An Empirical Study of the Establishment of a Performance Management System And its Effectiveness Evaluation

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Introduction

- Organizational performance is a key factor to influence the development of health care organization. Thus, operational performance of the organization has been seen as a crucial issue and concerned by top management of the hospital.
- Thereby, an effective performance management system is required to establish in health care organization in order to obtain better performance.
- In recent years, a performance management system based on the framework of Balanced Scorecard (BSC) has been widely applied in health care organization internationally.
- The advantage of the framework of BSC is that the key performance indicators could cover both financial and non-financial aspect to examine organizational performance.
Background of the research-

- Accordingly, performance management system based on BSC framework has been established and promoted in the cardinal Tien hospital.
- Cardinal Tien Hospital is a 787-bed regional teaching hospital located in northern Taiwan. Although it is not-for-profit hospital, operational performance is still important in recent years due to changeable and competitive environment, such as modified national health insurance system, increasing cost of manpower and medical equipment etc..
- The performance management system based on BSC was established in the hospital in 2007. The aim was to improve overall organizational performance in order to achieve strategic goals and vision of the hospital.
- Accordingly, each department should apply the system to manage its staff and department development and growth.
Background of the research -

- In the process of the system, each department should propose its strategic goals and objectives with action plans every year according to the goals of hospital. Several key performance indicators (KPI) with its expected goal values and measure metrics are set up for the evaluation. Usually, the weight of each key performance indicators is also distributed according to the core value of the department.
- The results of action plans are reviewed and measured every six months. Goals achievement of the department are also counted and evaluate the outcome of performance. Thus, performance outcome would be determined according to the results of achievement of action plans.
- Associated factors and causes of unmet goals and objectives are analyzed finally to explore better strategies for improvement in next year.
Belief
Philosophy
Core
Values
Missions
Vision

Fig 1. Framework of Strategy Management
宗旨:愛主愛人,尊重生命
(Mission-Love God love people, Respect the life)

願景:醫療傳愛,健康促進-
建立四全照護典範,發揚基督博愛的精神
(Vision-Transmit God's love through medical care and health promotion.
-Establish a role model of Holistic care, promoting love of Christian)

目標(Goals of the hospital):
1.四全健康照護的典範
   (To be a paradigm of four holistic care)
2.醫學中心級的醫療服務
   (To provide care with medical center class)
3.亞洲天主教會服務醫院的楷模
   (To be a role model of Catholic service hospitals)
### Yearly Strategic Goals & Action Plans Sheet

<table>
<thead>
<tr>
<th>Strategy goal</th>
<th>Objective</th>
<th>Key Performance Indicator</th>
<th>Measure Metrics</th>
<th>Goal values</th>
<th>Action plans</th>
<th>Expected Day of Achievement</th>
<th>Actual Performance</th>
<th>Percentage of achievement</th>
<th>Cause analysis</th>
<th>Recommend for correction</th>
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</table>

### Performance Measurement and Outcome Evaluation Sheet

<table>
<thead>
<tr>
<th>Domain</th>
<th>Strategy Goal</th>
<th>Aspect of Services</th>
<th>Key Performance Indicator</th>
<th>Measure Metrics</th>
<th>Goal values (%)</th>
<th>Actual Performance</th>
<th>Percentage of Achievement</th>
<th>Weight (%)</th>
<th>Adjusted Performance (%)</th>
</tr>
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<tbody>
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</table>

**P.S.**

- Yearly strategic goals and KPI with action plans of the department should be completed.
- The goal values and its measure metrics of indicators were also identified.
- The performance outcome was measured and evaluated every six months.
- Performance outcome of the department would be determined.
Background of the research-

- Nursing department applied the performance management system in 2007 and implemented formally in 2008.
- Before implementing the system, a series of education program related to management system were introduced to all head nurses to know the purpose and significance of policy making. Besides, how to use the method of the system was also practiced.
- Since a new performance management system has been promoted, it would be interested to know its effectiveness of implementation and to see how it would impact on the organization.
Purpose of the research

- The purpose of this research was to examine the effectiveness of implementing a performance management system in a regional hospital through an empirical study.
- The significance of the research would be valuable and helpful for top management personnel to better know the phenomenon of utilization of the system and to evaluate its strength and weakness of the system.
Literature Review

- Performance management has been described as a process of assessing progress toward achieving predetermined goals of an organization.

- Performance management system is developed as a means of monitoring and maintaining organizational performance, which is the process of ensuring that an organization utilizes strategies to achieve overall goals and objectives of the organization (Nanni et al., 1990).

