Chapter 2.19

EBDMSS:
A Web–Based Decision Making Support System for Strategic E-Business Management

Fen Wang
Central Washington University, USA

Natalie Lupton
Central Washington University, USA

David Rawlinson
Central Washington University, USA

Xingguo Zhang
Aging and Disability Service Administration, USA

ABSTRACT

This paper describes a Web-based intelligent decision making support system (DMSS) to deliver balanced scorecard (BSC) based modelling and analysis in support of strategic E-business management. This framework supports E-business managers during the strategy making process in a comprehensive, integrated, and continuous manner. The paper demonstrates how practitioners can use this system to deliver a wide range of embodied E-business strategy expertise in support of real-time decision making.

INTRODUCTION

E-business has evolved into an accepted way of doing business and has opened new channels for communication and selling (Whelan & Maxelon, 2001; Laudon & Traver, 2007; Phillips & Wright, 2009). It provides a new source of data on every-

thing from customers to competitors and changes the face of competition tremendously (Hong & Zhu, 2006; Ba, Stallaert & Zhang, 2007; Sanders, 2007). As Raisinghani and Schkade (2001) pointed out: "perhaps, one of the best ways to succeed in the world of E-business is to start off with a dynamic and new E-business strategy" (p. 601).

In earlier studies, an E-business balanced scorecard based model (EBBSC) for strategic management was established and estimated with real business data (Wang & Forgionne, 2005, 2007). Figure 1 presents the EBBSC model which consists of a business core, analytic e-CRM, process structure, and e-knowledge network perspectives. Wang and Forgionne (2007) explained this model could be utilized to translate E-business strategies into conceptual blueprints for strategic management control and performance evaluation as well as provide a stable point of reference for businesses to understand and explore E-business initiatives effectively.

In practice, such a framework can assist E-business managers in overcoming deficiencies in awareness and proficiency regarding the business models useful to generate effective strategies (Forgionne, 2000; Forgionne & Kohli, 2000; Holian, 2002). When analytical and technical skills are not available in-house, the specialized modelling and analysis expertise suggested by the EBBSC framework can be delivered through an intelligent decision making support system (DMSS). Figure 2 depicts a conceptual functional framework of such a system for strategic E-business management, which is referred to as the EBDMSS hereafter. As Figure 2 indicates, the EBDMSS is the delivery vehicle for the EBBSC model functionality.

This paper presents the EBDMSS and its role in supporting effective and efficient E-business strategy development. First, a literature review of the evolution of intelligent support for decision making in E-business is presented. Next, the paper presents the EBDMSS architecture. Then, a prototype EBDMSS is depicted to illustrate the system's potential as a strategic E-business management tool. The paper concludes with implications for decision making support and E-business management.

BACKGROUND REVIEW: THE EVOLUTION OF INTELLIGENT SUPPORT

Decision making support systems (DMSS) have evolved over time and across disciplines (For-

Figure 1. The comprehensive EBBSC framework (adapted from Wang & Forgionne, 2007)
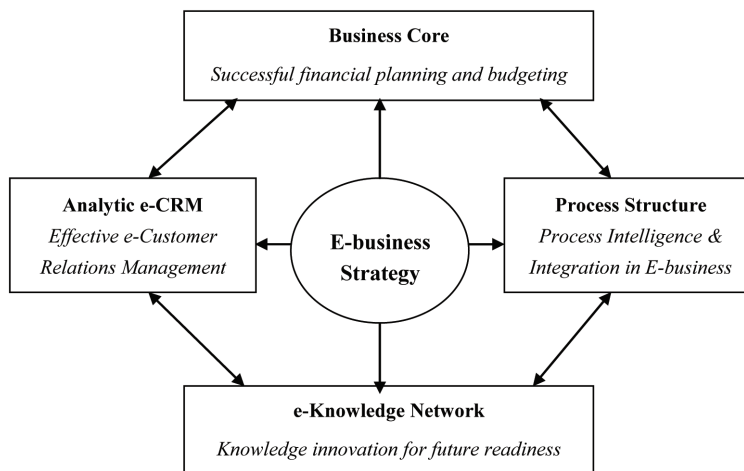
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