Studying the Place of Reengineering Organism in the General Customs House of Fars Province

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ABSTRACT

Business process reengineering as a process centered approach try to improve the processes radically and create the basic changes in the structure of the organization. In this research, we followed the study of existing position in the general customs house of Fars Province considering seven indices. The theory that we consider in this research shows that is meaningful difference between the existing and ideal position. The employees of the general customs house of Fars Province are considered as the statistical society and the questionnaire that is distributed between the people and collected included thirty four questions that sought testing the indices. This questionnaire is taken from different models including EFQM, And the independent t test, LSD test, Two – sentence test and Hotelling test used for the theory’s statistical test. The results show that, there are many differences between the existing position and the ideal position with BPR approach from the employee's point of view and employees are dissatisfied of doing works.

KEY WORDS: Reengineering; Working team; Processes; Technology information; Custom.

INTRODUCTION

The rapid and increasing changes in new world have led to a challenging environment for all organizations, such that the elegance and will of the customers change every day and reach a higher level. To maintain, survive, and keep their place in the competition, organizations have to evolve and take advantage of the most recent technologies to achieve the highest level of improvement in the abilities of themselves and their staff. Moreover, organizations should reach the level of continuous evolution. One of the best known approaches to put this idea into action is the reengineering of processes. Reengineering is a process in which the current responsibilities of the organization are changed with the major processes of the business. Thus, the organization moves from responsibility-oriented to process-oriented. This would promote the trend of business and decrease the costs. Hence, the organization would become more competitive. Reengineering is attempting to make the structure of organizations as flat as possible, and transforms organizations from the state of responsibility-oriented (hierarchical) into the state of process-oriented (team). Reengineering is the urgent and essential need of the organizations which seek the establishment and promotion of their position in world markets.

Statement of the problem

Today, in the presence of customers with high levels of expectations and various and changing needs as well as competitors who are eager to identify the changing needs of customers and to be responsive to them, and also the continuous and rapid changes of business market, the organizations encounter new world and new conditions. The owners and managers of enterprises have concluded that in the new business world, they cannot survive without revision, undertaking essential changes, and significant improvement in their processes. Fulfillment of such essential changes requires organizational reengineering. From reengineering viewpoint, customers are the main beneficiaries of an organization. Thus, all conventional organizations with mechanical attitudes should evolve their structure and internal processes, such that all their energy is spent in meeting the needs and expectations of the society (people and customers). Reengineering has been designed to meet such an important need. It has been only documented and not implemented in the Fars Province custom house. In the current study, we try to assess the current state of the bureau and compare it with the
ideal state (when reengineering has been carried out), to show the differences of the two states. We are seeking the answer of the following question in the present study:

**Question of research**
Is there a significant difference between the current state of Fars Province custom house and its ideal state with business process reengineering (BPR)?

**Importance of the research**
Reengineering is a historical necessity in south countries including Iran. In our country, the single product economy (that is based upon the export of one or few mineral or natural resources) has led to dominance of government in all product and service areas. Thus, in our country, the bureaucratic organizations are dominant and not the people as customers and those who pay for services. To understand the necessity of reengineering as a historical necessity in all state organizations, one can take a short look at the low quality of products and its distribution in conventional networks, the long hours spent for doing a trivial task, and the intertwined network of rules in state organization. Such rules interrupt the fluent flow of services, and lead to high government costs as the staff costs, administrative services, bureaucracy, and supplies.

**The research objectives**
The current state of Iranian organizations brings into mind the properties of enterprises with critical need for essential revision of their visions, missions, and their actions. Such organizations have to look at their business and processes differently. There are still many people who think they should reengineer all their processes. Considering the importance of modification of official structure in the organizations, especially in state organizations, the need for reengineering of all organizations in general, and the custom house in particular, is obvious. This study has particularly focused on the Fars province custom house. Thus, the main objective of the study is assessment of the current state of Fars province custom house and comparing it with the ideal state in BPR approach. Moreover, the practical objective is to determine the mid-level processes that are candidates for reengineering, and should be prioritized for BPR implementation. To carry out the study, seven indices were evaluated; goal-orientation, customer-orientation, organizations and resources, continuous development of processes, development of staff participation, social responsibility of organization, and leadership.

**Area of research**
Time: In the current study, we address the differences between the current state and ideal state after implementation of BPR approach in Fars province custom house in 2009-2010.
Place: the study was carried out on the Fars province custom house.

