

Analyzing User Resistance in Enterprise Systems Implementation for Iranian companies

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Abstract

User resistance is a problematic issue during implementation of an Enterprise System (ES). Also, in spite of adequate studies which have done in field of user adoption, user resistance literature is scarce. Although user resistance conceptualized as the opposite of user adoption in some studies, a mandatory, role-transforming system such as an ES clearly detects that users may use a system while resisting it. This study examines user resistance to determine the underlying reasons for that, the types of resistant behaviors, and the management strategies to minimize resistance. Later, it will offer the results of empirical study which has been done in one of Iranian firm that had recently undergone a change process.

Introduction

Enterprise systems (ES) are a new type of information system. The packaged software imposes changes on users at different levels and in various areas. Change management, a key element of successful ES implementation has been considered in many studies. Top management support, business involvement, communications, and training are important factors in managing the changes. However, these high level movements are difficult for project managers to address various user responses to multifaceted changes. Furthermore, user response to change can be reflected both implicitly and explicitly with destructive and nondestructive behaviors. Either type of response could affect the effectiveness of system implementation. Change managers, therefore, need to delve into the reasons for user resistance and to learn effective strategies for managing different states of changes.

Research Purpose

As it mentioned above many companies have paid the price for ignoring transition difficulties in the rush to implement an enterprise system. Consequently a complete model of user resistance would lead to better implementation strategies and desired implementation outcomes. Therefore this study strives to respond the following key questions:

1. What are the known factors in relation with user resistance instead of change imposed by enterprise systems?

2. Are there any other effective factors specific for Iranian organizational community and how the enterprise system implementation is affected by them?
3. In the ES context, what management strategies are effective in minimizing user resistance?
4. To what extent these strategies can be applied in Iranian cultural community?

Literature Review

Approaches that Explain User Resistance

There have been three general approaches which have been offered to explain the phenomenon of user resistance. Markus (1983) identifies these three perspectives: 1) system-oriented; 2) people-oriented; and 3) interaction-oriented.

The first approach for explaining user resistance is the system-oriented approach which suggests that resistance occurs because of technology-related factors such as the user interface, performance, security, ease of use, and degree of centralization (Markus 1983; Jiang et al. 2000). The people-oriented approach is the second lens which describes user resistance in relation with existence of individual or group factors such as backgrounds, traits, and attitude towards the technology (Markus 1983; Jiang et al. 2000). The third lens is the interaction-oriented approach which explains perceived social losses caused by interaction between people and the technology affects resistance, such as changing power relationships, social structure, and job structure (Markus 1983; Jiang et al. 2000).

User Resistance Behaviors

A user resistance behavior is defined as “outward manifestations of opposition to the system implementation.” Shang et al. (2004) described one conceptualization of user resistance behaviors and organizes resistance into three types. As shown in Table below, the three categories are non-destructive, passively destructive, and proactively-destructive. Any three of these behaviors may be manifested through the users, causing implementation problems.

Table One: Resistance Type and Behaviors

| Resistance Type | Resistance Behaviors |
|--------------------------|--|
| Non-destructive | Request job transfer or withdraw from the job Increased absenteeism or tardiness Communicate negative feelings to coworkers |
| Passively- destructive | Refuse to cooperate with other employees Neglect work assignments Waste time and make minimal effort to improve knowledge or skills Inferior quality performance Dissonance with consultants |
| Proactively- destructive | Deliberately sabotage a work process Make careless mistakes |

General Management Strategies to Minimize Resistance

There appears to be four general management approaches that encompass strategies that deal with organizational change. “Hersey and Blanchard (1988 p. 340-341) points out two general strategies that management implements: participative and directive. Dunphy and Stace (1993) includes participative and directive as well as addresses two other general strategies:

consultative and coercive. Participative change strategies are more of a bottom-up approach that involves groups in selecting and formalizing new methods to reach the goals. In a system implementation setting, this may include obtaining user input in the design stage (Floyd 1993), user training and testing (Hu, Clark and Ma 2003), and providing a vehicle for employees to participate in process improvement (Edosomwan 1996). Directive strategies are management-directed and include power redistribution (Legare 1995; Goltz and Hietapelto 2002), financial rewards for learning the system (Lawler 2000), human resource involvement during the adoption process (Martinsons and Chong 1999), and eliminating jobs for users who fail to adequately learn the new system (Mainiero and DeMichiell 1986). Consultative strategies involve providing employees with support and information and only involve employees minimally in goal-setting. Coercive strategies involve forcing change on employees, often imposing a threat to non-compliers.”

