

EMERGENCE OF CLOUD COMPUTING: AN INSTITUTIONAL INNOVATION PERSPECTIVE

Research-in-Progress

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Abstract

Today's global IT service industry is undergoing a collective movement toward cloud computing. This study draws upon the institutional theory to conceptualize the social processes surrounding the emergence of the global cloud computing market. Through a qualitative case study based on archives and interviews with a leading multinational IT service vendor, the research shows that as cloud computing gains increasing legitimacy as a new market category, the vendor develops a portfolio of strategies and leverages a political toolkit to respond to and shape the emergence and evolution of the market.

Keywords: Cloud computing, institutional innovation, strategy process, vendor's perspective

Introduction

Cloud computing is ranked as the top technology priority for companies around the world in 2011, according to a recent survey conducted by the IT research firm Gartner (Gartner 2011). A widely-cited definition of cloud computing was proposed by the United States National Institute of Standards and Technology as “a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction” (Mell and Grance 2011: 2). Adopting cloud computing can potentially allow organizations to reduce cost and increase flexibility, efficiency, and quality (Hayes 2008; Armbrust et al. 2010; Aral et al. 2010). To some observers, cloud computing represents a paradigm shift of IT toward a utility model that resembles the supply of electricity by power plants (Carr 2009).

However, interestingly, cloud computing was also a highly controversial phenomenon and had sparked rare, heated public debates between leaders from high-profile companies, including the management consultancy McKinsey & Company, software vendor Oracle, and IT research firms Gartner and Forrester. Despite the once divergent views, cloud computing is currently driving the global IT service industry from both the demand and the supply sides (Gartner 2011). On the demand side, cloud computing is being rapidly adopted by organizations in both developed countries such as the U.S. (Microsoft 2011a) and emerging economies such as China (Bloomberg 2011). On the supply side, cloud computing is becoming a key service offering of many IT firms, including both firms that specialize in cloud computing, such as Amazon, Google, and Salesforce.com, and traditional IT service firms, such as IBM, HP, and Fujitsu.

As the global IT service industry undergoes such a collective movement toward cloud computing, different players, especially IT service vendors, employ different strategies to leverage and shape the formation and evolution of the global cloud computing market in a highly entrepreneurial fashion. The goal of the study is to conceptualize the social processes surrounding the emergence of cloud computing from the vendor’s perspective. Specifically, the study addresses the question: how does a vendor respond to the emergence of the cloud computing market? Drawing on the institutional theory (e.g., Hargrave and Van de Ven 2006; King and Pearce 2010), and based on archival data as well as interviews with a major multinational IT and business service vendor, this study elaborates the formation of the global cloud computing market, and conceptualizes the strategy processes the vendor employs to respond to the emergence of the market.

Literature Review

This section first provides an overview of cloud computing as an innovative IT service model. Although a number of studies have investigated the technical and operational aspects of cloud computing, the more macro-level market dynamics around cloud computing have not been explored. Since market formation as a social process has been examined by the research on institutional change, and in particular, institutional entrepreneurship, this section then reviews concepts from the institutional perspective that are especially relevant to understanding the emergence of the cloud computing market and vendors’ strategic responses.

Cloud Computing

Cloud computing was pioneered by several firms, including Amazon and Salesforce.com, which provided on-demand IT and business services over the Internet. The term “cloud computing” was first exposed to public media by Google in 2006 to refer to a business model in which data service and architecture reside in remote servers (Bogatin 2006). In the following years, major IT service firms, such as IBM, HP, and Fujitsu started to offer extensive cloud services, and many cloud-related new ventures were formed (e.g., Vance 2011; Moore and Ryall 2011). Cloud computing also expanded globally and was actively adopted by clients and vendors in both developed countries and emerging markets (e.g., CCID 2010). Today, cloud computing has evolved into a market with relatively defined boundaries and segmentation. Recently, the IT research firm Forrester published the first industry report that offered a sizing of the cloud computing market. According to this report, the market is expected to reach \$241 billion in 2020, compared to \$40.7 billion in 2010 (Ried et al. 2011), although significant ambiguity still exists around what constitutes cloud computing (Kirilov 2011). The following overviews a set of commonly cited research on cloud computing.

