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A framework for performance measurement in the e-business environment

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Abstract

The advent of networked economy calls for new understanding of business, and it is evidenced by the visible trend of traditional businesses either migrating to e-business or expanding to embrace electronic commerce. Constant change in the environment means continually evolving strategies, new products, new processes and new technologies to adopt. E-business metrics are needed to measure performance with the firm's strategic focus in mind, and they must go beyond the Web metrics that are discussed in the usual electronic commerce context. The basic objective of this paper is to present a framework for developing performance measurement metrics in the e-business environment. The proposed framework, designed by incorporating the balanced scorecard methodology with existing taxonomies of e-business models and the theories behind them, is intended to enable firms to develop new metrics that are needed to implement e-business strategies and tactics.

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1. Introduction

The advent of networked economy calls for new understanding of business. Based on three dimen-

sions of business (product, process, and delivery agent), three categories of business can be identified, as shown in Fig. 1 – namely, traditional business, partial e-business, and pure e-business [76]. There is a visible trend of traditional businesses either migrating to e-business or expanding to incorporate e-business. To compete in a rapidly changing environment, many firms have adopted organizational designs, such as networked incuba-

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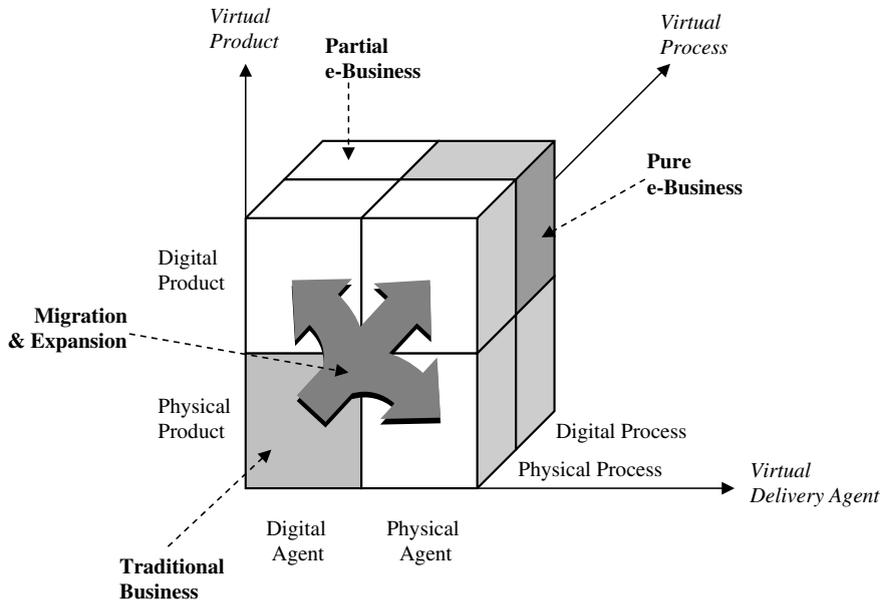


Fig. 1. Three types of businesses (Adapted from [76].)

tors, which provide for quick response, innovation and entrepreneurial behavior.

Constant change in the e-business environment means continually evolving strategies, new products, new processes and new technologies to adopt. In this environment there is a need for integration of information and organizational design to provide for strategy implementation and organizational learning. The information system must promote cooperation among managers and empowered employees to move the organization toward achieving strategic goals. In a collaborative environment, an important component of an information system is the reporting of performance metrics. As more firms have ventured into e-business, management accountants have worked with finance, information technology, and other professionals to incorporate new metrics into performance measurement systems. Metrics are used to implement strategy, manage operations and track performance over time.

The basic objective of this paper is to present a framework for developing performance measurement metrics in the e-business environment. Our e-business metrics framework is based on the well-known Balanced Scorecard methodology

and the existing taxonomies of e-business models found in the literature, and the theories behind the e-business models. The proposed framework is intended to provide a structure and contents for firms to develop new metrics that are needed to implement e-business strategies and tactics.

2. E-business models, performance measurement, and strategy

Performance measurement is a topic of keen interests in the e-business literatures. There are practitioner articles on e-business models, common metrics in use, and even recommended metrics. The literature contains some examples of how companies developed new non-financial metrics for e-commerce and the effectiveness of their Web sites such as stickiness, click-through rates, and conversion rates. A recent work by Straub et al. [68] provides a fairly comprehensive summary of Web metrics that were presented in a special issue of *Information Systems Research*.

Currently, e-commerce is one of the fields where strategic thinking is ardently at work, and at the same time, it owes much of its functionality to

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