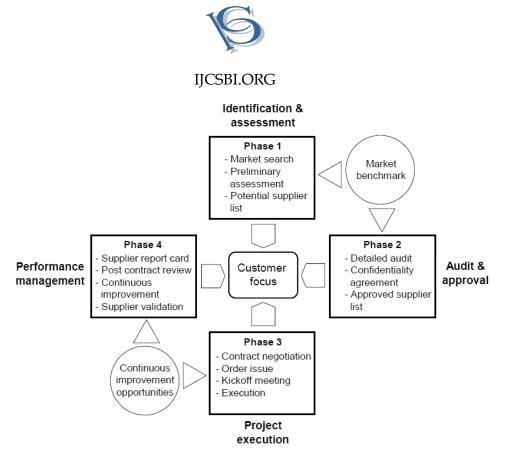


Figure 1: Momma-, J. and Hvolby's four phase model [24]

According to this model, the characteristics of suppliers along with each characteristic are collected. Important information in the field of history, price, quality, roofing production capacity, production and delivery time, warranty, and all such information from the organization can be an important determinant. The next stage is like crossing the suppliers of the primary filter. At the next stage, the agreements on the details will be done and some candidates are eliminated and one or more final supplier is selected. The last stage of this model indicates that using the performance of the supplier and observing his/her working process, a decision can be made about continuing the coordination or replacing him/her.

4.1Review of a decade of outsourcing in Public center of Iranian ICT studies

In this part, outsourcing activities of the Center, hereinafter briefly called center - is examined since 79 to 86. The Center's activities can be divided into three periods. In the first period, some of the main activities of the Center are removed from the main chain of activities and are outsourced by changing the strategy aiming with privatization of the activities (such as PCBs and workshops). In addition, some major activities such as the control center for research projects, human resource management and etc. were also outsourced. In the second period of strategy, the center was wholly changed from project conducting to project steering.



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Contains					
Year	Center's macro strategy	Outsourcin g issue	Outsourci ng aim	The process and working method	Results and outcomes
2000-2003	Conducting Ministry of ICT research projects and subsidiaries, Conducting the projects with an emphasis to fundamental projects by center personnel cooperated with universities	Outsourcing contract side activities such as transportation, services, restaurants Insourcing the Digital Research Project (a project conducted by the personnel of contractor) outsourcing main activities such as contractual human resource management, circuit board, controlling the projects, consultancy and doing projects abroad	Privatizatio n, Reducing manpower associated with the center, enhancing Internation al relations	Financial assistance for the establishment of satellite companies by staff and other internal and external people, Selling stock repository and material, Selling various workshops, Transferring transportation, restaurant, service contractor, Assignment of project management, informal human resources management to the contractor, Obtaining advice and carrying out joint projects abroad.	The center lost the independent conduction of applied projects; the center lost its workshops and facilities and thus requires assigning the activities outside the center, causing wide disappointments in the areas of taxation to the projects personnel from the project authorities.
Secon d period (2004 - 2005)	The emphasis on conducting effective projects for ICT in the country along with determining the ministry's guidelines in purchasing, assigning, decision-making, policy-	All research projects are almost outsourced and the colleagues only take the managemen t over researches. The field of study in this time is doing research activities	Attracting the macro research budgets and projects outsourcing independen t from the fact that there are final customers and results demander in the ministry	Projects and designations outsourcing in a wide and macrolevel and domestic companies/outsourcing research projects to the external companies, administering contracts with formal and informal personnel of the center, voiding the precedence of the previous satellite companies,	Existing some interested personnel in fundamental and developmenta l projects from the center, creating dissatisfaction among the personnel for special payments to people, doing cumulative



