



Launching professional services automation: Institutional entrepreneurship for information technology innovations

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Abstract

Why do some information technology innovations come to be adopted widely while others do not? One promising research stream has begun to investigate how institutional factors shape the diffusion of IT innovations. Here we examine how these institutional factors themselves are shaped. Specifically, we explore how interested actors termed institutional entrepreneurs develop institutional arrangements to launch an IT innovation toward widespread adoption. Undertaking a contemporary case study of a new class of enterprise software, professional services automation (PSA), we found that to launch PSA, institutional entrepreneurs sought to mobilize an organizational community by developing and recognizing leaders and facilitating members' focus on PSA. They further struggled to legitimate PSA by developing a coherent organizing vision that incorporated compelling success stories. We tie these findings together in a model that usefully shifts the focus of IT innovation research from assessing institutional effects to understanding institution-building. This new focus suggests an alternative IT diffusion theory with several practical implications.

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“This is not a show for you to miss out on!” – Alex Popov²

1. Introduction

With these words, one of us was introduced to a new technology, professional services automation (PSA), and invited to give a talk at a “first conference” on this exciting new class of enterprise software in 2001. Never mind that we had until then never heard of PSA! The conference promised to be a gala event with key players in attendance. So began the exploratory research reported here.

Especially for practitioners, confronting promising new information technologies (IT) can take on a carnival-like atmosphere. At any one time, there are many pretenders, and numerous conferences that might be attended. While most IT never gain momentum toward widespread adoption, practitioners are characteristically on the lookout for the innovation destined to become the Next Big Thing. The latter may mean a sizable, untouched market to producers; a compelling competitive advantage to users; a hot, new topic with considerable audience to journalists and analysts; and a significant and possibly thorny issue for regulators. Indeed, the relatively few successful new IT have tended to transform the field of business practice (Agarwal & Lucas, 2005).

Considering that so much is at stake, Information Systems (IS) scholars have studied the spread of new IT as diffusion of innovations (Rogers, 1995). An IT innovation is defined as an information technology new to the adopting organizations or individuals (Daft, 1978; Swanson, 1994). Substantial research has investigated factors that explain the adoption of various IT innovations and the outcomes attained (see reviews e.g., Fichman, 2000; Gallivan, 2001; Swanson, 1994). In addition to the characteristics of the innovations and of their adopters, a notable stream of IT innovation research addresses factors that characterize the institutional environments in which innovations and adopters are situated (Cousins & Robey, 2005; King et al., 1994; Kling & Iacono, 1989; Orlikowski & Barley, 2001; Swanson & Ramiller, 1997, 2004). These institutional factors include government policy and regulation, national and organizational culture, industry and market structure, and specific organizational and group arrangements and practices. Some of these factors have proved to be highly predictive for innovation adoption and outcomes (e.g., Christiaanse & Huigen, 1997; Teo, Wei, & Benbasat, 2003). This institutional perspective holds great promise in understanding IT innovations as socially embedded phenomena (Granovetter, 1985).

However, the institutional stream of IT innovation research leaves at least two gaps unfilled. First, as most studies in this stream investigate the effects of institutional arrangements on IT innovations, there has been no sustained research on how such arrangements are brought about. Different IT innovations are likely to require different institutional arrangements. To support the development, production, and use of an IT innovation, existing arrangements must be invoked and new arrangements often need to be made. This institutionalization process, though often failure-prone, has thus far received relatively little attention in institutional analysis of IT innovations (Currie, 2004).

² Staff member at First Conferences, writing to one of the authors in an e-mail on July 24, 2001.

Second, most often, IS scholars come to an IT innovation that has been widely adopted and has acquired not only momentum, but also renown. IT innovation research has understandably addressed the differentiated diffusion histories and impacts associated with prominent innovations such as EDI (electronic data interchange), ERP (enterprise resource planning), and CRM (customer relationship management). Beyond these, however, numerous “wanabees” compete fervidly for practitioners’ attention and most of these fail to gain adoption momentum and hence go largely unnoticed by scholars. These failed innovations (Wilmoth, 1999) have not been carefully addressed by IT research and by innovation theory more broadly.

The neglect of institutionalization and the emphasis on prominent innovations make it difficult to build a theory to explain why some IT innovations come to be widely adopted *while others do not*. For instance, to what extent do innovations fail to diffuse because the necessary supportive arrangements could not coalesce? To explore this often troublesome institutionalization process, we undertook a case study of PSA – an emergent class of enterprise software purported to help service-oriented organizations manage their projects and employees.

Inspired by recent research on institutional entrepreneurship, we argue that diverse organizations interested in making supportive institutional arrangements for an IT innovation launch it to acquire needed *early momentum* toward its gradual widespread adoption. Our theoretical argument is based on three observations we made in studying PSA. First, institutional arrangements did not emerge spontaneously to support PSA. Rather, PSA needed to acquire legitimacy and draw on resources for its social acceptance and materialization. Second, various actors interested in institutionalizing PSA strived entrepreneurially to mobilize resources to realize and legitimate the innovation. Third, to mobilize resources for PSA, these institutional entrepreneurs attempted to build a community, where they developed and recognized leadership and facilitated members’ focused commitments to PSA. To legitimate PSA, they tried to develop a consistent vision incorporating compelling success stories. To the extent that these activities were successful (or unsuccessful), launching PSA was likely to succeed (or fail).

As our principal contribution, we tie these findings together in a model that shows how institutional entrepreneurs seek to launch an IT innovation. In doing so, we shift the focus of IT innovation research from the effects of institutional arrangements to the development of these very arrangements. This new focus suggests that the diffusion of an IT innovation hinges not just on existing institutional arrangements, but also on how institutional entrepreneurs can invoke or create more favorable arrangements. We also contribute to research in institutional entrepreneurship by refocusing attention from individual players to players’ activities. We observe that players do not pursue fixed entrepreneurial opportunities, but rather that they continuously reevaluate perceived opportunities according to the technology’s progress, and that their activities may accordingly be more entrepreneurial in one situation and less so in another.

In what follows, we first position our study in the context of the literatures that inspire it and develop our basic model and research questions. We then describe our research methods. Next, we tell the story of how an organizational community formed to launch PSA, after which we discuss our findings. Drawing from these findings, we develop propositions concerning institutional entrepreneurship activities, and tie them together to elaborate upon our model. We conclude by noting our contributions to theory and practice.

2. Institutional entrepreneurship for launching IT innovations

2.1. Launching new technologies

Substantial research has examined the effects of technological change on organizations (e.g., Henderson & Clark, 1990), the dynamics of technological change (e.g., Anderson & Tushman, 1990), and what brings about this change (e.g., Dosi, 1982). In the lifecycle of a technology, the emergence of a *dominant design*, resulting from the convergence of different developmental paths, marks a critical point (Anderson & Tushman, 1990). The period before it is said to be one of latency (Strang & Soule, 1998) or ferment (Anderson & Tushman, 1990) and is not well understood. Here, the greatest opportunities exist for entrepreneurs (Murmann & Tushman, 2001), who must carefully choose between design options, secure resources for production and distribution, identify and convince prospective customers, and ward off competition. Additionally, even while they compete, entrepreneurs may struggle to gain social acceptance for the technology. Only recently have scholars begun to study how entrepreneurship facilitates this early period of an innovation's development (Garud & Karnøe, 2001).

Following this lead, here we argue that new IT does not just ferment during a latency period, after which it emerges, but rather, to progress at all, needs diverse *actors* to somehow launch it.³ More specifically, we claim that entrepreneurs join with others to set an IT innovation in motion in the marketplace such that it can find a trajectory and achieve early momentum, by which we mean that it becomes widely considered for adoption.⁴ We consider here *how actors launch (or fail to launch) IT innovations such that early momentum is achieved*.

Consistent with our perspective, recent research has found that “successful entrepreneurship usually involves more actors than the entrepreneur himself or herself” (Swedberg, 2000, p. 37). This is particularly true for entrepreneurs launching new technologies. To carve out new markets, entrepreneurs from multiple industries must often collaborate (Van de Ven, 2005). Thus, the birth of the American film industry hinged on entrepreneurs in three functions – production, distribution, and exhibition – constructing the film value chain (Mezias & Kuperman, 2001). Moreover, the development of a new technology involves not only traditional entrepreneurs, but also those who evaluate, finance, regulate, and use the technology (Garud & Karnøe, 2003). Indeed, recent research has suggested that it takes an organizational community to launch a new technology (Schoonhoven & Romanelli, 2001).

An organizational community for a technology is defined here as a set of interdependent organizational populations with interests in a common technology. Members include market participants such as vendors and purchasers, and others such as industry associa-

³ The launch metaphor is a familiar one in the marketing of a new product. Here we apply it to the “marketing” of a class of IT innovation such as ERP more broadly, rather than to a line of product such as mySAP ERP.

