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# THE BUSINESS OF BEING A USER: THE ROLE OF THE REFERENCE ACTOR IN SHAPING PACKAGED ENTERPRISE SYSTEM ACQUISITION AND DEVELOPMENT[1]

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*The paper extends the concept of "user" to account for a new, more formalized role that some client organizations play in the diffusion of packaged enterprise systems. Package vendors are attempting to draw parts of their user base into activities related to the promotion, selling, and commodification of systems. Users, in turn, appear willing to help construct these systems as objects of consumption for others. This can appear to be rather idiosyncratic behavior. Information Systems scholars have argued that relations between packaged enterprise system vendors and users are attenuated. Why might the user help the vendor market its systems in this way? What benefits accrue from it? And what role are users performing in carrying out this work? To show how this is becoming a general facet of the work of some packaged enterprise system users, we develop the notion of "reference actor," which is an extension of the earlier Information Systems concept of "social actor." In combining insights from the social shaping of technology and the biography of artifacts, and drawing on long-term qualitative fieldwork, we analyze this new actor role in relation to expectations and commitments coming from the wider packaged enterprise system community. In return for the help provided to prospective adopters, reference actors are also able to gather various kinds of benefits for themselves and others. In particular, they build closer relations with vendors such that they can influence product development strategies.*

**Keywords**: User, reference site, demonstration, testimonial, commodification, marketing, enterprise system, procurement, innovation, social actor

## Introduction

There is a growing number of studies from Information Systems research that mention *referencing* or the *reference site visit* as a feature of packaged enterprise system selection and procurement (Das and Buddress 2007; Light et al. 2001; Swan et al. 1999; Verville and Halingten 2003,). That is, packaged enterprise systems adopters can find themselves drawn into activities related to the promotion, selling, and commodification of systems. Certain users are being called upon to endorse recently acquired solutions, speak about their

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benefits at industry forums, write recommendation letters endorsing vendors, run system demonstrations, and so on. This suggests it is increasingly the reference that may sway a procurement decision one way or another (Howcroft and Light 2010). But despite the prevalence of these activities and their direct link to issues of technology adoption (and wider questions about which solutions get taken up and whether or not particular technological fields will emerge; Currie 2004) there has been no attempt to describe or theorize this role within IS research. That is what we attempt here.

*Prima facie,* it can appear rather idiosyncratic behavior. Why would the user—who is the customer of the vendor, after all—help facilitate the further diffusion of their systems? This is also all the more surprising since it is often assumed that relations between packaged enterprise system vendors and users are *attenuated* (Howcroft and Light 2006; Keil and Carmel 1995; Regnell et al. 2001; Sawyer 2001). We offer some reasons for rethinking the conception of packaged enterprise system users and their interactions with vendors and others. Our argument is that in the packaged enterprise systems market, we are seeing new ways of acting and the evolution of a once informal, unstructured activity—the swapping of information between users about vendor products and implementation experiences, etc. (Fincham et al. 1994, Finkelstein et al. 1996)—into a new, more formalized user role.

To achieve this we build an empirical and theoretical understanding of the user as *reference actor*. The *Oxford English Dictionary* describes a reference as the "act of referring one person to another for information or testimonial," a "touchstone, model, or reference point" for a decision. Reference actors are not only involved in IT work within their own organizations, but interact across organizations with current and prospective adopters as well as the packaged enterprise system vendor. Narrowly defined, the reference actor is an individual user who offers his or her organization's experience as a model or standard for others. However, we draw on the earlier IS research notion of social actor (Lamb and Kling 2003) to help broaden this definition. Reference actors are not simply those closely associated with the packaged enterprise system but include wider groups of users who may not have initiated the referencing activity or identify themselves as performing an IT role, but are drawn in when a reference site visit occurs.

Thus the broader definition of reference actor used throughout the paper is of a *network of users* within and across an organization that form part of a wider packaged enterprise system community (Koch 2005). We find various expectations and obligations placed on these users to act within this technology community, but who, because there are complex multilevel games between users, vendors and others, can exhibit varying interest and commitment toward the role. We draw on insights from the social shaping of technology (SST) (Pozzebon and van Heck 2006; Sørensen and Williams 2002; Williams and Edge 1996) and the related biography of artifacts (BoA) perspective (Hyysalo 2010; Pollock and Williams 2009; Williams and Pollock 2012) to show how this new actor role forms part of the politics of packaged enterprise system development and acquisition. In return for helping prospective adopters, reference actors are also able to gather various kinds of benefits for themselves and others. In particular, and departing from the idea that packaged enterprise system vendors restrict and limit interactions with adopters, we show how reference actors position themselves close to the vendor in order to wield influence on current and future product development strategies.

The paper is based on long-term qualitative fieldwork on the interactions various reference sites conduct with a packaged enterprise system vendor and its prospective adopters. It is organized around three interrelated questions: What is the work of the reference actor? How is the role constructed and distributed within and across organizations? What benefits may accrue from it? In the next section, we discuss why the reference actor is important and why it should be studied. We link this emerging work role to the general expansion of the user. We then describe how there are methodological challenges involved in discerning the work of the reference actor where the role straddles four conventional layers of organizational analysis (the individual, intra-organizational groups, organization and interorganizational networks). Our empirical material offers analysis of how users are being enrolled into the referencing activities surrounding packaged enterprise systems. In the discussion section, we derive from our fieldwork a typology of some of the major roles performed by the reference actor. We conclude by outlining further avenues of research required.

## The Reference Actor

### *What Role Do Reference Actors Play? Research from IS and Beyond*

We start by briefly reviewing studies on *reference site visits* and *system demonstrations* as these form part of the activities of the reference actor. It is not a comprehensive review as such because discussions of these topics are incomplete and spread out across a number of disciplines. Nevertheless we attempt to piece together key elements of what we see as an important expansion of the user role.

Finkelstein et al. (1996) and Currie (2004) were amongst the first IS researchers to note the growing importance of the reference actor in the development and evolution of workplace technologies and technology services. We find Currie's work of particular interest for the centrality she gives to the role of the reference site visit. In discussing the (ultimately failed) development of application service providers (ASP), she notes how "customer reference sites are an important ingredient for customer adoption of an IS innovation" (p. 262). Above all else, potential adopters "wanted to see customer reference sites at reputable firms to reassure them that ASP was a viable option for their own firm" (p. 257). She argues that the reference site visit was "critical in the legitimation process" of this new technology (p. 257). Yet it was difficult for vendors to provide reference sites because many had less than "five paying customers" (p. 257). The lack of the reference site was a key factor in explaining why this particular technology/service failed to materialize.

A similar theme is found from within Marketing literature where scholars have focused on the way a reference site can help establish the suitability or otherwise of a technology vendor (Bruhn 2003).[2] They are seen to convince prospective customers about the reputation and credibility of a vendor as well as reduce the perception of risk that may exist around new or complex products (Helm and Salminen 2010; Ruokolainen and Makela 2007; Salminen 2001; Salminen and Möller 2003, 2006). These actors are also seen to help reduce ambiguity surrounding the value of a product.[3] In the Technology Management literature, referencing activities are noted to play a role in business networks, partnerships, and word-of-mouth (e.g., Dodgson et al. 2008; Håkanson 1989; Urban and Hauser 1993). However research on the topic remains scarce (Enkel et al. 2005). Voss (1985, p. 127) suggests that potential adopters place "a strong reliance on the information gained from seeing a demonstration of a working system" and thus the more likely they are to buy it. His reasoning as to why the reference occupies this place in the minds of potential adopters is that they are more likely to "believe the evidence gained from a totally independent user" (p. 127).

To summarize, we find widespread agreement from scholars across various disciplinary domains that the reference actor has become a key character in providing information and assurances that allow particular vendors and offerings to be evaluated and judged. The suggestion is that it is the user who can shape beliefs about the efficacies of particular solutions or vendor reputations. There is also evidence to suggest that reference actors mobilize consensus that helps institutionalize emerging technological fields (Currie 2004). What we want to do here is to develop these insights further through describing and conceptualizing the work of this actor. We still lack necessary detail on *what* the role of the reference actor is and *how* this role is distributed within and across organizations. Moreover, and perhaps more importantly, we are also without a clear understanding of what the various parties, aside from the vendor, *gain* from these interactions. Further, the literature on referencing portrays this activity as idiosyncratic to particular adopter settings. By contrast, we describe the role through looking at the expanding work of the of the packaged enterprise system users; in particular, how they have come to take on increased tasks in the package adoption and development process.

## The Expanding Role of the Packaged Enterprise System User

The term *user* has been an evolving one since first conceived at the birth of corporate computing. Initially, painting a picture of an actor who carried out a limited range of work, roles, and interactions, it has come to be expanded both empirically and conceptually. Talking about the diffusion of the first organizational information systems, Friedman (1989) identified how it defined those who worked directly with an installed system, but who remained predominately outside the shaping of these technologies (so called *end users*). More recently, it has been recognized that users have become central players inside the design, development, implementation, selection and procurement of systems.[4]

[2]Reference sites are frequently mentioned within Marketing circles (e.g., Kotler et al. 2009; Manning and Reece 2007) and their importance acknowledged in Business Marketing (e.g., Henthome et al. 1993; Mitchell 1998). Yet as two prominent Marketing scholars note, there has been an "almost complete lack of research" such that it "seems to be one of the last white areas in business marketing" (Salminen and Möller 2003, p. 134).

[3]Citing the words of a sales director working for an IT vendor, Jalkala and Salminen (2010, p. 9760) note how the reference site was his "only means" to demonstrate the potential benefits of his firm's IT solution to prospective customers. From the various vendors studied, Jalkala and Salminen emphasize how none possessed the established mechanisms for calculating "delivered customer value." This was because not only was this hard to capture and measure but this value was only realized some years after project completion.