**Terminology**
Reengineering: It is a new start, without removing the rules and designed structures. Reengineering stands for essential and fundamental changes in an organization, such that its structure changes from responsibility-centered to process-centered, where the inter-organizational processes are performed with teamwork (Hammer, 1375).
Process: It is a set of interrelated activities, all with the aim of satisfying the customers and meeting their needs. Each process starts with a raw material provider and ends to a customer (Suri, 1386, p. 28).
Working team: Team is a form of a group, with more specific properties compared with general groups. A team has a higher commitment to common goals. A working team is a set of individuals with different specialties, who are working together with the special aim of development of a specific good or providing a unique service to customers. After fulfillment of a project, the working team spontaneously does not exist anymore (Cecil and Vandel, 1379, p. 35).
Information technology (IT): It is a set of tools, instruments, knowledge, and methods, and skill of using them in production, transfer, process, and utilization of information. IT is helpful in applying changes to organizations, where the changes are to occur mainly in the nature of work, integration of organizational responsibilities, and development of competitive forces.
Custom house: It is a state organization, which is responsible for application of custom law, legal concepts, and import and export taxes as well as import, transit, and export of goods. The custom house is legally responsible for matching the affairs related to import and export, with the laws (Jamali et al., 1384, p.12).

Organizational change
There are some viewpoints in the philosophy of change:

A viewpoint evaluates authority for selection of change. The changes that were adopted freely are called programmed and goal-oriented change, and changes that were imposed to the system is called non-goal-oriented changes, in which the system has to be reprogrammed to adjust itself for matching with new conditions. Another viewpoint evaluated changes from the prospect of the amount of changes, and classifies the change into simple and deep changes. There is also another viewpoint, which considers the time that the changes took place. In one method, gradual changes are suggested, and in another viewpoint, propulsive, rapid, and revolutionary changes are recommended.

Reengineering is the programmed goal-oriented change; that is before changes are imposed to the system from external sources, the system predicts the changes. Therefore, improvement and modification of processes in reengineering is a continuous activity. However, the changes can be simple or deep. According to the needs and in the framework of improvement of processes, the changes can be superficial or can lead to changes in the structure of the system and then the changes are developmental and deep. The philosophy of changes is reengineering is propulsive and rapid and is not consistent with gradual changes (Motaghi Hamed, 1383, p. 4).

How can organizational evolution be consistent with reengineering?
First, if an excellent management is the executer of reengineering, the individuals in the area of organizational evolution and human resources can be used in a more humanistic process. Second, those how defend the processes and values of organizational evolution can search innovative ways for significant participation of staff in all levels and in any type of reengineering activity. French and H. Yale stated that they, similar to Hammer et al., are not optimistic toward the capability of individuals in low and middle levels of the organization for observation of the general image.

The individuals with the ability to evolve organizations can help new teams to be more effective compared to their current state. It seems that effective teams (of different types) are important for efficient implementation of reengineering. For instance, Hammer et al. recommended the development of reengineering teams that focus on a particular type of process, redesign, or its implementation. The knowledge of organizational evolution on the manner of design and implementation of parallel structures (that are the tools for learning the manner of system change and also directing change processes and is a small reflection of the large organization) are proportionate to reengineering (Cecil and Vendel, 1379, p. 160).

Reengineering (definition and history)
History
The background of reengineering lies in a research project on management carried out in the 90’s in Massachusetts Institute of Technology (MIT). Michel Hammer was the first theoretician proposed the concept of reengineering. In a paper “automation is not efficient, eliminate useless activities”, in Business Review Harvard, 1991, he defined reengineering in management. The in cooperation with James Champy, he wrote the book “reengineering, the charter of organizational revolution” in 1993, and described reengineering in the framework of a theory.

In 1993, the concept of reengineering became widespread and attracted managers all over the world. In the post-industrial era of business, the companies should be organized with respect to the recombination of responsibilities and around integrated processes. At least until most organizations change from the conventional model of Adam Smith and Taylor into modern organizations, reengineering will survive (Surie, 1386, p. 21).

The formal definition of reengineering
Reengineering is a fundamental solution that searches the change of production and service process in order to meet the needs of customers (Morris and Brandon, in the Book “reengineering of your job processes”).
Reengineering is a set of actions, an organization implement to change its processes and internal controls to change from vertical and hierarchical structure into horizontal, team-based, and flat, where all processes are performed to satisfy the customers (Obolensky).

Reengineering means to forget how jobs were performed, and also to forget the old titles and previous ways of organizing. It cannot be carried out with small and conservative paces. This is an all or none suggestion with wonderful and effective results. It does not suggest time or opportunities for more compatibility of the organization with the changing conditions; rather it imposes rapid changes with an order (hammer and Champy, 1994).

The followings are the major characteristics of reengineering:
1- Bureaucracy will be eliminated,
2- Flat organizations will be created,
3- The activities become process-centered,
4- Responsibility-based structures will be eliminated,
5- The efficiency of processes will increase,
6- The processes will become simpler,
7- Specialized responsibilities will be replaced by common responsibilities,
8- Managers will become directors and processes will belong to them,
9- The systemic attitude will be used,
10- Operational performance will be significantly improved.

