

## Identifying the Critical Success Factors to Cultivate the Service of ASP

Jongyi Hong<sup>1</sup>, Joonyoung Kim<sup>2</sup>

<sup>1</sup> School of Business Administration, Kyungnam University, Changwon, Korea

<sup>2</sup> Defense Agency for Technology and Quality, 420, Dongjin-ro, Jinju, Korea  
<sup>1</sup>jyhong@kyungnam.ac.kr; <sup>2</sup>jykim@dtaq.re.kr

**Abstract.** Despite the Application Service Provider (ASP) can provide an opportunity to enhance the competitiveness of SMEs, almost Small and medium-sized enterprises (SME) have not used the ASP service. It is necessary to derive the Critical Success Factors (CSF) in order to spread the service of ASP. Therefore, CSFs and strategies for cultivating the ASP service were extracted based on CSF method and BSC. Based on an interview, analysis of empirical studies and a literature review, strategies for cultivating ASP were determined. To provide beneficial information in terms of grasping the whole picture of ASP, the framework was developed by using CSF method and Balanced Scorecard (BSC). CSFs provide the manager with targets to serve and feedback on implementation, implementation success assessment, and the derivation of lessons for future implementation. The candidate of CSFs extracted based on strategies. The candidates of CSFs were filtered based on cause and effect relationship to ensure the internal consistency of the CSFs.

**Keywords:** Application Service Provider, Critical Success Factors, BSC

### 1 Introduction

Large sized enterprise has been strengthening their competitiveness by utilizing information and communication technologies (ICT). Small and medium-sized enterprises (SME) need to deploy ICT to improve its operational effectiveness, increase its growth possibilities, strengthen its competitive position, and improve its overall firm performance. However, SME did not have abilities to acquire appropriate software and hardware. And SME did not have personnel and fund to deploy and manage information systems[1]. Therefore, service of Application Service Providers (ASP) is very important tool to SME because the service involves an appropriate ICT resources and services[2].

Despite the ASP can provide an opportunity to enhance the competitiveness of SMEs, almost SME have not used the ASP service[3, 4, 5]. It is necessary to derive the CSF(Critical Success Factors) in order to spread the service of ASP.

There are some suggested CSFs for ASP, but they do not provide strategic directions for overcoming weak points to make successful ASP. Therefore, CSFs of ASP are extracted based on CSF method and BSC(Balanced Scorecard).

## 2 Method for Identifying the CSFs

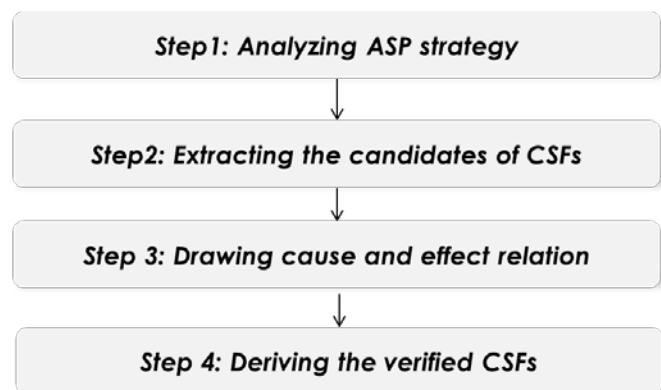
The research for identifying the CSFs can be classified into several subject groups as shown [Table 1.]. The framework of related research is based on CSFs method, BSC and empirical studies.

**Table 1.** Research on method for identifying the main CSFs

<i>Method</i>	<i>Tool</i>	<i>Research</i>
CSFs Method	Extracting CSFs based on strategies	[6, 7, 8]
BSC	Cause and effect relationships	[9, 10]
Various Case Studies	Empirical study	[11, 12]
Literature Review	Extracting CSFs based on perspectives	[13, 14]
CSFs Method & BSC	Extracting CSFs based on strategies and validating CSFs based on cause and effect relationship	[15, 16]

## 3 Research Framework

[Figure 1] illustrates the steps for extracting CSFs of ASP. CSFs are extracted based and verified according to the CSF method and BSC. First, the ASP strategy is analyzed based on the results of interviews and literature review. Then, we extract the candidate of CSFs. We analyze the cause and effect relationships among CSFs. The purpose of this step is to ensure the internal consistency of the CSFs. Managers do not consider that all strategies and CSFs are at the same level of importance but some CSFs do in fact critically influence strategic accomplishments and other CSFs do not have a direct effect. Therefore, the candidates of CSFs must be filtered based on cause and effect relationship.