[4]Research on requirements capture, for instance, where users were once seen as informants or sources of objective requirements (Royce 1970), depicted users as coproducers elaborating and determining requirements (Robertson and Robertson 2006). In design, the user has been reconceptualized from a passive participant to a development partner in the construction of workplace systems prior to implementation (Bansler 1989; Bødker and Gronbaek (1995) and after (Holmström and Henfridsson 2006). In the adoption of technologies, users are also recognized as central for redeeming and enhancing usability and utility (McLaughlin et al. 1999; Nambisan et al. 1999; Voss et

The proliferation of the packaged enterprise system has further stretched the concept of the user (Light and Sawyer 2007; Sawyer 2001). As generic enterprise resource planning (ERP) and customer relationship management (CRM) packages have become central to the operation and strategy of public and private sector organizations, we see the emergence of various kinds of more or less specialist labor associated with these systems. This includes not only technical experts but functional specialists within the user organization in areas like accounts, payroll, HR, marketing, customer service etc. Although adopting organizations have often utilized external forms of expertise for the acquisition and maintenance of these systems, they have also developed a certain level of internal technical and business capability to engage and manage external experts, organize and carry out implementation, configure the package, facilitate upgrades and other post-implementation activities etc. (Brehm et al. 2001).

The changing character of the adopter environment in packaged enterprise systems continues to extend the role of the user. It is widely acknowledged, for instance, that users play a role in facilitating the acquisition of new systems (Das and Buddress 2007; Howcroft and Light 2006; Light et al. 2001; Swan et al. 1999; Verville and Halingten 2003). But this is not only the procurement of systems within their *own* organizations but increasingly that of *other* adopters as well (Currie 2004; Fincham et al. 1994; Finkelstein et al. 1996). There are a number of reasons why this has happened. First, potential adopters face enormous difficulties in selecting between multiple vendor offerings in the context of incomplete information about their performance and fit to a specific organization (Tingling and Parent 2004).[5] Second, existing users acquire detailed knowledge of the strengths and limitations of these systems and the vendor and its modes of working and strategies (Fleck et al. 1990). Third, despite the fact that this experience is extremely hard won, users appear surprisingly willing to share this with others attempting to acquire these systems. It appears that users have stepped in to fill a gap in knowledge through playing a new role in the adoption process.

## *How to Understand this Expansion of the User Role?*

### Social Actor

In order to make greater sense of the activities of the reference actor and the development of these interorganizational relationships that allow for the sharing and exchange of knowledge and experience, we find it necessary to develop a more contextual view of the user. We are not alone in arguing for such a move. A number of scholars rallied against the atomistic portrayal of the user developed in early research. In particular, Lamb and Kling (2003) problematized studies that presented a user devoid of organizational context and able to exercise individual discretion when working with workplace information technologies. Lamb and Kling argued that users were entangled in an organizational and institutional ecology that could pattern their interaction with technology (see also DeSanctis and Poole 1990, 1994; Orlikowski 2000; Star and Ruhleder 1996). To rebalance the analysis they put forward the notion of social actor, which set out a research template focusing on how users' interactions with technology were influenced at multiple levels. They write: "A social actor is an organizational entity whose interactions are simultaneously enabled and constrained by the socio-technical affiliations and environments of the firm, its members, and its industry" (Lamb and Kling 2003, p. 218). This could mean that a user adopting a technology might be influenced by organizational affiliations where there would be obligations and expectations coming from the work context about the extent to which a system should be used. There may also be similar obligations and expectations at the level of the profession and industry about how technology might be used.

This raises the question as to whether there are further levels that need to be addressed at the interface between individual organizations, professions, and industry relevant to understanding the role of the reference actor. Are there new kinds of affiliations and expectations arising from the packaged enterprise systems adoption context that might encourage the sharing of knowledge and experience among adopters?

### Social Shaping of Technology and Biography of Artifacts

The social shaping of technology and connected biography of artifacts perspective have proposed a method for looking more systematically at the range of interlocking contexts in which packaged enterprise systems emerge and evolve. SST drew attention to how innovation did not end when the artifact

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al. 2009).

[5]It remains extremely hard to assess the properties of a packaged enterprise system as these cannot be readily disclosed by inspection in itself but are only finally verified in organizational implementation and use (Tingling and Parent 2004). This leads us back to concerns with the difficulties of assessing complex software products, recognized as a longstanding issue ever since Williamson's (1985) seminal work on informational products.

left the vendor premises but could continue in implementation and use (Williams et al. 2005), throwing light on the cycles of domestication and appropriation as adopters adapted systems to meet local organizational circumstances, and the wide range of actors, particularly intermediate and final users crucial in getting new systems to work (Fleck 1998; Fleck et al. 1990; Pozzebon and van Heck 2006; Sørensen and Williams 2002; Williams and Edge 1996). Since these cycles could be played out across multiple locales and extended time frames, scholars sought improved research templates that could capture the increased range of intertwining settings involved in the evolution of a software package. The BoA approach, which emerged to explain the success of solutions like ERP (Hyysalo 2010; Pollock and Williams 2009; Williams and Pollock 2012), built on the suggestion that these systems were

> heterogeneous assemblages of human and material elements [that needed to be studied not as discrete artifacts but as] communities of software companies, customers, professional associations, different kinds of hardware and software, implementation procedures, practices, and rhetoric spanning time and space (Koch 2005, p. 43-44).

In contrast to the idea that packaged enterprise system development involved limited engagement between vendors and users (Howcroft and Light 2006; Keil and Carmel 1995; Regnell et al. 2001; Sawyer 2001), the BoA approach threw light on how vendors developed intricate and lasting relationships with (parts of) their existing customer base (Pollock and Williams 2009). This was exemplified most forcibly through the playing out of *generification strategies* (Pollock et al. 2007), where vendors set about prolonged processes of selectively accommodating and sorting requirements in close relationship with existing and prospective user organizations to produce generic solutions.[6] Package vendors selectively develop new functionality to cater for certain user needs and not others. Requests for developments are assessed within the vendor organization from the point of view of crude economics (the size and importance of a particular user market), against various reputational criteria (the standing of a user, its representativeness and prominence, etc.), and the capacity and willingness of an adopter to play a role in the further development and diffusion of the vendor system. This latter aspect can include agreeing to become a vendor lighthouse or reference site among other things.

A corollary of this focus on generification was that it provided insights into how users could respond to these strategies. David (1985) suggests no user wishes to end up an "angry orphan." His term described those who bought software only to find because of poor subsequent adoption that it was no longer supported or developed by the vendor (i.e., kept up to date with new functionality or in line with wider business improvements). This was potentially damaging for adopters who may not only have invested millions of dollars in an ERP system but similar sums in implementing and embedding it within their organization. The notion captures how it is very much in a user's interests to protect a sunk investment and how this could include actively searching for ways to improve product adoption.

To summarize, we supplement Lamb and Kling's multiscale viewpoint with insights from the BoA approach to analyze the reference actor as a subcategory of the broader social actor role. This suggests that those adopting a packaged enterprise system are not just influenced by professional or organizational factors but also affiliations and expectations coming from within the package community (Koch 2005). Moreover, in studying the interactions between adopters, this gives us the opportunity to understand why there is an emerging intermediary mechanism for providing accounts of the capacities and benefits of packaged systems. It is also a context, however, given the long life of these systems and the changing nature of vendor commitments to particular markets, in which there is the possibility of strained commitments and relationships between vendors and reference actors. Therefore, in this study we focus not only on the emergence of reference actors and the work they do but how they become entwined in the politics of packaged enterprise system development and acquisition.

## Data and Methods

The importance of the reference actor became apparent to us in the course of over a decade of BoA studies on packaged enterprise systems. These studies led to long-term research relationships with the various actors involved in the development and shaping of a new enterprise resource planning (ERP) module that we call Campus. We researched how one of the world's largest software vendors (referred to throughout as SoftCo) attempted to enrol the help of a number of its key users in selling the Campus module and related products.

[6]Generification strategies are an array of techniques and interactions that vendors use to prioritize certain market segments and user requirements over others. As vendors recycle standard products across ever more user contexts, this presents them with a seemingly impossible challenge (Pollock and Williams 2009). With the growth of the heterogeneity of the user base come increasing demands for new functionality to address areas not yet covered by the package. Not all needs can be accommodated, however, for reasons of complexity and cost.

| Table 1. Key Facts About ERP Penetration in Higher Education | |
|---|---|
| Diffusion of ERP within higher education | Universities, as is the trend more widely, buy off-the-shelf solutions. There are few systematic studies of exactly what has been procured, but key reports of recent years suggest the penetration of ERP in the UK to be extensive (JISC 2003). The same is true of North America. Gartner, for instance, back in 2002, estimated that within a couple of years more than 80% of U.S. universities would have acquired an ERP package (Rivard 2002). Today it would be unusual to find a major university that had not implemented, either partially or fully, a packaged ERP. |
| Main vendors in higher education market | Many of the larger ERP and CRM vendors have attempted to enter the higher education market with varying levels of success (Yanosky et al. 2002). SAP and Oracle both cater for universities as part of their wider public sector offerings and provide university tailored versions of generic modules (HR, Financials, etc.) as well as a small number of higher education specific modules. This latter functionality relates to student management. There are a number of mid-range ERP providers with more established university offerings (SunGard, Jenzabar) as well as smaller vendors focusing specifically on the university market (Tribal, Datatel, Agresso, OCU). These latter providers have had much success (Zastrocky et al., 2004). Jenzabar, in the period of the study, had 115 customers for its university solution. OCU, a Spanish vendor, had 82 customers for its solution (Harris et al. 2006). |
| How have vendors tailored systems for the higher education market? How were systems performing during period of study? | Oracle has had considerable success in the UK and U.S. higher education market. It developed its university functionality by tailoring existing modules and acquiring its Oracle Student System through taking over a small Australian vendor (Zastrocky et al. 2004). During the period of our fieldwork Oracle had already established a good user base in the UK and the U.S. Several hundred universities were running its standard HR and Financials modules and there had been more than 20 adopters of its Oracle Student System (Harris et al. 2006). SAP, by contrast, developed its own offering, the Campus Management system. During the same period, while there were more than 300 universities running its standard modules, there were still only a couple of adopters of its Campus Management system. |
| Early adopters | Civic and Ivy were among the first adopters of SoftCo's university offering. Civic is a public research university based in the northeast of England. It is a member of the Russell Group (of the UK's top research universities) and has a student population of approximately 20,000 and a staff of 5,000. Ivy is a public research university based in the southern part of the U.S. It has a student population over 20,000 and a staff of 2,500. |
| Intensity of reference actor activities | Our review of the extant literature from IS research on packaged enterprise systems procurement would suggest that reference actors are increasing. Many recent procurement studies flag this role (Das and Buddress 2007; Howcroft and Light 2010; Light et al. 2001; Swan et al. 1999; Verville and Halingten 2003). Moreover, our research on Civic points to how the work of a reference actor can be highly demanding. During certain periods of our fieldwork, for instance, Civic was hosting or demonstrating their systems to a potential prospect almost on a fortnightly and sometimes weekly basis. More basic interactions, like taking phone calls or responding to e-mails to answer questions or set up visits, were more common and could occur daily. |