Why do we need reengineering?
First, customers become informed and they are familiar with their position and the various and different selection right. They do not like to be treated as a member of the customers’ group; rather they prefer to be considered individually. According to Hammer, one cannot talk about a special type of customers but what exists is each customer is unique.

Second, customers have found new approaches toward goods and services and each customer is interested in good that 1- is completely consistent with his/her needs and requirements, such that it is specifically designed for him/her, 2- can be used easily, and 3- be available when it is needed, i.e., it can be received timely and easily.

Third, when we talk about the world market, it means that competitions are everywhere and customers seek for the goods with extensive acceptance at the global level (and not only local). In today’s world, it’s not enough just to have fine goods at reasonable costs; rather we should continuously monitor our position in versus the competitors and have appropriate reactions, when required (Javanmard, 1380, p. 29).

Which organizations apply reengineering?
In practice, three types of organizations are willing to adopt reengineering; those with severe problems that have to accept a difficult surgery and essential change, those that have not still encountered major problems, but their provident management feels the danger and prospectively prepare themselves for the encounter, and also the organizations in excellent situations, and there is no current or future problem, but their managers have a high degree of perseverance, such managers consider reengineering as an opportunity to make their distance with their competitors more (Hammer, 1993).

The reasons for adaptation of reengineering by organizations
The reasons of adopting reengineering can be intra- or extra-organizational factors. Briefly, the external factors of adopting reengineering are as follows:
1- The increased level of competition in global market,
2- Change of customers’ needs,
3- Increased level of customers’ expectancy
4- Advancements in IT, and
5- Today’s changing and unreliable environment.

The internal factors that prompt reengineering are as follows:
1- Change in organizational strategies, and
2- Change in organizational structure, and
The necessity of making the changes in processes, methods, skills, and behaviors more simple (Motaghi Hamed, 2006)

The limitations of applying reengineering in state organizations
Rainey classifies the differences of state- and private-run organizations as follows:

The first key difference in the application of activities of reengineering in state- and private-run organizations that reengineering projects in state-run organizations more frequently face with limitations in providing the required financial resources, even in case of presenting document on justification of the investment. This limitation leads to less frequent use of consultants out of the organization.

The second key difference (which is somehow a result of the first difference) is that the state-run projects because of the management structure, and processes and norms of the organization tend to participate more. Thus, for instance, team is prepared for supervision of the reengineering project, while the team may produce no layer of added value. A reengineering activity in an organization usually starts with gathering a variety of those who play major roles in the organization and ask them to participate in the project. This participatory approach describes why methods, modifications, and finally the results of reengineering is softer and more conservative in state-run organizations.

Another problem, which results from the characteristics of the state-run organizations, is that reengineering requires investment in development and upgrade of IT system. The reengineering projects that employ IT, put pressure on the budget of government by the costs of hardware, software, consultants, upgrade and maintenance, and training of staff. This problem is of great importance particularly in third world countries, where in the presence of problems such as unemployment, poverty, living problems, and social services, the state resources should be strictly prioritized.

Furthermore, concerning the legal limitations and pre-defined frameworks for the activities of a state-run organization, each reengineering project may face some challenges with respect to the current regulations. This naturally demonstrates the limitations and barriers that reduce the efficacy of the method (Halachmi, 1995).

Reengineering methodology
In what follows, we consider two important methodologies for reengineering:

Hammer and Champy's methodology: This methodology is from the managerial viewpoint and is used with regard to the conditions of the desired project.
1. Preparing the map of processes,
2. Selecting the processes for re-design,
3. Understanding the process,
4. Re-designing of the process.

Mayer's methodology:
1. Persuading to adopt reengineering,
2. Justification of reengineering,
3. Planning for reengineering,
4. Preparation for reengineering,
5. Analysis of current state (as is),
6. Designing of what to be, and
7. Execution.

Process definition
In the following, some definitions of process are provided:

Davenport and Short defined process as a set of executive and logical responsibilities, related to each other, to achieve an output of the business.

According to Hammer, process is a set of the responsibilities that creates a value that customers like. Furey believed process as a definable set of activities which initiates from a specific starting point (Surie, 1386, p. 28).
Which processes are in priority for reengineering?

For selection of the processes that should undergo reengineering, Hammer introduced three criteria as follows:

First, the degree of inefficiency, i.e., which processes face major problems?

Second, importance, i.e., which processes have the highest influence on customers?

Third, preparedness, i.e., changing which one of the company’s processes is readily possible?