Cloud computing can usually be categorized into three types of service: infrastructure as a service (IaaS), platform as a service (PaaS), and software as a service (SaaS) (Vaquero et al. 2009). Specifically, IaaS provides virtualized equipment that supports computing functions such as storage and data processing; PaaS provides operating systems that facilitate the deployment of software applications; SaaS provides specialized software applications that suit the specific business needs of a variety of users (ibid). In some cases, there is no clear-cut distinction between these three types of services (Armbrust et al. 2010). Another type of service, business process as a service (BPaaS), can also be included in the taxonomy of cloud computing to refer to shared business processes that involve value-added human activity (Ried et al. 2010). Cloud computing is deployed in three major models, private, public, and hybrid (Mell and Grance 2011). Private cloud is operated within a single organization by the organization itself or a third-party vendor; public cloud is available to the general public or an industry group, and is owned and managed by a vendor; hybrid cloud is a composition of a set of internal and external clouds (e.g., ibid; IBM 2010).

Cloud computing is an innovative model for sourcing IT service, specifically, a “shared services” model (Su et al. 2009). As a service innovation, cloud computing can generate value for both clients and vendors. From the client’s perspective, migrating IT functions to the cloud can help organizations reduce upfront IT spending and ongoing operation cost (Dubey and Wagle 2007), increase the scalability and flexibility of services (Armbrust et al. 2010; Aral et al. 2010), and access latest technological capability (Gens 2008a). From the vendor’s perspective, cloud computing creates growth opportunities for established IT service firms, and allows emerging vendors to challenge incumbent players (Gens 2008b). Meanwhile, cloud computing poses risk for both clients and vendors. From the client’s perspective, security, reliability, standardization, and integration related issues as well as lack of clear value proposition are inhibiting the adoption of cloud computing (IBM 2010). From the vendor’s perspective, IT service firms around the world need to continuously adapt their market strategies, business operations, and technological solutions to sustainably compete in this rapidly-changing, emerging market (e.g., Milne 2009; Economist 2009).

Due to the nascent nature of cloud computing, the IS literature currently has little research on this topic. Most existing work is from the computer science discipline and focuses on the technical and operational aspects (e.g., Birman et al. 2009). This study focuses on the broader, market-level dynamics and seeks to understand how a vendor responds to the emergence of the cloud computing market. The literature on institutional change, and in particular, institutional entrepreneurship, provides a suitable theoretical lens.

Institutional Perspective

The emergence of nascent markets has been examined by institutional theory (e.g., DiMaggio and Powell 1983; Oliver 1991). Institutions encompass rules, norms, and schemas that enable and constrain social actors’ cognition and behaviors (North 1990; Scott 2001). Central to institutional theory is the concept of legitimacy, defined as “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman 1995: 574). Organizational actors need to gain legitimacy from their environments to succeed (Meyer and Rowan 1977). Institutions imply a certain level of stability, but also change over time (Dacin et al. 2002). Institutional change is oftentimes driven by institutional entrepreneurship, whereby “agentive” actors, driven by their own interests, leverage resources to create and transform institutions (DiMaggio 1988; Maguire et al. 2004; Garud et al. 2007). Institutional change that forms a “novel or unprecedented departure from the past” (Hargrave and Van de Ven 2006: 866) is termed institutional innovation (ibid).

Institutional theory has recently been applied to analyze a wide range of phenomena in organizational life, including corporate governance reform (Yoshikawa et al. 2007), healthcare modernization (Castel and Friedberg 2010), and the creation of social enterprises (Tracey et al. 2011) and emergent markets sectors (Sine and Lee 2009). In the area of new market creation, recent studies have highlighted the inherently contentious, political nature of such institutional changes (King and Pearce 2010). Specifically, various actors simultaneously cooperate and compete with one another while recombining their existing practices and technologies in ways that address their as well as other parties’ interests (Van de Ven et al. 1999; Hargrave and Van de Ven 2006). In this process of co-constructing market boundaries and niches (Santos and Eisenhardt 2009), organizational actors leverage a set of tools including power relations (ibid) and cognitive frames (Tripsas 2009) to develop a portfolio of strategies that enable the actors to establish their legitimacy while mobilizing changes in the market (e.g., Aldrich and Fiol 2007; King and Pearce 2010).

