Analyses of the Critical Success Factors on
the Implementation of ERP System

CHI-KAO CHANG and MIN-YUAN FANG*

ABSTRACT

Recently, business face a lot of challenges, including threaten of competitors, increasing market share, higher and higher customer expected value, etc. These pressures force business to take more powerful reactions, like to cost down the supply chain, slash stock, shorten manufacturing time, increase product category, promise the lead-time, provide better customer service, continue improving product quality, and coordinate globalize service efficiently. Hence, how to integrate EPR systems inner business has become the essential tool for business to face the variable world.

This research is based on four dimensions (finance, customer, company internal process, and learn-growth) of balanced scorecard (Kaplan, R.S, and Norton, D.P.) to make “performance indicators” evaluation by doing questionnaire analysis against company vision, blueprint, and mission. Potential factors of 4 dimensions are extracted from factor analysis; adopting individual variables against dimensional factors with MANOVA to testify levels differences in case company; in probing into dimensional interaction, ANOVA will be employed progressively as examining dimensional interaction. Finally, the result is hereby presented with concrete conclusion and remarks to formulate performance evaluation indicators ageist case company.

INTRODUCTION

The lead-in process of ERP system is very complicated, has high risk, and has unobvious benefits; how to manage it and do justice to it after lead-in is the most important job for business. However, “no measure is no managed”. Before lead-in and manage ERP system, business’s front burner is to measure the benefits.

Therefore, this research that hopes to collect relevant literature by indicators of...
past performance evaluation to collate and use the Balanced Scorecard to design a set of objective and measurable indicators of cases through the ERP system performance verification procedures, and provide case companies are more stringent proper performance evaluation management decisions.

**Literature Review**

The case of companies, into ERP system is part of a very significant investment, the reason will precede with the vote Capital cases, companies have diversified import reasons, scholars and institutions enterprises import EPR system. The reason the system also has a different view, as described in Table 1.

**Table 1. Reasons for finishing into ERP business table.**

<table>
<thead>
<tr>
<th>Scholar or institution</th>
<th>Importing reason</th>
</tr>
</thead>
</table>
● demand for integrated systems  
● reduce costs           | ● merger inefficient processes  
● shorten the order-to-delivery cycle  
● Real-time information to enhance the quality of decision-making |
| Bingi, Sharma and Godla [5] | ● reach a global logistics management  
● close connection with the functions of information systems  
● solve the Y2K problem  
● Business Process Reengineering  
● customer requirements  
● Replace the old system | ● reduce operating costs  
● enhance operational efficiency  
● transparent rationality of the job  
● enhance the quality of decision-making and management efficiency  
● common platform |
● Business Process Reengineering  
● replace the old system | ● enhance operational efficiency  
● transparent rationality of the job  
● Common platform |
| Mabert, Soni, and Venkataramanan [7] | ● reach a global logistics management  
● Closely integrated functional information system  
● solve the Y2K problem  
● Business Process Reengineering | ● customer requirements  
● replace the old system  
● common platform |
| Stefanou[8]            | ● close connection with the functions of information systems  
● customer requirements | ● reduce operating costs |
| Reinhard and Berga Maschi[9] | ● reach a global logistics management  
● close connection with the functions of information systems  
● solve the Y2K problem  
● replace the old system  
● reduce operating costs | ● enhance operational efficiency  
● transparent rationality of the job  
● enhance the quality of decision-making and management efficiency |
● close connection with the functions of information systems  
● Business Process Reengineering  
● enhance operational efficiency  
● transparent rationality of the job  
● enhance the quality of | ● Information System Integration favorable career after merger  
● company fully computerized / standardized  
● strengthen management control operational information  
● company's overall resource utilization optimized |
RESEARCH METHODOLOGY

Case Definition of the Company's Profit Targets

In this study, the definition of selected performance indicators, such as those in the table above, based on in-depth interviews and case management company personnel and associated personnel, was discussed by the experts in a questionnaire designed to assess performance indicators.

Finally, four balanced questionnaires are used in the Balanced Scorecard to try to filter out the performance and feasibility of the most representative measures in each orientation.

Analysis Methods

In this study, the Chinese version of SPSS 12.0 statistical software to analyze the effective implementation of invalid questionnaires were coded, will be described statistical analysis, factor analysis and reliability testing, analysis of variance and regression analysis.