The best method to evaluate the above-mentioned criteria is to use the opinion of managers, specialists, and experts of the processes and also the executors of the reengineering project (Hammer and Champy, 1375).

The five steps of reengineering model of business processes:

1- Development of business viewpoint and the objectives of the process: The reengineering model originates from a business viewpoint and points to the specific goals of business, including reduction of prices, decrease in time, and improving the quality of the product.

2- Identifying the business processes for re-designing: Most companies use rapid approach (with high efficiency). This approach focuses on the most important process or those that are in conflict with the viewpoint of the business. But, just a small number of companies make use of the comprehensive approach. The comprehensive approach tends to determine all processes of the organization and then prioritize them with respect to the necessity of re-design.

3- Understanding and assessing the current process: To avoid the past mistakes and providing the implementation of the project according to the plans for immediate improvement,

4- Determining the IT potentials: Being aware of the capabilities of IT can easily influence BPR, and

5- Designing and making a sample of the novel process: The real design should not be considered as the end of BPR process; rather it should be regarded as a sample with frequent repetition. Making use of the sample of reengineering prompts business processes into rapid and guaranteed results accompanied with customers’ satisfaction (Davenport, 1992).

The role of IT in reengineering process

According to theoreticians such as Hammer, IT is the main motivation of the trend of business and reengineering of its processes. The areas, in which IT can be effective in fulfillment of BPR are as follows:

Changing the geographical spread of business, automation, the current organization’s operations, analysis of the business state, facilitating flow of information in the organization, sequence and order of the current affairs related to deals, knowledge management, and registration of operations.

IT plays an important role in reengineering of processes. The technology cannot lead to changes subjectively and by its own. IT prompts the occurrence of changes in organizations, mainly in the nature of tasks, integration of organizational responsibilities, and competitive projects. Thus, IT can help reengineering in development of changes, and thus can be regarded as a facilitator of reengineering. Regarding this, the design of process reengineering usually takes place with the help of IT. In most cases, IT is the enabling factor of reengineering. Employment of IT enables organizations to achieve many advantages, such as:

1- Cost saving and facilitation of the direction of data exchange,

2- Avoiding human errors, while responsibilities are repetitive or so complex,

3- Financial saving because of reduction of errors and the time spent for each responsibility,

4- Integration and coordination of several responsibilities,

5- Improvement of efficiency and effectiveness of the organization, and

6- Improvement of mid-level management and decreasing the useless process by providing more useful information.

The modern world of business

1- Implementing a task requires knowledge, not training,

2- The role of individuals changes from controlled into authoritative individuals,

3- From a simple task, the jobs change into multi-dimensional tasks,

4- The working units change from specialized administrations into process-centered teams,

5- Managers change from bosses into directors,

6- The organizational structures change from pyramids into horizontal structures,

7- The values change from the benefits of the company into effectiveness,

8- The progress criterion would be abilities rather than methods,
Performance is considered as the criterion, and instead of activities, results will be rewarded (Hammer and Champy, 1375, p. 112).

To be successful in implementation of reengineering, remember these points:
1- Reengineering always initiated with the customer and perseverance,
2- The movement is fast,
3- Bear the danger,
4- Accept the incompleteness in the middle of the way,
5- Is it not so early to stop? (Hammer, 1993)

In Iranian organizations, most failures relate to the structural problems, organizational resistances, and lack of the ability to manage the changes. Sometimes, not precisely determining the range of changes and expectations of the organizations of the re-designing project is the main factor of failure.

Five essential messages of continuous improvement
1- The barking dog never bits,
2- Practice makes perfect,
3- Every day better than yesterday,
4- Rome was not built in a day, and
5- Slow and steady wins the race.

Definition of custom house
The custom cooperation council has defined custom house as follows:
Custom house is a state-run organization, which is in charge of fulfillment of the costume regulations, legal concepts, and import and export taxes as well as import, transit, and export of goods. The custom house is legally responsible for matching the affairs related to import and export, with the laws (Jamali et al., 1384, p.12).

The mechanized system of automated system for customs data (ASYCUDA)
The extension of commercial affairs and employment of IT, the sequential changes, as well as the complexities of regulations related to import and export of goods and services, and the large amount of custom house information, all made employment of computerized systems in this economic organization inevitable.

The objectives of implementation of ASYCUDA system
1- Higher speed in clearance of goods,
2- Optimized use of stores,
3- Optimized use of human resources,
4- Creation of the culture of using mechanized systems,
5- Higher revenues, and
6- Rapid and timely presentation of precise trade statistics (ibid, p. 10).