Institutional theory has a significant impact on IS-related research (e.g., King et al. 1994; Orlikowski and Barley 2001). According to a recent survey, IS studies that adopt the institutional theory can be broadly summarized into three categories (Mignerat and Rivard 2009). The first investigates the homogenizing outcomes of institutional influences, such as government regulations (e.g., Davidson and Chismar 2007) as well as behavior of other industry players, including competitors, customers, and suppliers (e.g., Teo et al. 2003). The second category explores the agentic processes by which organizational actors respond to and shape their institutional arrangements (e.g., Ang and Cummings 1997; Swanson and Ramiller 2004; Yoo et al. 2007). The third category studies the interaction between IT and institutions (e.g., Sia and Soh 2007). In the existing IS literature, the institutionalization of emerging organizational fields, such as new technology standards or markets, has only been explored by a few studies (e.g., Cousins and Robey 2005; Backhouse et al. 2006; Wang and Swanson 2007). In particular, the politically-driven social processes around the emergence of new IT markets still need to be further elaborated (Mignerat and Rivard 2009).

Institutional theory provides a suitable theoretical lens for conceptualizing the latest development in the cloud computing market. Applying institutional theory to cloud computing also affords the opportunity to enrich the IS literature by elaborating the process of creating new market categories. It is worth noting that cloud computing differs from the more traditional markets which most existing research is based on. In particular, cloud computing did not originate from a breakthrough technology (e.g., Garud et al., 2002); rather, it is a type of service innovation. Due to the scale and complexity of today's IT services (Barrett and Davidson 2008), there is a likely to be a more dynamic market formation process. This study will explore the emergence of cloud computing as a new market category from the perspective of vendors.

Research Methods

Since this research seeks to answer “how” and exploratory “what” questions on an emerging phenomenon, qualitative case study methodology was selected (Benbasat et al. 1987; Eisenhardt 1989; Yin 2003). Data were collected from three main sources of case research: documentation, archival records, and interviews (ibid). Specifically, the collected documentation includes over 200 publicly-available news articles from major global venues such as Wall Street Journal, Bloomberg Businessweek, Economist, Informationweek, CIO, ZDNet, as well as Asian sources such as China's People's Daily, Japan's Nikkei News, and India's Indiatimes, given the rapid growth of cloud computing in Asia. Archival records include over 50 white papers, company press releases, and industry reports from leading IT vendors including Amazon, Google, Salesforce.com, IBM, HP, Oracle, and Intel, as well as major advisory firms such as McKinsey, Deloitte, KPMG, and PwC. 5 proprietary industry reports from Gartner and Forrester Research were also acquired.

Archive-based case research has been commonly used in sociology (e.g., Rao 1998) and management (e.g., Garud et al. 2002), especially for analyzing changes of industries and markets on the topic of institutional innovation. In this study, information obtained from documentation and archives was utilized to track the evolution of the market and to form a general understanding of strategies employed by different vendors. The understanding was refined and revised through several interviews with a leading global IT service vendor, which will be referred to as Global Vendor hereafter. Global Vendor was a leading IT and business service firm. It was headquartered in the U.S. and had offices across the globe. Global Vendor had several hundred thousand employees and multibillion dollar revenue. The firm offered a wide array of technology and business solutions. Global Vendor's significant success in the IT service industry and active expansion in the global cloud computing market made the firm an “extreme” case for this research (Pettigrew, 1990).

Since Global Vendor's cloud computing service was initially pioneered by the firm's research organization, between summer 2010 and February 2011, I visited the firm's three leading global research laboratories, one in New York, one in California, and one in Beijing, China. I interviewed the labs' senior and middle level managers who were familiar with the firm's cloud computing service. I also visited one of the firm's global IT service centers in China and interviewed the center's director. All informants were selected opportunistically based prior contacts. Internal reports and presentations were obtained during site visits to supplement the interviews data. Interviews and the aforementioned secondary data were used in an iterative, complementary fashion. Data analysis drew on discourse analysis (Fairclough 2003). Qualitative research methods (Miles and Huberman 1994; Strauss and Corbin 1997) were applied to identify patterns and construct conceptual models. The findings are organized around three major areas of inquiry, from macro to more micro levels: market evolution, vendor strategy, and specific factors within the vendor.