- BSC developed by Norton and Kaplan (1992) is often used as a strategic management tool that measures economic and operating performance of an organization. It is intended to link short-term operational control with the long-term vision and strategies of the business (Amaratunga, Haigh, Sarshar, & Baldry, 2002).

- BSC contains four aspects and has been adopted in service industries and health care industry internationally. The four perspectives include internal process, employee growth and development, customer satisfaction and financial perspective. Key performance indicators (KPI) are identified in order to measure their outcome. Goal values and measure metrics are also set up (Norton & Kaplan, 1992).
Fig. Framework of Balanced Scorecard
According to system theory, when a system (input) has been implemented (process) in an organization, the outcome (output) of implementation should be evaluated to know its effectiveness.

Outcome measurement is one approach to explore the results of implementation and impact of the system. It is a systemic way to access the extent to which a system has achieved its intended results. Therefore, outcome measurement would be used as the framework of the research to examine the effectiveness of implementing a performance management system.

The distribution of key performance indicators, goals achievement and viewpoints of head nurse were chosen as the variables of outcome in the study.
Fig. 1 Conceptual Framework of the research

1. **Structure**
   - Establishment of the performance management system

2. **Process**
   - Implementation of the system

3. **Outcome**
   - Effectiveness evaluation of implementing the system
Research questions

1. How many key performance indicators were set up for measures to evaluate its goals achievement?
2. What was the distribution of KPI in four perspectives of the performance management system?
3. How was the outcome of goal achievement by the department?
4. What was the impact on individual and nursing department according to the performance outcome?
Methods:

- **Design**: A case study method was used in the study.

- **Setting and Subject**: The study was conducted in a regional teaching hospital. Nursing department of the hospital was chosen as the subject of the study. The document of performance management system of nursing department was the major source for data collection. Head nurses were also chosen as the subjects to investigate their viewpoints of the performance management system.

- **Instrument**: A matrix of performance measurement and outcome evaluation sheet including four dimensions of balanced scorecard was used to collect the data. A structured questionnaire was developed as the tool to collect the data of head nurse viewpoints.
Methods:

- **Data Collection procedure**: The data was retrieved and reviewed from 2008 to 2010. Since the performance was reviewed every six months a year, performance outcome was evaluated and depicted every six months. All specific key performance indicators related to nursing services were categorized into each dimension of performance to measure its outcome of achievement.

- **Data analysis**: The percentage and means were used as the statistics to analyze the data.
## Results

### Table 1. Demographic Data

<table>
<thead>
<tr>
<th>Item</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Bed</td>
<td>787</td>
</tr>
<tr>
<td>Class of hospital</td>
<td>Regional teaching hospital</td>
</tr>
<tr>
<td>No. of Nursing Unit</td>
<td>26</td>
</tr>
<tr>
<td>Total Nurse Manpower</td>
<td>440-460 (nurse staff + 90 non-professionals)</td>
</tr>
<tr>
<td>Personnel of ND</td>
<td>10 (Director, Supervisor &amp; Specialist &amp; clerk)</td>
</tr>
<tr>
<td>No. of Nursing Committee</td>
<td>4 (Personnel &amp; Welfare, Medical Informatics &amp; Materials, Nursing Quality Management, Education and RD)</td>
</tr>
<tr>
<td>No. of each Committee Member</td>
<td>26</td>
</tr>
<tr>
<td>Frequency of meeting</td>
<td>Once a month regularly</td>
</tr>
</tbody>
</table>
Table 2. No. of Indicators in each Committee

<table>
<thead>
<tr>
<th>Year Number of Indicator Committee</th>
<th>2008/1-6</th>
<th>2008/7-12</th>
<th>2009/1-6</th>
<th>2009/7-12</th>
<th>2010/1-6</th>
<th>2010/7-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel &amp; Welfare Committee</td>
<td>9 (11.5%)</td>
<td>17 (15.6%)</td>
<td>9 (12.7%)</td>
<td>14 (11.5%)</td>
<td>8 (11.6%)</td>
<td>14 (11.8%)</td>
</tr>
<tr>
<td>Medical Informatics &amp; Material Committee</td>
<td>8 (10.3%)</td>
<td>14 (12.8%)</td>
<td>6 (8.4%)</td>
<td>18 (14.8%)</td>
<td>4 (5.8%)</td>
<td>17 (14.3%)</td>
</tr>
<tr>
<td>Nursing Quality Management Committee</td>
<td>33 (42.3%)</td>
<td>33 (30.3%)</td>
<td>37 (52.1%)</td>
<td>37 (30.3%)</td>
<td>39 (56.5%)</td>
<td>39 (32.7%)</td>
</tr>
<tr>
<td>Education &amp; Research Development Committee</td>
<td>28 (35.9%)</td>
<td>45 (41.3%)</td>
<td>19 (26.8%)</td>
<td>53 (43.4%)</td>
<td>18 (26.1%)</td>
<td>49 (41.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>78</td>
<td>109</td>
<td>71</td>
<td>122</td>
<td>69</td>
<td>119</td>
</tr>
</tbody>
</table>
Table 3. Distribution of KPI in four perspectives