Methodology

The empirical part of this study is examining what ever discussed about the user resistance factors instead of ES implementation and the confrontation strategies for Iranian organizational communities and considering how much the mentioned factors and strategies are affected by the national culture of this country. Delphi is the methodology which was selected for conducting the required qualitative and quantitative approach for this study.

Expert Panels

In this study, experts were divided into panels. So two relevant categories of experts have important and valuable knowledge for the mentioned research purpose: IT project managers (PM), and users who were involved in an ES implementation project. For this purpose the members of IT sponsors and users panels have been selected from one of Iranian firm that had recently undergone a change process. The standard size for each panel will vary from 10 to 18 members in which this study only used 10 members for each panel.

Administration Procedure

Administration of the questionnaires will follow the procedure for “ranking-type” Delphi studies outlined by Schmidt. This will involve three general steps: (1) brainstorming for important factors; (2) narrowing down the original list to the most important ones; and (3) ranking the list of important factors.

Findings

At the end of phase three, different ranked lists included 2 lists about the resistance factors and 2 lists about the barriers in the way of confrontation strategies are those which reflect different perspectives of 2 panels who were involved in this study. Since all the problems has been rooted from the issue of improving change capacity, categorization of the gathered data has been done through the different stages which there are in this field. Perhaps a brief description about each stage will help this study to make better conclusion in relation with the result attained by the ranked lists.

Table Two. Change Capacity Improvement Stages

| Change Capacity Improvement Stages | Description |
|------------------------------------|--|
| Farming | Framing refers to how changes are communicated, the reasons given for change and the rationale behind making a particular set of changes. |
| Participation | Involving organizational members from different divisions and different levels in the organization will also create an arena for discussion and meaning making. |
| Pacing and Sequencing | Pacing has to do with the tempo and timing of change. Sequencing is related to the timing of change, but refers specifically to the sequence in which different elements of the change are introduced. |
| Routinizing | Routinizing change means to use structures and processes that are already in place in the organization, or to try to institutionalize structures and processes that can be applied in multiple change processes. |

Table Three. Project Manager View

| Resistance Factors | |
|------------------------------------|----------------------------------|
| Framing & Communication | Misunderstanding of needs |
| | No transparency in project scope |
| | Lack of felt need |
| | Low level of tendency |
| | Negative conception |
| | Low level of trust to IS |
| | Change dislike |
| | Loss of control/power |
| | Job security |
| Participation | Non existence of experts |
| | Analysis committee |
| | Low level of user involvement |
| Routinizing | No continuous documentation |
| | Low level of trust to the system |
| | Low level of data security |
| | Not being user friendly |
| | System complexity |
| | Additional data entry |
| | Loss of data |
| | Workload increase |

Table Four. User View

| Resistance Factors | |
|------------------------------------|-----------------------------------|
| Framing & Communication | Misunderstanding of requirements |
| | No attention to BPR |
| | No transparency in project scope |
| | Communication issue |
| | Low level of trust to IS |
| | Low trust to system executives |
| | Change dislike |
| | User mistake clearance |
| | Loss of control/power |
| | Job security |
| Participation | Non existence of experts |
| | Weak management |
| Routinizing | Obligation for performance |
| | Low level of trust to the system |
| | Not being user friendly |
| | System complexity |
| | Workload increase |
| | Non existence of appraisal system |
| | Laziness |
| | Long period of project |

Table Five. Consolidated view

| Barriers & Cultural Dimensions | | |
|------------------------------------|--|-------------|
| Framing & Communication | Wrong management because of wrong criteria for manager selection instead of competency model | MUA,LLO,HIC |
| | Lack of enough and exact study before strategies definition | LSC,LLO |
| | Strategic planning on base of individual taste instead of following standard principles | LSC,LLO |
| | No effort for creating sense of ownership | HPD,LSC,LLO |
| | No coordination about the planed items with directed executives which caused low commitment | HPD,LLO,LSC |
| | Listening the ideas and showing no reaction for issue solving | HPD |
| | Low level of trust to the managers' capabilities by their subsidiaries | HPD |
| | Low attention to the essential role of planning | LLO |
| | Bureaucracy existence and using limited time for listening to the personnels' feedback | HPD,LLO,HIC |
| | Listening the ideas and showing inappreciative reaction in case of different viewpoints | HPD |

