

## Association for Information Systems AIS Electronic Library (AISeL)

---

ACIS 2009 Proceedings

Australasian (ACIS)

---

12-2009

# Exploring ICT Use in Voluntary Sector Organizations: A Framework Based on the Social Actor Model

Nishanie Pereira

*School of Information Management Victoria, University of Wellington, nishani.pereira@vuw.ac.nz*

Rowena Cullen

*School of Information Management Victoria, University of Wellington, rowena.cullen@vuw.ac.nz*

Follow this and additional works at: <http://aisel.aisnet.org/acis2009>

---

### Recommended Citation

Pereira, Nishanie and Cullen, Rowena, "Exploring ICT Use in Voluntary Sector Organizations: A Framework Based on the Social Actor Model" (2009). *ACIS 2009 Proceedings*. 3.

<http://aisel.aisnet.org/acis2009/3>

This material is brought to you by the Australasian (ACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ACIS 2009 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

## Exploring ICT Use in Voluntary Sector Organizations: A Framework Based on the Social Actor Model

Nishanie Pereira and Rowena Cullen

School of Information Management  
Victoria University of Wellington  
Wellington

Email :nishani.pereira@vuw.ac.nz; rowena.cullen@vuw.ac.nz

### Abstract

*Voluntary sector organizations provide services to disadvantaged communities, those that are either beyond the reach of state services or unable to afford services offered by the private sector. Research that explores ICT use by these organizations is scarce. The available studies are limited to identifying barriers that prevent ICT adoption and use of ICTs in large transnational organizations. A theoretical understanding of the post adoption stages of actual and effective use in community based voluntary sector organizations is not evident. This paper presents a provisional modification of the social actor model (Lamb and Kling 2003), and outlines how it could be used to provide a theoretical understanding of the influences of effective ICT use in voluntary sector in their day to day operations.*

**Keywords** *IT, non-profit, social actor model, community based organizations*

### INTRODUCTION

Voluntary sector or non-profit organizations have become a very important sector in society. They serve multiple roles in the community by providing direct services and information to people who are not within the reach of the public and private organizations. Investment in technology is considered as one of the highest capital investment needs in voluntary sector organizations (Salamon and Geller 2006). The need for technological investment surpasses the need for investment in infrastructure and programme development at present. Despite the high investment need in the sector for technology there is a scarcity of research that explores the use of ICTs in voluntary sector organizations. The existing literature focuses on barriers for ICT use (Pinho and Macedo 2006), capacity building studies (Burt and Taylor 1999; McInerney 2007; Zorn 2007) and the use of ICTs in large transnational organizations (Orbinski 2002; Lebert 2002). There is a lack of Studies that focus on post adoption stages of ICTs in community based organizations..

ICT use in voluntary sector organizations (VSOs) has been so far explored using frameworks that focus exclusively on the internal capabilities (Burt and Taylor 1999; Craig and Williamson 2004; Te'eni and Speltz 1993) of organizations. This examination is inadequate as it completely ignores the external factors that influence ICT use in voluntary sector organizations. As VSOs are dependent on funding, ICT skills and personnel from the external environment, the continued focus on the internal organizational environment does not provide a clear understanding. This paper proposes the use of a modified version of the social actor model (Lamb and Kling 2003) which was developed as a theoretical framework to investigate ICT use in commercial sector organizations. In comparison to the previous frameworks used for research in the voluntary sector this framework enables us to explore external factors that may influence the use of ICTs in voluntary organizations.

