Organization performance improvement based on the National Productivity and excellence model a case report from a hospital at Kashan University of medical science

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Abstract

Introduction: Today’s in the changing and competitive world, considering quality and effectiveness of management and performance is the determining factor in achieving of development and competitive programs. Performance assessment is a holistic approach that involves all elements of organization until the desired performance is achieved. Accordingly, this study was conducted at Kashan University of medical science in 2011.

Method: This research was a descriptive and cross sectional study that was done in 2011. It was conducted in Shohada Hospital at Kashan University of Medical Science. The study population were 32 managers and ward supervisors. Data collection was a self-assessment questionnaire of the National Productivity and excellence model which was filled out during the group-work and interview sessions with managers ward supervisor. The research data were gathered based on nine criteria of this model.
**Findings:** The hospital acquired 144/9 scores out of 1000 scores in the self-assessment done at the beginning of 2011, and 183/6 scores in self-assessment done at the end of the year, after defining, prioritization and implementation some improvement programs.

**Conclusion:** the National Productivity and excellence model is a systematic approach to gain competitive advantage and value creation in hospital. This model is effective in improving service quality and organization excellence in short term (even a little) so that in long term, it can meet the needs of organizations to improve the situation.

**Keywords:** Organization performance, holistic approach, medical science, National Productivity.
Introduction

Today health system is one of the greatest parts of the world economics so that its world expenses are about 8 percent of gross interior product (GDP). This figure is about 5 to 10 percent in developing countries (WHO, 2000). The most amounts of health expenses is allocated to hospital services which are one of the health system parts, and in many countries 50 to 80 percent of financial resource of health system is spent to hospital. In Iran more than %6/4 of GDP is allocated to health system, 40% of which is spent to hospital care (Shepard, 2003). But there is a vast prospect for promoting and managing such resources and full attention should be paid to its performance and its assessment (Rezapour, 2010) (jabari; janati & mosazadeh, 2013).

From the development perspective, the performance assessment is an inseparable part of the management system. The lack of assessment in different dimensions of an organization is considered as one of symptoms and diseases of the organization (Sheykhzade, 2010). The assessment results can make the managers aware of the amount of progress of activities, programs, and goals, and this leads to recognizing the weak and strong points and taking some action to eliminate the weaknesses with an emphasis on developing and reinforcing the strengths (Maleki, 2011).

The performance assessment system should be planned in a way that personnel are motivated to improve the performance and consequently participate in the utilization, effectiveness, and superiority of the organization (Sadat, 1997). Thus we need effective methods in this area; the methods that deal with the assessment of personnel performance based on duty description and specific criteria, recognize their weaknesses and strengths, and promote their service quality through correcting their performance results (EFQM,2005).

Today different methods have been planned for the assessment of organization performance and an attempt has been made to look at different needs of organization from different dimensions. From among such methods are: Total Quality Management(TQM), European Foundation for Quality Management (EFQM), Malcolm Baldrige National Quality Award (MBQNA), Balanced Scorecard Card(BSC), 360 degree assessment, International Standard Organization(ISO9000), engineering pattern, Analytic Hierarchy Process (AHP), Data Envelopment Analysis(DEA), Benchmarking (Mosakhani, 2010).

In Iran, planning and taking action for performance assessment have been defined based on National Productivity and Organizational Excellence Award with a holistic approach and based on EFQM (Mohamadfam, 2009). For designing this prize are considered objective such as: diffusion of development and improvement culture, organizational and individual learning, continuous improvement of performance, a place for optimizing, recognizing, and choosing a superior organization are important for their performance.; (Tabibi; Hashemzehi & Parizi,2008).

In most European countries is used EFQM as a framework for organizational superiority and as a base for most national or local prizes of quality. The main reason for the effectiveness of EFQM is extensive use as management system and self-assessment in organization. Other countries including South Africa, Argentina and Chili have also used EFQM in informing their own superiority pattern. A lot of organizations and Health centers have used this pattern. In 1996 the...
first Health organization in Germany started self-assessment and identification their own strengths and weaknesses in each criterion, which led to the first feedback (Maleki, 2008).

