Chapter 4

Standardization as an Organizational Capability:
Examples From a Global Player in the Information and Communication Technology Industry

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ABSTRACT

This chapter examines the organizational capabilities that firms develop in order to influence and adapt to standards. Standards are voluntary rules or guidelines developed by standard-setting organizations or consortia in order to promote compatibility/interoperability, minimum quality, variety reduction, and information. The authors argue that firms develop specific capabilities for assessing which emerging standards are likely to become dominant, and in order to successfully influence the development of new standards. The argument is illustrated by a case study of a global player in the information and communication technology sector.

INTRODUCTION

Is standardization an organizational capability? If so, how is a standardization capability organized? Standards are voluntary (consensus-oriented) rules or guidelines developed by standard-developing organizations (SDOs) or consortia in order to promote compatibility/interoperability, minimum quality, variety reduction, and information (Blind, 2004). Standards constitute the main output of SDOs, but may also arise as output from industry consortia. Famous standards battles between rival consortia include Blu-ray versus HD-DVD, USB versus Firewire, and WiFi versus HomeRF (see van den Ende, van de

Kaa, den Uijl, and de Vries, 2012). Standardization activity is often described as driven by individual employees with a personal interest in the focal technology. While this is true in certain industries, where standardization does not have a very large effect on firms' competitiveness, we argue that firms in many industries are forced by competition to develop specific organizational capabilities in order to assess which emerging standards are likely to become dominant, to successfully influence the development of new standards, and to implement new standards when in place. To illustrate and support our argument, we present an empirical example describing the standardization activities and organization of a global firm in the information and communication technology (ICT) industry.

We argue that firms face two key challenges related to standardization: First, industries subject to technological change place high demands on incumbents in terms of the efficient adoption of, and adaptation to, new or emerging standards. The challenge for firms involves early spotting of technological trajectories and identifying competing interests in the industry, as well as having the ability to judge who is likely to succeed in making their standard dominant. These activities are not costless, requiring extensive investments in specific processes, routines, information technology, and organization. Second, firms are not just passive recipients of externally imposed standards (for instance, by SDOs), but are also active participants in the development and implementation of these standards. Whether standards evolve through technical committees in SDOs or through the work of consortia formed by some subset of the industry incumbents, the potential competitive impact of standards once in place creates pressures on the individual firm to devote resources, and develop specific routines and processes, to influence the emerging standard in ways that are beneficial to the focal firm (for example, to promote technology that is complementary to patents or other forms of assets owned by the firm [see Teece, 1986]). We refer to the ability of firms to efficiently perform these sets of activities as having a standardization capability.

BACKGROUND

What Is an Organizational Capability?

There is a large body of literature on the nature and dynamics of organizational capabilities (see Dosi, Nelson, & Winter, 2000, for an overview). Capability typically refers to a "high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization's management a set of decision options for producing significant outputs of a particular type" (Winter, 2003: 991). While so-called *zero-level capabilities* include normal functional capabilities, such as logistics, manufacturing, sales, etc., that "permit a firm to 'make a living' in the short term" (Winter, 2003: 991), scholars have also recognized that firms may be more or less skilled at activities that are important for their survival in the medium to long term. Such capabilities include *dynamic capabilities* that allow firms to adapt and change their zero-level capabilities in response to dynamic environmental conditions (Collis, 1994; Teece, Pisano, and Shuen, 1997; Winter, 2003). Closely related to dynamism of capabilities are integrative capabilities. These integrate external knowledge into the organization, or integrate internal resources or capabilities of the organization, which differentiates them from lower-level day-to-day problem-solving capabilities (Yeoh & Roth, 1999). In addition, the notion of capabilities has more recently been extended to include activities related to strategic alliances (Anand & Khanna, 2000; Heimeriks & Duysters, 2007; Kale, Singh, Perlmutter, 2000), contract design (Mayer & Argyres, 2004), and governance (Argyres, Felin, Foss, & Zenger, 2012). Generally, this extant research has shown that

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