This includes an American and a British higher education institution (which we describe as Ivy and Civic respectively) that were two of the first universities worldwide to implement SoftCo's ERP system. They also successfully worked with the vendor as pilot sites to help it build the Campus module. In the paper, we focus specifically on a more recent collaboration, Civic, developed with SoftCo as it set about a project described as e2r (enquiries to registration). This was an attempt to integrate various modules surrounding the student admission and registration process within the wider ERP system (see Table 1 which outlines some of the key information about the development of ERP within the higher education market).

The BoA approach of deploying multiple studies in different settings within the packaged enterprise system marketplace guided us to compile data on referencing from several sites within and outside the UK (Pollock and Williams 2009). The bulk of what we report here stems from our excellent access to Civic, where we had built up a long-term relationship with members of the IT team. This includes the Civic IT Director, who gave us full access to his e-mail for about 18 months. This meant we had unmediated access to the various conversations he conducted with the vendor, colleagues, other reference actors, and prospective customers. This source alone meant we were able to collect a substantial amount of material (when printed out these e-mails fill several large ring binders).

| Table 2. Data Collection: Type and Number | |
|---|---|
| Interviews (carried out in three distinct periods between 1998 and 2008) | • Conducted approximately 40 semi-structured (and tape recorded) interviews with members of Civic IT team, users, and university managers.<br>• Conducted 5 semi-structured (and tape recorded) interviews with SoftCo employees, which included the Pre-Sales Engineer, Solution Manager, and Sales team.<br>• Conducted 1 semi-structured (and tape recorded) interview with Ivy IT Director as well as a number of more informal conversations.<br>• Conducted approximately 20 semi-structured (and tape recorded) interviews with members of local government procurement team. |
| Access to e-mail discussions (from late 2005 to early 2006) | • Full access to Civic IT Director's e-mail for more than a year (collected several hundred relevant e-mails). This contained exchanges between Civic IT Director and vendor, other SoftCo users, and potential customers. |
| Observations (from 1998 to 2001) | • Observation of Civic IT project meetings (approximately 2 hours a month over a 2 year period).<br>• Observation of vendor interactions with pilot sites (over a week long period at vendor site).<br>• Observation of local government CRM procurement (attended meetings once every month over the period of a year).<br>• Accompanied local government procurement team on a reference site visit. |
| Focus groups (in 2000, and a further one in 2007) | • Conducted 2 focus groups with users of ERP system.<br>• Conducted 1 focus group with Civic IT team and wider university managers, focusing specifically on their role as a reference site (all focus groups were tape recorded). |
| Attending industry conferences and vendor user groups (between 2005 and 2008) | • Attended 1 industry conference in the U.S. where we could observe interactions of SoftCo employees with prospective customers. Talked to prospective customers at specifically staged selling events (i.e., a SoftCo breakfast).<br>• Attended 5 vendor user group meetings where we were able to talk with other universities acting as references sites. |
| Conducting follow up e-mail discussions (over period of research, from 1998 to 2008) | • Conducted over 20 follow up e-mail discussions with various actors: IT Manager at Ivy; IT Director at Civic; Solution Manager at SoftCo; Pre-Sales Engineer at SoftCo, |
| Collection of various other data sources | • Collected and analyzed internal university documentation and project reports, vendor presentations, web site material, and published news articles. |

We were also able to interview members of the IT project team and to observe them in meetings with each other and vendor staff. With access to e-mail, we were able to keep up to date with events and issues as they arose. This helped focus interviews, for instance, where we were able to ask respondents specific questions (such as how they were reacting to the latest vendor request to host a reference site visit). We also ran focus groups with university employees and managers involved in the project where we presented and received feedback on initial findings from our study, focusing specifically on their role as a reference actor.

Finally, we interviewed a number of SoftCo employees about their relationship with reference actors. This included asking them about the attributes of a good user site and the criteria that led them to work closely with some users and not others. We have also visited the vendor premises to observe their interactions with customers. We were able to interview other reference actors involved with SoftCo. Many of these we met through attendance at industry forums, including SoftCo user group meetings and other events where SoftCo marketed its solutions.

These data sets are further contextualized and informed by our aforementioned set of studies of CRM in the public sector. For instance, this includes a related study on the procurement of a generic CRM system (Pollock and Williams 2007) where we carried out a year-long observation at a local government office that included one of the authors accompanying members of the procurement team during a reference site visit. Table 2 lists the type and number of data collected. Figure 1 describes the time line of our data gathering in relation to the Civic ERP implementation, the development of the e2r project, and this further procurement study at a local authority.

This considerable body of data has been compiled and inductively analyzed adhering to the principles of naturalistic inquiry (Lincoln and Guba 1985) and constant comparison

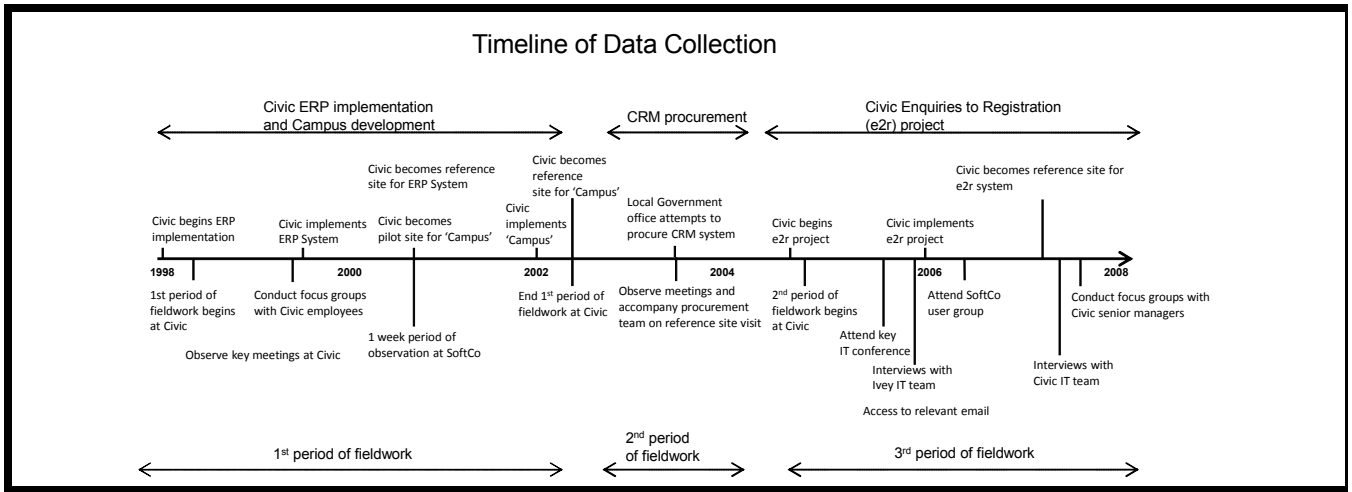


**Figure 1. Time Line of Data Collection**

techniques (Glaser and Strauss 1967). The analytical process was initiated in the course of data gathering during which the first author coded the accumulating e-mail and interview data based on *in vivo* phrases, terms, and labels offered by the informants. He clustered these under recurrent topics, again using *in vivo* categories such as referencing, demonstrating the system, how to organize demonstrations, and interchanges with prospects. While the topic of the reference actor emerged spontaneously during interviews, the first author gradually began purposive sampling related to this term (Clarke 2005; Strauss and Corbin 1990). This involved identifying those segments of the adjoining data sets that were related to reference actors as well as including direct questions about referencing in interviews to understand different aspects of what being a reference actor entailed, why the interviewees and their organizations volunteered to carry out these activities, and how this related to other forms of organizational work.

The *in vivo* entries and categories were further compared in a second phase of coding to gain a sense of the variation within these entries/categories and to clarify emerging links and interrelations. This allowed us to collapse various *in vivo* categories into a set of first-order categories that followed the similarities in our informants' own classifications of their actions. As the links and interrelations between first-order categories became clearer we collapsed these into researcher-induced themes cast at a more abstract level, yet still informed by our informants' own terminology. This more logically ordered set of categories included the process of becoming a reference actor, what reference actors do, the requirements of being a reference actor, tensions within user organizations, and so on. Up to this point, the process followed grounded theory (Glaser and Strauss 1967) and resulted in a structure of second order categories, their subcategories, and entries therein.