Market Emergence

The basic concept underlying cloud computing, that is, accessing computing resources as a utility, was proposed as early as 1960s (Parkhill 1966). In the following decades, development in computer science, especially in areas such as virtualization, grid computing, autonomic computing, and service oriented architecture, provided the technical foundation for cloud computing (e.g., Myerson 2009). Today's cloud computing market was pioneered by the online retail firm Amazon. In 2002, Amazon launched Amazon Web Services (AWS) which leveraged the firm's computing capacity to provide online services for external software developers; in 2006, Amazon launched Simple Storage Service (S3) and Elastic Compute Cloud (EC2); these two services allowed external clients to respectively acquire storage infrastructure and software applications based on the clients' needs for a given time period (Amazon 2011). S3 and EC2 became the two most central services in AWS, and AWS was increasingly adopted by clients. Today, Amazon's cloud computing has well-known clients such as Pfizer, Netflix, New York Times, and Zynga.

Google and Microsoft have also played a pivotal role in the emergence of the cloud computing market by offering cloud-based services somewhat similar to Amazon's. Since its foundation as a search engine company, Google has always delivered services to customers over the "cloud" - the Internet - and was also the first to publicize the Internet-based, on-demand shared service model as "cloud computing" (Bogatin 2006). In 2008, Google officially became a major player in cloud computing market by launching Google App Engine, a platform for users to develop and run Web applications on Google's infrastructure (Google 2011). Microsoft, with its long history of selling desktop software to businesses, also transitioned into a leader in cloud computing. In 2010, Microsoft launched the commercial version of Azure, which, similar to Google, provided development and hosting environments on Microsoft's datacenters (Microsoft 2011b). It is worth noting that several niche players, especially Salesforce.com, also pioneered cloud computing market by providing "software as a service" over the Internet since the early 2000s (Vance 2011).

The second major category of vendors in the cloud computing market includes the traditional IT service firms, such as IBM and HP (Saitto 2011). These firms specialized in providing customized IT and business outsourcing services to a limited number of clients, especially large enterprises, rather than mass market (Ried et al. 2010). Although their business models were significantly different from those of Amazon, Google, and Microsoft, these incumbent IT firms actively expanded in the cloud computing market by initially focusing on the "private" cloud segment. Private clouds are custom-built and operated by vendors for their clients, with the objective of capitalizing on the clients' existing IT infrastructure while improving its efficiency and effectiveness (e.g., Vance 2011). The client firms also have the option to transition to "hybrid" cloud, that is, a mix of private and public clouds, and eventually fully utilize public clouds. Recently, IBM launched its next generation SmartCloud, which targeted large enterprises (IBM 2011; Russolillo and Tibken 2011), while HP has been promoting its "HP Hybrid Delivery" solution (HP 2011).

As an emerging market, cloud computing has experienced continued change in its legitimacy, reflected by the views held by various industry actors regarding the long-term viability of the market. Amazon's entry into cloud computing was initially considered risky by industry analysts (Bloomberg Businessweek 2006). Companies' early adoption of cloud computing was slow and cautious (Stone and Vance 2010). Cloud computing was also a highly controversial phenomenon and sparked rare, heated public debates between high-profile companies. In 2009, McKinsey & Company published a report which concluded that cloud computing was overhyped and expensive (Lohr 2009). This statement was rebuffed by managers from Google (Needle 2009) and Gartner (Leong 2009). Similarly, Oracle's CEO claimed that cloud computing was merely a relabeling of the company's existing products and services (Farber 2008). The claim was dismissed by a principal analyst of Forrester Research (Darrow and Brooks 2010). Interestingly, today, Oracle markets itself as a major cloud provider (e.g. Oracle 2010). As illustrated in Figure 1, after years of evolution, cloud computing as a new market category has established its legitimacy (Ried et al. 2011).