Previous studies
A great number of studies have been carried out concerning reengineering. One of them similar to subject of the present research is “studying the position of reengineering in Iran Ministry of Commerce” (Javannard, 1380). The author of the research has fulfilled the study by three hypotheses and has studied the current and ideal status regarding three issues (hypotheses), including customers’ satisfaction, information technology, and work quality.

Other studies which have been carried out relate to engineering fields in which the researchers have provided methodologies for the respective organizations as well as recognition of problems existing in the organizations under study.

METHODOLOGY
Concerning the goal, this is an applied study, and regarding its nature, it is a descriptive-survey study, since its goal is to describe, record, analyze, and interpret the existing conditions and tries to
objectively find out what exists. To accomplish the literature review related to this study, library study as well as studying reference texts and searching the articles in libraries, electronic papers, journals, and dissertations related somehow to the subject under study were used. The research hypothesis was prepared based upon the issues collected in literature review, together with those in credible books and textbooks. The research hypothesis of the present study is presented in form of a single main hypothesis.

Hypothesis: There is significant difference between current status in the Fars Province custom house and its ideal status with BPR approach.

Research variables:
Independent variable: BPR is the independent variable in this hypothesis.
Dependent variable: in this hypothesis, current status and ideal status are the dependent variables.
Measurement tool: questionnaire

In the present study, questionnaire was used as main tool of study. Also, to design the questionnaire, different model especially EFQM model were used. In this questionnaire, four-level Likert scale was utilized (from “completely exists” to “has not been started”). The questionnaire has 34 questions which investigate seven indices in the organization. These indices include: goal-orientation, customer-orientation, leadership, process-based management, development of staff participation, development of organization, and social responsibility of organization. The aim of this questionnaire was to determine at which level of development the organization is; also, we intended to compare the difference between the level at which the organization is with organization’s maturity level (ideal status) which is the result of reengineering implementation in the organization.

Validity
Validity means that the measurement tool should be capable of measuring the characteristic under study. Validity in essence is based on correctness and accuracy of measurement by researcher (Khaki, 1383, p. 288). Since the questionnaire was adapted from EFQM model, it did not require validation.

Reliability
The reliability coefficient yielded from repetition of a similar measure for the second time is called reliability (Danaie fard et al., 1387, p. 250). In this study, validity of the questionnaire calculated by Cronbach’s alpha was 97%. The formula is as follows:

$$d = \frac{k}{k - 1} \left[ 1 - \frac{\sum s_i^2}{S_i^2} \right]$$

where K is the number of questions, $\sum s_i^2$ is sum of variances of questions, and $S_i^2$ denotes variance of raw test scores. The acquired values are between “1% to 99%”, and if they are closer to 1, they indicate higher reliability of the test.

Population under study
The population under study consisted of staff in the Fars Province custom house; they were 117 individuals who work in custom house, in post office at parcels section, in airport at international flights section, and in special zone.

Samples and sample collection method
The sample group in this study was chosen to be 70 persons through random sampling by using Cochran’s formula. Out of 70 questionnaires handed in, 65 of them (92%) were collected at end.

$$n = \frac{Nt^2PQ}{(N-1)d^2 + t^2PQ}$$

where N denotes the number of statistical population, $t = 1.96$, $d = 0.05$, Q stands for the number of responders who were against the statistical tests use, and P represents the number of responders who were in favor of these tests.
Descriptive statistics
To compare the results of demographic features by descriptive statistics, the present study used indices such as mean, mean standard error, standard deviation, bar plot, minimum and maximum values of scores, total sum of scores versus educational degree, work experience, and age of sample individuals.

Deductive statistics
For deductive statistics, independent T-test, binomial test, one-way ANOVA, LSD test, validation by Cronbach’s alpha, and Hotelling’s T-test were used.

Independent T-test
This test was used to compare the viewpoints of staff concerning the seven mentioned indices, versus their gender.

Binomial test
This test was utilized for comparison of mean scores of the seven mentioned indices with hypothetical mean value of 50 (due to highly distributed score, it was used instead of single-variable T-test).

One-way ANOVA test
It is used with the purpose of comparing the staff’s opinion regarding the seven above mentioned indices, versus their educational degree and work experience.

LSD test
This test was applied for pair comparison of difference between mean of the seven mentioned indices from staff’s point of view, versus their educational degree, when ANOVA results were significant.

Hotelling’s T-test
The test is used to compare total mean of each of the mentioned seven indices.

RESULTS
The research hypothesis
There is significant difference between current status of the Fars Province custom house and ideal status with BPR approach.

The test hypotheses for the research hypothesis have been defined as follows:
H₀: There is no significant difference between current status of the Fars Province custom house and ideal status with BPR approach.
H₁: There is significant difference between current status of the Fars Province custom house and ideal status with BPR approach.