Before finalizing the emergent framework, we deemed it necessary to take further steps to ascertain how the developing findings related to the temporal and spatial contexts of our informants (Clarke 2005). To this end, we constructed several narratives to gain insight into how different entries and categories were related chronologically and across organizations. The sequences in the interactions between Ivy and Civic and SoftCo were particularly informative of how the categories of our theory interrelated, as well as pointing to whether and how outliers were relevant and/or provided contradictory evidence. This helped finalize our emergent framework concerning the evolution of relationships between reference actors and the vendor, and the mutual dependencies and mixed alliances of the workforce (Clarke 2005).

After this, we formed a presentational narrative that conveyed the findings through the emergent secondary categories as well as attempting to retain a sense of the evolving relations on-going between SoftCo and Civic (see Flick 1998). We selected quotations that capture the thrust of the data within a given analytic category or show key empirical links between categories. Finally, our efforts to refine the emerging framework included testing the data against several alternative explanations, such as professional self-interest, revolving doors between vendor and user occupations, the creation of multiple types of benefits, and vendor capability in manipulating user organizations. Most of these explanations found some support in some subset of our data, but we felt they were not robust enough to stand alone, and were thus incorporated into our treatise on reference actors only insofar as relevant.

## Everybody Benefits: Affiliations, Collaboration and Mutual Interests

### *Attachment to System and Joint Responsibility in Development*

We begin our empirical account with our observations of the activities of the IT Director at Ivy. Our attention focused on this reference actor because he appeared to spend a great deal of time actively promoting and advocating a newly implemented system to others in the sector. His university had been one of the pilot sites in the development of the new SoftCo higher education Campus module. Since "go live" he had expended much effort in hosting prospective adopters demonstrating this and other related parts of the system. The IT Director talks about why he considered this work necessary:

> We think it is in our best interests to get other universities to adopt, especially bigger universities…. Because it helps the product to develop….my main concern was that if we did not get other customers to use it, that the product will become very old and specific and we didn't want that. [SoftCo] didn't want that, and we didn't want that.

He is clear that his efforts do not simply serve the interests of the vendor. What he goes on to describe is how there had been difficulties in encouraging the vendor to develop and tailor products for the area (this was because higher education represents a relatively modest income stream for large package vendors). He is worried that if he does not help recruit further customers for Campus, the vendor will lose interest in this area as a viable and attractive market. Lack of a growing customer base could mean that the higher education ERP offerings might not be further developed. Thus, only a short time after having invested heavily in the software, he might have to begin the process of looking to buy an alternative solution (David 1985). He was asked to describe the kinds of things he and his colleagues did when acting as a reference actor:

> When we demo the product to, for example [Prospect A] came to see us the other day....They don't know whether they are going to [a rival vendor] or what to do. Well what impresses people is to show the web applications, because then you show what does it mean to the customer, to the student….I think what has really helped sell the product, is to open a view of it, and the web is a wonderful view into all of the richness of the functionality.…So I think that's really where we have been able to show.

Along with running demonstrations, he also spends much time traveling around the country and sometimes overseas to promote and present the systems at industry forums:

> Well of course, we present at [major IT conferences] and we present at some of the conferences what we have done. And yes it is a sense of marketing, in that we need to market it. First of all it helps the prestige of our university and it also proves that we were right in making such a risky choice.

Through speaking at events he is clear that he is helping to market the vendor system. Winning further customers would also appear to validate his own choice of selecting SoftCo. The vendor was seen as risky not only because of the uncertainty regarding whether it would invest in the area but also because it did not have much of the necessary functionality available. Ivy selected SoftCo based on a promise to develop further context-specific software. It was now particularly important that the vendor had a reference actor available to help it keep its commitment. The IT Director outlines how:

> It was very important that we went live, because they needed a site, and now they can point to us and say that "we have a live site." And now it is important for us to help [a New University Customer]. We have spent like 7 weeks of training for their technical staff, and they have come down, at no cost. We have not charged them anything because it is in our best interests that the next university is successful. And they will do the same for the next university. Universities tend, as you know, to be very sharing of information—unlike in the business world. We compete but we don't compete. Especially these universities are not our direct competitors therefore, it's not, it would just not be professional to just not give them help. And because we do have a lot of very specific knowledge about the product that doesn't exist elsewhere.

The Ivy IT Director points to how he is doing everything to ensure other adopters are successful in their implementation so that they too will become reference actors. This goes as far as providing training and making available specific knowledge about the system. Moreover, echoing Lamb and Kling's (2003) discussion of institutional affiliations and identity, the reference actor describes how there is no financial compensation sought. In his view, it would be unprofessional not to offer help to adopters and he expects these actors to do the same for the next wave of customers.

To summarize, our data is ripe with examples of how reference actors engage in a range of activities to help sell the

packaged enterprise system. On the face of it, our fieldwork lends support to the view that this kind of collaboration is beneficial for both vendors and users. Reference actors are willing to demonstrate and promote these products on the vendors' behalf. They are drawn to do this because they believe that building the customer base will ensure continued vendor interest and thus investment in their particular market segment.

## *Reference Actors Mediate Between Vendor and Market*

While reference actor visits and other activities would appear to be about letting potential adopters meet and interact with impartial actors (e.g., Voss, 1985) and observe the technology in everyday use, we want to show how these occasions were rarely spontaneous but highly staged events (Smith 2009). Below we show some of the different ways in which this staging occurs.

### The Organization of a Visit: Rolling Out the Red Carpet

Requests for visits typically come through the vendor, either from a dedicated employee responsible for managing the sector-specific solution or from vendor Sales staff. Below is an e-mail request from the Campus Pre-Sales Engineer to Civic:

> I have been in Oslo two weeks ago working with [Prospect B]. They would like to come to [Civic] with about 4 people, maximum 3-4 hours at your site, for a reference visit.…From the request from [SoftCo] Norway: [Prospect B] would like to talk to the owners of the solution and if possible also those who have run the implementation project(s). "Lessons learned" in the implementation projects will most probably be most important for [Prospect B]. Would you be willing to host a reference visit for [Prospect B]?

It is common during initial approaches that there is some discussion of when and for how long the visit should occur, the similarity between the host and the prospect, and some of the areas on which potential adopters might wish to focus. Such requests could often go as far as detailing the likely questions that a prospect might wish to have answered:

> [Prospect B] is interested in learning from other customers how they experience somewhat complex processes and how different "new" modules are functioning together. Hence, the level of questions will be i) short description of the solution; how it works and modules involved; ii) stability of the solution; iii) ease of integration; iv) management of the solution (i.e., IT maintenance and support) (e-mail from SoftCo Pre-Sales Engineer to Civic).

Once notified of a visit, much work then goes on behind the scenes to prepare for the occasion. For instance, when there is an indication that a prestigious U.S. university wishes to visit Civic, the IT Director senses that there is much to be gained if this particular prospect can be convinced to purchase the system. He thus orders his team to make every effort to impress if a visit were to occur:

> I would like to roll out the red carpet if a group from [Prospect C] visit, however, I want to really gain some brownie points (and MORE!) from [SoftCo] because this would be a huge feather in their caps.

Vendor employees may play some role in a reference site visit. At Civic, the Pre-Sales Engineer was typically in attendance, but it was also common practice for carefully chosen managers and executives from further up the vendor's hierarchy to attend to demonstrate the vendor's commitment and interest in a potential customer. The visit of Prospect B to Civic, for instance, was seen to be of such importance that the SoftCo Solution Manager himself suggests he might travel over from Central Europe to attend, "in case [Prospect C] schedules a reference visit to [Civic], please let me know. I may join the visit on site. So far I think they are first having a conference call" (e-mail from SoftCo Solution Manager to SoftCo colleagues).

### Telling the Story

This staging includes not only the framing of the approach and the organization of the visit, the marshaling of certain key executives, but also the rehearsed way of presenting the system and its story. There were a number of devices for doing this. We mention only a few here, which include conference presentations and letters of recommendation.

As we have seen already, one important role for a reference actor is to speak at industry conferences. In the discussion below, the Civic IT Director has been invited to speak at the annual SoftCo conference and to carry out a number of supplementary activities. These are described in an e-mail from a SoftCo employee specializing in customer marketing to Civic's IT Director:

> With less than seven weeks to go until the conference, I am asking each…speaker, if you would be prepared to do any of the following additional activities: 1. Video interview - The interview would last about 20 mins and you would get to approve the short video "success story"…. 2. Meet Our Customers Pavilion - this is a very good opportunity for other Higher Education organizations to come and talk to you on a one-to-one basis. Likewise, it is a great opportunity for you to meet fellow reference customers and increase your network among other [SoftCo] Public Service customers….3. Press - would you be prepared to speak to UK press?

Sometimes a reference actor could be asked to write directly to a prospect to allay potential worries, to verify the existence of other users, and to underscore the benefits of the system. In the example below, a SoftCo executive asks a reference actor (Civic's IT Director) to write to a prospect in India:

> Would you be able to write a letter of reference for me to a prospect in India?…If you are able to do this I suggest you keep it short and simple. Feel free, of course, to write whatever you feel appropriate. I hope this is not too much of an imposition. The prospect seems to want to simply verify that we have a solution running in Universities. I guess it's like a very, very abbreviated RFQ [Request for Qualification] process.

The message ends with the executive emphasizing the reference actor is at liberty to write whatever he wants in the letter, and that he, the vendor, will not participate further in the exchange as it "would not be proper" for him to play this intermediary role.

### Hearing the Story Without the Vendor

Perhaps because potential adopters realize that these events are arranged to impress, they sometimes attempt to bypass the normal vendor channels and "cold call" a reference actor, often with little information and certainty about whether in fact they are writing to the correct person. This was the case in the initial approach from Prospect D to Civic:

> I am currently working on a student system software selection project….Over the past six months the University has gone through a very formal software selection process and we are now in the final stages of making reference calls regarding the vendors we have reviewed….I am not sure if you are the correct person to contact, but would appreciate it if you could put me in touch with the correct person if you are not. Please let me know if this is something [Civic] would be willing to discuss.