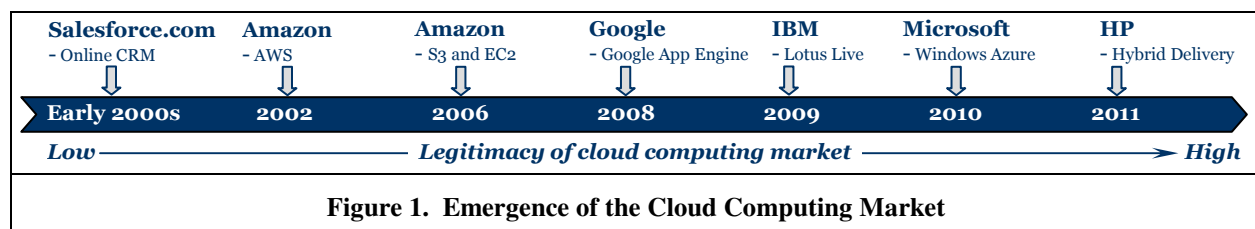


Figure 1. Emergence of the Cloud Computing Market

Vendor Strategy

Global Vendor belonged to the second vendor category: traditional IT firms transitioning toward cloud computing service providers. Although Global Vendor did not pioneer the trend of cloud computing, the firm had been conducting research and development that was closely related to this area. Since the cloud computing market started to take shape after the middle 2000s, Global Vendor has been taking a series of strategic actions. Based on concepts from institutional innovation (e.g., Hargrave and Van de Ven 2006; Santos and Eisenhardt 2009), the firm's actions can be categorized into four strategies, namely, market adaptation, market design, market diffusion, and market co-construction. The firm has been applying this portfolio of strategies to rapidly respond to and actively shape the emergence of cloud computing market.

The first strategy is market adaptation. This strategy refers to individual organizations' conforming to institutional forces in the market environment. For example, as Google started launching its cloud-based software, Google Apps services, for enterprise, around 2007, and Microsoft announced its Windows Azure Platform in 2008, Global Vendor responded by capitalizing on its own diverse software product portfolio and developing its own cloud-based version of one of its existing product lines. The service was released in late 2000s and received positive feedback from industry analysts, and the launch of this service was also viewed as Global Vendor's official entry into the growing cloud computing market. From an institutional perspective, the objective of Global Vendor's strategy is to adapt to emerging industry trend and obtain legitimacy within the current institutional environment. A number of activities can be employed in order to achieve legitimacy, including product and service innovation, through both internal development and external acquisition. The outcome of this strategy is obtaining legitimacy within the existing institution.

The second strategy is market design. This strategy involves individual organizations' intentional behavior engaged in the creation or revision of the existing institutional arrangements. For example, when cloud computing was first introduced, its scope was mostly limited to the mass-market facing service model pioneered by Amazon and Google. Global Vendor, however, besides adapting its own software products based on the cloud-based model, emphasized "private" cloud as another type of cloud computing that was especially suitable for larger enterprises. The notion of "private" as well as the related "hybrid" cloud was soon widely accepted by the industry (e.g., Mell and Grance 2011). From an institutional perspective, the objective of the strategy is achieving legitimacy through shaping the institution within the bounds that the audience judges to be reasonable. The activities employed for shaping the institution include framing and publicizing new arrangements in the organizational field through actors such as industry associations. The outcome is a re-designed institution, oftentimes in the form of shifted market boundaries and segments.

The third strategy is market diffusion. This strategy facilitates the reproduction and retention of existing institutional arrangements among a community of institutional actors. For example, Global Vendor took a leadership role in forming an industry association that would publish standards and reference materials on cloud computing. A number of leading firms and institutions joined the association, although none of Global Vendor's major competitors were members of the association. From an institutional perspective, the objective of the strategy is increasing the legitimacy of existing institutional arrangements, especially arrangements that resonate with the legitimacy of the focal firm, among a broad set of institutional actors. Forming communities such as industry associations can be employed to facilitate market diffusion. The outcome of the strategy is increased legitimacy of both the emerging market as a whole and the focal organization. It is worth noting that unlike the first two strategies, while market diffusion can be initiated by individual organizations, the focus of this strategy is on the broader, macro-level organizational field.

The fourth strategy is market co-construction. This strategy seeks to mobilize and leverage strategic action of diverse actors to collectively shape the emergence of the institution. For example, in China, government agencies play a dominant role in industry development. The IT service sector, including cloud computing, is given high priority by the national and regional governments (e.g., Wen and Li 2011). Global Vendor aligned its strategy with the government policies as the firm grew its cloud computing business in China. In particular, the vendor served as a major partner of local enterprises and institutions to develop super-large scale data centers. From an institutional perspective, the objective of the strategy is aligning the diverse interests of various actors and leveraging actors' behaviors to collectively increase the legitimacy of both the emerging institution and the focal firm. Forming strategic alliances with private and public organizations can facilitate market co-construction. The outcome of the strategy is increased legitimacy as well as potentially shifted institutional arrangements as a result of a set of diverse actors' collective action.