⁴ Such early momentum may be distinguished from a technology's later momentum (Hughes, 1987, 1994), where the technology increasingly acts upon its environment. Broadly, when technologies acquire momentum, they “have a mass of technical and organizational components; they possess direction, or goals; and they display a rate of growth suggesting velocity” (Hughes, 1987, p. 76). The distinction between early and later momentum is similar to Jansen's (2004) distinction between change-based and stasis-based momentum for organizational strategic change.

tions, market research firms, and regulatory agencies (Lynn, Reddy, & Aram, 1996). These different actors involve themselves with the technology in different ways and at different levels that may vary over time. In this sense, agency is *distributed* across community members with diverse interests (Garud & Karnøe, 2003) and commitments. When members' actions are somehow orchestrated and their interests converge, the economic and social changes necessary for the innovation's wide adoption become likely (Zucker, 1988). Otherwise, as interests diverge, "there is every possibility of fragmentation" (Garud & Karnøe, 2003, p. 280).

2.2. *The role of institutional entrepreneurship*

While actions may synchronize and interests may converge temporarily, we observe that more enduring arrangements are needed to support a new technology's diffusion in the marketplace, characterized by repeated interactions. Thus, developers of Java needed a standard to develop multiple, interoperable applications (Garud, Jain, & Kumaraswamy, 2002). Vendors and users of online databases needed a pricing convention to support recurrent transactions (Farjoun, 2002). Such arrangements are *institutional* in that they "produce social relationships across firms in order to allow them to survive" (Fligstein, 2001a, p. 70). They provide for and signal social acceptance of a new technology, which itself can thereby come to be "institutionalized" (Gosain, 2004; Kling & Iacono, 1989). Indeed, the market for a new technology itself constitutes a needed institutional arrangement, as early on, its existence and nature may not even be recognized.

Institutions are in effect "historical accretions of past practices and understandings that set conditions on action" (Barley & Tolbert, 1997, p. 99); they constitute templates for actions. Those actions conforming to institutional rules will be considered appropriate, whereas those deviating from them will be sanctioned in some way and thus are costly. Fundamentally, institutions are shared knowledge and belief systems (Berger & Luckmann, 1967), characterized by taken-for-granted assumptions as to what constitute appropriate actions. Accordingly, institutions govern actors and their activities in diverse industries and markets.

Interestingly, then, new IT often involves new actors and activities for which existing institutional arrangements cannot easily be invoked or needed arrangements do not yet exist. In the case of blogs, for instance, it is argued that no regulation protects bloggers, as opposed to journalists, from having to confess their sources of information when subpoenaed in the US. Absent institutions, the community for an emerging technology is comprised of actors in undefined roles, guided largely by self-interests. Actors' actions are not only distributed and uncoordinated, but also lack *legitimacy*, as there are few taken-for-granted assumptions about their appropriateness (Aldrich & Fiol, 1994). Hence, some actors may be motivated to engage in *institutionalization*, the process of invoking existing or creating new institutional arrangements, to "support, oppose, or otherwise strive to influence" the forms taken (DiMaggio, 1988, p. 13). Early on, certain actors may in particular engage in activities aimed at putting the technology into play, such that it gains needed attention and is taken seriously, arguing, for example, that there exists a market for it, as evidenced by early adoptions. Seeking to launch a new technology in this way is, we argue, an important institutionalizing activity.

Institutional entrepreneurship concerns such activity. "New institutions arise when organized actors with sufficient resources (*institutional entrepreneurs*) see in them an

opportunity to realize interests that they value highly” (DiMaggio, 1988, p. 14, original emphasis). Institutional entrepreneurship is defined as “the activities of actors who have an interest in particular institutional arrangements and who leverage resources to create new institutions or to transform existing ones” (Maguire, Hardy, & Lawrence, 2004). Accordingly, institutional entrepreneurs include not only those pursuing a market for new products and services, but also actors interested in other institutional aspects of the new technology (e.g., standards, capability certification, and best practices). Importantly, institutional entrepreneurs “lead efforts to identify opportunities, frame issues and problems, and mobilize constituencies” (Rao, Morrill, & Zald, 2000, p. 240). They commit resources to these efforts according to the opportunities they identify.

Only a few empirical studies have examined the specifics of institutional entrepreneurship activities for IT innovations. In a study of Sun Microsystems’ sponsorship of its Java technology, Garud et al. (2002) found that Sun mobilized a broad set of partners including systems assemblers, software firms, and component manufacturers with an open systems strategy. Further, to legitimate the Java platform, Sun coined the slogan, “The network is the computer”, thus justifying writing software for the Internet.

Of course, institutional entrepreneurs are not always successful in launching IT innovations, and many factors lie outside their control. Still, it may be posited that they know this and engage the opportunities and risks accordingly. Importantly, they likely intuit that their chances for success, such as they are, rest on their collective mobilization and legitimation activities. Thus, the opportunities they perceive and the activities they undertake will likely be closely tied to their assessment of the overall likelihood of launch success. Fig. 1 summarizes by sketching the reinforcing relationships posited. This offers, we suggest, a rudimentary theory for the “engine” that drives the technology launch process, one we will seek here to further develop.

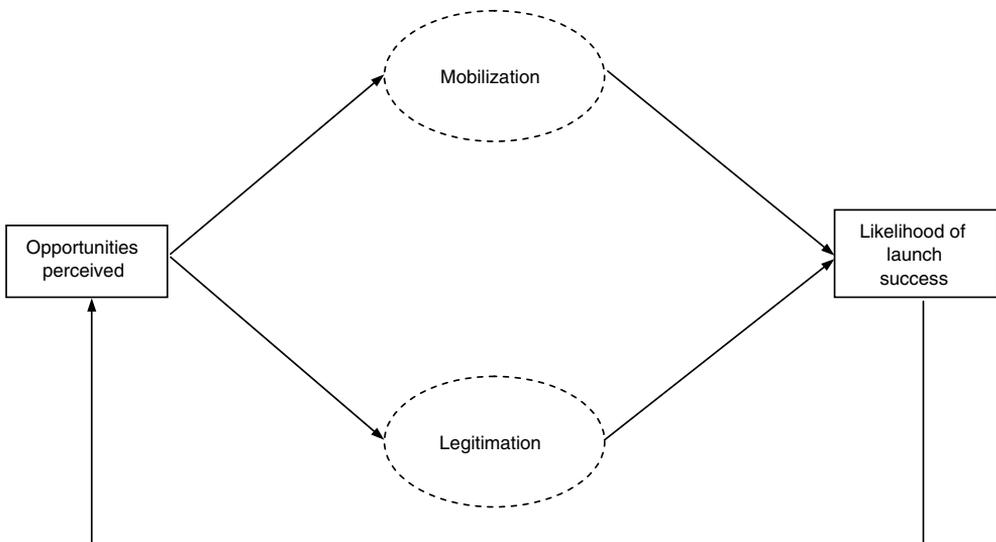


Fig. 1. Institutional entrepreneurship for launching IT innovations.

With only a few empirical studies to our knowledge in the new technology context (e.g., Garud et al., 2002; Munir & Phillips, 2004), institutional entrepreneurship research presently falls short of explaining the workings of the launch process. We suggest that it might also benefit from a fresh analytic perspective. In most studies, one or two institutional entrepreneurs are typically identified and their skills and tactics analyzed (Fligstein, 2001b). But because institutionalization involves a community, this approach may be prone to the liabilities of “great man theory” (Zucker, 1988). The problem is that, because actors’ involvements change over time, certain so-called institutional entrepreneurs may not always be such, while those not so identified may on occasion be key players. By type-casting only selected actors as institutional entrepreneurs, traditional analysis unduly favors the actions of the few selected and ignores or underestimates the actions of important others.

From our alternative perspective, it is *collective activities*, more than a few particular actors, which launch IT innovations and give rise to new institutions. In the present study, we explore in depth two classes of activities, mobilization and legitimation, posited to be critical to launching, focusing our research questions on these activities. Accordingly, when we speak about institutional entrepreneurs in this paper, we refer not to a few in fixed roles, but rather to a varying group engaged in the activities indicated. As we shall see, certain key players are not those likely to be focused upon in a more traditional analysis.

2.3. *Research questions*

Our first research question addresses mobilization, which involves the activities of recruiting participants, stimulating their motivations, and marshalling their resources (Smelser, 1962). Social movement theory stresses mobilization structure – “those collective vehicles, informal as well as formal, through which people mobilize and engage in collective action” (McAdam, McCarthy, & Zald, 1996, p. 3). Indeed, Maguire et al. (2004) found that certain “subject positions” in an organizational field have wide legitimacy induced from economic and social capital, political power, moral assets, and/or knowledge advantage. Actors occupying these positions have the interest, opportunity, and capability to bridge diverse stakeholders, facilitating mobilization. Such positions are likely to vary across communities, as their numbers and capacities are not fixed, but rather are typically created by the actors themselves. For this reason, we focus here on the broader organizational community as a mobilization structure. This leads us to our first research question: *How do institutional entrepreneurs mobilize an organizational community to increase the likelihood of success in launching an IT innovation?*

Our second research question pertains to legitimation, the process of obtaining 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, p. 574). Studying the legitimacy of ventures in new industries, Aldrich and Fiol (1994, p. 648) distinguish between cognitive legitimation and sociopolitical legitimation. The former refers to “the spread of knowledge” about an innovation; the latter to the process by which community members accept an innovation as “appropriate and right”. Legitimacy of a technological innovation thus refers to the shared knowledge about the innovation, and to the generalized belief about its appropriateness in a community. Berger and Luckmann (1967) contend

that shared knowledge and beliefs are created primarily through discourse, suggesting that legitimation is substantially a discursive process. Legitimizing innovations that do not fit prevailing institutional arrangements or logics entails modifying existing and creating new arrangements or logics through the use of discourse (Suddaby & Greenwood, 2005). Phillips, Lawrence, and Hardy (2004) argue that all institutions are produced by discourse.

