Information Systems Research in the Nonprofit Context: A New Frontier

Oscar Gutierrez
UMass Boston, College of Management

Wei Zhang
UMass Boston, College of Management

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Oscar Gutierrez, Wei Zhang
College of Management, University of Massachusetts Boston
{Oscar.Gutierrez, Wei.Zhang}@umb.edu

Abstract

Nonprofit organizations have become an important part of the U.S. economy, but Information Systems (IS) research in the nonprofit context has been limited so far. In this paper we argue that the nonprofit sector presents a unique context for IS research and call for more research efforts at this new frontier. In particular, we discuss the differences between nonprofit, private, and public contexts for IS deployment and usage and explore what the differences imply for IS research in nonprofit organizations. On the basis of these discussions, we identify a few challenges and opportunities that warrant greater research attention.

Keywords: Nonprofit, Information Systems Research

Introduction

IS researchers have understandably focused the majority of their efforts on IS issues in private, for-profit organizations. IS research in the public sector recently also has received a boost in research efforts with the e-Government initiatives. IS issues in nonprofit organizations, however, remains under-studied even though the nonprofit sector has become an integral part of the U.S. economy. According to a recently published report (Urban Institute 2007), there are approximately 1.4 million nonprofit organizations accounting for 5.2% of gross domestic product (GDP) and 8.3% of wages and salaries paid in the U.S. The nonprofit sector has also been significantly outgrowing the U.S. economy as a whole. From 1994 to 2004, the total revenue of nonprofit organizations increased for 61.5% after adjusting for inflation, compared with less than 37% increase in U.S. GDP over the same period of time.

One possible explanation of researcher’s lack of interest in studying IS in nonprofits might be that the adoption of IS by the nonprofit sector has been relatively slow and limited. However, the allegation is not entirely true. There is some evidences of IS deployments in nonprofits as early as in 1960s (Herzlinger 1977). While historically the wide-spread adoption of IS has been hampered by limited budget (Benedetto and Pirie 1989; Dukler 1989), lukewarm top management sponsorship (Berlinger and Te'eni 1999; Herzlinger 1977), insufficient training and technical supports (Saidel and Cour 2003), and various political contentions (Thatcher, Brower and Mason 2006), IS penetration into the nonprofit sector has picked up paces recently due to – among other factors – the changes in their operational environsments and the fast advances in information technologies (IT). Nonprofits today are increasingly under pressure to adopt a more managerial approach and assume more operational accountability (Speckbacher 2003). They are pushed to adopt IS to improve their data management to satisfy external requirements for program performance evaluation. For example, in 2000, the U.S. Congress passed a directive to the Department of Housing and Urban Development (HUD) to begin to produce an Annual Homeless

1 We thank Dr. Kieran Mathieson for his advices, feedback, and suggestions that helped us conceive and framework this paper.
Assessment Report so that the status of homelessness in America can be assessed accurately and objectively. This directive led HUD to mandate that homeless service agencies around the U.S. plan and implement Homeless Management Information Systems (Gutierrez and Friedman 2005). The technical advances also made it easier for nonprofits to adopt IS: The Internet appeared to have made it easier for small-size, small-budget nonprofits to adopt information technologies (Finn, Maher and Forster 2006), and the availability of free, reliable, and functioning open source software has helped to ease the budget constraints on adopting IS (Fitzgerald and Kenny 2004).

With more organizations realizing how IS innovations can help nonprofits (Ouellette 1996) and more evidences of the effectiveness of IS for nonprofits (Burt and Taylor 2000; Lee, Chen and Zhang 2001), we can expect further adoption of IS by nonprofit organizations, which offers us with great research opportunities to deepen our understanding of not only IS in nonprofits but also IS in general. To further explore these opportunities, we first investigate how the nonprofit sector presents a different context for IS research.