The first section of this paper will provide a working definition of the voluntary sector. The second section of the paper will focus on providing an analysis of the existing frameworks that have been utilised to explore the use of ICTs in voluntary organizations. The third section of the paper will present the social actor model (SAM) and the fourth section of the paper will present the modified social actor model, justifying its proposed use in the voluntary sector. The final section of the paper will explain the methodology of a proposed study based on the modified SAM and will discuss its potential contribution to Information Systems research

### THE UNIQUENESS OF THE VOLUNTARY SECTOR

VSOs are broadly known as non-profits, community organizations, civil organizations or as organizations of the third sector. In the voluntary sector literature there are several definitions proposed by academia (Febbraro, Hall and Parmegianni 1999; Frumkin 2005; Salamon and Ahneier, 1992, 1997) and global organizations (United Nations, 2003). The United Nations (2003) defines voluntary organizations as organizations being self

governing, not primarily driven by profits, consisting of a structure, being independent from the state and having membership that is non compulsory. Stemming from this broad definition, the Office for the Community and Voluntary sector of New Zealand (Tennant et al 2006, p 35-40) has adopted five criteria: *organized*, *private*, *non-profit*, *self governing*, and *non-compulsory participation* in the definition of non-profit sector organizations.

The *organized* nature of the institute is determined by the legal status, its recognition in a formal manner or its affiliation to a legal body. The term *private* specifies that the non-profit organization is “institutionally” separate from the government. The primary objective of the organization must not be profit generation and the members or the governing board should not be able to gain financially (*non-profit*). As long as the organization is in charge of its day to day operations and can dissolve itself and has no government appointees or corporate representatives with veto power, the non-profit is considered to be a *self governing* entity. The term *non-compulsory* explains the nature of its membership and is illustrated by stating that the membership is a matter of choice and not determined by birth, citizenship or law.

The above criteria define organizations in the entire non-profit sector, ranging from civil society organizations that mediate between the individual and the state, to voluntary sector organizations that serve local communities. For the purposes of developing a model for VSO research, this paper adopts the above-mentioned criteria to determine VS organizations, but excludes quasi-state institutions, as suggested by Febbraro, Hall and Parmegianni, (1999) in their identification of voluntary organizations. This sub-group is uncharacteristic of VSOs in a number of respects, owing to its large resource base and primarily paid staff.

Table 2: Voluntary Sector: delimitations of definition

Label	Includes (for this study)	Excludes (for this study)
Voluntary sector	Associations, community groups and social clubs characterized largely or exclusively by non-coercive membership or free unconstrained participation, organizations independent from the state and non-profit making.	All quasi- state institutions (e.g. hospitals and universities)

While determining the characteristics of the sector it is also important to understand the unique characteristics of VSOs and to clarify the advantages that they have over state and private sector organizations. This clarification will be informative in determining the influences that motivate and constrain these organizations.

Voluntary sector organizations differ extensively from state and private sector organizations, both in terms of their origination and their operation. Explanations on their emergence as organizations (Billis and Glennerster 1998; Frumkin 2005) have remained consistent. Billis and Glennerster (1998, p82), explaining VSOs are present “when human service needs are not met by [the] ordinary market but... government services are inefficient” is consistent with more recent thinking. Frumkin (2005, p 168) propose that, when unsatisfied demand for goods and services exceeds the service provision by government and private organizations, non-profits should cater to this excess demand. In comparing the operation of state, private and voluntary sectors, Billis and Glennerster (1998) highlight clear differences amongst them in related to their primary stakeholders, the structure of the organization, finances and staff. These differences are summarised in table 2.

Table 3: Key differences between public, private and voluntary sectors ( Billis and Glennerster 1998)

Sector	Driven By	Structure	Core Finance	Staff
Public	Median voter and re-election	Bureaucratic	Taxes	Paid: some volunteers
Private	Shareholder and profit related goals	Bureaucratic	Sales	Paid
Voluntary	Multiple stakeholders	Ambiguous	Taxes, Donations, Charges	Paid and volunteers

As illustrated above, Billis and Glennerster (1998) concluded that while the private and public sectors are motivated by shareholders and voters, the non-profit sector is driven by multiple stakeholders. Their identification of the different drivers in the three sectors was further clarified by Hackler and Saxton (2007) and Moore (2000). Hackler and Saxton (2007) have noted that while for-profit organizations are focused on profit maximization goals and creation of wealth for its stakeholders, the non-profit organizations consider fulfilling a

social mission. Moore (2000) identified the main objective of the voluntary sector organizations is the creation of public value.