	Market adaptation	Market design	Market diffusion	Market co-construction
Focus	Individual organization	Individual organization	Inter-organizational field	Inter-organizational field
Process	Changing organization to conform to the market	Creating new institutional arrangements in market	Driving a set of actors to conform to the market	Mobilizing a set of actors to shape the market
Outcome	Legitimacy of the focal organization	Legitimacy of the focal org; Evolved market institution	Legitimacy of the focal organization and market	Legitimacy of focal org and market; Evolved institution

These four strategies form a conceptual framework for understanding vendors’ behavior in the face of an emerging market. While all four strategies are initiated by individual organizations, market adaptation and market design focus on response at organizational level; market diffusion and market co-construction emphasize activity at the more macro level of organizational field. Meanwhile, in market adaptation and market diffusion, other actors are mostly recipients of institutional influences, while market design and market co-construction emphasize various actors’ active role in creating and changing the institutional arrangements. The key dimensions of the strategies, focal actor, process, and outcome, are summarized in Table 1. The four strategies interact with one another, and can be enacted sequentially or simultaneously (Figure 2). For example, market design needs to be followed by market diffusion, and as the new market is diffused among a broader set of actors, market co-construction may need to be intentionally enacted. By dynamically leveraging this portfolio of strategies, Global Vendor transformed an ambiguous, contested opportunity into value, as reflected by the firm’s significant growth in the cloud computing market.