<table>
<thead>
<tr>
<th>KPI Domain</th>
<th>2008/1-6</th>
<th>2008/7-12</th>
<th>2009/1-6</th>
<th>2009/7-12</th>
<th>2010/1-6</th>
<th>2010/7-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Process Perspective</td>
<td>35 (44.9%)</td>
<td>44 (40.4%)</td>
<td>30 (42.2%)</td>
<td>45 (36.9%)</td>
<td>29 (42.0%)</td>
<td>42 (38.5%)</td>
</tr>
<tr>
<td>Growth &amp; Development Perspective</td>
<td>25 (32.1%)</td>
<td>45 (41.3%)</td>
<td>19 (26.8%)</td>
<td>52 (42.6%)</td>
<td>18 (26.1%)</td>
<td>52 (47.7%)</td>
</tr>
<tr>
<td>Financial Perspective</td>
<td>3 (3.8%)</td>
<td>3 (2.7%)</td>
<td>5 (7.1%)</td>
<td>5 (4.1%)</td>
<td>4 (5.8%)</td>
<td>5 (4.5%)</td>
</tr>
<tr>
<td>Customer Satisfaction Perspective</td>
<td>15 (19.2%)</td>
<td>17 (15.6%)</td>
<td>17 (23.9%)</td>
<td>20 (16.4%)</td>
<td>18 (26.1%)</td>
<td>20 (18.3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>78</td>
<td>109</td>
<td>71</td>
<td>122</td>
<td>69</td>
<td>109</td>
</tr>
</tbody>
</table>
Distribution of KPI in four perspectives

- Internal process
- Employee growth & development
- Financial
- Customer satisfaction

<table>
<thead>
<tr>
<th>Date</th>
<th>Internal</th>
<th>Employee</th>
<th>Financial</th>
<th>Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/1/6</td>
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<td>2008/7/12</td>
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<td>2010/7/12</td>
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</table>
Results and discussion

❖ The results indicate that the number of key performance indicators were set variously in each year according to its goals. The weight of indicators on internal process and growth and development perspective were put much more than the others (Table 2 & 3).

❖ The major number of key performance indicators were put on the perspectives of internal process and employee growth and development which were accomplished through quality management committee and education and RD committee (Table 3). It indicates that the core task of nursing business were implemented by these two committees.

❖ Financial perspective shows fewer indicators than other indicators. It implies that nursing services still have limitations to present its contribution in financial performance of the organization (Table 3).
Fig. 1 Yearly Goal Achievement (%)
Results and discussion (continued)

- The results of the research show that the outcome of goals achievement was satisfied in 2009-2010 which indicates the mechanism of performance management system was effective for managing staff performance and promoting organizational growth (Fig. 1).

- Although the outcome of some indicators shows that the goal values were unmet, the underlying factors were analyzed to make corrective actions in the future.

- For example: time management was recognized and learned when the task was not accomplished timely. Besides, the ability of leadership among team leaders was also recognized for the improvement.
Implications of the research

- The results of the research shows both of the individual and departmental performance were managed by the performance management system, thus it provides a well-structured and effective management tool to help nursing department implementing its action plans and reaching strategic goals of the hospital.

- Through the use of performance management system, individual performance could be evaluated and improved according to the outcome of performance yearly.

- The weight and distribution of KPI in any perspective would influence the direction of nursing department development.
Limitations and recommendations for further research:

First, the generalization of the results of this research was limited due to the research was only conducted in one organization.

Secondly, the relationships among KPI of four perspectives were not examined to see how they influenced each other.

Performance management system could be applied in another health care organization to compare the results of the effectiveness of implementation in different organization.

The association between some critical indicators, such as employee satisfaction and patient satisfaction could be examined to see their relationships.

A longitudinal study was suggested for further study in order to explore the effectiveness of implementing this performance management system and its association with the vision of the hospital.
Conclusions

❖ The results of this research provide valuable reference for top management personnel assigned to set policies regarding nursing service and quality of care in the future.

❖ It also provides inspiring thought for academics that would like to further explore the relationship between theory of strategy management and practice of performance management in depth.

❖ The performance management system based on the framework of balanced Scorecard presents such a model for strategic performance measurement and management for high performance organization. As a result, it is continuously used and extended through each department of the hospital.
Thank You for your Attention