Further Billis and Glennerster (1998) identified four main distinctive features as differing between public and private organizations. They recognized the lack of a clear differentiation between the roles of client, and member of the organizations (stakeholder ambiguity), one person holding multiple roles within the organization, the use of volunteers, and the complexity in resource allocation as unique features in voluntary sector organizations.

Implications of these unique features of VSOs to the study of ICTs are evident in many ways. The use of volunteers and the inadequate financial resources make VSOs dependent upon their external environment for their ICT skills and funding. The stakeholder ambiguity influences the role specificity and the ICTs used within those roles. The motivations of the multiple stakeholders influence the purpose and the extent of ICT use (Schneider 2003).

## **INVESTIGATING THE *EFFECTIVE* USE OF ICTS IN VOLUNTARY SECTOR ORGANIZATIONS**

Due to the increased proliferation of Information and Communication Technologies in the voluntary sector, and the uniqueness of this sector, several researchers (Gutierrez and Zhang 2007; Reilly 2005; Zmud, Carte and Te'nni 2004) have emphasised the need to conduct Information Systems research in this context. Gutierrez and Zhang (2007) stated that the unique ambience of the voluntary sector and the existence of multiple stakeholders with diverse roles, which influence the development and use of Information Systems, need to be considered. They state that the existing theoretical perspective is inadequate as it excludes the significant influence of external entities viz, state, donors and volunteers, that are essential components in voluntary sector organizations. Reilly (2005) emphasises the importance of having a clear understanding on how technology infrastructure is used in voluntary sector organizations.

The concept of effective use of technology in the voluntary sector organizations was introduced by Gurstein (2003, p 8), which defined effective use as “the capacity and opportunity to successfully integrate ICTs into the accomplishment of self or collaboratively identified goals”. This definition has been accepted in the subsequent studies that have focused on the effective use of ICT in the sector. McNerney (2007) further clarifies this definition by stating that the objective is to “connect technology to the mission (p158)” than to simply build ICT capacity. The collaboratively identified goals define the mission of a VSO. Silverman, Rafter and Martinez (2007) state that the “a more important issue is how technology enables the non profit to accomplish its mission” and a similar view of strategic technology use is expressed by Hackler and Saxton (2007) who express that the “ultimate strategic goal” is the fulfilment of a social mission and creation of public value.

In the literature there are many studies that analyse the factors that contribute to the adoption of ICT (Burt and Taylor 1999; Hajnal 2002; Lebert 2002; McNerney 2007; Pinho and Macedo 2006; Williamson and Dekkers, 2005; Zorn 2007; Zorn, Li, and Lowry, 2007) in the voluntary sector. However fewer studies focus on the actual use of the existing technological infrastructure in organizations in achieving the objectives of the mission. This is a critical gap in the literature.

Previous work (Burt and Taylor 2001; Craig and Williamson 2005; Te'eni and Speltz 1993; Williamson and Dekkers 2005) which explored ICT use in VSOs has considered the internal environment and capabilities of the individual staff members. These studies; focused on ascertaining the level of ICT skills, prior ICT experience, and training, state that the lack of funds and ICT skilled staff in voluntary sector organizations are major issues in ICT utilization in the sector. For VSOs that depend upon, external sources of funding and personnel, a focus on the continued exploration of internal organizational capabilities is flawed. It prevents us from examining the external factors that contribute to the organizational environment. Two of the more recent frameworks, Harrison and Murray (2007) and O'Hanlon and Chang (2007) have moved away from the purely internal organizational and individual focus to include limited organizational and external perspectives. A discussion on these two models follows.