**Nonprofits: A Unique Context for IS Research**

In many ways the nonprofit sector presents a different context for Information Systems (IS) research than the private sector. Figure 1 summarizes the most salient contrasting indicators. In the private sector, IS has had a long history of deployment and usage, and has been embedded in organizational business processes for many years. Of all the sectors – private, public, and nonprofit – in the economy, the private sector has traditionally been the early adopter of Information Technology, because it has commonly been thought of as an important source of efficiencies and competitive advantage (Porter and Millar 1985; Siau 2003). Funding for new IS projects are usually through internal capital allocations or external capital ventures and their rationale is normally justified in terms of economic returns on investment (Brynjolfsson and Hitt 1996). Like any major project initiative, IS projects is driven by well known management standards that are understood by most stakeholders and are made to comply with idiosyncratic principles governing prevailing corporate culture and guidelines.

### Table 1. Contrasting IS Research Contexts

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Private</th>
<th>Nonprofits</th>
</tr>
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<tbody>
<tr>
<td>Adoption</td>
<td>Early</td>
<td>Late</td>
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<tr>
<td>View of IT</td>
<td>Tool</td>
<td>Burden</td>
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<tr>
<td>Driving force</td>
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<td>Ideology</td>
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<tr>
<td>Accountability</td>
<td>Results</td>
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<tr>
<td>Economics of IT</td>
<td>C/B, ROI</td>
<td>Substitution</td>
</tr>
<tr>
<td>Sources of funds</td>
<td>Mostly internal, capital</td>
<td>Mostly external, grants</td>
</tr>
<tr>
<td>Use of Information</td>
<td>Efficiencies, Competitive Advantage</td>
<td>Compliance, Affecting Public Policy, Serving a greater good</td>
</tr>
<tr>
<td>View of data</td>
<td>Data is an economic resource</td>
<td>Information is a commodity for all; client data must be protected</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Rather homogeneous</td>
<td>Rather heterogeneous</td>
</tr>
</tbody>
</table>

Many organizations in the nonprofit sector have just begun to integrate IS into their daily activities. One significant reason for the late adoption, particularly in nonprofits that provide social or human services, has been the belief that IS are a burden in a number of ways (Berlinger and Te'eni 1999): In some cases IS are considered a risk to the provision of services to the most vulnerable. But in most cases the issue of IS as a burden is evident in the recognition of the need to address information security issues concerning privacy and confidentiality of the clientele or constituencies. These technical requirements are in the eyes of nonprofits not only technically challenging but considerably expensive to be effectively addressed. Moreover, IS is an atypical area where the nonprofit must extend its organizational reach in order to leverage its
resources (Dees 1998). Funds in the nonprofit sector are usually provided for IT through various external grants, including federal and state government funds, national and local foundations, and a variety of fund raising activities. In exchange for such funds, organizations are usually required to meet certain reporting requirements associated with outcome measures. While these requirements drive IS adoption by nonprofits, nonprofits often view such IS adoption as a compromise to secure grants and usually an inconvenience instead of opportunity that interferes with the organizations’ core beliefs and function of providing services (Benedetto and Pirie 1989; Dukler 1989).

While for-profit organizations invest in IS with a focus on improving the bottom line, nonprofits can capitalize on the use of IS by using information in ways that can serve the public at large or more commonly, serve constituency groups that the organizations have at their core of their missions. It is also a common practice for the nonprofits to use the information to inform and impact public policy. Partly as a result, IS project initiatives in nonprofits often are driven by ideologies which are deeply rooted in organizations’ core missions and involve numerous heterogeneous stakeholder groups (Gutierrez and Friedman 2005; Thatcher, Brower and Mason 2006). The views and communication dynamics of the various constituencies often collide and represent significant paradoxes that present enormous challenges to the IS initiatives.