A discourse is “an interrelated set of texts, and the practices of their production, dissemination, and reception, that brings an object into being” (Phillips & Hardy, 2002, p. 3). Swanson and Ramiller (1997) describe a discursive process, whereby members of a community for an IT innovation engage in discourse to create and employ a collective vision for applying the IT, giving it organizational meaning. They define an *organizing vision* as “a focal community idea for the application of IT in organizations” (Swanson & Ramiller, 1997, p. 460). An organizing vision thus characterizes a type of IT innovation. Data warehouse, electronic health records (Davidson & Reardon, 2005), and Web services provide recent examples. Although an organizing vision describes an IT innovation in broad terms and with generalized assumptions and is not easily translated into practices in particular organizations (Ramiller, 2001), it legitimates an IT innovation in two fundamental ways. First, the vision arises to provide an interpretation of the innovation’s existence, purpose, and progress, and to reduce associated uncertainties, giving the innovation cognitive legitimacy. Second, the vision offers the underlying rationale for the innovation, aided by the reputation and authority of those promulgating it, including those adopting it, giving it sociopolitical legitimacy. In fact, not all organizing visions are equally successful in legitimating IT innovations. It is not clear what accounts for this. Thus we ask our second research question: *How do institutional entrepreneurs shape an organizing vision through discourse to legitimate an IT innovation and increase the likelihood of launch success?*

3. Methods

Our objective in this study is to advance theory by articulating the role of institutional entrepreneurship in launching IT innovations. Our particular research approach, addressing a single case, stemmed from an unusual opportunity that came to us.

3.1. Research setting

In July 2001, one of us received an e-mail invitation to speak at a “first conference” on PSA, as already mentioned. Although he is well versed in enterprise software in general, he had never heard of PSA and thus declined the invitation. Still, the organizer invited us to attend the conference. Given our research interest in the launching of IT innovations, we decided to undertake a case study on PSA. The entrepreneurial behavior of the conference organizer provoked our curiosity and we soon discovered that the PSA community had plentiful actors engaging in mobilization and legitimation activities, with varying degrees of success. We took the unique opportunity to contemporarily trace the PSA launching process. More typically, academics come to a technology that has already been launched and has become widely popular. PSA, in the process of being launched, permitted us to not only collect and triangulate data from a variety of sources, but also avoid post-hoc theorizing. Too, prior background and expertise can enhance the

quality of analysis (Yin, 2003), and we have studied enterprise software applications for many years. We were able to join and interact within the PSA community with relative ease.

3.2. Data collection

During a 15-month period (July 2001–September 2002) in which PSA was being launched,⁵ we collected data by three means, interview, observation, and archive. Initially, we made a dozen contacts representing vendors, consultancies, and research firms through casual conversations at a PSA conference. From interviews with these “seed” informants, we identified and then interviewed others considered important in the launching process, continuing until informants mentioned no new organizations as key players. In total, we interviewed 22 informants from organizations in multiple industries involved in launching PSA: IT research firms and analysts, IT professional services organizations (PSOs) and consultants, PSA vendors, conference firms and organizers, trade publications and journalists, universities and academics, as well as numerous prospective adopting “user” organizations. Individual members of each organization acted in their *organizational* roles and their activities are analyzed as such.

On average, each interview lasted about half an hour, ranging from 20 minutes to an hour. Our protocol included general questions (e.g., how did you become aware of PSA, what is PSA, as you understand it, and do you like the PSA term), and specific questions tailored for specific informants (e.g., what is needed to make PSA successful in the future, why did your company begin developing PSA product, and when did your company adopt and implement PSA). With two exceptions (where we took detailed notes), all interviews were recorded and transcribed, generating considerable data about participants’ experiences with PSA.

In the same period, we attended two major conferences, three webcasts, and a product workshop on PSA. At these events, we learned many details about the PSA software and market, and took notes of activities we observed first-hand. Additionally, archival data from various sources, dating back to 1996, were collected. There were about 250 e-mails between our informants and us. Some informants also sent us the documents they wrote or used (e.g., analyst research reports and user case studies). We preserved event attendee lists, programs, and presentation slides and cataloged newsletters, product brochures, and advertisements. Twice a week, we accessed vendors and users’ web sites and several online archival databases or portals such as Factiva (for news), ABI/Inform (for trade articles), and PSASoftware.com. Triangulation of these multiple sources enhanced the likely validity of our interpretation.

To ensure reliability, we developed a case study protocol (including the interview protocol) and discussed it with several colleagues for feedback. Further, we built a case database composed of archival, interview, and observational data. Finally, we asked our informants to review the draft of our paper and we undertook additional investigation and revisions according to their comments. With few exceptions, with which we have lost contact, all informants had the opportunity to comment on our paper.

⁵ Admittedly, launching a new technology can take years and in PSA’s case the process is arguably still incomplete. However, a whole-course longitudinal study goes beyond our study objectives, given our resources.

3.3. Data analysis

We analyzed our data in three steps. First, we linked pieces of data from various sources and constructed a chronology of the process by which interested actors launched PSA. Fig. 2 highlights the events deemed important by our informants, juxtaposed with PSA sales and growth data. We present a narrative account of these events in the next section.

Second, we pooled and coded all *textual* data (except product brochures, advertisements, event programs, and slides, which we analyzed as *contextual* data) with a two-level coding structure (Appendix 1). Our coding structure is both *etic*, in that the first-level categories were established *a priori* as guided by our research questions and rudimentary theory, and *emic*, as the second-level categories were derived from our data, specific to the case of launching PSA (Miles & Huberman, 1994, p. 61). More specifically, our first research question addresses the organizational community that institutional entrepreneurs mobilize. We reviewed our pooled textual data line by line and identified instances where our informants discussed important aspects of the PSA community for mobilization. We generated two second-level categories to label these instances: leadership and members' focus. Following the same procedure for our second research question regarding legitimation, we developed two second-level categories. In addition, four categories were developed for the construct "likelihood of launch success".

In the final step, we reassembled our coded data along with key events in the chronology. We discussed the impacts of the events on the various subcategories of community

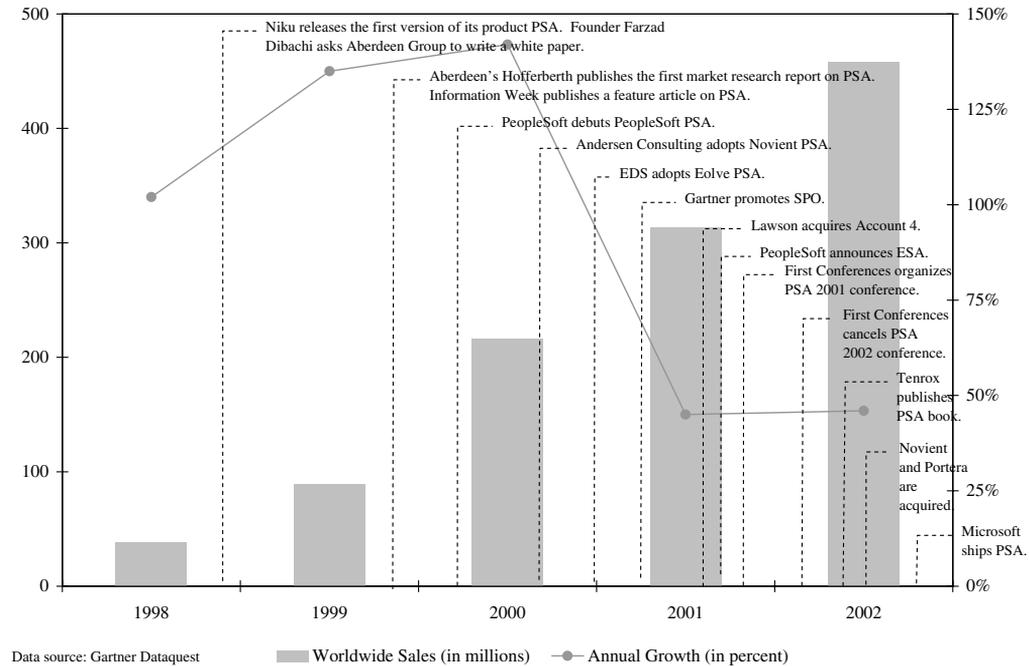


Fig. 2. PSA events, software revenues, and growth.

mobilization, legitimation, and likelihood of launch success. By comparing and noting patterns across the events ordered temporally, we integrated the categories into an elaborated explanatory model after five iterations (Miles & Huberman, 1994). Before addressing more systematically what can be learned from the PSA case, it will be helpful to next briefly tell the PSA story.

4. Launching professional services automation

In the summer of 1996, seeking a school for his 5-year-old son, Farzad Dibachi was so dissatisfied with the schools in his neighborhood that he decided to found his own. While doing research for this, Dibachi could not find software to organize his information for future reference. He began to wonder how companies keep track of project information. In fact, more than an education visionary, Dibachi was a well-known entrepreneur in the Silicon Valley. His eventually forsaken school venture enabled him to see an emerging opportunity to develop software to help companies manage projects, schedules, and personnel. To that end, Dibachi founded Niku Corporation in November 1997.