To summarize, some of the roles performed by reference actors include mediating between customer prospects and vendors in different ways, ranging from conference appearances to staging site visits. The above quotes further underscore how reference actors inhabit a space where they are independent yet aligned to a vendor. Seemingly, prospects are aware of the staged nature of the interactions but appear to find them useful nonetheless. This begs the question of what exactly is being created in these interactions.

## *Constructing Benefits*

What we want to show is that these actions and interactions were not just about presenting the system but also working to actively create it as an object of consumption for others. What we mean by this is that reference actors are not simply articulating pre-given qualities but actively constructing the properties of the systems for prospective adopters (Callon et al. 2002; Mallard 2012). Our fieldwork showed that reference actors played a number of different roles in this regard.

### Provide Local Comparability: The Sited Nature of this Knowledge

We point first to the "sited" nature of this knowledge. That is, the usefulness of a reference actor for a potential adopter appeared to hinge on the perceived similarity between the site and the prospect (Salminen and Möller 2006). We saw this most explicitly when Prospect D specifically sought out and approached Civic:

> [SoftCo] has been received very favorably at [Prospect D] and we are looking to speak with a school that has implemented the product in a fairly decentralized manner to understand the strengths and weaknesses of the product in this type of an environment.…[Civic] has repeatedly come up in conversations as being more similar in nature to [our University] and hence we would be very interested in setting up a conference call with you to discuss your implementation and the [Campus] product.

Civic appears to be a key reference for Prospect D because of the potential *organizational* similarity. Presumably, unlike other reference actors, it can provide specific and perhaps

unique information about the value of this product for this prospect's particular organizational structure. As the message says, they want to "understand the strengths and weaknesses of the product" in an organizational context similar to their own. While Civic appears able to verify the issue of specific value for this new prospect because of its potential organizational resemblance, other visit requests were sometimes scheduled on alternative kinds of resemblance. Prospect B was not a university but a financial organization (a student loan agency). A visit was scheduled nonetheless because it was thought that there were some *technological* similarities in the configuration of the ERP systems. This is made clear in a message from the SoftCo Pre-Sales Engineer:

> [Prospect B] are not directly doing student recruitment, but the similarity to your e2r project is that they also deploy an integrated solution of [SoftCo] CM, [SoftCo] CRM, [SoftCo] Portals and some other components to better support their business processes and service internally and externally.

Thus it appears that reference actors can play a special role in demonstrating the specific qualities of a system for a particular prospect both inside *and* outside the industry sector. This suggests that reference actors, while providing local site specific knowledge, also participate in the construction of another kind of information concerning generic comparability.

### Create (More) Generic Comparability

The usefulness of the reference actor for the vendor also appeared to revolve around their ability to describe the benefits of their systems to organizations generally. An e-mail from a SoftCo executive to Civic, for instance, asks Civic to provide information about just how work processes have been improved after the implementation of Campus. Apparently this information will be used for a presentation the SoftCo executive is giving to existing and potential customers: "I am trying to build a case for the benefits [SoftCo] can bring to the management of this whole business area." This is a different kind of information. The executive is not looking to highlight the benefits of the systems for some customers but potentially a wide range of users across a number of user scenarios. He asks a further question: "What are the top four or five 'pain points' for the Recruiter, or the Admissions Officer, or the VP of Enrolment Management?" The vendor executive is asking the reference actor to translate the information into a format that will show improvements for whichever national setting in which the system happens to be finally located: the needs of the recruiter (European context), the admissions officer (UK context), or VP of enrollment management (U.S. context).

The vendor executive moves on to ask about the potential benefits that the system might bring to address these kinds of problems:

> What would be the potential benefits or (measurable) value in implementing a software solution to address these pain points? For example: Improve responsiveness now, and retention rates later, by having a single view of all student data. Improve student experience by 20%. Improve effectiveness of recruitment using all channels (including self-service). Enhanced recruitment efficiency and productivity 10-20%. Increase retention by 10% (e-mail sent from SoftCo Executive to Civic IT Director).

The vendor attempts to actively frame how the reference actor should provide this evidence. It appears that he wants a picture that shows a clear contrast: "What I want to imagine is a 'before' and 'after' scenario of activities with a technical landscape to support this change" (e-mail sent from SoftCo Executive to Civic IT Director). This is a request that the reference actor sets about constructing as we see next.

### Making the Benefits Exportable: Constructing the Before and After Picture

Shortly after Civic went live with their e2r system, they conducted a post-implementation review. A Civic accountant was tasked to collect information about the benefits achieved. Several weeks later, her study complete, she circulated a draft report to the wider IT team. The IT Director responded to the accountant, asking if the various savings and efficiencies could be structured according to the before and after format described above:

> I would suggest a couple of additional points should be added on the Benefits section:- 1) How much Time/Resource was consumed in processing an Application under the "old" system[?] How much Time/Resource is consumed under the "new" system? I understand that 50% of applications are being received electronically now. How much admin time has been saved across the University?

Here the IT Director wishes her to *quantify* the time and resource reductions, the new kinds of information created, and

also the value of there being a reference actor on behalf of the vendor:

> Now that consistent and accurate management information is available immediately…what is the VALUE of this information? How much management/admin time is saved in the creation and distribution of this information? How can this be quantified?...How can [Civic] get a reasonable comparison between the numbers/quality of the applications which we are processing this year compared to what might have happened if we were to have continued with the "old" systems?...What is the value (if any?) of our new position as the [SoftCo] "lighthouse" HE institution? Can we extract any better value from this…? Please note that I would find it difficult to place a value on this or give any evidence that it has/will be of benefit, but it might have a substantial payback if managed properly.

The accountant, however, replies that she is unable to translate these aspects into a tangible or quantifiable benefit, but she notes them within the document nonetheless:

> Whilst I am unable to place any quantifiable value on any of the benefits you mention, I have amended the report in the benefits section so that it does now make specific reference to administrative time savings, management information, [SoftCo] lighthouse.

To summarize, because of the sited nature of this knowledge, one role of the reference actor is to provide a local comparability between its organization and that of the adopter. The prospect seeks evidence that the vendor has the necessary software and, importantly, that it will work in their specific context. Thus adopters predominately look to reference actor organizations that are similar to their own. Reference actors are seemingly in a position to offer a particular kind of reassurance in this respect. Another role of the reference actor is in creating (a more) generic comparability between its site and a range of adopter contexts (typically within the specific sector but, in some cases, outside, in allied or connected business areas). Vendors encourage reference actors to produce and frame evidence in a way that shows that the software will work *across* contexts. Thus a further role of the reference actor appears to be in collating and transforming local knowledge so that it can be applied elsewhere. The benefits and properties of packaged enterprise systems are not self-evident, however. Transforming these into quantifiable values so that they can travel, while not impossible, requires a certain amount of skill and competence, and this can be a difficult process for the reference actor, as we have seen.

### *Shaping How Vendors Act in the Market*

The affiliation between reference actor and vendor provides benefits for both parties. One outcome of this relationship, for instance, was that a reference actor was in a position to shape a vendor's perspective of its market. We show this, first, by discussing how a reference actor attempts to prod the vendor in certain directions and then, second, when this fails, how it engages in more vigorous efforts to shape vendor actions.

The primary occasion when a reference actor might shape the behavior of a vendor is when there are potential new customers to be won. For instance, when it was first known that Prospect E was looking to purchase a new student management system, the vendor contacted various relevant reference actors to ask them to help it wield some early influence. Civic responded to SoftCo by providing it with a list of people it knew at Prospect E, to which a vendor executive responded, asking them for talking points. He received a detailed reply suggesting the kind of pitch required:

> Discussion points which you might want to raise with Christine may include:- A) High level introduction of [SoftCo], the HE team and [SoftCo's] commitment to make a success of HE - especially in UK. Push the medium/long term reason for buying [SoftCo] and the ERP (high velocity, consistent/accurate data everywhere); B) Separate your call from any Sales team activity. Christine is not intimately involved in the project. Pablo [Prospect E] seems to be the IT guy running the project. You can claim that you run the "high ground" to ensure that clients can get global support, become part of the "bigger" family of [SoftCo] HE Universities. (Invite her to [the SoftCo Higher Education User Group] but she may be restricted by procurement rules); C) Describe your/Harald's visit to [Civic] and [New University Customer] last autumn. Look for parallels and ways of linking [Prospect E] to either [Civic] or [New University Customer] (don't go overboard with [Civic] - she's an intelligent woman!); D) Explore what a "dream solution" would look like (What do you want? How will you know when you've got it?

SoftCo duly sends a letter to Prospect E incorporating many of the points (in some cases using the same phrasing as

above). While in the earlier discussion we saw how it was the *vendor* framing how reference actors interacted with potential customers, here we see the reverse where it is the *reference actor* framing the vendor's interactions with prospects. Indeed, on this particular occasion, the framing *appears* to have been successful because Prospect E decides to select SoftCo as their preferred bidder.

The shaping of a vendor's view of the market may equally be about conveying information when things do not go as planned. This can go as far as to exert direct pressure on a vendor to change how it interacts with a particular community. For instance, prior to the finalization of the Prospect E procurement, SoftCo made a further presentation to this customer with regard to a further related acquisition (a document management system). The Prospect E IT Director (Christine) reports to the Civic IT Director of the "awful presentation" made by SoftCo who in turn writes to the SoftCo executives to complain:

> I have just returned from a Russell Group meeting in London today. I feel that you both should be aware of quite how angry Christine…IT Director of [Prospect E] University is about [SoftCo]. She was beside herself with rage over the awful presentation that [SoftCo] made early this week to [Prospect E] in response to an invitation to bid for a Document Management system. [Prospect E] had two highly professional presentations from two other vendors but the [SoftCo] presentation was totally incompetent and unprofessional. She walked out of the presentation because it was so hopelessly inept....I am finding it becoming increasingly difficult to promote the [SoftCo] cause in other Universities in the UK when [SoftCo] seem determined to shoot themselves in the foot at every opportunity! Sorry for sounding so negative but I have never seen Chris so angry and disappointed before.