The distinctions can be further highlighted by looking at the premises under which the various sectors deal with information. Different sectors of the economy view the object of analysis and data manipulation through different underlying perspectives and pursue clearly distinct objectives. Figure 1 indicates these distinctions. The private sector’s object of analysis is the “Client” primarily from a utilitarian perspective. This view is typically driven by underlying corporate goals, such as increasing shareholder value, achieving a desired level of competitive advantage, and addressing specific efficiency criteria or cost containment policies. The public sector’s object of analysis and data manipulation is the “Citizen” viewed from such perspectives as civil, legal and regulatory. These views are driven by the sector’s principles, rules and laws governing behavior and are implemented in protocols and systems that address major categories of public endeavors including regulatory compliance, safety and security, sanctions and public administration. The nonprofit sector’s object of analysis and data manipulation is the “Person” or “Constituency” viewed from a perspective that seeks to further the good of the constituency group of which the “Person” is a member. This view is normally associated with philanthropic or altruistic principles and is driven by objectives of bringing awareness, education, direct service that contributes to the betterment and well being of individuals and groups.

Thus the nonprofit sector represents a unique context for IS research, which casts doubt on whether the findings from IS research conducted in the private or public sector are still applicable in nonprofit organizations. It may also entail building
new theories specifically addressing IS issues in nonprofits. In these senses, the nonprofit context presents both challenges and opportunities for IS researchers. Below we explore these challenges and opportunities in more details.

**IS Research in Nonprofits: Challenges**

The unique nonprofit context presents many challenges to IS research, three of which we considered especially important. They are: the need to better understand the mechanisms for accommodating conflicting multi-stakeholder, multi-institution IS initiatives; the need to effectively incorporate alternative approaches to information systems implementation; and the need to better understand the interactions between IS and individuals who work in the frontline of nonprofits.

First, to the extent that IS projects in the nonprofit sector are often compromises between multiple stakeholders, the deployment and uses of IS in nonprofits are a highly dynamic and political process enacted by policy makers, funding providers, service agency administrators, frontline service providers, frontline IT users, and even service receivers. Due to the enormous diversity of the stakeholders involved and the vastly different and sometimes even conflicting agendas held by the stakeholders, the complexity of the process likely exceeds that of IS deployment and usage in the private sector. As IS research in the private sector has been primarily concerned with “the ongoing relations among information technology, individuals, and organizations” (Orlikowski and Baroudi 1991, p.6), Researchers of IS in nonprofits have to expand their research scope to include larger social context in which the IS are deployed and used. For example, IS research in private sector has led to the application of structuration theory (e.g. Orlikowski 2000) and the development of adaptive structuration theory (AST, DeSanctis and Poole 1994) to understand how employees’ use of IS were not prescribed by the design features of a system but shaped by the organizational environment and their own interpretations of the system. However, as Thatcher, Brower and Mason (2006) observed, these theoretical perspectives may be inadequate when applied to the nonprofit context because the influences from the broader institutional environment are not taken into considerations.

Second, the conventional software engineering or project management approach to system design and implementation, though popular and effective in the private sector, may prove insufficient in dealing with the context presented by nonprofits. IS projects in nonprofits are based on cooperative processes designed to incorporate fragmented and often conflicting views and perspectives. Participative approaches based on representative or consensus-building models may be more effective than techniques based on rapid or agile implementation. For example, when studying the deployment of Homeless Management Information Systems (HMIS), Gutierrez and Freedman (2005) noticed that the key to success is not to manage the projects per se, but to manage the expectations of the project by different stakeholders at different stages of the project lifecycles so that the stakeholders “come to better understand realistic objectives within the enormous requirements and constraints surrounding HMIS initiatives (Gutierrez and Friedman 2005, p.517).”

Finally, with the increasing penetration of IS into nonprofit organizations, it is imperative to investigate how receptive the end users are to the IS. Typical users in the private sector are motivated by the potential productivity or performance gains resulted from using the IS (e.g. Davis, Bagozzi and Warshaw 1989; Mathieson 1991; Venkatesh et al. 2003). In nonprofits, end users usually also work in the operational areas and are driven by their ideologies to serve the beneficiaries. Researchers have found that over-emphasis on administrative efficiency, coupled with concerns about the use of data, has resulted in negative user attitudes toward IS (Berlinger and Té’eni 1999).