Therefore, performance assessment is considered as one of the influential principles in the development and quality of programs as well as goal achievement and by considering the fact that today’s organizations have realized that performance assessment system is very powerful so that it can change the culture of an organization (Nazarmohamadi & Jari, 2010) (Tabibi; Hashemzehi & Parizi, 2008) and on the other hand, according to Article 88 of the Iran’s Fourth Development Plan, it is emphasized Ministry of Health is obliged to develop and assess standards and indexes for improving the services based on the performance elevation model in order to promote quality of health services and increases utilization (MPO, 2008), the performance of Shohada Hospital was evaluated using the National Productivity and Organizational Excellence Award in nine aspects and twice with a one-year interval, were evaluated was evaluated.

Introducing Organizational Excellence Model

In 1991, EFQM was introduced as the business excellence model, in which a framework was presented for the judgment and organizational self-assessment and ultimately for receiving European quality reward. This model represents the Sustainable advantage that an excellence organization should reach. This model was quickly attracted the attention of European companies and it was found that the public organization and small industries are interested in using that too (EFQM, 2004). In 1995, the foundation of European quality management established leading group of public section which included representatives from Health, Treatment, Education and Government, and its duty was to promote and support the self-assessment process in public sections. In 1998, the health group of European established to accomplish its mission that was “being the agent of directing sustainable advantage in Europe health organization». The European Foundation approach for self-assessment in Health organizations almost is used in all European countries. The hospital and outpatient services, rehabilitation clinics and acute cares, specialized services and PHC center have been using this approach (Yosofian & najafi, 2009).

EFQM is a non-prescriptive model that based on nine assessment criteria. Five criteria are “enablers” (with 500 scores) and four criteria are “results” (with 500 scores). The criteria related to enablers show the activities that an organization should do and the criteria related to results determine what an organization should achieve. In fact the results are the outcomes of enablers. Enablers improve by using the received feedback from the results (Eghbal; Yarmohamedian & Siadat, 2009).
There is a logic called RADAR inside the EFQM for scoring the criteria that includes four elements of results: approach, deployment, assessment, and review (Mohamadfam, 2009). RADAR logic states that:

1. Every organization is required to determine the desired results of organization which lead to the satisfaction of all beneficiaries.
2. The organization should adopt an integrated set of logical and clear approaches in order to achieve the desired results and develop it.
3. It should apply each approach systematically in organization.
4. It should assess and review the approach (eghbal, yarmohamedian, & siadat, 2009).

Method

This research was a descriptive and cross sectional study that was done in 2011. It was conducted in Shohada Hospital at Kashan University of Medical Science. The study population were 32 managers and ward supervisors. The research data were collected based on five criteria of enablers including leadership, people, strategy, partnerships and resources, and processes, product & services and also based on four criteria of results such as customers results, people results, society results, and business results of performance. Enablers’ criterion included 24 minor criteria and the results criterion included two minor criteria (performance and impression index) and totally eight minor criteria. This research was conducted in three stages:

First: self-assessment of the hospital at the beginning of 2011

In order to self-assessment of the hospital and gathering data, the mixed method include questionnaire and Performa card was used. A new Performa card was designed based on this approach and each sub-criterion of the EFQM model (32 sub-criteria) .then identified strengths and weaknesses based on Performa card, as well as each sub-criterion were scored based on RADAR logic. Performa card was filled out during workshop sessions and interviews with the
managers as well as references to documents of different units. Scoring based on RADAR model:

1. In assessing enablers’ criterion, each of the five sub-criteria, RADAR logic was used to score the elements of approach, deployment, assessment & review. The approach element was assessed with suitability and integrity features, the deployment element with establishment and systematic feature, and the assessment & review elements were evaluated with measurement, learning, creativity, and innovation features. To evaluate each of the features in five areas, the scores of 25, 50, 75, and 100 were allocated. To state the results the descriptive statistics was used.

2. In assessing results, the scoring was done by results and scope elements. In the result element, the features of Trends, targets, comparisons, analysis of the causes and scope were scrutinized. In the scope element, the relevant areas and result separation were dealt with. To assess each of the features between zero and 100 scores, in five areas 25, 50, 75, and 100 were allocated. To state the results, descriptive statistics were used.

Second: recognizing and prioritizing the projects of improvement and implementing them
After doing the self-assessment and analysis of the weakness and strong points of the hospital, identification, improvement and prioritization of the project were done, appropriately with each criterion and their sub-criteria during workshop sessions with managers’ and ward supervisors. Prioritizing all improvement plans was carried out from two dimensions A) effectiveness and B) difficulty/easiness. The scoring procedure in this approach was done based on Likert Scale (1-5). After prioritizing, the selected projects were put into use.