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	Center's Q				
Year	macro strategy	Outsourcin g issue	Outsourci ng aim	The process and working method	Results and outcomes
	making, etc.	related to ICT at the national level (other ministries and three branches		obtaining the consultation and doing shared projects with abroad, doing projects for The Judiciary, banks, etc., doing outsourcing activities as a special activity through the center personnel (with special and unstructured paying, wide outsourcing of the projects and attracting the budgets and wide participation of the universities, etc. in doing the projects	conducted or semi- conducted projects without customer, existing insufficient transparency in payments, existing multiple managed or unmanaged costs, dissatisfaction of the receptor companies o outsourcing for the insufficiency of outsourcing management
Third period (2006)	Doing various strategic, fundamental and developmen tal projects for ICT ministry and subsidiary organization s	Doing research managemen t with new organizing, outsourcing research activities only for the time of existing requests and final customer in the subsidiary organization	Attracting research budgets of the center, doing requested projects by the ministry and subsidiary organizations in meeting their needs	Projects outsourcing and designs in a more limited level to universities and domestic companies, doing outsourcing activities as a special activity by the center personnel (with special, and to some extent structured, payments, building elite center for the macro management of the company's strategies (comprised of the ordinary personnel of the center, though with different	continuing existing of some of the personnel interested in fundamental and developmenta I designs from the center, creating dissatisfaction among the personnel for the sake of special payments to people, inability in attracting budgets and conducting required research



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Center's macro strategy	Outsourcin g issue	Outsourci ng aim	The process and working method	Results and outcomes
			regulations).	projects for
				applying
				harsh
				regulation in
			the external projects	the customer
				and obtaining
				the costs of
				working from
				them, existing
				a couple of
				strategic
				activities
				without any
				result by the
				center's
				personnel and
				multiple
				office works,
				exhaustion of research
				personnel
				from doing
				their works
				without any
				result,
				existing
				unmanaged
				costs, limited
				projects
				outsourcing
				and wide
				attracting of
				the budgets
				and limited
				participation
				of universities
				and
				companies in
				doing the
				projects due
				to reducing
				the reliance
				caused by
				outsourcing
				management
				insufficiency
		macro Outsourcin	macro Outsourch Outsourch	macro Outsourch Outsourch The process and working method



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In table (2), the condition of Public center of Iranian ICT studies has been considered and analyzed in terms of 8 important factors in projects outsourcing. Considering 6 indicated aspects in Momma, J. and Hvolby'smodel in Table (2) shows that the research center did not follow a specific pattern and just some concise regulations were enough and trial and error methods relying on traditional ways are applied, therefore, multiple problems were arisen.

Table 2: studying Public center of Iranian ICT studies in terms of the important factors affecting Momma, J. and Hvolby's outsourcing process

Important factors				
in outsourcing process	Period 1	Period 2	Period 3	
The prospect and written organizational strategy	Not exis	It has been provided for the first time	Existed but not updated	
Organizational memory/continuous improvement	Not exist	Not exist	Not exist	
Competitive analysis	It is done in the minds of managers	In is done in the minds of managers and the experience is not delivered to other levels of organization	In is done in the minds of managers and the experience is delivered to other levels of organization	
Evaluation and the approval of expositors	It is done only at the level of managers and does not relate to the staff	It is done with an expertise working (by the scholars who have no expertise in this regard and have been not trained) and some decisions made at the management level. A primary guideline has been prepared for this issue	It Is done with a scholarly working (by the scholars who have the previous experience in this regard and have been not trained as well) and some decisions at the management level. A vague guideline has been prepared for this issue	
Negotiation for contract	It is done only at the management level and does not relate to the staff	The significant contents of the contract are provided to the service presenters at the scholar level, but the decisions are made at the level of top managers	The significant contents of the contract are provided to the service presenters at the scholar level, but the decisions are made at the level of top managers	
Project	The project is done,	The project is done,	The project is done,	



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Important factors in outsourcing process	Period 1	Period 2	Period 3
implementation and knowledge transfer	but knowledge management is not transparent	but knowledge management is not transparent or it some inattentiveness arises	but knowledge management is not transparent or it some inattentiveness arises
Communications management	Communications management is also outsourced and is done by project control unit. Project control is done only at the temporal control of the project (reporting the retards to the management) without regarding the project contents and the backwardness reasons and its analysis	Two organizational units perform the communications management imperfectly under the research branch known planning center and studying research designs and the office for supervision and evaluation.	Two organizational units perform the communications management imperfectly under the research branch known planning center and studying research designs and the office for supervision and evaluation.
Contract termination	It is done with the management opinion.	It is done with the opinion of research management and middle centersin research ministry and finally by the approval of top management	

