Managing Value-Creation in the Digital Economy

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INTRODUCTION

Value-creation and maintenance of a sustained revenue stream in the digital economy continue to elude most businesses. With the exception of advanced firms such as Dell™, Virgin®, Yahoo!®, and eBay®, relatively few firms have been able to leverage Internet technologies to create sustainable business models. From a strategic perspective, although firms are freed of the strictures of vertical integration, they face the daunting task of orchestrating a constantly changing web of suppliers and partners to create appealing products for increasingly sophisticated, fickle customers.

Contemporary research, often based on frameworks such as Porter’s Five Forces (Porter, 1984), has proliferated myriad, largely static business models. For example, Tapscott et al. (2000) proposed five distinct models—agoras, aggregations, alliances, distribution networks, and value chains, while Weill and Vitale (2001) proposed six—direct to customer, content provider, full-service provider, portals, shared infrastructure, and whole of enterprise. By not explicitly accounting for today’s dynamic business environment, these models offer limited prescriptions for sustained value-creation. Fundamental to sustainability is business model evolution, which often entails the transfer of knowledge, processes, partnerships, and relational capital from one group of customers to another. For the IT-enabled firm, sustainable value-creation increasingly depends on its ability to combine intangible assets (i.e., brand, information resources, relational capital) with those of its network partners (Brandenberger & Nalebuff, 1996; Gulati et al., 2000; Tapscott et al., 2000).

This entry synthesizes research from strategic management and IT to develop a framework for understanding information-driven competition. In contrast to much of the literature on IT-enabled competition (Afuah & Tucci, 2001; Osterwalder & Pigneur, 2002; Weill & Vitale, 2001), it does not focus on e-business models per se, but instead reinterprets the traditional three stages of strategy making (conceptualization, planning, and implementation) to describe how distinct types of information may be used for sustained value-creation. We chose to focus on the strategy aspect of value-creation, because business models are tangible representations of a firm’s strategic intent. In other words, they are the outcome of a firm’s strategy. Hereinafter, we use the term “product” to describe both tangible products and intangible services and the term “strategy” to describe the protocol that firms use to create valuable products and services.

This article is organized into two sections, first, drawing on two features of information: velocity (rate of change) and interoperability (the extent to which information can be combined with other information to create value). It develops a 2×2 matrix depicting four fundamental types of information necessary to understand information-driven competition (Figure 1). Next, it develops a conceptualization of sustained value-creation by using the information typology and IT’s considerable information-gathering and coordination capabilities as a lens to reinterpret the three stages of strategy.

FOUR FUNDAMENTAL INFORMATION TYPES

This section draws on two characteristics of information—velocity and interoperability to develop a typology (McIntosh & Siau, 2001). Each type is discussed.

State Information

Typically descriptive in nature, state information changes rapidly (high velocity) and can be easily combined with other information to create value (high interoperability). Examples of state information include the price of a commodity at a specific day and time; the quantity of a product in inventory; and the chronology of a product’s journey through a firm’s value chain. General Motor’s information system, for example, provides state information concerning the number of engine assemblies in inventory and the mix of automobiles on a car carrier in the distribution system (McIntosh & Siau, 2001).
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