A year later, Niku released the first version of its software labeled “Professional Services Automation”, which aimed to help IT professional services organizations (PSOs) manage their projects and workforce. To publicize Niku’s product, Dibachi approached several IT research firms, asking analysts to write white papers about Niku’s PSA. R. David Hofferberth, then a research analyst covering IT professional services organizations at Aberdeen Group, was asked by his boss to write the white paper for Niku. Out of curiosity, still unpaid and working on his own time on the project, “all of a sudden”, Hofferberth said to himself, “maybe there is something to this”! He found that a few other software companies (e.g., Novient, Changepoint, and Evolve) were producing similar software.

As Hofferberth found out, these vendors had very different origins. For example, founded in 1989 as a service company in Canada, Changepoint decided to become a project management software firm and shipped the first version of its software in 1995. By 1997, Changepoint judged that project management software was a commodity. Learning from its own customer base, Changepoint identified an underserved market for mission critical applications (such as invoicing for services companies). It thus added modules such as invoicing and resource management to its product, labeled “software for managing the business of technology services”.

Around the time that Changepoint embarked on its software business, the Internet and the Web became a dominant force. Mark Kopcha and R. Russell Caldwell, two experienced software developers at Dun and Bradstreet, saw the opportunity to take advantage of Internet technology for automating resource management for professional services companies. They presented their idea to Dun and Bradstreet, but its management declined to explore it. Undeterred, Kopcha and Caldwell founded InfoWave in 1995. In the basement of Caldwell’s home, they developed InfoWave’s first version of software and launched it in early 1997. Later that year, they signed up several customers including SAP and secured a first round of venture capital. Subsequently InfoWave changed its name to Novient.

Despite their different backgrounds, companies such as Niku, Changepoint, and Novient all came to target IT professional service organizations by no coincidence. As an analyst responsible for covering IT PSOs, Hofferberth recognized that they had been experiencing increasing pressures to be more efficient due to increasingly dispersed and

mobile workforces. He found that the software products offered by Niku and the like shared a distinctive capability: managing projects and employees at service-oriented firms such as IT PSOs. At that time, no existing software type could reasonably represent that capability. Therefore, in November 1999, Hofferberth published a 136-page report to introduce this new breed of software and vendors. With PSA in its title, the report marked the birth of a new “category” of enterprise software, as Hofferberth (1999, p. 4) defined it:

- “Professional Services Automation” is the term used to describe a new family of applications designed for professional services organizations that enable service professionals to become more productive and profitable by increasing their efficiency on the job through increased employee utilization and integrated knowledge management.

In the report, Hofferberth stated that most PSA products have a modular architecture. Modules typically include planning and scheduling, project management, performance management, and billing (Appendix 2). Hofferberth “geared” his report towards the early users of PSA, mostly IT-related service organizations, including IT PSOs, IT services departments of large enterprises, and services organizations within hardware and software firms. However, he stated that other professional service providers in management consulting, engineering, legal, and advertising would also benefit from PSA. Two types of PSA vendors were identified: (1) ERP (enterprise resource planning) vendors such as PeopleSoft and SAP that intended to “branch out” to services as a target vertical market, and (2) “pure-play” PSA vendors such as Changepoint, Evolve, Niku, and Novient that counted PSA sales to be their major revenue source. Looking ahead, Hofferberth wrote, “PSA is here to stay – and service firms and their clients will benefit from the efficiency gains and cost control”.

While Hofferberth was researching the market, the PSA concept came to the attention of a section editor at *Information Week*, a weekly IT trade magazine with a half-million circulation. The editor decided to run a feature story on PSA and hired a freelance writer – Norbert Turek. Turek started his interviews with Niku. He then asked Niku for some customers to talk with. He also found out that Hofferberth was the first analyst for PSA and interviewed him. Hofferberth provided a list of PSA vendors. Turek spoke to several on the list, including Opus360, Novient, Changepoint, and Evolve, and further with some of their customers. In the end, Turek summarized findings from his three-week research in a five-page feature story (Turek, 1999) published just weeks after the first report on PSA was released by Aberdeen’s Hofferberth.⁶

During most of 1999 and 2000, the pure-play PSA vendors continued “beefing up” their products, building management teams by hiring senior executives from large software companies such as Oracle and PeopleSoft, and signing up new customers. In February 2000, PeopleSoft debuted PeopleSoft PSA, becoming the first ERP vendor to offer a PSA product. Although PeopleSoft PSA’s functionality was rudimentary at the time, the announcement itself was hailed by pure-play vendors as endorsement and validation of the PSA market.

⁶ This was not the first published article to mention PSA, but was the first to focus on PSA as a new *class* of enterprise software, according to our informants.

PSA began to be recognized by journalists, IT research analysts, and conference organizers. Among the analysts, Ted Kempf, then a senior analyst at a leading IT market research firm – Gartner, emerged to be a dominant analyst in the PSA market. In an interview, Kempf said, “I found PSA applications amazing in what they can do.” He quickly developed relationships with the PSA vendors and began to advise them in product development and marketing strategies. Thus, in mid 2000, as the “featured speaker”, Kempf joined Novient’s executives, customers, and partners for Novient’s PSA seminar series in 11 US and European cities. Additionally, recognizing the importance of system integrators (IT consultants who help clients implement systems and applications), Kempf brought together over 80 systems integrator and major PSA vendor representatives to a Gartner-sponsored conference called PSA Summit in July 2000.

With the facilitation of analysts such as Hofferberth and Kempf, both the number and size of PSA adoptions increased. In June, Andersen Consulting (AC, Accenture after January 2001), one of the largest IT PSOs, agreed to license Novient’s PSA product, almost doubling Novient’s entire installed user base. AC and Novient later also announced an alliance, in which AC named Novient as its preferred PSA provider; in return, Novient selected AC as its implementation partner. Meanwhile, a major division of EDS, another giant IT PSO, selected Evolve’s PSA.

However, a closer look at this adoption revealed that EDS implemented only two PSA modules (out of the seven now offered by Evolve): opportunity management and resource management. Other functions such as time and expense management were adequately handled by existing applications and thus there was no need to replace them. This reason may also explain, in part, why many other large IT PSOs have so far not adopted PSA. Kent Piper, an executive at Arthur Andersen before its collapse with Enron, told us in an interview that Andersen had over the years developed many software applications in-house to meet its diverse needs. Although the different pieces of in-house solutions lacked integration, Piper did not believe that, in this nascent stage, an integrated PSA solution could be customized to Andersen’s diverse processes and still be scalable and robust.

Although such skepticism may have slightly chilled the PSA market, more software vendors joined in with new products or new versions of old products. Following PeopleSoft’s lead, large software vendors such as Siebel, Lawson, Oracle, SAP, and Microsoft announced PSA products or initiatives. In June 2001, Lawson Software, an ERP vendor, after a more than two-year joint sales partnership with Novient, acquired a pure-play PSA vendor (Account4) to expand Lawson’s “solution for professional service organizations”. With over 20 vendors and slowing penetration in IT PSOs, the PSA market quickly became very crowded. Most vendors began to seek customers outside the IT PSO segment. Despite the fact that PSA was originally defined to benefit many kinds of service organizations (Hofferberth, 1999), it had been frequently interpreted as a technology for IT PSOs, mainly because PSA bears the term “professional services” and many services organizations such as IT departments embedded in enterprises, logistics and distribution firms, and health care management firms do not consider themselves as professional services organizations. Now, to correct this misconception, vendors attempted to re-brand their offerings to target a broader audience and market. For example, Niku, dropping PSA as originally coined by itself, began to use “Services Relationship Management” (SRM). At a user conference in August, PeopleSoft CEO Craig Conway formally abandoned the PSA term and announced “Enterprise Service Automation (ESA) is the Next Big Thing”.

Working closely with Novient, Gartner's Kempf also created a new term – “Service Process Optimization” (SPO), and Novient immediately adopted SPO to name its entire product offerings. In a research report first bearing the SPO term in the title, Kempf (2001a, p. 14) explained why SPO was appropriate for expanding the reach of PSA:

- The word *service* immediately connotes the fact that these applications are targeted toward firms involved in the service economy. The second word, *process*, drives at the point that these applications address the various processes or workflows associated with delivering various services. Lastly, *optimization* strikes at the heart of these applications in that, if they do not optimize operational efficiencies within service organizations, they are of no use.

Kempf emphasized, “SPO is not a new application but rather a new branding campaign” (Kempf, 2001a, p. 14). In his view, PSA, restrictive to IT PSOs, would become part of SPO. The new term would help vendors market their products to all kinds of service organizations. In August, a year after Gartner's PSA Summit, Kempf once again gathered major vendors, system integrators, and prospective users in a conference named, as might be expected, SPO Summit.