4.2 The suggested model for outsourcing for the research projects

With respect to what are indicated in part 4, it was observed that Public center of Iranian ICT studiesmanagement has made some wrong decisions in the field of outsourcing which the result of their implementation in the past was not satisfactory. One reason is the instability of top managers in this center, for they are prone to change the managers in a short period of time and the new managers were in lack of management skills which the previous managers had in their management time. Moreover, the lack of organizational memory in this center causes that despite the tendency of new managers for using the experiences of previous managers, they could not get these experiences as they must and as a result people's memory are used in this regard. Obviously, this method was replete with many mistakes and thus was not fruitful. Existing a unit named organizational memory in an organization can preserve the old useful information, it can makes it possible for the top



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managers to devise more useful strategies in the field of outsourcing for the organization which is led to a continuous improvement in this regard.

In the Momma, J. and Hvolby's four-stage model, it is focused on the customer and useful parameters are considered for primary identification and evaluation, chose and approval of outsourcing service supplier, approving contracts and performing the projects and finally evaluation and improvement, but there is no relationship between outsourcing implementation phases with organizational strategy and organizational memory in this model. In addition, the continuous improvement should be occurred in all sectors and processes of working in an organization; however, it has not paying attention to the continuous improvement in phases 1 and 2. These cases are considered as the main weaknesses of the above model. Also in this article, Momma, J. and Hvolbypresented a process as the framework of projects outsourcing that was proposed by Laudon in 1998 for activities outsourcing and has been completed by Momma in 2001. This framework comprises 6 continuous phases as 1) competitive analysis, 2) evaluation and approval, 3) negotiation for contract, 4) project implementation and knowledge transfer, 5) communications management, 6) contract termination. It has also been specified that this process has also been presented in the four-staged model, but it is not in a repetitive cycle in this process and on the other hand, it has not been paid attention to organizational strategy and organizational memory in this model. It is obvious that if the working results are not effective in changing and modification of organizational strategies, continuous improvement will not be obtained.

The developed model for outsourcing of the research projects according to Figure (3) is of 6 stages in that some of key activities along with the related assessors and desirable outputs (that are known as decision variables). These 6 stages are obtained through outsourcing competitive thinking and implementing ideas of Bragg et.al [22] in that as previously been mentioned, it has been presented in the framework suggested by Momma, J. and Hvolby [24]. These 6 factors are proposed as the main components of outsourcing process and have been shown in Figure (2). On the other hand, two factors namely organizational prospect and strategy as well as organizational memory can also be observed in this figure. Organizational memory plays the main role in being a learner and maintaining the organizational records and is related to the whole units and stages in order that both new obtained information and knowledge are preserved in their memory and give the previous records (information and knowledge created in the organization) to the associated units for improving the application of current issues. Also, this unit can give new created knowledge to the top managers in order to be used in improving macro organizational prospects and strategy. Since the outsourcing projects can be the source of knowledge creation and added



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value for the organization, outsourcing projects are also considered in this model, but with respect to the fact that this issue does not relate to outsourcing, a general block is sufficient in this regard. In continuous, outsourcing processes, key activities, performance assessors and expected results will be explicated:

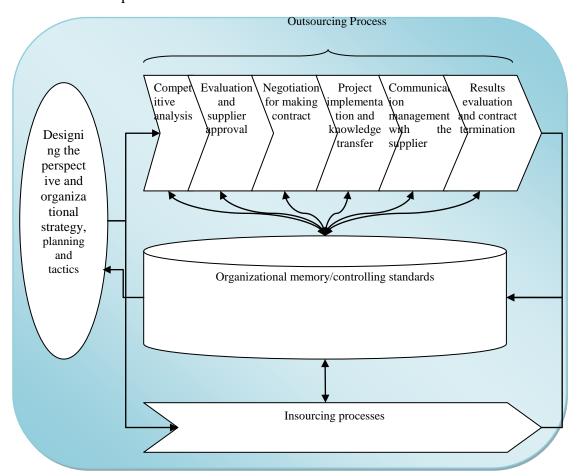


Figure (3): the developed model of outsourcing for the research projects

The process of research projects outsourcing: this process comprises 6 stages as follows:

Stage 1: competitive analysis

In this stage, other research organizations in the regarded scientific area will be considered and some information is gathered. Key activities, performance indices and expected outputs in this stage are as follows:

- Key activities: strategic analysis, SWOT analysis, vital and non-vital competencies, mapping, etc.