Descriptive statistics

<table>
<thead>
<tr>
<th>Indices</th>
<th>Question quantity</th>
<th>average</th>
<th>variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff Incorporation</td>
<td>5</td>
<td>34.10</td>
<td>25.66</td>
</tr>
<tr>
<td>Social tasks</td>
<td>4</td>
<td>45.85</td>
<td>26.13</td>
</tr>
<tr>
<td>Customer-based</td>
<td>7</td>
<td>40.19</td>
<td>25.23</td>
</tr>
<tr>
<td>Process-based management</td>
<td>6</td>
<td>48.59</td>
<td>24.87</td>
</tr>
<tr>
<td>Upon results</td>
<td>3</td>
<td>38.18</td>
<td>25.10</td>
</tr>
<tr>
<td>Development of agreements</td>
<td>4</td>
<td>45.76</td>
<td>26.91</td>
</tr>
<tr>
<td>Leader</td>
<td>5</td>
<td>47.38</td>
<td>25.08</td>
</tr>
<tr>
<td>Sum</td>
<td>34</td>
<td>43.39</td>
<td>25.17</td>
</tr>
</tbody>
</table>

In the present research, initially mean and standard deviation of the seven mentioned indices from view point of staff were calculated versus their gender, work experience, and educational degree. Afterwards, total mean of each index was provided in a separate table for comparison and measurement of differences.
Results of Table (1) indicate that the observed $F$ is significant at level of $P < 0.05$. Therefore, there is difference among these indices. The highest mean related to process-based management with mean value of 48.59, whereas the lowest mean value was assigned to staff participation with mean value of 34.10.

Results of Table (2) indicate that the results of binomial test concerning all indices are significant at error level of 5%; therefore, all indices are lower than standard mean (75). Based upon the results from this table, the research hypothesis is confirmed and there is significant difference between current status of the Fars Province custom house and ideal status with BPR approach.

Table 2- Comparison of mean and total standard deviation for each of the seven mentioned indices with hypothetical mean value of 75

<table>
<thead>
<tr>
<th>Indices</th>
<th>Average</th>
<th>Variance</th>
<th>Level</th>
<th>Quantity</th>
<th>Occurred probability</th>
<th>Probability(%)</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1°</td>
<td>34.10</td>
<td>25.66</td>
<td>≈75</td>
<td>65</td>
<td>1</td>
<td>0.05</td>
<td>0.001</td>
</tr>
<tr>
<td>2°</td>
<td>45.85</td>
<td>26.13</td>
<td>≈75</td>
<td>65</td>
<td>1</td>
<td>0.05</td>
<td>0.001</td>
</tr>
<tr>
<td>3°</td>
<td>46.19</td>
<td>25.23</td>
<td>≈75</td>
<td>65</td>
<td>1</td>
<td>0.05</td>
<td>0.001</td>
</tr>
<tr>
<td>4°</td>
<td>48.59</td>
<td>24.87</td>
<td>≈75</td>
<td>65</td>
<td>1</td>
<td>0.05</td>
<td>0.001</td>
</tr>
<tr>
<td>5°</td>
<td>38.18</td>
<td>25.19</td>
<td>≈75</td>
<td>65</td>
<td>1</td>
<td>0.05</td>
<td>0.001</td>
</tr>
<tr>
<td>6°</td>
<td>45.76</td>
<td>26.91</td>
<td>≈75</td>
<td>65</td>
<td>1</td>
<td>0.05</td>
<td>0.001</td>
</tr>
<tr>
<td>7°</td>
<td>47.38</td>
<td>25.08</td>
<td>≈75</td>
<td>65</td>
<td>1</td>
<td>0.05</td>
<td>0.001</td>
</tr>
<tr>
<td>Sum</td>
<td>43.31</td>
<td>21.58</td>
<td>≈75</td>
<td>65</td>
<td>1</td>
<td>0.05</td>
<td>0.001</td>
</tr>
</tbody>
</table>

According to this table (3), difference of mean values between staff with diploma and those with B.Sc. degree is 22.10 concerning staff participation at significance level of 0.006, which reveals that there is difference between viewpoint of staff with diploma and those of staff with B.Sc. degree.