In fact, Gartner's SPO Summit series was just one of several conferences featuring PSA. Alex Popov, then working at a London-based conference firm First Conferences (FC), saw signs that PSA could become “very big” and bring a “grand success” for FC through a series of PSA conferences. He convinced FC's management to run a PSA “show”. About 60 paying delegates from prospective users, system integrators, and prospective vendors, 25 speakers representing PSA vendors, users, and analysts, a few reporters, and one of us attended the two-day conference in November 2001. In the opening speech, Gartner's Kempf said, “SPO is a cost of doing business and thus a competitive necessity in the service economy”. The conference went on with presentations by vendors, consultants, and users. Topics included adoption rationales for service organizations, methods to select modules and system integrators, and effective implementation and maintenance approaches. Outside the conference room, at each vendor's booth, attendees watched product demos, talked about opportunities and challenges for their own organizations, and exchanged business cards. Immediately after PSA 2001, Popov started to prepare “a fantastic follow-up show” – a PSA 2002 conference in New York scheduled in May. He also graciously offered us an opportunity to publish our research on PSA at the conference web site. A few months later, however, Gartner's Kempf told us that the PSA 2002 conference had been canceled and Popov was no longer working at FC.

Not every PSA conference series ended this way. Kempf managed to organize Gartner's third annual SPO Summit in July 2002. About 60 invited executives from prospective users (mostly internal IT departments) attended. Ten vendors provided funds to cover the expenses for all executive attendees. Between vendor presentations, product demos, and user case studies, Gartner analysts presented on topics such as SPO benefits, business intelligence in SPO, and market potential and trends. In privately held one-on-one meetings, analysts introduced users to vendors. Departing the conference with basic information about PSA/SPO and many vendors' brochures and gifts, attendees were also struck to learn that PSA/SPO was the only growing enterprise software category in 2001, when the US economy was in recession.

In fact, PSA's prospect of future growth was far from clear. On the negative side, responding to the "terrible economic time", most enterprises had to cut or take closer scrutiny of their IT spending. As a result, the number and size of PSA software sales were decreasing. After another disappointing quarter, at a conference call to Niku's investors in August 2002, Farzad Dibachi commented, "We are all selling shoes and people are not buying shoes". In September 2002, NASDAQ informed Niku that its stock price dropped below the minimum bid price requirement and thus was subject to delisting.

On the positive side, both Hofferberth and Kempf agreed that the size of the market would exceed \$2 billion in 2006. In a webcast jointly hosted by Aberdeen and Change-point, Hofferberth said, "every month I find a new vendor that's ready to announce PSA products". In September 2002, Microsoft Business Solutions announced that the next quarter it would deliver its PSA product. Meanwhile, vendor consolidation seemed to be accelerating. Two major pure-play PSA vendors (Novient and Portera) were acquired in June. After the acquisition, Novient's parent company quickly dropped the SPO term, and relabeled its product Professional Services Automation. Launching PSA continues...

5. Launching PSA as institutional entrepreneurship

Here we present our interpretation of the launching of PSA as a form of institutional entrepreneurship. We revisit and elaborate upon the model presented earlier in Fig. 1, beginning with a description of the PSA community and its member organizations.

5.1. The PSA community

As reflected in the story just told, in the process of launching PSA, multiple populations of organizations interested in the common technology PSA came together as an *organizational community*. Members pursued distinctive opportunities.

5.1.1. IT research firms and analysts

IT research firms provide their clients with a range of services, including market research reports for subscription or purchase, consulting services, and conferences. In the case of PSA, Aberdeen's Hofferberth initiated the research on it in 1998 and five IT research firms had analysts to cover it. For these firms and their analysts, PSA presented an *organizational* opportunity to initiate a new line of market research. In fact, Hofferberth led the PSA research and consulting practice at Aberdeen. Too, PSA offered a *personal* opportunity for analysts to become thought leaders or *gurus* for a new IT. Both Hofferberth and Gartner's Kempf became recognized PSA authorities.

5.1.2. PSA vendors

Two types of PSA vendors came to the PSA market with different opportunities in mind. So-called "pure-plays" recognized a core business opportunity to apply enterprise software to underserved service organizations. In contrast, large ERP vendors saw PSA as a new product line for a new revenue stream. For example, PeopleSoft's move into PSA and then ESA, as interpreted by the trade press, was primarily driven by a declining ERP market. PSA seemed a logical means to leverage PeopleSoft's existing customer base. Similarly, Microsoft's entry was interpreted as a part of Microsoft's

strategy to move from its traditional desktop application market to the business application market.

5.1.3. *IT professional services organizations (PSOs) and consultants*

Sometimes referred to as system integrators or consultancies, IT PSOs provide consulting services, largely to help their clients implement new IT. For IT PSOs, PSA offers not only a new source of consulting revenue, but also potentially helps them get their own houses in order. In fact, PSA's earliest adoption was among IT PSOs. For example, EDS adopted Evolve's two PSA modules primarily to acquire the planning and forecasting capability for project management.

5.1.4. *Conference firms and conference organizers*

For conference firms, PSA was an opportunity to run a new-themed conference series. At the PSA 2001 conference, for example, First Conferences was able to sell tickets for over \$1000 each. When FC decided that there would not be a market for a series, it canceled the 2002 conference. An FC executive said to us:

- After the [PSA 2001] conference, we spoke with a lot of people and found that there was no demand as such. Management consultancies have been selling ERP in non-traditional industries for so many years, but there is no immediate demand for it, even within their own organizations. Our conference ended up with a vendors' show, which is of course not a great prospect for a conference organizing company. FC has to identify a new departure.

5.1.5. *Trade publications and journalists*

Striving for circulation and advertising revenue, editors and writers for trade press saw PSA as an opportunity to attract an audience interested in either PSA or the problems it was purported to solve, or both. Over the past four years, articles about PSA appeared in three types of periodicals: general technology magazines such as *Computerworld*, product launch publications such as *Computer Reseller News*, and accounting publications such as *the CPA Journal*.

5.1.6. *Universities and academics*

Upon receiving Popov's invitation in 2001, neither of us was the PSA expert Popov then sought. Nevertheless, the one of us contacted e-mailed the other:

- I believe I've stumbled into a research opportunity. Essentially, I've been made aware of a new organizing vision in-the-making, something called professional services automation (PSA). It would appear to present a good opportunity for a case study over the next year. What is fresh here is the chance to study the front end of the organizing vision development process. What do you think?

In the PSA community, we became observers for the most part, except that a vendor approached us hoping to demonstrate its products in our school's executive education program, we were invited to post our research on a conference web site, and, further, an analyst proposed a joint research program with us on the business benefits of PSA.

5.1.7. Other (prospective) users

Last but not least, the majority of the PSA community was composed of firms evaluating, adopting, implementing, and using PSA. As already mentioned, IT PSOs were among the earliest users of PSA. Users also included IT and other service departments within firms across industries. A recent Aberdeen survey of PSA users found a variety of reasons for adopting PSA, from streamlining time and expense processing to improving management effectiveness.

5.2. The changing PSA vision

As the PSA community took form, the organizing vision for PSA emerged from members' discussions about, for instance, what PSA is, who its adopters are, and what benefits it brings. Partly because PSA was still new, members with different opportunities in mind disagreed more often than they agreed. The PSA vision was subject to discursive contention as well as cooperation and was far from coherent. Still, community members agreed on at least one point: PSA offers prospective benefits to adopters. Several aspects of the PSA vision itself suggested the likely market for PSA, the institutional arrangement of central interest to many.

First, PSA is argued to be a solution to problems unique to service-oriented organizations that previous, product-centric software did not address. In a webcast, Hofferberth compared PSA with ERP, a major class of enterprise software used for managing product-oriented processes in companies.

- The [PSA and ERP] solutions are fundamentally different. A car can sit on the lot for a month and not sell, but you'll still get the same price, realizing there is a carrying cost. In service organizations, if people were not doing billable work, you would never recoup that investment. PSA helps service companies manage their people.

Other statements such as “services organizations are underserved by previous enterprise solutions” and “PSA fills a hole in enterprise solutions” suggest similar, common reasoning.

Second, the business case for PSA originated from a specific set of services firms – IT PSOs concerned with increasing the utilization of their workforce. Circa 2000, discussions appeared about how PSA can also be applied to other types of service organizations. In arguing for PSA's applicability to internal IT departments, Joe Federer, a PSA user (NCR Corporation) vice president, said in an interview:

- Internal IT departments and IT PSOs are mirror images of one another. If you take everything that an internal IT department does and encapsulate it into a diagram, you will find that everything is supplemental to what a PSO does. PSA's benefit also applies to internal IT [departments].

And so, the *scope* of the envisioned market for PSA was expanded from IT PSOs to include internal IT departments and other service organizations. When this expansion appeared hindered by the PSA term (with its reference to “professional services”), new labels such as SPO and ESA were put forth, to more appropriately tie into the newly perceived opportunities.

Third, apart from scope expansion, the nature of the perceived opportunities also changed, as revealed by the PSA vision. For example, in a December 2001 interview, Hofferberth said:

- Emphasis is changing from making more money with PSA by increasing the utilization rate of consultants, to managing the current economic downturn by downsizing the consultant teams.

Nine months later in a webcast, he said:

- Recent scandals have created the need for organizations to more accurately track and report financials. With PSA, executives can now assess the performance of their enterprises in real time.