| Barriers & Cultural Dimensions | | |
|---|--|---------------------|
| Participation | Low attention for chasing a common language to make better communication | HPD,LSC |
| | Low involvement of managers with problems and issues | HPD,LSC,HIC |
| | Low attention to the control and on time execution of planned items | HPD,LLO |
| | Different users' ideas and expectations because of lack of definite procedure for a process | LSC,HPD,HIC |
| | Increasing the rate of change which caused increasing the rate of maintenance | LSC,HPD,HIC |
| | Low level of management interfere about the wrong user request related with system customization | HPD,MSA |
| | High level of job placement with no existence of a standard routine for transferring the knowledge | HIC,LLO |
| | Low attention to the essential role of after sale services | LLO |
| Routinizing | Managing IT department in a traditional way and not applying the new standards in this area | LSC,HIC,HPD,LLO |
| | Non existence of a database for knowledge management in order to share experiences | HIC,LSC,LLO,HPD |
| | Low attention to the time factor in offering maintenance services | LLO |
| | Weak management for attending the training courses included of time, place and the course content | HPD,LSC,HIC,LLO |
| | Low tendency between the personnel because of high age or lack of technical capabilities | HPD,LSC,MUA,LLO,HIC |
| | Personnel job security which limited the managers for using coercive type of leadership | LLO |
| | Low tendency between the personnel because of high age or lack of technical capabilities | LLO,LSC,HIC |

The result which got attained from the tables, shows that most of the resistance factors against the change imposed by an ES implementation or the barriers which there are in the way of performing confrontation strategies in the Iranian organizations, have deep roots in paying low attention to the essential issue of developing the capacity of change from the initial stage of framing to when it needs to be rutinized and controlled. Also the order of prioritization of the items in both lists of each panel obeyed the order of the stages which have a key role in smoothing the way for improvement of change capacity (Framing, Participation, Pacing and Routinizing). It means that, encountering weaknesses in an earlier stage will cause much more vast resistance in compare with the weaknesses in the next stage. For example low attention to the framing and communication manners will create lots of resistance which can be so destructive and also their negative consequences will be remaining in the next steps. The answer for the weak points which there are in the process of developing capacity for change could be traced in the Iranian organizational culture which will be discussed in details in the next part.

Data Analysis & Considerations

Assuming the ES implementation as a kind of large scale change with which an organization encounters and also the implicit categorization which was hidden in the ranked lists of the panels, direct the study route toward examining the best practices which have been done in the field of developing capacity of change in the organizations. The attained result presented Iranian organizations as some how weak appliers about the process of developing change capacity related to its specific stages such as framing, participation and routinizing. Finding the roots of weaknesses in context of Iranian organizational culture is the study purpose of this part. To achieve this goal, by using Hofstede theory as the primary theoretical framework, some

aspects of Iranian culture will be studied. Then the influences of these aspects over the stages of developing change capacity will be examined.

Hofstede's Model of Culture

The most common definition of culture can be considered from Hofstede view. According to him, culture is 'the collective programming of the mind which distinguishes the members of one human group from another'. He believes culture as the 'collective programming of the mind' and responsible for shaping the 'mental programs' or 'software of mind' in childhood. From this view, shared values, meanings, and norms within an organization or a nation will make the meaning of culture. A culture understanding applies an extended and deep considerations rather than surface study of that. Considering the roots of culture will make possible the ability of finding how people think, and what their shared values are. Values are attained early in life through childhood socialization and education, and are often "stable in nature but can change over time reflecting changes in culture" (Karahanna, E., R. Evaristo, and M. Srite, 2005). Tung's definition of culture describes that the concept is not static; rather it is dynamic and evolves over time. Several sets of dimensions have been developed to characterize the concept of national culture. The current research will use the following dimensions: "individualism/collectivism", "power distance", "uncertainty avoidance", and "long-term oriented/short term oriented" (Hofstede, G. and M. Bond, 1988).