Table 3- Comparison of the differences among mean values of indices versus educational degree

<table>
<thead>
<tr>
<th>Educational certificate</th>
<th>Average difference</th>
<th>Significance level (P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>License —— Diploma</td>
<td>22.10</td>
<td>0.006</td>
</tr>
<tr>
<td>License —— Diploma</td>
<td>23.36</td>
<td>0.002</td>
</tr>
<tr>
<td>Diploma —— Upper diploma</td>
<td>23.03</td>
<td>0.005</td>
</tr>
<tr>
<td>Diploma —— Upper diploma</td>
<td>21.41</td>
<td>0.003</td>
</tr>
<tr>
<td>Diploma —— Upper diploma</td>
<td>19.23</td>
<td>0.045</td>
</tr>
<tr>
<td>Licence —— Diploma</td>
<td>16.74</td>
<td>0.009</td>
</tr>
</tbody>
</table>

At significance level of 0.002, difference of mean values between staff with diploma and those with B.Sc. degree is 23.36 regarding process-based management, which shows that there is difference between opinion of staff with diploma and those of staff with B.Sc. degree.

Difference of mean values between staff with diploma and those with associate degree is 23.03 concerning goal-orientation at significance level of 0.035, which indicates that there is difference between viewpoint of staff with diploma and those of staff with associate degree.

At significance level of 0.003, difference of mean values between staff with diploma and those with B.Sc. degree is 21.41 regarding goal-orientation, which shows that there is difference between opinion of staff with diploma and those of staff with B.Sc. degree.

Table 4- Investigating difference or no difference in staff’s opinion versus their gender

<table>
<thead>
<tr>
<th>Indices</th>
<th>Man</th>
<th>Woman</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>S</td>
<td>X</td>
<td>S</td>
</tr>
<tr>
<td>Staffs corporation</td>
<td>35.90</td>
<td>25.50</td>
<td>28.11</td>
<td>26.16</td>
</tr>
<tr>
<td>Social tasks</td>
<td>45.85</td>
<td>26.08</td>
<td>45.83</td>
<td>27.22</td>
</tr>
<tr>
<td>Customer-based</td>
<td>45.46</td>
<td>23.68</td>
<td>48.63</td>
<td>30.65</td>
</tr>
<tr>
<td>Process-based management</td>
<td>48.25</td>
<td>24.82</td>
<td>49.71</td>
<td>25.88</td>
</tr>
<tr>
<td>Upon results</td>
<td>39.04</td>
<td>26.02</td>
<td>35.32</td>
<td>22.80</td>
</tr>
<tr>
<td>Development of agreements</td>
<td>45.70</td>
<td>25.90</td>
<td>45.97</td>
<td>31.02</td>
</tr>
<tr>
<td>Leader</td>
<td>47.07</td>
<td>22.82</td>
<td>41.36</td>
<td>20.34</td>
</tr>
<tr>
<td>Sum</td>
<td>43.83</td>
<td>21.73</td>
<td>41.59</td>
<td>21.72</td>
</tr>
</tbody>
</table>
According to findings provided in this table (4), the observed $t$ value is not significant at error level $f$ 5% (confidence level of 95%); hence, there is no difference among the seven indices from staff’s viewpoint, versus their gender.

| Table 5- Investigating difference or no difference in staff’s opinion versus their work experience |
|-----------------------------------------|-----------------|-----------------|-----------------|-----------------|--------|--------|
| Below 10 years | 10 to 20 years | Upper 21 years | $F$ | $P$ |
| X | S | X | S | X | S | 
| Staff| corporation | 30.06 | 26.18 | 35.31 | 25.33 | 41.36 | 25.13 | 0.014 | 0.946 |
| Social| tasks | 42.49 | 26.77 | 47.04 | 27.48 | 51.57 | 22.82 | 0.575 | 0.566 |
| Customer| based | 39.53 | 24.65 | 48.46 | 28.14 | 57.71 | 16.63 | 2.613 | 0.081 |
| Process| based| management | 46.36 | 24.67 | 45.44 | 27.57 | 59.05 | 18.67 | 1.466 | 0.229 |
| Upon| results | 35.51 | 27.13 | 32.22 | 24.33 | 40.35 | 20.04 | 1.629 | 0.204 |
| Development| of| agreements | 41.71 | 26.42 | 47.64 | 31.12 | 51.93 | 19.80 | 0.729 | 0.486 |
| Leader | 46.35 | 22.85 | 40.42 | 21.90 | 53.15 | 20.67 | 1.376 | 0.260 |
| Sum | 40.38 | 22.46 | 42.08 | 22.02 | 17.52 | 17.51 | 1.427 | 0.248 |

According to findings summarized in this table (5), the observed $F$ value is not significant at error level $f$ 5% (confidence level of 95%); thus, there is no difference among the seven indices from staff’s viewpoint, versus their work experience.

**Conclusion of the research hypothesis**

The research hypothesis investigates the significance or insignificance of the difference between current and ideal status in the Fars Province custom house with BPR approach regarding the seven indices, including staff participation, social responsibility of the organization, customer-orientation, process-based management, goal-orientation, development of organizations, and leadership. According to Table 2, it is clear that results of binomial test are significant at 5% level for all indices; therefore, null hypothesis is rejected and the research hypothesis is confirmed. As a result, there is significant difference between current and ideal status in the Fars Province custom house with BPR approach. Results of Table 2 indicate the confirmation of research hypothesis at confidence level of 95%.