We thus observe a dramatic change in the technological paths envisioned for PSA: from its original resource utilization focus to a broader financial reporting tool. We see too how specific entrepreneurial opportunities can be both discovered and created discursively.

5.3. Pursuing the opportunities

PSA community members thus came together to pursue *opportunities* suggested by the PSA vision. What might be mere frustration for most people seeking to organize personal project data was recognized as a venture idea by Niku's Farzad Dibachi. While others passed on or rejected the white paper project requested by Dibachi, David Hofferberth found "maybe there is something to this"! Viewed by some as ERP sold unsuccessfully to non-traditional industries, PSA, to Alex Popov, was something that might bring "a grand success" to his firm. Finally, for us, PSA was our "chance to study the front end of the organizing vision development process".

To pursue its opportunities, each PSA institutional entrepreneur had to acquire and invest resources. Investment in PSA, just as in any new technology, was risky. We observed that institutional entrepreneurs constantly adjusted their investments according to their changing perceptions of the opportunities. At FC's two-day conference, due to lukewarm attendance on the first day, Siebel withdrew the exhibition of its PSA product the next day even though its sales office was just across the street. Obviously Siebel evaluated its opportunity in PSA and responded by scaling back its commitment. Such a tactic, we suspect, may explain why some well-established enterprise software vendors, years after they announced their PSA initiatives, could still not produce PSA products with functionalities comparable to offerings by pure-play vendors. Although Siebel did not withdraw completely from the PSA community, some disappointed players did drop out. For instance, having canceled the PSA 2002 conference, First Conferences was looking for "a new departure".

While such decisions are individual ones, because the players' opportunities are interdependent, the realization of them ultimately hinges on the players' *collective* success in launching the technology. For example, most IT consultants were waiting to see which vendor would win the day. "They will partner with whomever they can make money with", said Hofferberth. Too, although Hofferberth was respected as the first analyst, sometimes referred to as the "father" of PSA, his thought leadership and the success of Aberdeen's PSA practice were closely linked to PSA vendors' overall market and PSA

users' overall success. He said, "I wouldn't be in this business if people weren't deploying these [PSA] solutions".

In sum, in the launching of PSA, we found evidence for the basic relationships described in Fig. 1. That is, institutional entrepreneurs invest their resources relative to the opportunities perceived, which in turn are influenced by expectations of success in launching the innovation. PSA's institutional entrepreneurs estimated the likelihood of launch success in terms of market size or scope (e.g., "PSA/SPO license revenue will climb up to \$1.2 billion by 2005."), growth (e.g., "The best days are yet to come for PSA"), industry maturity (e.g., "PSA is in such an early stage."), and destiny of the technology (e.g., "PSA is here to stay..."). Some estimates were even literal ones. For example,

- By 2005, 80% of all IT professional organizations with more than 100 billable consultants will replace their project management applications with SPO (0.7 *probability*) (Ted Kempf, research report, June 2002, emphasis added).

Whatever the odds, pursuing the opportunities offered by PSA, as we have sketched them, requires further the engagement of certain community members in the mobilization and legitimation activities that are critical to the launch process. We turn our attention next to the analysis of these activities and their components. We address our two research questions.

5.4. Mobilization

Our first research question asks how institutional entrepreneurs mobilize an organizational community to increase the chance of a successful launch. To analyze the community as the structure for mobilization, we coded the various types of the member relationships and grouped them into three main categories: collaboration, transaction, and personal friendship. In launching PSA, collaborations were common between members in different industries. For example, through its alliance with Andersen Consulting, which had a substantial client base, Novient secured quite a few "blue-chip" customers. Commercial transactions of PSA-related products and services also initiated relationships among members. For example, because the implementation, and maintenance of PSA software packages could take years of effort, vendors and users often treated each other as partners. Additionally, personal friendships among firm representatives helped glue the relationships among their organizations. Such collaborations, transactions, and friendships did not happen spontaneously. In launching PSA, institutional entrepreneurs fostered relationships by reaching out and brokering. For example, Gartner analysts introduced prospective users to vendors at the SPO Summits. Our own relationships with our informants would not have been possible if First Conferences' Alex Popov had not contacted us in the first place. Because actors channel resources and coordinate actions through such relationships, by helping establish relationships, PSA's institutional entrepreneurs recruited a necessary mass of actors whose actions and resources could then be mobilized.

However, a well connected community is just a basic condition for mobilization, as distributed agency does not just spontaneously converge. In the PSA community, we found that members occupied different social positions with regard to the launching process. We examined the positions of all members who appeared in our data and assessed their relevance to mobilization. A key differentiator was *leadership*. Importantly, leaders or "first movers", who may achieve an advantage (Lieberman & Montgomery, 1988), also become models for others

to follow, facilitating mobilization. For example, once PeopleSoft became the first ERP vendor to offer PSA products, others including Lawson, SAP, and Oracle quickly followed suit. On the other hand, while First Conferences also positioned itself as a PSA leader, it ultimately did not capitalize on its initiative, nor did other conference organizers follow it. PSA thus failed to achieve the institutional arrangement of an annual conference devoted to it. PSA's institutional entrepreneurs not only were often leaders themselves, but also extended recognition to others as leaders. For instance, First Conferences invited Gartner's Kempf to give the opening speech at its first PSA conference. Therefore, we propose that

(P1) An IT innovation is likely to be launched successfully to the extent that institutional entrepreneurs develop and recognize leadership in the innovation's organizational community.

Beyond any community member's leadership, as mobilization involves marshalling resources, it may be asked how much resource the member has *committed* to the innovation. In the case of PSA, we were told that established vendors such as Oracle and SAP were "paying lip services", and that their PSA products were "rudimentary", because PSA was "just a new product line", "not so important to those large vendors". In contrast, smaller pure-play vendors claimed, "PSA is all we do". Their investments were completely at *stake* in the PSA community. The differentiator was the extent to which a member *focused its attention* on PSA. The more a member was focused on PSA, the greater would be the resources it allocated to PSA, and the more likely the PSA innovation would be to materialize and diffuse. Such focus, however, often required facilitation and persuasion. For example, Andersen Consulting not only adopted Novient's PSA to manage its consultants, but also formed an alliance with Novient to implement PSA for other users. Novient successfully persuaded AC to commit consultant teams to implementation projects for several of Novient's blue-chip customers and to contribute funds to Novient's marketing initiatives until Novient was acquired in June 2002. In effect, unlike its competitor Evolve, who did not win over EDS beyond the adoption of two modules, Novient converted AC into a PSA *stakeholder* – not completely focused on PSA, but definitely more committed to it than was EDS. Consequently,

(P2) An IT innovation is likely to be launched successfully to the extent that institutional entrepreneurs facilitate or persuade community members to focus their attention on the innovation.

Lastly, in this section, we suggest that the two mobilization activities identified by the previous two propositions, developing and recognizing leadership and facilitating members' focus, are necessary but not sufficient to achieve a successful launch. Among the PSA vendors, for instance, recognized leaders such as PeopleSoft were not focused on PSA; none of the focused pure-plays was recognized as a leading vendor. However, even if a focused leading vendor had emerged in the PSA community, as SAP and Siebel did in the ERP and CRM communities respectively, we argue that PSA would still founder due to its problematic legitimation, to which we turn next.

5.5. Legitimation

Our second research question asks how institutional entrepreneurs legitimate an IT innovation by shaping its organizing vision in discourse. We discuss cognitive legitimation

first, then sociopolitical legitimation. Knowledge about an innovation spreads through cognitive legitimation, which eventually leads to taken-for-granted knowledge. Aldrich and Fiol (1994) suggested that “one can assess cognitive legitimation by measuring the level of public knowledge” about an innovation. A case in point was a survey conducted by Gartner in 2002, finding that 52% of the respondents had never heard of PSA. While such simple awareness of a new technology obviously does not suffice for cognitive legitimation, it can serve as an important indicator of the breadth of the innovation’s dissemination in discourse. In its absence, cognitive legitimation is unlikely to be achieved. It was not idle curiosity, therefore, that motivated Gartner to survey the extent to which firms had heard about PSA.

Importantly, an organizing vision is often identified by a label, or *buzzword*, which serves as a portal into a community discourse about the innovation (Swanson & Ramiller, 1997). This label distinguishes the focal innovation from others, serving fundamentally to establish its *identity*. When a label is absent or in question, dissemination of the vision is made problematic and cognitive legitimation is undermined. Hence, when publishing the first report, Aberdeen’s Hofferberth endorsed the PSA term, which, as Changepoint’s vice president Chuck Tatham commented, “brought huge benefit because the term served as a thing that you can hang your hat on”. Unfortunately, the PSA term did not satisfy vendors’ needs to target firms other than PSOs. Consequently, competing terms (e.g., SPO and ESA) popped up, challenging PSA’s identity. As a result, we heard in our interviews that “the market is suffering from too many acronyms”, “with each vendor promoting a unique label to differentiate its offerings”. The drive to differentiate, we argue, prevented a new, coherent label from replacing the term PSA, which became fragmented in the end.