In this case, the reference actor appears to be operating as something of a critical friend, reporting on how the wider community is viewing the vendor. He is also involved in a kind of multilevel game (Dutton 1992), however, because he then forwards the same e-mail to the Prospect E contact (Christine). He writes:

> See below an e-mail that I have just sent to [Executives at SoftCo]. If you give them until mid-morning tomorrow and then send in a "Howler" e-mail to both of them, it will be very interesting to see how quickly they respond!

Another SoftCo executive then contacts the Civic IT Director asking for more details on what exactly went wrong, to which he is sent a long list of problems. This is followed by a further e-mail where the Civic IT Director questions whether SoftCo are committed to the higher education market. He refers to a forthcoming meeting where many existing and prospective adopters will get together with the vendor:

> I'm looking forward to seeing you in Paris next week.…I am going to ask a potentially awkward question (if I get the chance) but I would like to give you some prior warning.…I want to know whether [SoftCo] are really committed to growing a business in HE.…[SoftCo is] certainly NOT showing the signs of being a medium/long term winner in this sector. I cannot see that SoftCo are making any real investments in HE developments, I cannot see any evidence that [SoftCo] are winning any new Universities (certainly in the UK).

This particular reference actor took this issue of commitment further by escalating it up the SoftCo hierarchy and writing a letter directly to the SoftCo CEO, complaining that they were not doing enough to sell their systems within the higher education market.

To summarize, we have seen how the reference actor is not passive but looks to actively shape how the vendor acts in the market. It is also clear from what we have shown that the collaboration between a reference actor and a vendor can be convoluted, both parties hoping to reap benefits from the interaction. What we want to demonstrate now is how some of the tensions hinted at above begin to manifest themselves.

## *Tensions Between Reference Actor and Vendor*

### Costs of Being a Reference Actor

The work of a reference actor is a time-consuming activity. The users we observed with regard to the Campus module were either planning to host a prospect, in the middle of running a visit, or had just finished meeting with a prospect. All this took time away from their main professional roles, which were related to enhancing the usability of the newly adopted system for their organization. Part of the reason why they ran reference visits was because they were obligated through initial procurement contracts and they also received an honorarium:

> we already have a contractual commitment with [SoftCo] UK to offer up to 12 reference site visits

> per annum and if any prospects wanted a demo with a typical university set up, they can come here as one of these visits (plus we receive £1000 per visit for this) (e-mail from Civic IT Director to colleagues).

However, not all those in the University agreed that hosting prospects was time well spent or adequately compensated, and that they were being asked to perform a role that was way above that originally contracted. In particular, some of the wider range of users drawn into the IT project through their professional roles expressed concerns about acting as a reference actor:

> Although clearly we wish to help other universities and [SoftCo], I feel I need to make the point that if we're out promoting e2r to others, we're not focusing on the day job here, and the consequences of this for the University could be significant….Maggie [the Student Office manager], for example, has a huge job outside e2r and she's had to put a lot of it on the back burner for the last few months. I don't think it can stay there in the longer-term. If we answered [SoftCo] queries in any real depth, it would take quite a lot of time, and if this request is followed by similar ones, we could be in some difficulty. The odd general conversation with would-be purchasers is fine, but if [SoftCo] want more than this, shouldn't we start thinking about charging for consultancy? At least this would give us some modest income to backfill where necessary (e-mail from Civic Student Administration Manager to Civic colleagues).

Similarly, debates raged over the wider rationales for acting as a reference actor. Here one of the senior University managers expresses her uncertainty as to why they are doing it:

> What I find it hard to know, perhaps I should do some more reading or whatever, is exactly how important *we* are to them. How that relationship is, I know [the Civic IT Director] is always saying this is the market they are moving into, they really need you to know. But they are a great big global company and Higher Education is a miniscule little bit of what they do. They might just as easily say "oh, we're not going to concentrate on that." I mean I don't have a grasp of that, so I am just buffeted around by different arguments depending on whom I have just heard (taped discussion with Civic Pro Vice Chancellor).

The concerns expressed within this particular meeting were paralleled with ones found within the wider organization as the obligation to reciprocate and help fellow adopters was seen to be taken too far. Below we describe an example of how users set limits of collaboration amongst themselves. A message is sent from Prospect E to the Civic IT Director, suggesting that now that they have chosen SoftCo, they should explore common interests:

> Just to keep you up to date with our progress with [SoftCo]. We are still discussing terms and implementation plans, but are on track for a start in early April. We talked previously of the possibility of a joint meeting down here with yourselves and [New University Customer] at the start of our implementation. Does that still sound appropriate…? It would be of great value to us, and hopefully strengthen our community and its weight in [SoftCo].

The Civic IT Director responds positively offering help: "Sounds good to me. We will help you as much as possible." However, he is then chastised by his boss, who, copied into the message, suggests that he should be putting their own interests first: "Thanks for keeping me in the loop. Of course, collaborations to keep up pressure on [SoftCo] is a good thing. But remember we are also competitors" (e-mail from Civic Deputy Vice Chancellor to Civic IT Director).

### Not All Benefits Should Be Passed to the Vendor

Another way in which tensions were manifested was in relation to the new kinds of innovation developed by reference actors. The strategy at Civic had not simply been to localize their ERP system or build additional features for their site's specific use, but also to create design iterations that were potentially valuable to others. In practice, this meant they sought to diffuse knowledge and expertise, incremental bits of coding, and sometimes entire applications to other users in the sector and to the vendor. Sometimes this went as far as the vendor appropriating developments so that they could be included in the generic package and sold elsewhere. This situation was not without problems, however. To show this, we report on an exchange within Civic as they decided whether and in what ways to continue to share developments.

A programmer at Civic reports to his line manager, for instance, about a meeting he has just had with a SoftCo Pre-Sales Engineer:

> I've had a meeting with [the SoftCo Pre Sales Engineer] this afternoon to discuss the processing

> around modules at [Civic] and gave a demonstration of the MoFs system. He's asked if I can provide more information to him electronically including relevant specs and screen dumps of the application etc. I just wanted to check that it's OK to provide these details? This may seem a bit O.T.T. but understand that giving away such information may not be as straight-forward as it has been in the past with respect to intellectual property rights.

The programmer's hesitation is unusual in that he normally would provide information without a second thought. In recent weeks, however, an issue had emerged with regard to intellectual property and who exactly "owned" the local technological developments surrounding the system. While many of these had been designed by SoftCo programmers, others were developed in collaboration with Civic staff and some entirely independently of the vendor. There was now a discussion as to what should happen to these latter types of developments (i.e., whether the reference actor should receive a financial contribution if they were to be appropriated by SoftCo). The programmer's message is passed up the chain to the IT Director at Civic, who, in reply, suggests they should offer to license the application to SoftCo:

> Could you send a "formal" response to [the SoftCo Pre-Sales Engineer] (copied to me) in which you thank him for his interest, agree with him that the MoFs application is a really useful extension to core [SoftCo] functionality, thank him for looking at it. Then please suggest that we should get Joachim [the SoftCo Solution Manager] over to [Civic] in early October. Joachim needs to see how well the e2r solution hangs together with [Campus] and experience the level of "User Enthusiasm" for the full [SoftCo] integrated solution. Whilst he is here, we will demonstrate to him the MoFs application. You can also say that [Civic] are very happy to license the application and all of the contributory materials (specifications, documentation etc) to [SoftCo] for [SoftCo] to either offer it as is to other Universities or so that [SoftCo] can re-develop it to become part of their core [Campus] application.

To summarize, once we look more closely at the interactions between reference actors, the vendor, and customer prospects we see that these shaped needs to cooperate, negotiate, and compete. That is, reference actors are drawn to collaborate with the vendor as well as other adopters so as to enhance the packaged enterprise system as well as to encourage the vendor to continue to support their (sector-specific part of the global) system and develop its general functionality. In other words, they try to protect their own individual developments that could offer them financial return, as well as steer the development of the packaged enterprise system within their sector. Perhaps the most striking aspect of this tension is that the primary objectives of the reference actor—enhancing the productivity of its organization through IT systems—are being paralleled, even side-lined, in favour of the development of the generic system.

### Standard Package or Special Partner?

These tensions are further discussed by examining the resistance to performing as a reference actor. For instance, the Civic IT Director sends a strongly worded message to the SoftCo Account Manager detailing a new requirement to be discussed and agreed, otherwise they would no longer host prospects:

> Please note IF [Prospect C] want to visit us then I need to see a resource plan for the visit. I have given an assurance to [the Student Registrar] and the Vice Chancellor that we will NOT divert [Civic] resources to [SoftCo] marketing efforts without prior approval.…What will [SoftCo] be offering to us in recompense? Note that the MINIMUM SoftCo compensation must be "one-hour for one-hour." If they do not agree then you must inform [Prospect B] that we will NOT be available for anything other than telephone conference calls.

A SoftCo executive replies outlining their standard package for compensation:

> I appreciate your understanding regarding the compensation for the customer references. I certainly appreciate all you do to support us, but as you can see we have a standard "package" for this which we have to adhere to. I will go ahead and give the "green light" to the visit from the Norwegian customer ([Prospect B]) based on our standard reference bonus (which I believe is £1,000 per visit to be paid on consulting and/or training).

This issue of fair compensation for their role continues to bubble away. In the meantime, the Civic IT Director meets and then exchanges e-mails with a vendor executive about not reducing but significantly *enhancing* their role as a reference actor:

> We discussed the possibility of setting up [Civic] as a "Centre of Excellence" for HE SoftCo systems.