Third: re-self-assessment
In this stage, conducted one year after starting the improvement project at the 2012 year, the self-assessment procedure was repeated again using the mentioned approaches in stage one.

Findings:

1) Findings from assessment at the beginning of 2011:
1-1) Hospital score in “enablers” was as follows:
In leadership criterion 16 scores (16%) from 100 scores, in strategy criterion 5/7 scores (5/7%) from 100 scores, in people criterion 14 scores (14%) from 100 scores, in partnerships and resources criterion 12 scores (12%) from 100 scores, and in processes, product & services criterion 4/19 scores (4/19%) from 100 scores. The hospital got 9/78 scores from the total 500 scores of enablers.

1-2) Hospital score in results was as follows:
In customer results criterion 5/13 scores(9%) from 150 scores, in people results criterion10 scores (10%) from 100 scores, in society results 10scores (10%) from 100 scores, in business criterion 23 scores (15%) from 150 scores. The hospital got 56 out of the total 500 scores of results.
1-3) prioritizing and selecting improvement programs:
The hospital identified 24 improvement programs/projects after self-assessment. Given their noticeable number and impossibility of allocating resources to do them all, this programs were prioritized in working-group sessions with the managers and ward supervisor by considering two aspects of effectiveness (based on the criteria of customer satisfaction, staff satisfaction, their influence on strategic plans and on increased value) and the degree of ease or difficulty of the project (based on the criteria of required financial resources, required human resources, project time, and required facilities). Seven important programs were chosen to apply. Details of which are as follows:

Table 1: Assessment, review and prioritize improvement projects

<table>
<thead>
<tr>
<th>Row</th>
<th>Program / project improvement</th>
<th>Related Criteria</th>
<th>Earn points (100)</th>
<th>Doing priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Create relationships unit with donors and site communication</td>
<td>partnerships and resources</td>
<td>86</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Establishment of teamwork and problem solving techniques</td>
<td>leadership &amp; people</td>
<td>85</td>
<td>3</td>
</tr>
</tbody>
</table>

Figure 1: Self-assessment findings at the beginning of 2011
Establishment of quality management system (ISO 9001:2008) leadership, strategy & processes 89 1
Medical Equipment Management System resources 83 5
Assess the performance of nurses with 360-degree approach people 84 4
Establishment of clinical governance model leadership, strategy & processes 80 6
Establishment of Hospital Information Systems (HIS) customer 82 7

2) Findings from assessment at the end of 2011:
2-1) Hospital score in enablers was as follows:
In leadership criterion 22 scores (22%) from 100 scores, in strategy criterion 21 scores (21%) from 100 scores, in people criterion 20 scores (20%) from 100 scores, in partnerships and resources criterion 19 scores (19%) from 100 scores, and in processes, product & services criterion 22 scores (22%) from 100 scores. The hospital got 104 scores out of the total 500 scores of enablers.

2-2) Hospital score in results was as follows:
In customer results criterion 6/13 scores (9%) from 150 scores, in the criterion of staff results 13 scores (13%) from 100 scores, in the criterion of society results 18 scores (18%) from 100 scores, in the criterion of business results 25 scores (7/16%) from 150 scores. The hospital got 6/79 from the total 500 scores of results.

Figure 2: Self-assessment findings at the end of 2011
As it can be seen from table 2, total score of the hospital was about 145 at the beginning 2011. (Nearly 15% of the total score).

If we, according to the Likert scale, consider the scores zero to 20 as weak, 20 to 40 as middle, 40 to 60 as good, 60 to 80 as very good, and 80 to 100 as perfect, the hospital performance in enablers criteria were weak. The lowest score in this aspect was for business partnerships and resources. In result aspect, in which the hospital performance was middle, had the lowest score was for staff and society results. In self-assessment at the beginning 2011, total score of enablers was more than total score of results. (9/12scores). Also total score of hospital was about 184 at the end of 2011 (18% of the total score) so that hospital performance in partnership and resources criteria had the lowest score and in other criteria was assessed almost as middle. The highest score in enablers’ aspect was for leadership and processes. In results aspect in which the highest score was for business results, hospital performance was at the middle level and in people and society results had the lowest score. In self-assessment at the end of 2011, total score of enablers was more than results score (31% more).

