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The Dynamics of Open Strategy: From Adoption to Reversion

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Innovation has become more open in recent years. Yet the decision to become more open and the challenge of sustaining that openness are not well understood. This is the concern of the "content" branch of Open Strategy, defined as the branch that addresses an organization's open innovation strategy. We examine the initial motivations to adopt an open strategy, and then consider when organizations choose to maintain that open strategy or revert to a more proprietary approach. Similarly, we examine motivations to open up a previously proprietary strategy. We find that these dynamics depend on the organization's desire to either foster greater growth (which favors a more open strategy) or secure greater control and profit directly from the innovation (which favors a more proprietary strategy). Crucially, these choices can shift over the life cycle of a market and are dependent on the competencies amassed by the organization. In early phases, when there are relatively few legacy customers and many new arrivals, open strategies attract customers at a faster rate. In later phases, as the market matures and new arrivals have slowed, there are few new customers to attract with an open strategy and reversion to a more proprietary strategy becomes quite attractive. This suggests that the longevity of open initiatives might be curtailed as organizations opt for value capture over cooperative value creation.

Introduction

> If we are to make strategic sense of innovation communities, ecosystems, networks, and their implications for competitive advantage, we propose that a new approach to strategy — open strategy — is needed.
>
> — Chesbrough and Appleyard, 2007: 58

Since the publication of Chesbrough and Appleyard (2007) nearly a decade ago, there has been significant interest in Open Strategy but limited attention has been paid to the dynamics that characterize a firm's pursuit of this new approach to strategy. Two branches of Open Strategy have emerged: a "content" branch that examines the ability of organizations to sustain themselves economically with an open approach to innovation (Chesbrough and Appleyard, 2007); and a "process" branch that explores the systems that can enhance strategy formulation by furthering participation of both internal and external actors and improving transparency inside and outside of the firm (Whittington et al., 2011). While other papers in this special issue address this latter branch, this research provides a framework for examining the content branch of Open Strategy from adoption to — under certain circumstances — its abandonment. In our context, we define abandonment as reversion to a proprietary strategy. We have witnessed these dynamics in industries ranging from life sciences to consumer packaged goods, and in this paper, we particularly focus on examples from the information and communications technology (ICT) and software industries, such as the evolution of the Android operating system. The analysis draws on existing literature pertaining to the role of knowledge accumulation, network effects, and ecosystem development in fueling cross-firm cooperation when a new market is emerging, complemented by interviews from leading firms that contribute extensively to open innovation initiatives including IBM and Intel. We find that the decision to either open up a previously closed project (*i.e.*, abandon property rights protection) or close off a previously open project (*i.e.*, revert to a proprietary strategy) hinges on the evolving realities of the market including rate of product adoption and the emergence of a supporting ecosystem, as well as changes in the competencies accumulated by the cooperating firms.

Prior research has observed that open innovation is leading to new empirical phenomena that do not fit well with Porterian theories of business strategy (Chesbrough and Appleyard, 2007; Lerner and Tirole, 2002; West and Gallagher, 2006). The primary tension between Open Strategy and traditional business-level strategy rests with the need to secure an economic return in the face of relinquishing control over critical strategic assets and capabilities (Barney, 1991; Dwoskin, 2016; Peteraf, 1993; Wernerfelt, 1984). The reconciliation of this tension is how we define Open Strategy: a firm's justification for participating in an open initiative, including its ability to capture value from the initiative. In our application of Open Strategy,

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an open initiative is characterized by: a) the reliance on assets outside of the firm's boundaries (inclusion), and b) the (free) access to project results by outsiders (transparency). By way of example, in the setting of an open source software (OSS) project, contributions to the code base might span hundreds of software developers who are freelancers, affiliated with non-profit organizations, or employed by companies. The compilation of their individual contributions leads to a new software product, *e.g.*, the well-known example of Linux, which is published in the public domain. This pooling of assets externally leads to a high-quality, freely accessible product, and because of this open access, the participating firms then have to construct business models to capture value elsewhere in the value chain (Chesbrough and Appleyard, 2007; Perr et al., 2010). The participating firms also need to decide their level of commitment to openness over the life of the project, and the drivers behind this decision are the focus of this paper.

The remainder of the paper is organized as follows. In the next section, we introduce a conceptual framework for considering the range of strategic possibilities between open and closed innovation initiatives and provide examples. We then analyze the foundations of value creation during open innovation through a producer and consumer surplus lens. The subsequent section details the basis for collaboration and the factors that might lead to a shift in strategic choice, including the possibility of reversion. The following section goes more deeply into internal competencies that traditional firms have grappled with to effectively support open initiatives. Included is a consideration of how successful cultivation of competencies, the technology prowess competency in particular, might actually hasten reversion back to a closed strategy. The triggers of reversion have not received extensive treatment in the literature, and they help to inform the limits of open innovation. In the final sections, we discuss the findings and conclude with possible paths for future research.

A dynamic view of open strategy

The primary research contributions of this paper are: 1) to demonstrate how a firm's commitment to Open Strategy may be far from static; and 2) to identify the underlying forces driving the migration of strategic choice. In this section, we introduce an intertemporal framework for understanding the range of strategic choices with illustrative examples. Typically, past researchers have emphasized the strategic decision to own and control intellectual property in order to earn a revenue stream to pay for research and development (Grossman and Helpman, 1994; Nordhaus, 1969; Romer, 1990). Or they have emphasized a perpetual commitment to open, user-led innovation (Baldwin and von Hippel, 2011; Shah and Tripsas, 2007; Swann, 2014; von Hippel, 2005), where one's ability to benefit directly from the use of an innovation obviates any need to appropriate economic value from that innovation. However, these otherwise highly contrasting approaches share a common characteristic: once the strategic choice is made to be open or to be proprietary, that decision is implicitly treated as fixed thereafter. Recent examples reveal that this is an incomplete reflection of reality, where some projects that began as proprietary have moved to become open, while other projects that began as open have subsequently become proprietary. The choice of openness thus is not static, but dynamic. An examination of firms that have moved along the Open–Closed strategy continuum can help illustrate the dynamics. Figure 1 shows how companies and open projects might start with an Open

Ex Post		Ex Ante: Closed	Ex Ante: Open
Ex Post	Open	Cisco: OpenDaylight IBM: PC Sun: Java Mozilla	Linux Apache Drupal
Ex Post	Closed	IBM: Mainframe Microsoft: Windows Oracle	Google: Apps Google: Android OS Amazon: Kindle Fire

Figure 1. Dynamics behind the Open–Closed Strategic Choice

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