IDV (Individualism/Collectivism Index)

According to Hofstede (1980, 1993, 2001), individualism refers to the degree to which people are supposed to look after their personal interests rather than those of groups to which they may belong. On the other hand, collectivism refers to the extent to which individuals are integrated into their groups. Triandis (1995) defined collectivism as a social pattern in which people perceive themselves as a part of one or more collectives.

PDI (Power Distance Index)

The power distance dimension has been another important dimension in some cross cultural studies (Hofstede, 2001; House et al., 2002; Triandis, 1995). This dimension argue about nonexistence of equality of power between people and can be applied in both society and organization contexts (Hofstede, 2001).

UAI (Uncertainty Avoidance Index)

This index is related to degree that a society can tolerate for uncertainty and ambiguity; it defiantly refers to man's search for truth. It indicates to what extent one organization members will be able to feel either uncomfortable or comfortable in unstructured situations. According to Hofstede's dimensions, Iran ranked 24th among 53 countries in uncertainty avoidance.

LTO (Long Term Orientation)

Long term orientation describes to what extent people are willing to delay their needs on the short term for gaining more benefit in the future. Thrift and perseverance are valued associated with long term orientation where respect for tradition, fulfilling social obligations, and protecting one's 'face' are those which deal with short term orientation.

There is a study which was done in field of leadership attributions and cultural factors in some Iranian companies (Dastmalchian, Javadian, and Alam, 2001). This study was part of the Global Leadership and Organizational Behavior Effectiveness project (GLOBE), which was conducted in 61 countries (House et al., 2002). The cultural dimensions which were considered in this study were modified versions of Hofstede’s (1980, 2001) dimensions of culture. Societal collectivism, in-group collectivism, power distance, and some other cultural dimensions were considered in this study (Dastmalchian et al., 2001). “Two different types of collectivism, societal collectivism and in-group collectivism were distinguished in the GLOBE project (House et al., 2002). Societal collectivism referred to the degree to which organizational and societal institutional practices encourage and reward collective distribution of resources and collective action (House et al., 2002: 5). However, in-group collectivism was defined as the degree to which individuals express pride, loyalty and cohesiveness in their organizations or families (House et al., 2002: 5). Power distance, which was also, used in Hofstede’s (2001) studies, referred to .the degree to which members of an organization or society expect and agree that power should be unequally shared. (House et al., 2002: 5). Three hundred Iranian middle managers from three industries, included banking, telecommunications, and food processing, participated in the study (Dastmalchian et al., 2001). Those managers were asked to rate to what extent they believed that the cultural factors listed above existed in their every day organizational life. According to the results (Dastmalchian et al., 2001), Iranian manager reported fairly high levels of power distance (the ranking was 14 out of 61) and in-group collectivism (the ranking was 3 out of 61). However, Iranian managers reported quite a low level of societal collectivism (the ranking was the 48 out of 61) and long term orientation (the ranking was the 41 out of 61). ” Now, it’s an appreciate time to examine the challenges which there are in the way of developing change capacity in Iranian organizations in accordance with GLOBE study. For this purpose the last column of the barriers table will recategorize the barriers which there are in the way of developing change capacity with specific cultural dimensions.