### **The *ICT Effectiveness* and *Technology Adoption and Use* models**

The *ICT Effectiveness Model* for the voluntary sector was introduced by Harrison and Murray (2007) and it provides a limited understanding of the organizational level influences. At the organizational level it considers the interactions amongst staff members and financial resources of the organization. While the main focus of the model remains at the individual level (skill, experience) the inclusion of these two factors illustrate the shift in focus to include organizational level components. The *Technology Adoption and Use Model* for voluntary sector proposed by O'Hanlon and Chang (2007) extends this organizational focus and includes the external environment. This model accounts for factors beyond the capabilities of the individual users and overcomes the deficiency of ICT effectiveness model (Harrison and Murray, 2007) by considering both the external

environment and the technical resources of the organization. The external environment is considered in two main factors of this model. The perceived external pressure to use ICTs and the *compatibility factor* display a clear focus for considering the environment beyond organizational boundaries. The factor of *compatibility* in this model refers to the interaction between the client and the organization and the social risk that the organization faces. This examines the issue of whether the adoption of technology would inhibit the organization's ability to serve its clients. This is an important consideration in VSOs as they often serve communities that endure disadvantages. A limitation of this model is that the authors included only the influence of the major donors and the proportion of volunteers as important factors to consider as the external pressure. This limited consideration excludes the influence of the state, both in terms of funding and contracting, non profit technology providers and the partnerships formed by non profit organizations.

While both the above models (Harrison and Murray 2007; O'Hanlon and Chang 2007) contribute to our understanding of ICT use in the sector, there are several other models in the broader IS area that enable us to go beyond individualistic factors and enable us to understand the post adoption stages of actual use.

(a) the Technology organization and external environment framework [TOE] (Tornatzky and Fleischer (1990), Chu and Tam (1997), (b) the Perceived e- readiness model [PERM] (Molla and Licker 2005) and (c) the social actor model [SAM] (Lamb and Kling 2003) fulfil both these requirements although their use has not been extended to VSOs. All three of these models permit us to explore the emerging evidence of the influence of the state (Hiemstra 2002), non profit technology providers (McInerney 2007 ;West and Green 2008), and collaborations amongst voluntary sector organizations, (Guo and Acar 2005; Halseth and Ryser 2007) in the sector.

Increasingly voluntary sector organizations have begun to deliver the services of public institutions through contracting agreements. In this situation the state's influence has now extended beyond the role of a donor and a regulator. This contracting relationship requires a continuous information flow between the voluntary sector organization and the state and influences the ICT use in VSOs (Hiemstra 2002). The non profit technology providers need to be considered as a skill resource beyond the internal organization. Many of the earlier studies that explored ICT adoption reported a deficiency in technical skills. In response to this issue, non profit technology providers have become established in this niche area to provide technical services to VSOs. It is important to consider the influence of these technology providers on ICT use in the organizations. The collaborations amongst voluntary sector organizations also influence ICT use in the sector. Increasingly voluntary sector organizations are establishing collaborations to share ICT infrastructure and expenses related to technology use. These collaborations enable organizations to overcome barriers that inhibit ICT use.

While both TOE and PERM extend our understanding, the SAM model is considered more appropriate for this study. It enables consideration of organizational technological and external contexts defined within the TOE model introduced by Tornatzky and Fleischer (1990). Chu and Tam's (1997) tailored model for IS has a stronger technological focus both within the *organizational technology* context and *characteristics of the innovation* contexts. This stronger technological focus and the factors identified within the contexts are more applicable to large commercial organizations than to voluntary sector organizations (e.g. formalization of systems development and management). However one shortfall of the SAM model, in comparison to TOE, is the fact that technological context has been identified in two different dimensions within the model and the fact that it does not facilitate differentiation of technology and the impact of the type.(e.g. capital intensive infrastructure vs pay per use and free and open source technology models.)

The main strength of the PERM model which was relevant to the proposed study was the "institutionalization" of the adopted technology (Molla and Licker, 2005). The contextual influences that have been considered in the SAM model have been better established at an organizational level in comparison to the PERM model.

Further SAM examines the socially situated behaviour of the organizational members, and emphasises the institutionalization of technology. The "socially situated individual" (Lamb and Kling 2003) complements Gurstein's (2003, p13) finding that "effective use...is a socially situated behaviour".