In addition, many workers in nonprofits are volunteers motivated by altruism. They are more interested in working on tasks that are directly related to the core missions of the nonprofit organizations than in working with IS (Mathieson 2006). Current models generated from research conducted in the private sector for understanding and explaining technology acceptance may prove less effective in the nonprofit context. Researchers have started to incorporate the altruistic motivations of the end users to investigate their acceptance of IS. Zhang and Gutierrez (forthcoming) suggested that the users of a homeless management information system might have realized that they could benefit their organizations and their clients in addition to themselves through using the system, and such altruistic considerations might have led to higher level of system acceptance by the users.

**IS Research in Nonprofits: Opportunities**

While there are great challenges to IS research in nonprofits, overcoming the challenges also brings IS researchers great opportunities to deepen our understanding in IS issues both in the nonprofit section and in general. First, increased research efforts in IS issues in nonprofit context can help explore new IS theories that are rooted within this context. Such theories are not only intellectually interesting but also practically useful. IS has long been identified as an important tool for private organizations to gain competitive advantages (Porter and Millar 1985). IS research in the private sector has greatly enhanced
businesses’ ability to compete with IS. Improved research in IS issues in the nonprofit context should be able to help nonprofits better understand and use information technologies as a competitive tool, thus making IS research socially useful. This is especially important today when nonprofits are facing increasing pressure to assume more accountability and are forced to compete with each other for limited funding opportunities. For example, Lee, Chen and Zhang (2001) showed that nonprofit organizations can successfully use the Internet to improve their fund-raising efforts.

Second, to the extent that the nonprofit sector presents a very different research context for IS research than the private and public sector, the nonprofit sector offers us a great opportunity to examine whether existing theories derived from research in other sectors can be applied to the nonprofit world. By studying nonprofits and compare-and-contrasting findings with those made in organizations in other sectors, we can expand our understandings in the interactions between IS and organizational contexts, and help us to advance IS theories. For example, taking advantage of the knowledge accumulated in IS acceptance research, Zhang and Gutierrez (forthcoming) applied the decomposed Theory of Planned Behavior (TPB, Taylor and Todd 1995) to investigate the user acceptance of a homeless management information system. The comparison between IS acceptance in the nonprofit context and that in the private context led the authors to propose that for the decomposed TPB to work in the nonprofit, the altruistic perceptions of the users must be considered.

Finally, IS research in nonprofit organizations can potentially contribute to IS research in general. In fact, businesses can learn much from nonprofit organizations (Drucker 1989). Recently the value of developing synergies between these sectors has been recognized (Kanter 1999; Rackham, Friedman and Ruff 1996; Sagawa and Segal 2000). While companies focus on community-based markets and innovation, nonprofit and governmental agencies leverage their need to address greater efficiency, effectiveness and accountability. For example, the social entrepreneur of today is embodied in the private sector citizen that brings the necessary elements to exert positive change in the context of social agendas pursued by nonprofit organizations (Thompson, Alvy and Lees 2000; Waddock and Post 1991). It is in the context of these synergies that IS research in nonprofits can make a significant contribution to studying IS issues in other sectors as well. One possible example is the research in Open Source Software (OSS, Katherine and Gosain 2006; Von Krogh and Von Hippel 2006). We feel that the nonprofit sector’s emphasis on altruism and ideology may well inform our understanding of the contribution to and development of OSS. Moreover, the IS budget constraint on nonprofits may make nonprofits a fruitful research context for studying the acceptance of OSS.

Conclusions

The nonprofit sector has grown into an important part of the U.S. economy, and IS has been penetrating into nonprofit organizations. To the extent that the nonprofit sector represented a unique and challenging research context for IS researchers, overcoming the challenges also provide great research opportunities. With this paper we call for more research efforts in IS in nonprofits, which we believe can not only help nonprofit organizations better understand and utilize IS but also contribute to the research tradition in the IS field in general.

Reference


