A Case on Measuring Enterprise Resource Planning Success

Celeste SP Ng

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Celeste SP Ng, Yuan Ze University, Taiwan, celeste@saturn.yzu.edu.tw

ABSTRACT

The implementation of the enterprise resource planning (ERP) system is considerably highly complex, and the cost is relatively expensive and risky. As such, not all enterprises have successful ERP implementation. While success or failure of an ERP implementation from project management perspective is straight forward, for example by measuring the project's time, cost, scope or number of user requirements achieved attributes, the success of the delivered system in the post-implementation phase is more difficult to measure. We are interested in how the success (i.e. continuance use) of the system changes over time and what factors influence the ERP system success. This study uses the "IS Success Model" proposed by DeLone and McLean to measure the ERP post-implementation success (from system user's perspective) using six fundamental items – success quality, information quality, information use, user satisfaction, individual impact and organizational impact. Adopting the case study approach, a well-known "System Integrator" from the e-industry was investigated. The case-organization implements and uses the Oracle ERP. Two round of survey using the same survey questions were carried out on the same pool of 100 respondents at two different point of time, one after six-month of using the system and the other after another extended four-month of usage.

Our results show that, in overall, after an extended four months the same sample of respondents evaluates higher rank on each item on their ERP system quality, the impact of the ERP system on their organization, and information use from the ERP system. This could be due to improvement in users' experience and familiarization with the system. However, for information quality of the ERP system the same sample of respondents gives a lower rank after an extended four months of use. As the use of the system increases, the information needs for the system also increase and new information (previously unknown or not used) may also be discovered over a longer period of use.

In general, the three success dimensions (system quality, information quality and organizational impact) are on average slightly higher than "4" or neutral and we can say that the ERP system success is marginal. However, the organizational impact dimension is below "4". With this, we argue that this dimension of benefits indeed requires a longer period of time in order to observe to its outcomes or the benefits potentially bring about by an ERP system.

In analyzing the impact of each factor in predicting enterprise system (ES) success, simple regression considering a single factor at a time is run. It is found that "quality" factor alone successfully explains 62.1% of the total variance in the sample; "net benefit" explains 50.6% of the total variance; and "information use" explains 7% of the total variance. Thus, in comparison, both "quality" and "net benefit" are salient dimensions in predicting ESS but not "information use". This pretty much confirms the study by Sedera and Gable (2004). Based on these results, we can say that among the three factors, "quality" is the best predictor of ES success in this sample.