> I'm not sure if this is an appropriate title, but the concept should be that [Civic] set up a server containing ALL [SoftCo] modules and populated with real University data. This would then be useable as a demonstrator environment for any University wishing to see SoftCo products (we would also be happy to undertake a support role if [SoftCo] wanted to demonstrate their products to prospective customers). We are very aware that we are disappointing visiting Universities when we demonstrate the functionality which we have bought and are using, but we cannot demonstrate the functionality which we have bought but don't use (e.g., CRM and Business Warehouse), and we can't demonstrate the functionality which we haven't bought (e.g., ESS and others). I appreciate that [Civic] will need to devote significant resources ….However, I think that the investment by [Civic] will be well worthwhile - especially if it helps [SoftCo] gain more [Campus] customers (it's very lonely AND worrying to be the only University in the UK with [Campus]!).

The Civic IT Director's request for more adequate compensation and subsequent negotiation for a closer, not distanced, relationship underscores various asymmetries that exist between vendors and their closest customers. Even though SoftCo depends on reference actors for demonstrating and constructing the capacities and benefits of its products, it has corporate-wide policies in place to protect its interests in partnerships. These policies effectively mean the vendor remains the net beneficiary of its collaborative arrangements. This does not mean that individual reference actors could not also benefit. For instance, the IT directors of both Civic and Ivy were later both able to convert their experiences related to SoftCo's products and implementation into careers as independent consultants.

### Tensions Within the Vendor Organization in Responding to Reference Actor Concerns

Vendor–user relations typically involve what has been characterized as an "ecology of games" or multilevel games (Dutton 1992), particularly concerning the role and position of intermediary actors. Through describing the debate among Civic users, we have shown how conflicting agendas within a reference actor organization create a complex setting for negotiation. This is also the case for the vendor. Below we consider how SoftCo reacts to Civic's staff's growing frustrations about the limited position the vendor has until now played within the higher education market. Seemingly, pressure from Civic (letters, e-mails, etc.) are beginning to have an effect in that SoftCo appears to have finally decided to direct more resources toward the sector. A SoftCo executive writes: "Your e-mail is helping me to apply pressure within [SoftCo]…to get adequate resources" (e-mail to Civic IT Director). It was put to use by the SoftCo Higher Education team to argue for more resources within the global SoftCo organization so that they could more effectively sell these systems within the UK market. This included getting other SoftCo executives to visit Civic to see the work they had done with regard to implementing SoftCo systems and also to find a third party implementer:

> I will try to get [other SoftCo executives] to visit together to get a joined-up approach to Campus in the UK. I have met with [potential implementation partner] senior management and they are keen to develop consulting skills in the areas of Campus, Student Accounting, Grants and Funds Management. They are committed to significantly developing their Education portfolio (e-mail from SoftCo Executive to Civic IT Director).

Added to this, a highly competent SoftCo employee has been reassigned from the European higher education team to the UK team. There is, however, a catch. These extra resources will in turn require further effort by Civic as a reference actor. In particular, this includes training the new SoftCo Pre-Sales Engineer on the particularities of the UK higher education terrain:

> Although this is very confidential at this stage, Udo…([Campus] Development AG) has agreed to join the UK pre-sales team as our [Campus] pre-sales resource. This is a major coup - he is technically strong, credible with prospects and has an intimate knowledge of [Campus]. What he will need is an induction into UK HE - is this something you would be willing to set up at [Civic]? A one week induction into the key elements of HE (research, teaching, student lifecycle, regulatory environment, third arm, key issues/drivers). A number of individuals would benefit from this - not just Udo (e-mail from SoftCo Executive to Civic IT Director).

Even though some within the Civic organization may be disgruntled about committing even more time and resources to help SoftCo, they are seemingly not in a position to refuse the offer.

To summarize, the reference actor worked to exert pressure so that their sector was taken seriously within the vendor organization. In turn, the vendor appeared to be responding to these concerns. Even though SoftCo refused to go beyond its standard package compensation for reference actors, collabo-

rative relations were intensifying, and the reference actors appeared to be finding success in having their wider objectives met—in particular, the vendor allocating more resources to develop and sell the sector-specific module.

## Analysis and Discussion

This paper has sought to develop understanding of the role some users play in the marketing, selling, and commodification of packaged enterprise systems. Package vendors now spend a great deal of time attempting to develop and cultivate referencing capacities within parts of their user base. Users, in turn, appear willing to carry out various promotional and marketing tasks on the vendors' behalf. We have argued that these new ways of acting require us to rethink how we understand the work of users and their relations with vendors and other adopters of these systems.

### *The Formalization of a Once Informal Actor Role*

The reconfigured role of the user within the packaged enterprise system marketplace, while noted by extant scholarship (Das and Buddress 2007; Howcroft and Light 2006; Light et al. 2001; Swan et al. 1999; Verville and Halingten 2003), has yet to be explicitly discussed and theorized. Where associations between existing and prospective adopters have been elaborated, it has been assumed these were mostly impromptu, unstructured interactions (Currie 2004; Fincham et al. 1994; Finkelstein et al. 1996). In contrast, our findings suggest that the formerly mostly informal and disorganized relations are now increasingly becoming formal and structured, as a new actor role has emerged.

We have attempted to describe and analyze this development through explicating the concept of *reference actor*. Various facets of the reference actor role are developed from our empirical material, also informed by existing IS research, and the social shaping of technology and related biography of artifacts approaches. We expand the empirical understanding of the user through examining the *reference site*, which provides a heightened instance of the kinds of couplings indicated here. Thus a basic contribution of the paper is to show, through a fine-grained study, the referencing actor activities carried out in an organization identified as a reference site (see Table 3).

In terms of understanding the performance of this new role, we build on the notion of *social actor*. Lamb and Kling (2003) theorize the user not as an atomized individual but entangled in a wider institutional ecology, which shapes how s/he engages with workplace systems. Their argument shifts the analytical lens beyond immediate action and toward the context of use. Their multiscale analysis identifies how patterns of adoption and use could be influenced by organizational and professional affiliations and identity. What we have attempted to do is to shift this lens further still through showing, first, how the packaged enterprise system can be conceived of as a community of vendors, existing and potential users, and others (Koch 2005), and, second, how the adopters of packaged enterprise systems find themselves affiliated to a wider set of actors and technologies where there are various expectations placed upon them to act in this ecology. As part of this, we show the different forms of cooperation that can emerge between a vendor and its existing and prospective adopters within a particular market segment. We identify the reference actor not as a supplement but subcategory of the social actor role. This is to underscore how in the packaged enterprise system marketplace, social actors' relationships are not confined to specific organizational or professional boundaries, but relate to a web of relations within and between organizations connected by IT systems and the future marketing and commodification of these systems.

Another contribution of the paper is to extend recent discussions of packaged enterprise systems where it was argued that there were limited channels and interactions between users and vendors (Howcroft and Light 2006; Keil and Carmel 1995; Regnell et al. 2001; Sawyer 2001). By contrast, we highlight the increased role and importance of referencing and the reference actor as a new empirical phenomenon from the last decade or two in which package vendors have developed mechanisms to sustain more or less enduring relationships with existing and potential clients. This is not to suggest these relations are straightforward, however. We flagged the tensioned commitments and politics that exist between vendors and reference actors as the latter attempted to gain influence over product development and the former sought to maintain manageable innovation strategies. We now turn to analyze these linkages in more detail to show how, in return for performing this role, reference actors are able to gather various kinds of benefits for themselves and others. We start with a discussion of what the reference actor gains for him/herself.

### *Reference Actors Build Tradable Knowledge*

Sociological analyses of workplace information technologies attest to the increasing number of occupational groups whose working and professional identity are served and reshaped through connection to IT (Lamb and Kling 2003; McLaughlin

| Table 3. Typical Referencing Activities | |
|---|---|
| Marketing | • Write formal recommendations that assure prospective customers about the abilities, resources, commitment, etc., of vendors<br>• Present success stories at various industry forums (industry conferences, user group meetings, and the like)<br>• Provide feedback to the vendor about how its sales efforts are progressing and, importantly, how they could be improved |
| Demonstrate the system | • Demo newly installed software to prospective customers (often beyond what is mandated by the contract and despite vendor compensation not covering the full cost of demonstrations)<br>• Strive to become a flagship installation that would run the whole suite of vendors' modules (despite itself not necessarily having use for all of them) |
| Improve usability of parts of the system | • Allow user-led incremental developments (bits of coding, small applications) to be inserted into the generic vendor product and sold elsewhere |
| Provide evidence of system capacities | • Help to construct benefits of functions for prospective customer organizations<br>• Educate (or lobby) the vendor about state of the market, where they are located, and how the package ought to be further developed to succeed in the market |

et al. 1999). Our own study affirms how the identity and interests of reference actors come to be mediated through connection to packaged enterprise systems. Through performing as reference actors, users are clearly serving their own organizations. However, some are *also* simultaneously building a professional identity and position as a system and organizational expert. We demonstrate that, while users who act as reference actors take on a significant extra burden, they are also able to create important personal benefits. In particular, the ability to position oneself in a heterogeneous space of overlapping communities of vendors, intermediaries, and others appears to produce highly "tradable" expertise (Fleck 1998). Reference actors who learn to consult, bargain with, and perhaps cajole a vendor potentially may gain kudos as well as enhanced organizational independence and autonomy (McLaughlin et al. 1999). The ability to organize and mobilize a wide-ranging community of adopters can potentially help elevate an employee from a technical to managerial role (*ibid*). Some (as was the situation in our case) can even trade these newly acquired skills on the job market (as evidenced by the reference actor who swapped a position in a user organization for a role as an IT consultant). This, however, is only a partial explanation of why users participate in these kinds of activities. What we have shown is that users simultaneously perform a number of roles related to the shaping of packaged systems.