Also the results summarized in table 3 show that there is difference in the first, fourth, fifth, and total indices from viewpoint of staff with different educational degree. Staff with diploma has assigned higher scores to these indices compared to staff with B.Sc. degree. In contrast, work experience and gender did not influence the response of staff towards the seven mentioned indices.

**Conclusion**

The purpose of present study is to investigate the current status in the Fars Province custom house and its comparison with ideal status with BPR approach (business processes reengineering). In addition to this general goal, the applied objective of this research is to determine the mid-level processes that are candidates for reengineering, and should be prioritized for BPR implementation. In this study, the statistical population included staff of the Fars Province custom house; they were 117 persons and 65 of them (92%) were received back. The questionnaire consisted of 34 questions which measured seven indices. At descriptive statistics section, firstly the tables were provided related to sample mean distribution versus gender, educational degree, and work experience. Then, mean and total standard deviation of each index was separately calculated. Results summarized in tables show that from viewpoint of staff, the staff’s participation has the lowest mean while process-based management has the highest mean in the organization. The candidates for reengineering at descending order are process-based management, leadership, and customer-orientation. Mean and total standard deviation with hypothetical mean value of 75 was calculated with probability of 5% at significance level of 0.001. The results indicated that the indices measured in the organization are lower than mean value. At deductive statistics section, the mean value and total standard deviation of all indices from viewpoint of staff were calculated separately versus their gender, educational degree, and work experience. According to the yielded results, the research hypothesis was confirmed indicating that there is a significant difference between current and ideal status with BPR approach in the Fars Province custom house at confidence level of 95%.
95%. According to tables of deductive statistics, it was shown that from viewpoint of the staff towards the organization, there is no significant difference among the seven mentioned indices versus the staff’s gender and work experience; however, there is a significant difference among these indices versus educational degree. Staff with diploma and staff with B.Sc. degree had different viewpoints regarding staff’s participation, process-based management, and goal-orientation.

It is in accordance with the mentioned study carried out in the Ministry of Commerce, which had compared the current and ideal status regarding three indices of information technology, customers’ satisfaction, and work quality, and the three research hypotheses were confirmed.

**Suggestions**

Considering the acquired results, following suggestions are made:

**Suggestion for executive managers**

- With regard to result of staff’s participation, it is suggested that instead of seriously controlling the staff or threatening them, top managers of the organization should encourage the staff, listen to their problems, and let them participate in works. Indeed, if the managers of the organization behave as instructor, staff’s attention will be towards customers instead of managers, so values and attitudes will change and a fundamental change will occur in the organization;

- Considering the results of leadership index, it is suggested that the top managers of the organization should try to develop horizontal communications and promote communication skills in themselves; they should also redefine and implement values and moral pattern of the organization so that they will be made more applicable and practical;

- Considering the result of customer-orientation index, it is suggested that top managers of the organization should hold special meetings with the purpose of inducing to the staff that providing service to customers and their satisfaction is the most important principle among organizational goals; to this end, in addition to recognizing the existing processes in the organization and redefining the inter-organizational indices related to customer’s satisfaction and loyalty, they should form working teams in the organization and allocate each process to a working team. This increases the speed of performing jobs through removing redundant activities and satisfies the customers;

- Considering the index of process-based management, and to better recognize the opportunities and needs as well as continuous improvement of processes, it is suggested that top managers of the organization should redefine them and evaluate the level of applicability and efficiency of systems in which these processes have been employed;

- Considering the goal-orientation index, it is suggested that for improving the organization’s performance regarding correct activities the top managers of the organization should define the quality of these activities, making balance between expectations of beneficiaries and customers’ satisfaction as a value; they should also measure the work efficiency of staff and reward them based upon the produced value.

**Suggestions for future studies**

- It is suggested that those who are interested in performing research in field of organization performance improvement with BPR approach should carry out their study with help of an expert who has scientific and practical experience in reengineering; so in addition to making suggestions regarding organizational issues, they can design and provide a pattern for making their suggestions operational in the respective organization;

- It is suggested that those interested in doing research in reengineering should study the organizations in which the implementation of reengineering has led to failure; so through studying the ceased program they will understand more practically the problems and propose more applicable and efficient strategies;

- To gain a better and more concrete understanding of reengineering concept, its implementation and he yielded results in organizations, it is suggested that researchers should study the organizations and production companies since the work processes in these organizations in more concrete and they are less complex in comparison with service-providing organizations.
REFERENCES