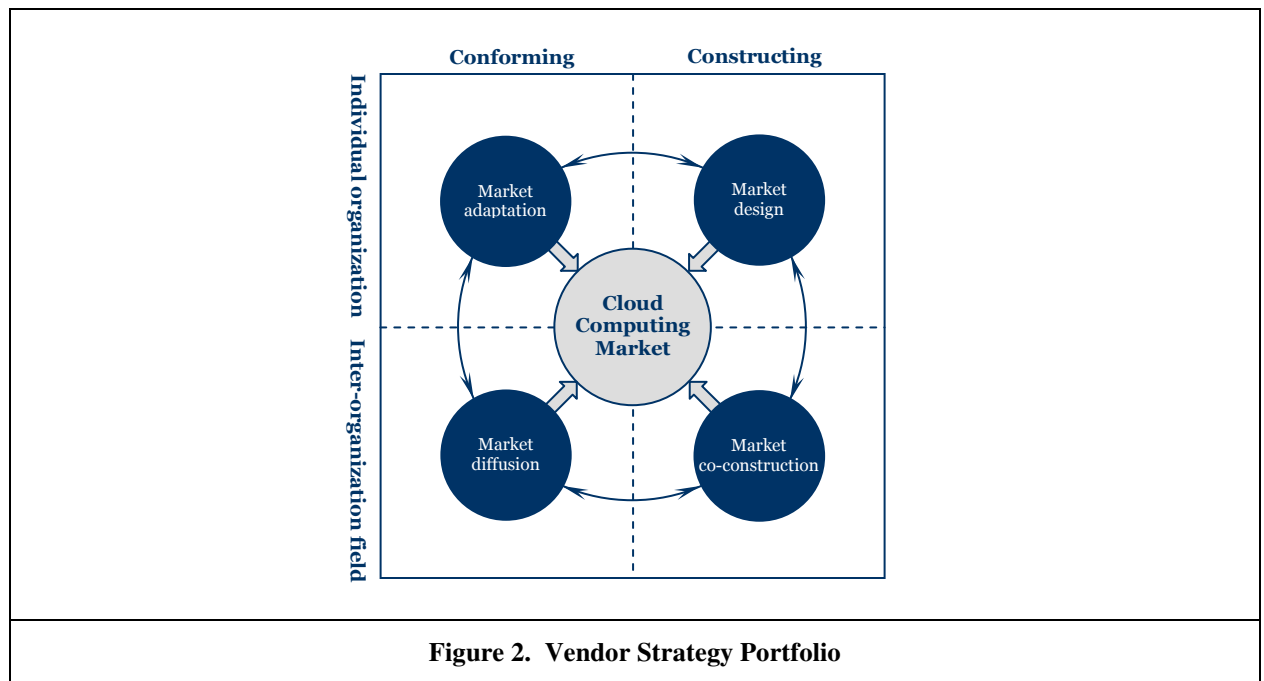


Figure 2. Vendor Strategy Portfolio

Political Toolkit

In order to become a legitimate and leading player in cloud computing, despite its relative late entry into the market, Global Vendor leveraged three key factors: power, frame, and relationship. These factors emerged from the data. Power in this context broadly refers to an actor’s ability to influence the behavior of others and produce outcomes favored by the focal firm (Pfeffer and Salancik 1978). Power includes soft-power, which is based on subtle persuasion, and traditional hard-power, which is based on coercion resulting from resource control (Nye 2004; Santos and Eisenhardt 2009). To establish its legitimacy while shaping the emerging market, Global Vendor utilized its power, derived from its global reputation, market dominance in traditional IT service sector, and extensive client base, to increase the perceived legitimacy of its market design and accelerate the diffusion and co-construction of the new market arrangements.

Frame, or framework, refers to a “schemata of interpretation” that “allows individuals to locate, perceive, identify, and label” occurrences (Goffman 1974: 21). In institutional change, new organizational forms emerge as institutional entrepreneurs recombine existing cultural materials to construct new frames (Amburgey and Singh 2005). In IS, “technology frame” refers to people’s assumptions, expectations and knowledge about the meaning of technology (Kaplan and Tripsas 2008). In shaping the emerging cloud market, Global Vendor constructed technology frames that resonated with institutional actors in order to gain legitimacy. For example, the “private cloud” concept successfully bridged Global Vendor’s traditional, prevalently-accepted IT service outsourcing model with innovative elements of the new cloud computing model, and therefore became quickly accepted by the industry as another category of cloud computing.

Global Vendor was embedded in a network of inter-organizational relationships with diverse institutional actors. This was partially due to its leadership in traditional IT service market. Such relationships served as catalyst for the vendor to achieve legitimacy and shape the market. For example, the vendor had a long history of servicing large enterprises. The continuity of such long-term, trusting relationships provided Global Vendor with an opportunity to experiment with, and diffuse its new institutional arrangements. Certain relationships also signaled legitimacy to the broader market. For example, in North America and Asia, Global Vendor was able to form alliances with major government institutions on several strategically important, mission-critical cloud computing initiatives. The legitimacy signaled by such relationships facilitated the vendor’s diffusion of its market design and mobilization of other institutional actors.

Expected Contributions and Future Research

This study takes a first step to conceptualize the recent rapid emergence of the cloud computing market by drawing on the institutional perspective. Combining analysis of archives and interviews with a leading IT service vendor in the cloud computing market, the study shows that as cloud computing gains increasing legitimacy as a market, vendors utilize a portfolio of strategies to respond to and shape the emergence and evolution of the market in ways that favor their interest. In this highly political process, vendors’ power, frames, and relationships provide an important “toolkit” which the vendors can leverage to develop their strategies. It is worth noting that, different from the original models of institutional innovation (e.g., Hargrave and Van de Ven 2006), which focus on describing the process of institutional innovation, this research emphasizes the vendor’s strategic options for shaping the emerging market institutions.

This study seeks to contribute to the IS literature in three ways. First, this study explores an understudied topic, the emergence of IT-related industries and markets. The preliminary finding suggests that market emergence is a highly contested, political process. This field-level study that focuses on political aspects of institutionalization complements the existing institutional perspectives in the IS literature (Mignerat and Rivard 2009). The study also demonstrates the applicability and potential of institutional theory for IS research. Second, the study contributes to the research on IT fashion (e.g., Wang 2010) by providing a fine-grained view of organizations’ strategic behavior in the face of an emerging IT trend. Finally, this study itself explores an important IT trend, cloud computing. This trend may have a profound impact on the global IT service industry, and is worth exploring even if it is still at an early stage of its development.

This study is ongoing, and both the empirical and theoretical components of the study will be expanded. Specifically, the research will further focus on the discursive elements of institutional change (Heracleous and Barrett 2001) and develop a more granular conceptualization of the change process. The four-strategy framework will be refined and the dynamic interaction between different strategies will be elaborated. In order to do so, the depth and breadth of the interviews will need to be increased. More interviews will be conducted with Global Vendor, and interviews with a broader set of organizational actors, including other vendors and client firms, will also be conducted. Other methods such as surveys may be applied to reach a larger set of actors in the institutional field. Finally, due to confidentiality reasons, this paper refrains from using direct quotes from the interviews. Future research will seek to make such quotes available.

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