RESEARCH RESULTS: STRUCTURED INTERVIEWS

Degree of importance on customer facets to "enhance customer satisfaction (quality, delivery, and service)", "on-time delivery rate increase," "decrease the number of customer complaints" as the former importance of the three (see Table 2). This is the company "customer satisfaction, continuous improvement, quality first, full participation, bottom trace on" quality policy, the implementation of customer service to the company philosophy of cases, the customer is always in the first row. Another mid-level staff believes in "the development of the needs of customers shorten the process," the company, "a niche product Number of new customers," "to increase the number of agents at home," three without attention, coordination with business and production line, When faced with the pressure to shorten the process, the company should make a difference in these indicators. Customer satisfaction ranking facets "to enhance responsiveness to customer complaints," "enhance the brand image," "enhance customer satisfaction (quality, delivery, and
Satisfaction ahead (see Table 3), that the company at this stage Customer service is provided on the whole better than the other factors. After the satisfaction of the three, "niche products Number of new customers," "reducing the number of customer complaints member", "on-time delivery rate increase" carried out in order to make the company's staff seems to think harder again.

**Table 2.** Cases overall company performance—a measure of customer facet importance of sorting table.

<table>
<thead>
<tr>
<th>Facets</th>
<th>Line item</th>
<th>Performance metrics</th>
<th>Average</th>
<th>Standard deviation</th>
<th>Maximum</th>
<th>Min</th>
<th>Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attend Passenger Measure</td>
<td>4</td>
<td>Enhance customer satisfaction (quality, delivery, service)</td>
<td>4.1512</td>
<td>0.74388</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>the amount</td>
<td>2</td>
<td>Time delivery rate increase</td>
<td>4.0814</td>
<td>0.75483</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Construct Surface</td>
<td>5</td>
<td>Reduce the number of customer complaints</td>
<td>4.0349</td>
<td>0.77380</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Enhance brand image</td>
<td>3.9535</td>
<td>0.75001</td>
<td>5</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Enhance responsiveness to customer complaints</td>
<td>3.9419</td>
<td>0.78747</td>
<td>5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>When customer demand to shorten the development time</td>
<td>3.8837</td>
<td>0.74231</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Niche products Number of new customers</td>
<td>3.8488</td>
<td>0.75953</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Increase the number of agents at home</td>
<td>3.5349</td>
<td>0.79258</td>
<td>5</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>

**Table 3.** Cases overall company performance—a measure of the degree of customer satisfaction facet sorting table.

<table>
<thead>
<tr>
<th>Facets</th>
<th>Line item</th>
<th>Performance metrics</th>
<th>Average</th>
<th>Standard deviation</th>
<th>Maximum</th>
<th>Min</th>
<th>Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attend Passenger Measure</td>
<td>7</td>
<td>Enhance responsiveness to customer complaints</td>
<td>3.4302</td>
<td>0.77521</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>the amount</td>
<td>8</td>
<td>Enhance brand image</td>
<td>3.3953</td>
<td>0.65582</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Construct Surface</td>
<td>4</td>
<td>Enhance customer satisfaction (quality, delivery, service)</td>
<td>3.3721</td>
<td>0.81235</td>
<td>5</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>When customer demand to shorten the development time</td>
<td>3.3488</td>
<td>0.74782</td>
<td>5</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Increase the number of agents at home</td>
<td>3.3372</td>
<td>0.64371</td>
<td>5</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Niche products Number of new customers</td>
<td>3.3140</td>
<td>0.72374</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Reduce the number of customer complaints</td>
<td>3.3023</td>
<td>0.75256</td>
<td>5</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Time delivery rate increase</td>
<td>3.2791</td>
<td>0.92864</td>
<td>5</td>
<td>1</td>
<td>8</td>
</tr>
</tbody>
</table>
CONCLUSIONS

The company selected four indicators as a case of the reference index.

1. The new product should not only improve margins, reduce procurement costs in face of the financial structure, the other to improve product sales ratio increases in the proportion of the financial contribution, both productions under sustained steady profit.

2. In the face of customer configuration at the same time, to achieve the best customer service (quality, delivery, response time) and open up new customers, providing potential customer demand, turn to the initiative in product quality and service.

REFERENCES

1. Y-T, Zhan, (2003), "Expecting the effectiveness of enterprise applications and information management system into the implementation of the analysis." National Taiwan University Institute of Information Management Master's thesis.