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score at the beginning of year</th>
<th>Score at the end of year</th>
<th>Differentials (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>leadership</td>
<td>100</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>strategy</td>
<td>100</td>
<td>17.5</td>
<td>21</td>
</tr>
<tr>
<td>people</td>
<td>100</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>partnerships and resources</td>
<td>100</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>processes</td>
<td>100</td>
<td>19.4</td>
<td>22</td>
</tr>
<tr>
<td>customers results</td>
<td>150</td>
<td>13.5</td>
<td>13.5</td>
</tr>
<tr>
<td>people results</td>
<td>100</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>society results</td>
<td>100</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>business results</td>
<td>150</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>Total score</td>
<td>1000</td>
<td>144.9</td>
<td>183.6</td>
</tr>
<tr>
<td>Total score of enablers</td>
<td>500</td>
<td>78.9</td>
<td>104</td>
</tr>
<tr>
<td>Total score of result</td>
<td>500</td>
<td>66</td>
<td>79.6</td>
</tr>
</tbody>
</table>

**Discussion**

Considering the self-assessment at the beginning of 2011 year and total scores of earned that was about 15% of the total scores of the mentioned model can be said that hospital had considerable improvement areas in all criteria. Hospital gained a lower score in comparison with the hospital studied by Islamizadeh (total score of self-assessment was over 60% in 2011) or in Maleki study (total score of self-assessment was over 40% in 2011).

After doing the first self-assessment, the hospital identified improvement programs (include: Quality Management, ISO9001:2008, Establishment Team work Techniques and problem...
solving, Medical Equipment Management System) in order to increase quality of its services by considering the strong and improvable points in the criteria of the excellence model. In the self-assessment done at the end of the year (after and during implementing the defined improvement programs) total score of enablers and results reached over 18% of total score of the model, which had about 6/2% growth in scores in comparison with the begging of the year. To confirm this result, Vallejo& Sancho’s studies (2007) can be referred, where self-assessment score was 209 in 2003 based on the organizational excellence model in hospital, and in two years later, i.e. in 2005 total score reached 311 which had an increase about 48%.

Given the result shown in Table 2, it can be said that 65% of growth in scores was related to enablers’ criteria and 35% was for the results criteria. The findings from study of Sandra&et. al (2004) in a hospital in Italy confirm the above results, that is, the highest score was related to enablers’ criteria (leadership, policy, guideline, partnership, and resources). As it can be seen, enablers factor, having half of total score of organization performance, is more susceptible to score higher in comparison with results. So it needs to be given more attention.

In order to meet the requirements in enablers’ criteria, particularly those of leadership, strategy and processes, product & services, establishment of quality management ISO9001:2008 can be referred to, which has been one of the effective factors in increasing the hospital score. As it was mentioned in Maleki and Izadi’s study, the hospitals under the study which achieved over 40% of self-assessment score had ISO9000 certificate. The increase of the hospital score was also related to the establishment and training of team work techniques and solving the problems and management system of medical equipment, which is related to leadership criteria and people of enablers.

**Conclusion**

Today, organizations for survival and persistence in the compete environment have the ability to create value for their customers so they can situate themselves in the path of excellence. To reach an acceptable level of production or service delivery and creation of permanent values, it is necessary to determine the correct statuses of organization (which is one of the requirements of increasing utilization) and identify the strong and improvable points and then to make an attempt to reinforce the strengths, remove the weaknesses, and improve the organization condition(Castilla,2002) (Donnelly, 2008). Therefore, considering the mission of excellence and utilization model, the model can be used in order to assess the organization and move in excellence path. Based on this model, organization leadership, adoption of policies and appropriate strategies, staff participation in activities, optimized use of resources, developing and applying procedures, staff promotion and satisfaction are factors that designing and establishment the improvement programs relevant to them can lead organization toward development and excellence. This research indicated that using the national model of utilization and excellence is effective in improving service quality and organization excellence in short term (even a little) so that in long term, it can meet the needs of organizations to improve the situation.
Acknowledgement

The research team, while expressing their congratulation to the hard-working staff of Shohada hospital for their participation in organization excellence prize and gaining score, is greatly thankful for their sincere help in gathering data.
References