**Fig. 1.** Research framework

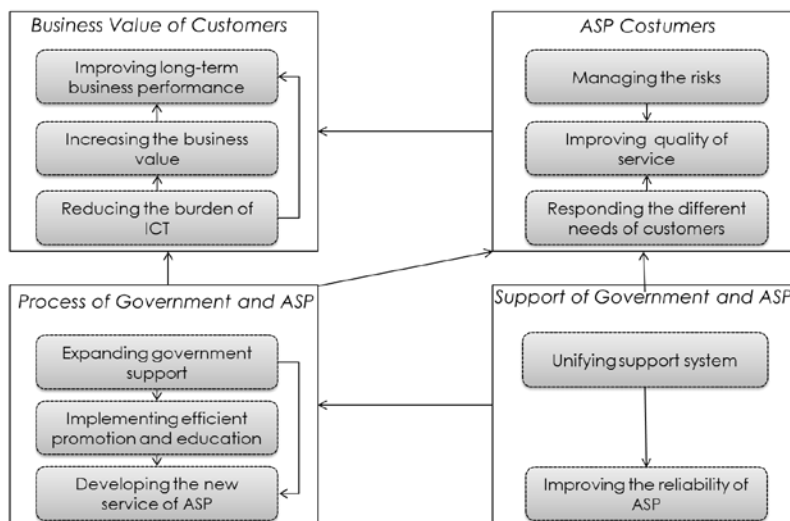
## 4 Case Study

A traditional BSC has perspectives of financial, customer, internal process, learning and growth. The traditional perspectives of BSC can be revised based on the cause and effect relationship, because of difference focus of perspectives. Therefore, the ASP centric BSC is revised based on cause and effect relationship.

**Table 2.** ASP centric BSC

Company centric BSC	Focus	ASP centric BSC	Focus
Financial	Delivering value to our shareholders	Business Value of Customers	Increasing business value
Customer	Delivering value to our customer	ASP Customers	Improving ASP service
Internal Process	Promoting efficiency and effectiveness in our business process	Process of Government and ASP	Cultivating activity of ASP and government
Learning & Growth	Sustaining our innovation and change capabilities	Support of Government and ASP	Supporting capabilities of ASP

The cause and effect relationship between CSFs is drawn to ensure the internal consistency. With influence among the perspectives and CSFs, [Figure 2] shows the cause and effect relationship and corresponding perspectives.



**Fig. 2.** The cause and effect relationship diagram

## 5 Conclusions

CSFs and strategies for cultivating the ASP service were extracted based on CSF method and BSC. Based on an interview, analysis of empirical studies and a literature review, strategies for cultivating ASP were determined. To provide beneficial information in terms of grasping the whole picture of ASP, the framework was developed by using CSF method and BSC.

## References

1. Ekanayaka, Y., Currie, W. L. and Seltsikas, P., "Evaluating Application Service Providers," *Benchmarking*, Vol.10, No.4, pp.343-354. (2003)
2. Kim, S. H., Kim, J. H, Kim, K. S., "A Study on the Evaluation of Multi-dimensional ASP Service Quality and Its Effects on User Satisfaction and Perceived Firm Performance," *Journal of the Korean Operations Research and Management Science Society*, Vol. 33, No.2, pp.45-73. (2008)
3. KISDI, 『Trends of Information and Communications Industry -ASP-』, KISIDI IT Focus. (2001)
4. Smith, M.A. and Kumar, R.L., "A Theory of Application Service Provider (ASP) Use from A Client Perspective," *Information and Management*, Vol.41, No.8, pp.977-1002. (2004)
5. Heart, T. and Pliskin, N., "Business-to-business eCommerce of information systems: Two cases of ASP-to-SME eRental," *INFOR*, 40(1), 23-34. (2002)
6. Boynton A. C. & Zmud, R. W. (1984), "An assessment of critical success factors," *Sloan Management Review*, 25(4), 17-27.
7. Brotherton, B. & Shaw, J. (1996), "Towards an identification and classification of critical success factors in UK hotels," *International Journal of Hospitality Management*, 15(2), 113-135.
8. Guynes, C. S. & Vanecek, M. T. (1996), "Critical success factors in data management," *Information & Management*, 30(4), 201-209.
9. Kaplan, S. R., & Norton R. D. (1996a), "Putting the Balanced Scorecard to Work," *Harvard Business Review*, Boston
10. Martinsons, M., Davison, R., & Tse, D. (1999), "The balanced scorecard: a foundation for the strategic management of information systems," *Decision Support Systems*, 25, 25-36
11. Raghunathan, T. S., Gupta Y. P. & Sundararaghavan, P. S. (1989), "Assessing the impact of IS executives' critical success factors on the performance of IS organizations," *Information & Management*, 17(3), 157-168.
12. Repiso, L. R., Setchi, R. & Salmeron, J. L. (2007), "Modelling IT projects success: Emerging methodologies reviewed," *Technovation*, 27(10), 582-594.
13. Chen, M., Huang, M. & Cheng, Y. (2009), "Measuring knowledge management performance using a competitive perspective: An empirical study," *Expert Systems with Applications*, 36(4), 8449-8459.
14. Chu, M.T. & Khosla, R. (2009), "Index evaluations and business strategies on communities of practice," *Expert Systems with Applications*, 36(2), 1549-1558.
15. Bremser, W. G. & White, L. F. (2000), "An experiential approach to learning about the balanced scorecard," *Journal of Accounting Education*, 18(3), 241-255.
16. Veen-Dirks, P. V. & Wijn, M. (2002), "Strategic Control: Meshing Critical Success Factors with the Balanced Scorecard," *Long Range Planning*, 35(4), 407-427.