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- Performance indices: increasing competitive advantages, amount of added value and the information related to final consumers, level of agreement in the field of outsourcing in organization, etc.
- Expected outputs: suitable strategic steering, amount of knowledge increase in competitiveness and profitability, level of creating a shared comprehension regarding probable advancement opportunities

Stage 2: evaluation and approval of suppliers

In this stage, using the indices such as the number of organization's researchers, the number of articles, inventions and other achievements and indices such as the organization's record in the research issues, organization's scientific grade and rank and other indices, the specified candidates in the last stage are evaluated. Key activities, performance indices and expected outputs in this stage are as follows:

- Key activities: defining the vital indices for evaluation (quantitative and qualitative), surveying the details of supplier features, the evaluation of real performance etc.
- Performance indices: the possibility of assessment criteria, the number of approved suppliers, the closeness of suppliers' geographical location in comparison with the customers' place, determining a well-informed and experienced observer, the agreement of the observer regarding project contents, etc.
- Expected outputs: reduced risks in choosing the supplier, better review and the access to vital production competencies, level of cognition and understanding the customers' opinions through the suppliers and their higher performance, being sure of obtaining suitable results with the opinion of observer, enhancing internal processes of suppliers' evaluation and related guidelines, etc.

Stage 3: negotiation for making a contract

In this stage, a number of meetings are hold with the research organization's representatives in that they are trying to reach a primary agreement. Key activities, performance indices and expected outputs in this stage are as follows:

- Key activities: defining the projects and legal and business regulations, negotiation about the duration of contract and the time of its delivery and bilateral agreements etc.



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- Performance indices: level of agreement about the terms, legal and business provisions, the ability to determine delivery condition, the inclination and effort of the supplier for cooperation during the negotiation.
- Expected outputs: close, intimate and long-term relationship, bilateral agreement regarding contract provisions, bilateral will for a fair cooperation for the two sides, paying attention to the secrecy of working results, etc.

Stage 4: project implementation and knowledge transfer

In this process, some research has begun. Being assured of shared comprehension about the expected outputs are among the important points that should be taken into consideration in this stage. Otherwise, project initiation will be faced with some deviations and its revision requires paying financial and temporal costs. Key activities, performance indices and expected outputs in this stage are as follows:

- Key activities:establishment of the suppliers' incorporation principles, defining the method of interactions, the compatibility of organization with the suppliers' performance, etc.
- Performance indices: the ability to perform changing processes, level of profitability and flexibility capacity, the ability in defining interaction costs (cost curve), etc.
- Expected outputs: more capital and more accessible resources, increasing further engineering benefits, logical balance between domestic production and outsourcing

Stage 5: relationship management with the supplier

Choosing an observer that is competent both scientifically and executively and have enough supervision on the research outputs in its due time and based on existing services specified in the contract is so vital in this stage. In some research projects which more than one expertbeing used within them, multiple observers should be used as well. Key activities, performance indices and expected outputs in this stage are as follows:

- Key activities: creating communications, supervising systems and information, the relationship among developmental projects, continuous evaluation of performance, etc.
- Performance indices: the ability to measure the minimum impacts in the relations, the curve of the product's life time and a later time to be entered the market, innovation and changing the customers'



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habits, costing structures, the ability to deliver and final quality of the product.

- Expected outputs: the percentage of the final quality of the product, reduced cost of construction relative to other samples or a better control on the costs, less time in presenting new products, etc.

Stage 6: results evaluation and contract termination

One of the important points in this stage is to transfer new knowledge in the project from the supplier to the organization. This knowledge is not merely the project documentations and it sometimes requires that some skills are transferred with them. For this condition, training periods and knowledge management guidelines can be used. Key activities, performance indices and expected outputs in this stage are as follows:

- Key activities: the evaluation of the options of contract continuance, changing the supplier of domestic production, making reviewing bases in the competitive strategy, etc.
- Performance indices: the need to achieve determined objectives in the outsourced competitive area, the ability to obtain assurance in terms of passing the critical stage, the ability to replace supplier or outsourcing, etc.
- Expected outputs: being aware of the time for making long-term contracts, replacing the supplier or regarding outsourcing, a better way for strategic planning, etc.