Apart from a consistent label, any organizing vision requires some degree of coherence in its content (Swanson & Ramiller, 1997). Initially, however, when an organizing vision is just introduced, the content of the vision might be incoherent as actors interpret the underlying IT innovation in different ways that suit their diverse interests. Such interpretive or rhetorical flexibility might help the vision gain some initial audience and room for refinement and growth. Yet, “low coherence will not be tolerated indefinitely” (Swanson & Ramiller, 1997, p. 463). Coherence in the interpretation of what the innovation is fundamentally about is important to the cognitive legitimacy of the vision being launched. Frequently, we observed debate among community members at PSA events as to whether PSA’s focus was on, for instance, resource utilization or on project management. Over time, as mentioned earlier, PSA was also reframed as a reporting tool. Such reframing requires new learning and new cognitive legitimation. Certain knowledge previously achieved would cause confusion if not “unlearned” (Starbuck, 1996). When institutional entrepreneurs articulate organizing visions, coherent labels and content of the visions are thus critical to cognitive legitimation. Hence

(P3) An IT innovation is likely to be launched successfully to the extent that institutional entrepreneurs develop a coherent organizing vision for the innovation.

Sociopolitical legitimacy for an innovation refers to the generalized assumption that the production, distribution, implementation, and usage of the innovation are *appropriate* and *desirable*. Originally, PSA was envisioned to make IT PSOs more efficient. By 2001, Gartner’s Kempf argued in his reports and speeches that PSA was “a cost of doing business”

and “a competitive necessity”. In both cases, PSA was presented as a solution to significant business challenges. More broadly, to establish the appropriateness of a new technology, institutional entrepreneurs often point to a significant problem it addresses.

Beyond promulgating a persuasive rationale for PSA, the community’s discourse may also be expected to speak to the benefits or success PSA might bring to specific users and vendors. When an organizing vision incorporates definitive success stories from well-known users, e.g., reengineering at Ford (Hammer & Champy, 1993) and IT outsourcing by Kodak (Loh & Venkatraman, 1992), such stories can add much to the sense that an innovation has achieved momentum. Thus, when EDS chose PSA’s Evolve, this might at first have appeared to be a success story. Unfortunately, a closer look revealed that EDS was making marginal use of PSA as a “point solution”. During our study, we heard relatively few persuasive PSA success stories, nor did the business case for PSA appear to become well established, which may account in part for PSA’s thus far failing to achieve momentum. In general:

(P4) An IT innovation is likely to be launched successfully to the extent that institutional entrepreneurs incorporate definitive success stories from users and vendors into the organizing vision for the innovation.

In sum, by the end of our study, it was not clear that PSA had been established as a *legitimate* category of enterprise software. In a comprehensive bibliographic database (ABI/Inform Global), PSA was mentioned in 173 articles between July 1999 (when PSA first appeared in the database) and January 2007, compared to the 15,195 and 14,792 articles that mentioned CRM and ERP respectively in the same period. Relatively few people had heard of PSA, in part because its identity was blurred and there remained issues as to what PSA was supposed to be about, notwithstanding market growth as reported in Fig. 2. PSA’s functionalities were still being debated. Neither cognitive nor sociopolitical legitimacy was as yet achieved.

Lastly, although we have given them separate treatment thus far, we also explored the relationship between mobilization and legitimation. On the one hand, our case shows that legitimacy aided mobilization. For example, the initial legitimation effort to spread the understanding that PSA helps increase resource utilization attracted attention from virtually all IT PSOs and mobilized Andersen Consulting and EDS to adopt. However, problems in legitimation hindered mobilization. For example, the numerous acronyms vendors used to differentiate their products fragmented the PSA identity. Without cognitive legitimacy, it was difficult for institutional entrepreneurs to mobilize prospective users, confused in the name game. On the other hand, mobilization activities in the community facilitated the legitimation of PSA. When leading actors were mobilized and recognized, as in the case of market entries by large software vendors and consultancies reported extensively in the PSA discourse, they brought sociopolitical legitimacy to PSA by suggesting there was a significant demand for it. Too, problems in mobilization hampered legitimation. Mobilizing vendors “branching out” from established markets, as opposed to focused pure-play vendors, made it difficult for a distinctive identity of PSA and its cognitive legitimacy to emerge (McKendrick & Carroll, 2001; McKendrick, Jaffee, Carroll, & Khessina, 2003). Therefore,

(P5) In launching an IT innovation, institutional entrepreneurs’ legitimation and mobilization activities are mutually enhancing.

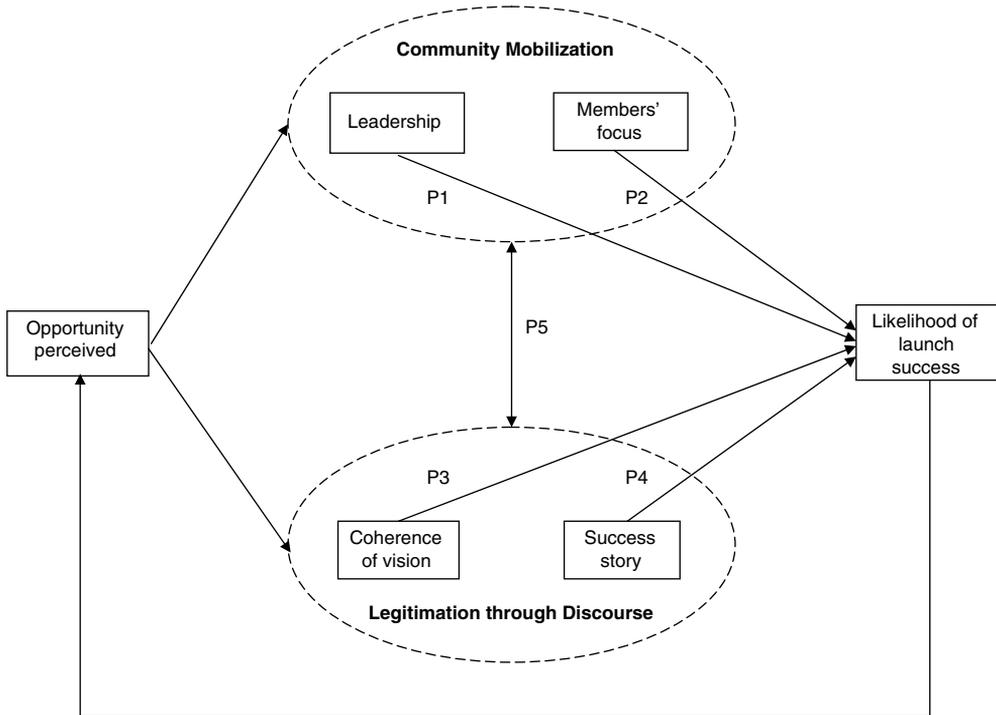


Fig. 3. Institutional entrepreneurship for launching IT innovations (elaborated).

Fig. 3 depicts this relationship with a double-headed arrow. The figure summarizes our argument and propositions. As an elaborated version of Fig. 1, Fig. 3 portrays more specifically the institutional entrepreneurship *engine* for launching IT innovations. It explains not only why the launching process takes place, but also how likely it is to succeed or fail.

6. Conclusion

Over just a few years, a community of organizations and people with whom we interacted emerged to launch a new information technology – PSA. Launching PSA, as a collective action, faced two challenges: first, agency was distributed across the community because of differentiated opportunities driven by members’ diverse interests; second, legitimacy was absent due to the lack of public knowledge and accepted assumptions about PSA. We examined institutional entrepreneurship activities that specifically addressed these two challenges. To mobilize distributed agency, institutional entrepreneurs in the PSA community developed and recognized leadership in the community and tried to facilitate member focus on PSA. To legitimate PSA, institutional entrepreneurs struggled to articulate a coherent vision for PSA and to incorporate definitive success stories in the vision. Of course, not all their mobilization and legitimation activities were successful, with consequences for PSA’s likely launch success.

As of the date of the latest version of this manuscript, Evolve, Changepoint, and Niku have been acquired, and both Hofferberth and Kempf have left their research firms and

begun endeavors unrelated to PSA. As another effort to consolidate terms, clarify their underlying visions and broaden potential market, in March 2003 Gartner began to use the term Project Portfolio Management (PPM) to refer to PSA, SPO, and project management applications. The PSA acronym, unfortunately, has seemingly slipped from the mainstream (Lombardo, 2003), except that a few small software vendors such as Epicor and OpenAir continue using the term. Although its fate lies beyond the time period we examined, it was very likely at this point that PSA would *not* be successfully launched. Still, we acknowledge the inherent limitations of the time frame for this study, and remind the reader that our study is further specific to PSA, among numerous IT innovations being launched every day. Hence, our model of institutional entrepreneurship for launching IT innovations is provisional and requires additional studies.

With these limitations in mind, we have achieved some success in our theoretical pursuit. First and foremost, we contribute to institutional entrepreneurship research with a model that explains the basic activities entailed in launching IT innovations. Like previous research in this tradition, our study responds to DiMaggio's call for examining the role of interest and agency in creating new institutions and changing existing ones (DiMaggio, 1988). However, unlike previous studies, which typically focus on one or two entrepreneurs, our study focused on the broader community and its entrepreneurship *activities*, involving various interrelated actors. This allowed us to elaborate upon a set of concepts that were unintegrated in previous studies.