## *Reference Actors Help Construct the System as an Object of Consumption for Others*

We present a typology of the major roles of the reference actor (see Table 4). We start from the most basic. Reference actors generate new knowledge that helps establish the vendor product as an object of consumption for others. In itself, this claim is not particularly novel. The existing literature testifies to how users can produce knowledge that reduces ambiguity (Salminen 2001; Salminen and Möller 2003, 2006), risk (Ruokolainen and Mäkelä 2007), or uncertainty (Helm and Salminen 2010, Jalkala and Salminen 2010) around vendor products (although it does not specify the exact nature of this information, and there is also the tacit assumption that this is a problem of simply calculating and demonstrating already existing capacities and benefits [Jalkala and Salminen 2010]). What is novel about our study, however, is that we saw pressure on the reference actor to produce distinct and complex types of knowledge. It was complex because there were contrary demands placed on users.

The reference actor is attempting to manage the critical tension between the generic claims of the vendor and the demand for evidence of a localized instantiation of those claims. There were a number of aspects to this. We point first to the sited nature of this knowledge. From the point of view of the potential adopter, the reference actor appears to offer the reassurance that the software package does work in a given context. This reassurance, however, is only as good as the parallel between the reference actor organization and the potential adopter setting. Adopters sought evidence of similarity between themselves and the reference actor. The more alike a particular reference actor organization was perceived to be, then presumably the greater the weight given to the evidence (Howcroft and Light 2010). By contrast, the vendor required evidence from the reference actor of a more generic type. This concerned how their products might meet the needs of users *across* a spectrum of possible use scenarios. This would allow the vendor to advertise and sell products to a range of national and sectoral markets. A further

**Table 4. The Roles of a Reference Actor**

| Role | Definition | Rationale | Who Benefits |
|---|---|---|---|
| Create local comparability | Offer unique reassurance that the software package does work in a given context | Ensures continued take-up of vendor products | Potential adopter |
| Help construct generic comparability | Evidence general productivity and efficiencies gained to promote potential reach of enterprise systems | To establish not a local but generic package | Vendor |
| Build a collaboration | Value of having an effective partnership in designing and proliferating packages | Vendor or user alone cannot develop or commodify enterprise systems | Vendor, user |
| Establish proximity | Get close to the vendor to wield influence on product development strategies | To ensure specific needs can be catered for within and between domain competition; competence and prestige in relation to particular enterprise system | User, IT staff |
| Foster the packaged enterprise system community | Value of having a robust user community in a domain | Attracts and ensures vendor investment in a domain; helps guide development direction | Cooperating users in a domain |

role of the reference actor is thus to collate evidence of benefits and to sort and transform these so that they can be applied elsewhere in the vendor organization and beyond.

We might call the former evidence *local* and the latter *generic* effectiveness, because what is at stake in the work of the reference actor is not the sole task of evidencing capacities (Jalkala and Salminen 2010), but a more complicated process of managing and balancing competing (and potentially non-commensurate) requirements and needs of different constituencies. What we have attempted to identify is the important role played by this intermediary in technology adoption. Reference actors help potential adopters who, given the incompleteness of information, would otherwise be hard-pressed to assess vendors and their offerings. However, evidence of the capacities of these systems cannot be simply collected, as our empirical material demonstrates. The sited nature of the knowledge meant that there were complexities in valuing and quantifying benefits and work needed to produce them.

### *Reference Actors Construct Close Affiliations with Vendors and Others*

Our research further highlights the development of a more formal kind of collaboration between vendors and reference actors, and how, within this coupling, the latter are able to construct a unique kind of information that the former cannot produce by themselves. Scholars have shown how there are various benefits for vendors in establishing close(r) relationships with users, including in relation to requirements capture (Robertson and Robertson 2006; Royce 1970), package development (Bansler 1989; Bødker and Gronbaek 1995; Holmström and Hendfridsson 2006), and enhancing system usability and utility (McLaughlin et al. 1999; Nambisan et al. 1999; Voss et al. 2009). We show that packaged enterprise system vendors now also cooperate with users to find out about the kinds of benefits emerging from the application of their products. This form of collaboration stems from an incompleteness or asymmetry of information. Vendors rely on reference actors to furnish and demonstrate evidence of the capacities of their products (Voss 1985). The physical siting of this evidence in reference actor organizations means that vendors are bound to these actors. Not only is the reference actor a source of evidence, but also a way of publicly warranting that evidence about these systems is reliable and accurate.

Equally there is benefit for reference actors through the proximity achieved to vendors as this appears to allow a certain amount of influence in shaping vendor product development strategies. We have shown how a reference actor sought to get close(r) to the vendor so that it could have its specific requirements incorporated in the generic system (an initiative that it believed would save it significant time and resources). We therefore suggest that there is a further aspect to this collaborative relationship that offers some explanation for reference actors seeking proximity to the vendor. The diametrically opposed alternative to the risk of becoming an angry orphan (David 1985) is where a user negotiates to become a visible exemplar or lighthouse, or

reference site in the vendor's hierarchy of users. The advantage gained from this affiliation is that it allows the user to convey to the vendor the sense that meeting their specific requests offers an advantage over meeting those of other customers.

The final role salient in our data shows how reference actors had an incentive to petition the vendor to continue to support not only their local needs but also the sector-specific segment of the global product market. Their efforts were directed toward further developing the generic system and keeping it up to date with new functionality to improve its potential appeal to other customers. A significant theme throughout our fieldwork was that reference actors sought to build a robust segment that could lobby the vendor and further the development of the package within the larger business area. In so doing, interorganizational alliances were formed that helped construct the market segment as a powerful lobby. These were connections between groups of different reference actors and users attempting to bring pressure to bear on the vendor with regard to a new piece of functionality or technical development. As we have shown, this served to pressure the vendor to devote further resources to developing this part of the generic package.

Herein resides a further aspect of our theoretical contribution. Understanding the operation of the reference actor (the way they do what they do) requires an analytical lens that goes beyond particular implementations and organizations. Our concern to study reference actors stimulates us to address this phenomenon at different scales of analysis to show how beliefs about the provenance and capacity of a technology are constructed across interlocking communities of vendors, user organizations, and others. What we lose in depth of focus with this approach we gain in breadth, where we are able to capture how taking on the role of reference actor and helping the vendor market and improving the onward saleability of its products is among the very few strategies possible if users are to attempt in any way to shape vendor product development strategies. The concept of reference actor throws light on how the activities of users and vendors can become mutually entwined in the production, selling, and marketing of vendor products. It shows the complex multilevel games in a technology community and how these can lead to mutual accommodations between vendors and users but not necessarily in the sense that resulting tensions are reduced or eliminated.

There are limitations to every piece of research and our paper is no exception. While our analysis is built on an extensive data set, the above typology is likely to be incomplete. It is more an opening attempt to theorize the reference actor. Additions and improvements are thus needed. Nor do we suggest the various roles identified here are necessarily fixed. It is highly probable that the asymmetric relationships between reference actors and vendors, while stable for a time, are prone to decay and restructuring over the career of a system. In prior research (Pollock and Williams 2009), for instance, we saw how these couplings could take on an enhanced or decreased importance at certain moments in the biography of an ERP. We speculate that reference actors are more important at the birth stage of a technology or when the packaged enterprise system is moving from one (sectoral, national, geographical) domain to another. The use of a software package in a new organizational setting for the first time constitutes a particularly contested moment in its life. The reference actor, in these circumstances, can become the key player, as there will be questions concerning the imputed generic applicability and translatability of the software. However, as technology matures within an area, the position of the reference actor may wane in comparison to that of vendor and other actors in the ecology. There is less uncertainty about the capacities of the system and adopters may find the necessary information from other sources (such as implementation consultants or industry analysts).

## Conclusions

This paper highlights the formalization and importance of an empirical phenomenon noted over the last decade or two whereby organizational users have become a crucial resource in the selling armoury of technology vendors. The basis for this argument is the observation of how, because of the difficulties in assessing and providing evidence of the capacities of complex packaged enterprise systems, vendors are turning to and capitalizing on relationships with users. We theorize the reference actor not as an anomalous feature of a particular adoption context but as the most recent evolution, or subcategory, of the social actor role (Lamb and Kling 2003) in the development and evolution of packages. While the activities noted here are perhaps accentuated when users perform as reference sites, it would be interesting to ascertain whether they are present in some form in the actions of users installing and using complex organizational packaged software generally. It is possible that the forms of engagement identified in the paper are no longer limited to particular isolated moments or strategic considerations but are a more or less organic part of what it means to be an IT manager, IT expert, or professional using an IT system in an information-intensive organization. Further research that could confirm and develop the role of the reference actor would thus be valuable.

This takes us to the primary implication of our findings. Technology procurement has become a multiplayer game, no

longer limited to groups and managers *within* an organization (Dutton 1992). Nor are interactions solely between *established players* from outside (such as vendors and consultants) (Howcroft and Light 2006, 2010). The selection of a packaged enterprise system can also involve intense interactions with *new actor groups* as potential adopters try to bridge different areas of technical and organizational knowledge. This does not necessarily resolve all uncertainties, however, and may open up new issues. Reference actors may also be engaged in competition for influence and perceived centrality to the vendor. These interactions are further characterized by the economic and political maneuvering related to packaged systems. The wide range of players involved, the complex alignments of professional and organizational interests and involvements, the intricate and changing pattern of relationships between them, can create a complex terrain for negotiation and decision making in the context of procurement. This points to the complicated interplay of power between organizational managers, IT professionals, other groups of users within the adopting organization, and, from outside, IT vendors, consultants, and reference actors. Here we have only begun to scratch the surface of the role of the reference actor within packaged enterprise systems development and acquisition, but power and politics is one of the dimensions that obviously requires further research.

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