4.3 Organizational Memory Unit

The databases save information related to capabilities and the process of improving the suppliers during their cooperation with the company in the current and past projects. These databases help distinct between the suppliers among a wide number of raw materials suppliers, product and technology suppliers. Furthermore, it records a background of the potential outsourcing shareholders that are useful to work with and will be useful in the future as well. Existing organizational memory unit in the process of research projects outsourcing paves the way for preserving decision making skills, negotiation, and dominance over concepts and methods in that organization during this process and will be developed in the period of time. Therefore, experienced and sapient people who are well-aware of the methodologies and concepts are involved in the process of outsourcing; organizing and managing can learn at the end.A capable organizational memory can help the organization in the following areas:

• Risk management



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- Determining the key capability of the receptor company
- Determining the key capability of the company giving services and making balance between the two key capabilities
- Outsourcing project management (i.e. according to PMBOK standard)
- Changing and revising the prospect of the organization's managers
- Surveying the suggestions an determining the best one in terms of an independent supervisor
- Determining the criteria for professional ethics in preserving secrete information from the part of service giver
- Determining the new paradigms of the organization giving services in the field of service outsourcing
- Help revise organizational culture suitable to outsourcing
- Reviewing the political aftermaths in outsourcing (especially international outsourcing)
- Determining the indices of technology alignment between the one giving services and receiving services

5. The Impacts of using a model suggested for outsourcing management of research organizations

The results of performance indices of above processes along with the access to expected outputs are sent for the managers and authorities. Given the obtained results, these people can change organization's strategy, revise the prospect or issue some orders relative to operational revising measures. The following issues are presented as some evidences in this regard:

Improving the determination of the competence for the power of research management personnel's supervision over outsourcing projects, improving the observance of security systems and professional ethics from the one giving outsourcing services, promoting education (to other personnel in outsourcing, research managers and finally training the working results to them and being sure of knowledge attraction), promoting the analysis of performance costs, making decision to increase or decrease inefficient organizational units that create no added value to the organization's outsourcing activity (changing structure), initiating or changing the combination of supervision council, promoting or changing attraction strategy and knowledge transfer, reviewing the performances in the working value cycle in various sectors (group, faculty, viceroys, ...) in order to prevent tasks projection and the like.



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6. RESULTS

As it was mentioned, using over a decade experience of outsourcing in a national center and presenting models in this area resulted to integrated and unprecedented scientific models. This contribution mainly is based on a knowledge management module. Using this module and integrating it with previous modules would result in a sort of intelligence which prevents occurrence of previous mistakes automatically. This article aimed to present a pattern for outsourcing research projects. Although much studies have been conducted concerning outsourcing and the models related to it, it has less been taken into consideration the organizational memory and creating a continuous improvement in the field of outsourcing. The effective role of this unit in the access to the past and organizational learning that used through it and more paid attention in this article and a model based on it is presented. In this article, the experiences gained by Public center of Iranian ICT studies were used as a case study for this issue. These experiences also require organizational memory unit in the outsourcing company and shows the devastating impacts of lack of attention to. Outsourcing in each case, especially for the research projects can be managed using the model above and improve it through the time. The benefits in using this model for the outsourcing organizations are as follows:

- Following a specific framework and making a discipline in outsourcing
- Being aware of the infrastructures required for applying and managing the outsourcing process
- The optimal designation of organizational units and their relationship with a successful outsourcing application
- Reducing the costs and increasing the physical and spiritual revenues caused by a proper selection of outsourcing shareholder
- Learning in the field of outsourcing and satisfaction of domestic and foreign customers caused by progressing of the organization onwards
- The ability for counseling and guiding other organizations in the field of outsourcing and sharing the knowledge and experience with them
- Using organizational memory for the cases other than outsourcing in the organization (improving other units and organizational dimensions)
- Other benefits caused by being the organization as a learner in the field of outsourcing



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This method has no limitation or disadvantage relative to current models and methods and the further organizational infrastructures that requiresto be implemented is that organizational memory unit.

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