In the same volume in which DiMaggio's call appeared, Zucker (1988, p. 28) anticipated a challenge faced by scholars taking the institutional entrepreneurship approach:

- The particular historical details that lead to the success of a given institutional entrepreneur or group of entrepreneurs and the failure of another, defy theoretical prediction. . . [W]hen interests converge, . . . social change is likely. But convergence explanations lend themselves to post-hoc theorizing because it is difficult to predict just which interests will converge and *under what conditions convergence is more or less likely* (emphasis added).

The contemporary nature of our study allowed us to skirt this difficulty. Our focus on *activities* enabled us to theorize the conditions under which diverse interests are more or less likely to converge, propelling a launch forward. Significantly, with their mobilization and legitimation activities, institutional entrepreneurs can *shape* the conditions for convergence: i.e., the community structure and the organizing vision, so as to increase the likelihood of success, reinforcing the opportunities perceived and motivating further institutional entrepreneurship.

More significantly, this study makes a fresh contribution to the institutional perspective of IT, which itself is relatively new to IT research (Orlikowski & Barley, 2001). As more and more studies from this perspective aim to investigate the effects of institutional environments on the design, use, and impacts of IT, we argue that studying such effects would address only half of the puzzle. The reason is that the institutional environment for any IT innovation is not a static monolith and, to varying degrees of success, institutional entrepreneurs can shape existing institutional arrangements and make new ones if necessary, creating an institutional environment more or less favorable for the innovation's diffusion. For example, in order to create the market for PSA among service-oriented firms, institutional entrepreneurs invoked the institutional logic that existed in manufacturing-oriented firms, that operational efficiency can be improved through automation. Hence, research into the

institution-building or institutionalization process for IT innovations offers a useful complement to the current focus on institutional effects on IT innovations. By tying our findings together in an explanatory model, we have essentially offered a substantive theory for the very early phase of the institutionalization process – the innovation launch process. As an alternative to existing theory that emphasizes the effects of institutional factors on the diffusion of prominent innovations, our theory contends that the very early phase of diffusion depends on the extent to which interested actors can make favorable institutional arrangements for the innovation. If they fail, the innovation will never progress so far that institutional factors influence the later phases of its diffusion.

For these later phases, subsequent to a successful launch, we suspect that the form of institutional entrepreneurship (e.g., actors involved and strategies they use) and relative importance of institution-building and institutional effects would be different from those in the launching phase. Therefore, future research could usefully pursue several directions. First, the launching processes of other IT innovations can be compared with that of PSA. Second, researchers can study the later phases of institutionalizing an IT innovation and compare their findings with those in the launching phase of the same or different innovations. Third, researchers have the opportunity to construct a temporal theory by assessing the relative explanatory applicability of models for the institution-building and for institutional effects across various phases in the diffusion of an IT innovation.

For future research along these directions, our study has two implications apart from its contributions. First, institutionalization and acquisition of technological momentum are *processes*, for which process theories are in need. While research continues to identify factors explaining outcome variance in IT adoptions, we favor focused research that gives primary treatment to underlying processes. Our study of PSA, even absent the eventual launch outcome, reveals a reinforcing chain of activities by which an IT innovation is launched. Second, the two main components of the chain represent distinctive but related mechanisms: community provides structure for mobilization; organizing vision in discourse gives meaning to the technology. We find that both *structural* and *cultural* mechanisms are crucial for launching PSA. Future research should consider both and explore their interactions.

Finally, our study has practical implications for institutional entrepreneurs launching IT innovations. In our conversations with PSA community members, most were not consciously aware of such a community. Because the community is the structure for mobilization, recognizing it as such should be a first step toward a successful launch. Further, actions should aim to shape the community by developing and facilitating focused leadership. Too, because organizing visions provide legitimacy to innovations, institutional entrepreneurs should closely monitor and strategically engage in discourse so as to create and promulgate coherent visions. In sum, instead of betting on the Next Big Thing, institutional entrepreneurs should undertake community mobilization and discursive legitimation upon which their collective success relies.

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Appendix 1

Coding structure and textual examples

First-level category	Second-level category	Textual example*
Likelihood of launch success	Market size/scope	Archival: “Gartner Dataquest projects that PSA/SPO license revenue will climb up to \$1.2 billion by 2005.” Interview: “There is a huge market for PSA vendors. There are huge customers out there waiting.” Interview: [-] “Anyway, PSA is a niche market, not a horizontal market like CRM.”
	Prospective growth	Archival: “Aberdeen projects the PSA market to grow at an average annual rate of 33% over the next three years” Interview: “PSA is still not a priority. The best days are yet to come for PSA.”
	Maturity	Interview: [-] “This is such a nascent industry.” Interview: [-] “PSA is . . . in such an early stage.”
	Destiny	Archival: “PSA is here to stay – and service firms and their clients will benefit from the efficiency gains and cost control.” Interview: [-] “In the future, PSA/SPO solutions will probably get rolled into traditional ERP solutions.” Interview: [-] “Ultimately, categories of PSA, CRM, and SCM will go away.”
Community mobilization	Leadership	Archival: “PeopleSoft last week became the first ERP vendor to enter the market for professional-services automation software with a new product: PeopleSoft PSA.” Interview: “When you are the first to do something, everyone comes around and calls you.” Observation: “He [David Hofferberth] is the analyst who put the first research on the [PSA] category 3 or 4 years ago. David is sometimes called the ‘Father of PSA’. We want to tease him. We call him the ‘Grandfather of PSA’.”
	Members’ focus	Archival: “PSA is all we [Changepoint] do as a pure-play PSA vendor. For ERP vendors, PSA is just a new product line.” Interview: “In the case of CRM, when SAP and Oracle realized its importance, Siebel, a CRM pure-play originally, had already accumulated the domain expertise and significant customer base to become a best-of-breed gorilla.” Interview: [-] “PSA/SPO is just not so important to those large vendors. Facing the pressure of quarterly earnings, they are fighting the battle of CRM and SCM right now.” Observation: “David Hofferberth, a research director at Aberdeen Group, specifically tracks the Professional Services Automation (PSA) market. In contrast, Ted Kempf, a principal research analyst at Gartner, covers a number of markets including PSA/SPO.”
Legitimation through discourse	Coherence of vision	Archival: “The definition [for PSA] stayed fairly consistent during the four years, although this year for some reason, I added ‘enhanced financial management’.” Archival: [-] “Gartner Dataquest has made the decision to treat PSA as a subset of SPO. . . the market is not in entire agreement as to which phrase will ultimately be adopted.” Interview: [-] “Gartner analysts believe that PSA primarily addresses resource management issues. But their own survey of users shows billing and invoicing is a top issue.”
	Success story	Interview: “Our adoption of Evolve’s PSA was a success. One benefit is the efficiency gained through having the right people at the right time for the right project.” Interview: [-] “Niku is a perfect example of vaporware. Their web site is eye candy.”

* Counter-direction examples are noted with [-].

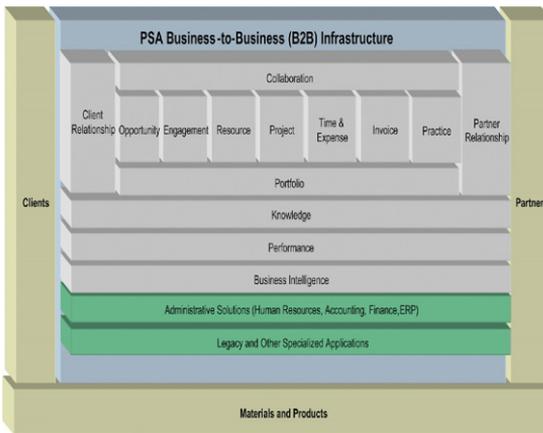
Appendix 2

PSA basics offered by selected members of the community

Definitions of PSA

Hofferberth (2002) (Aberdeen)	A suite of integrated applications designed for services-centric organizations that enables personnel across the services value chain to become more productive and profitable; those goals are attained by increasing efficiency through improved planning, increased collaboration and personnel utilization, enhanced financial management and integrated knowledge management
Kempf (2001a) (Gartner)	Software designed to track and allocate the major resources of services companies or departments – people, intellectual capital and time – to their output
Melik and Melik (2002) (Tenrox)	PSA software provides the tools, techniques, and technology that enable project- and service-oriented organizations to manage personnel, resources, projects, and clients
Novient (Solution 6)	More and more service providers are using technology to improve the ways they manage and deliver services. PSA is the solution for the service economy – much the same as enterprise resource planning (ERP) and customer relationship management (CRM) solutions have automated other business processes
Turek (1999) (<i>Information Week</i>)	A new breed of software that can track the complex and evolving information related to an IT staff, including schedules, skills, career goals, and knowledge base. They can also capture performance metrics and let workers map their own career development

Core modules or functionalities of PSA



Source: (Hofferberth, 2002)

Major vendors

Changepoint	www.changepoint.com
Evolve	www.evolve.com
Lawson	www.lawson.com
Microsoft	www.microsoft.com/BusinessSolutions
Niku	www.niku.com
Novient	www.novient.com
PeopleSoft	www.peoplesoft.com

Source: (Kempf, 2001b)

Research and analysis firms covering PSA

Aberdeen Group	www.aberdeen.com
AMR Research	www.amrresearch.com
Gartner	www.gartner.com
IDC	www.idc.com

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