A competitive advantage from the implementation timing of ISO management standards

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\textbf{Abstract}

With the rise of globalization, firms increasingly implement management standards developed by the International Organization for Standardization (ISO) to assure they can meet their customers' expectations. ISO management standards reduce performance variability among suppliers and promote global trade. However, ISO standards also promote a certain degree of commonality or isomorphism between firms. If the very notion of 'standards' encourages a certain level of commonality between firms, then how can firms achieve a competitive advantage from implementing ISO standards? This research argues that the timing of when a firm implements an ISO standard relative to their rivals has strategic benefits. Drawing on the competitive dynamics literature we argue that firms can achieve an early mover advantage when implementing ISO 14001. However, an early mover advantage depends on the level of a firm's absorptive capacity (prior experience with ISO 9001) and the competitive intensity of their industry. This study uses longitudinal data from firms that implemented ISO 14001 at varying points in time to examine the benefits of an early mover advantage. More broadly, this research sheds light on when firms benefit the most from implementing new management standards. The results provide insights into implementing other emerging management standards.

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1. Introduction

Increasingly firms implement ISO (International Organization for Standardization) management standards as a strategic initiative to remain competitive (King et al., 2005). For example, Ford set a strategic goal to have all its manufacturing plants ISO 14001 certified worldwide by 1998 (Wilson, 2001). IBM had set a similar strategic goal of worldwide ISO 14001 certification (Morrow and Rondinelli, 2002). Many organizations have dedicated corporate level resources to evaluate, monitor and implement new management standards across the organization. For example, 3M has their Strategic Quality Leadership Team take responsibility for administering various management standards like ISO 9001 and ISO 14001. This team “sets strategy, identifies common opportunities for improvement, and directs global synergy across all business units within 3M” (3M, 2012). As a result, firms not only make strategic decisions to implement management standards, but also look for synergies across standards.

Given the strategic nature of ISO standards implementation, the question becomes how does implementing a standard generate a competitive advantage? Strategy scholars argue that a competitive advantage comes from firm heterogeneity. For instance, the resource-based view (RBV) of the firm argues that developing unique, valuable, rare and non-replicable resources help firms gain a competitive advantage over rivals and generates rent profits (Barney, 1991). However, ISO standards promote a certain degree of commonality or isomorphism between firms. For example, customers may require their suppliers to get ISO 9001 certified to assure a certain level of quality performance. ISO 9001 certification reduces the heterogeneity between suppliers in terms of quality performance. If the very notion of ‘standards’ encourages a certain level of homogeneity between firms, how can firms achieve a competitive advantage from implementing ISO standards?

Research is inconclusive on the competitive benefits of implementing ISO standards. For example, some research has found a positive impact of ISO 9001 on performance (Corbett et al., 2005; Levine and Toffel, 2010; Naveh and Marcus, 2005), while other studies do not show a significant relationship (Martinez-Costa et al.,

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http://dx.doi.org/10.1016/j.jom.2015.03.004
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isolate the effect of the timing decision on performance from the implementation decision itself. The results show that the timing of when firms implement ISO 14001 relative to their rivals has performance implications. However, this performance relationship is moderated by the level of competitive intensity and the amount of absorptive capacity the firm has from a related standard (ISO 9001).

This study offers theoretical and practical insights on deciding when to implement new management standards, which potentially has broader implications for implementing other emerging standards like ISO 28001. Researchers will likely investigate the performance benefits of implementing these emerging standards, however, we believe that the competitive advantage, although temporary, comes from the timing of implementation since these practices tend to reduce firm heterogeneity. As a practical matter, managers need to assess the relative benefits of quickly implementing new management standards. In addition, they need to recognize the temporary nature of the performance benefits, and these benefits depend on the level of competitive intensity of their industry and their prior experience with implementing other related standards.

The rest of the paper has the following organization: Section 2 reviews the literature, Section 3 theoretically develops the hypotheses, Section 4 describes the research methodology, and Sections 5–7 present the empirical results. Finally, Section 8 discusses the findings and present broader implications.

2. Literature review

2.1. ISO management standards—ISO 9001 and ISO 14001

The ISO management standards consist of a set of requirements that organizations must meet in order to receive a certificate of compliance. Independent auditors from third parties determine if the standards have been met, and issue a certificate of compliance if a facility met the requirements. A given organization may have multiple facilities with ISO certifications. Facilities need to re-certify every three years to maintain their ISO certification. ISO management standards share common features, making them structurally compatible. “Compatibility means that common elements of the [ISO] standards can be implemented in a shared manner” (Smith, 2006), which allows knowledge accumulated from one standard to be applied to another standard. The International Organization for Standardization (ISO) has a goal of enhancing compatibility among the different standards. ISO 9001 and 14001 follow identical compliance procedures and are rooted in the same ideology (Boiral, 2011). They share the same requirements for document control, management policy, operations control, training, auditing, monitoring and evaluation (Corbett and Kirsch, 2001).

The ISO 9001 standard gives the requirements for a quality management system. This standard helps ensure that customers get consistent, good quality products and services. Customers will be assured a base level of quality performance when they purchase from an ISO certified business. According to Corbett and Kirsch (2001), ISO 9001 certified facilities had been growing at a rate of 50,000 to 60,000 every year worldwide. As of 2011, more than 1.1 million ISO 9001 certifications have been issued worldwide (ISO, 2012), and it is one of the most widespread management standards developed by ISO (Corbett, 2006). This broad level of adoption has globally promoted more consistent quality performance across many different industries.

The ISO 14001 standard specifies the requirements for an environmental management system, which includes identifying

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1 Since the introduction of the ISO 9001 (quality management) standard in 1987, this Organization for International Standards (ISO) has developed several other standards such as ISO 14001 (environmental management), ISO 26001 (social responsibility), ISO 28001 (supply chain security and resilience), and ISO 13053 (Six Sigma).

2 http://www.iso.org/iso/iso_9000.
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