Chart One. Framing & Communication

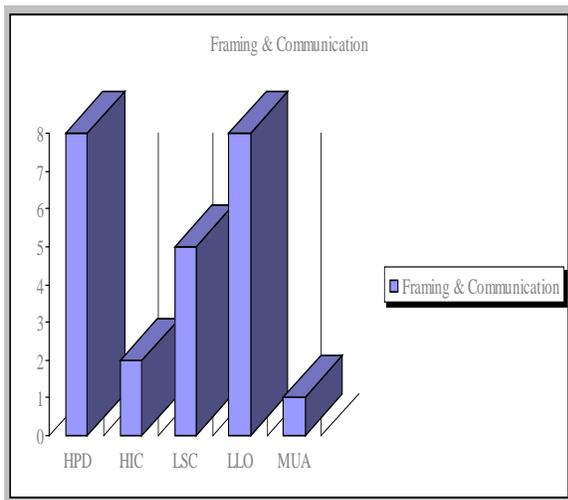


Chart Two. Participation

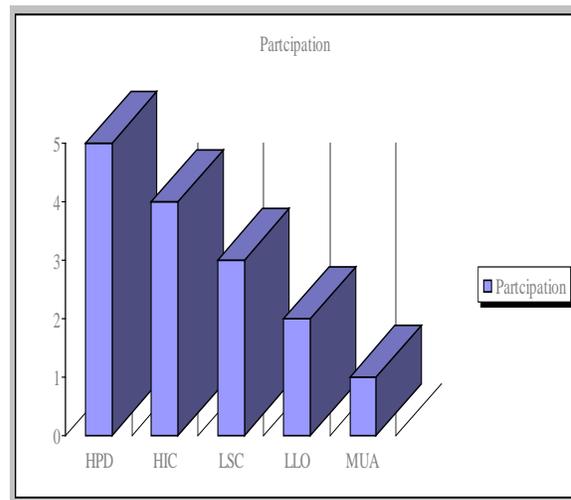
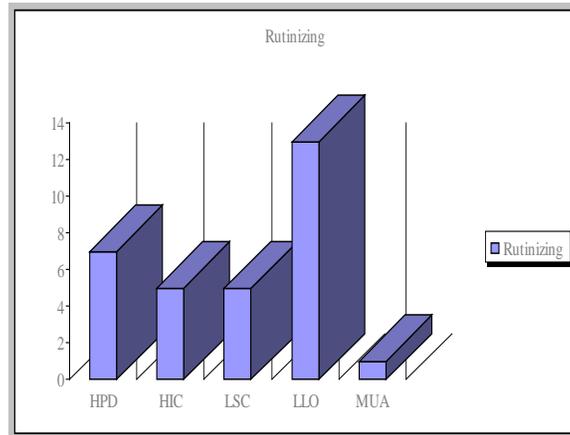


Chart Three. Routinizing



Framing in Relation with Cultural Dimensions

According to what presented before, Framing refers to how changes are communicated, the reasons given for change and the rationale behind making a particular set of changes. Shared visions as one of the disciplines which will be so effective for making better communication refers to developing shared images of the future and guiding practices by which people hope to achieve their desires (Senge et al., 1994). Shared visions may improve collective actions in terms of people's commitments to their goals and organizational actions (Schein, 1993; Senge, 1990). When people have shared visions, they may be more likely to collectively put effort into their activities in order to achieve their visions and goals. Forming shared visions arguably means collectively working on what individuals see as their common future. It is also argued (Alavi, S. B., J. McCormick, 2003) that the processes of building shared visions may face difficulties in some Iranian organizations. In the study of Dastmalchian and colleagues (2001), Iranian managers reported a low level of future orientation and a high level of in-group collectivism (Dastmalchian et al., 2001). According to the definition about future orientation which was given before, people in societies with higher future-orientation may be more likely to practice building personal and shared visions. These future oriented behaviors were not highly reported by Iranian managers compared to the managers of other countries (Dastmalchian et al., 2001). A high level of in-group collectivism may also be problematic for building shared visions in some situations, in which individuals are members of each other's out groups. As was mentioned earlier, because of high in-group collectivism, Iranians may not be likely to work cooperatively with other who may be identified as out-group members. In addition, because of the low level of societal collectivism reported by Iranian managers (Dastmalchian et al., 2001), there may not be organizational atmospheres conducive to collective working which is necessary for building shared visions. Continuous changes in governing environment and the subsequent changes which will be brought into the organizations, such as high level of placement between positions, which encountered the organization with new kind of visions in difference with the old ones, can be a clear instance about lack of alignment between short and long term objectives which present lack of shared vision affected by low level of future orientation between Iranian leaders and managers.

As it discussed above, existence of high level of power distance and in-group collectivism besides low level of tendency toward future can cause destructive issues in filed

shared vision creation, effective communication and also system thinking which all will be accounted as key factors in framing as the initial stage of change capacity improvement.

Participation in Relation with Cultural Dimensions

As it discussed before, participation, either in formulation or implementation of change or both, can contribute in a greater understanding for and commitment to the change. Also the nature of transferring the negative or positive consequences from the earlier stages to the next stages in process of developing change capacity was studied. Consequently what ever resulted from examining the cultural dimensions which there are in a country like Iran over the status of “framing and communication” as the initial stage of mentioned process, will transfer its influences to the “participation” stage too. These influences included the problems in field of high power distance and in-group collectivism in addition with low societal collectivism and long term orientation. Also some additional points can be added through the subject of high in-group and low societal collectivism which are related to negative effect on participation and team-based systems thinking.

As the studies reflected the result about high level of in-group collectivism reported by Iranian managers (Dastmalchian et al., 2001), and the categorization of in-groups and out-groups, many Iranians may possess strong attachments to their groups, and in situation of encountering with some team members as members of an out-group, they may be less eager to cooperate with them effectively. In addition, this may not a positive point for organizations’ efforts to build teams for systems thinking. Senge and colleagues (1994) suggested that taking different perspectives into account when analyzing a situation or problem systematically may require teams to regularly invite new members who view things differently. Consequently, effective systems thinking may require teams consisting of members from different groups who have different beliefs and ideas. Although communication with such will be so problematic in any culture, this may be more difficult in collectivistic cultures when people strongly separate in-groups from out groups. This may be more problematic in large organizations which may have many groups.

Routinizing in Relation with Cultural Dimensions

As it discussed before, routinizing change means to use structures and processes that are already in place in the organization, or to try to institutionalize structures and processes that can be applied in multiple change processes. Most of the routines which need to be changed are those which are related to training and supporting. Low level of tendency toward future orientation is an issue which can create lots of problems in this field. But as a total, one of the best actions that can be done in this aria will be about moving the organization toward the learning organization. The learning organization (LO) model proposed by Senge (1990) has five interrelated disciplines: systems thinking, personal mastery, shared visions, mental models, and team learning which some of them has been described in the previous sections. Senge (1990) argued that development of these disciplines may enhance organizations’ capacities for highly effective actions (Senge, 1990; Senge et al., 1994; Senge, Kleiner, Roberts, Roth, and Ross, 1999). In addition to what has been explained before about the status of Iran cultural dimensions and the consequences which they have over the earlier stages, some negative influences of high power distance will be examined over team learning and mental model disciplines.

A high level of power distance may also arguable for showing reflection as a key component of team learning and emphasizing mental models. Mental models are so effective in

forming decisions and actions. “Argyris and Schon (1996) argued that people are selective in data acquisition from their environment. They may quickly use a ladder of inference. In their mind and create relationships among these new data with their assumptions and beliefs, and finally exhibit behaviors based on their inferences. Unfortunately, such inferences are usually untested and sometimes incorrect (Senge et al., 1994; Argyris and Schon, 1996). Implicit inferences are rapid, effortless, and outside conscious awareness. On the other hand, explicit inferences require awareness and effort (Johnson-Laird, 1983).”

People have difficulty in analyzing their own thinking during communication when obedience is valued in a culture where a high level of power distance has been existed (Hofstede, 2001). In such situation, people may be more likely to make their ideas harmonized with powerful individuals' ideas rather than examine their own ideas. In addition, inquiry, as a key behavioral skill of team learning and mental models, may be effective when people can communicate openly and without any constraints. As Senge (1990) argued, openness is the crucial element of team learning. Openness may stimulate people to exchange their ideas.

Conclusion

In the light of the data which was gathered, analyzing the reasons in two aspects of “Change Management” and “Organizational Culture” was started. Investigating the result from aspect of “Change Management”, detected some dark points in the process of developing change capacity in Iranian organization. The weaknesses were related to the different stages of the mentioned process such as Framing and Communication, Participation and Routinizing. In order to find the reasons for weaknesses, examining the influence of Iranian cultural dimensions like high level of power distance or in-group collectivism and low level of societal collectivism or future orientation over the mentioned stages was started. The result presented challenges which Iranian organization encountered in relation with their organizational culture during confrontation with a large scale change such as ES implementation. These challenges can be summarized as follows:

- 1- Framing and communication sounds less applicable in organizations which are involved in cultures with high power distance, low societal collectivism and low future orientation such as Iranian culture.
- 2- Participation sounds less applicable in organizations which are involved in cultures with high power distance, high in-group collectivism and low societal collectivism such as Iranian culture.
- 3- Routinizing sounds less applicable in organizations which are involved in cultures with high power distance, high in-group collectivism, low societal collectivism and low future orientation such as Iranian culture.

Future Research

Some areas in which other researches can be investigated could be around the relationship between high degree of change capacity and learning organizations, how far Iranian organizations are from learning organizations, the customized best practices which have ability to make close Iranian organizations toward learning ones and some similar topics in this field.

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