Further the context of *identity* is strongly represented within the SAM model in comparison to TOE and PERM, which do not consider the influence of the organizational or individual identity. Due to multiple stakeholders and the absence of profit motivations in VSOs, organizational identity and the image are central to organizations that are representative of the sector. The SAM has been adapted to the context of VSOs [Tables 1-4]. This modified model will be used as the theoretical framework to guide the second part of the study, described below.

## **SOCIAL ACTOR MODEL**

The social actor model (Lamb and Kling 2003) can be used to explore both internal and external factors that influence ICT use in organizations. The model provides a structured basis that enables us to look at the broader and previously unexplored elements in VSOs . The conceptualization of the social actor model (Lamb, 2005)

stemmed from several studies that were undertaken over a decade. The model consists of 4 dimensions: *affiliations*, *environments*, *interactions* and *identities*. *Affiliations* are the networks of relationships (organizational and professional) that connect social actors with external organizations within or across different industries. The *Environments* dimension explores the organizational environment in terms of regulations and institutionalized practices that influence the organizational action. *Interactions* explains how the members of the organizations interact with affiliated organizations. The information, resources and the media of exchange that the members of the organization utilise in their interaction with the affiliated organizations determine the nature of the interaction. The *Identities* dimension defines the creation and presentation of the identity that the members create for themselves, for the organization, clients, competitors and the industry. These four dimensions encompass 16 “characteristics and behaviours of connected and situated individuals”. Each of these is illustrated within the tables 3-7 below.

The unit of analysis within the social actor model is the organizational member and the ICTs they use. Lamb and Kling (2003) perceived the organization though the realities created by individuals and the individual is central to the model. In presenting the social actor as a unit of analysis, for further refining the social actor construct, Lamb (2005) illustrates that the social actor as a unit may be defined as a professional individual, project based work group, community based interest groups or an organization, with their respective work environments and ICTs. In the voluntary sector, the organization is a central entity. Due to the flexible structure of these organizations, full time, part time staff, volunteers, funding and recognition is attached to the organization. The organizational members align themselves with the central identity of the organization. While the model is capable of analysing the factors that influence ICT use at individual, project, and organizational levels, the proposed study will consider it primarily at an organizational level. However, as all organizations are a collective of individual members, in our analysis we will present two levels, both organizational and individual in the two dimensions *interactions* and *identities*.

The proposed study aims to explore factors that influence effective use of ICTs within VSOs in post adoption stages of technology. We will employ case research method in the interpretive paradigm to gain a contextual understanding. Semi structured interviews will be conducted in 4 organizations in two different regions in New Zealand. Due to an increasingly ageing population and implications that stem from population ageing, VSOs that offer services to older people who live within the community will be selected for exploration. The modified social actor model will be used as a theoretical lens to scope the study (Walsham,1995) and for the iterative process of data collection and analysis.

### **Modifying the social actor model for use in the voluntary sector**

The social actor model has been used in the commercial sector extensively and in the non profit sector in a limited manner (Finley and Light 2008; Van Akkeren and Rowland 2007), for analysis of data. As the model will be used to scope the proposed study, data collection and analysis, it is important to ensure that it will be able to capture the unique contextual factors of the VSOs. Several provisional modifications have been made to this achieve objective . There have been two primary modifications to the model. (1) A *technology* dimension has been introduced to enable us to determine characteristics of ICTs that are employed within the sector.[Table 7] (2) The “characteristics and behaviours” of the *Interactions* dimension have been situated within the *affiliations* and the *technology* [Table 5] dimensions. In addition several of the “behaviours and characteristics” that describe each of the dimensions have been interpreted to suit the context of the VSOs. This interpretation will improve the ability apply the model to the unique contextual environment in the voluntary organizations. The remainder of this paper proposes a modified version of the social actor model for use in studying the role of ICT in the voluntary sector organizations. Each of the dimensions and the interpreted “characteristics and the behaviours” are presented, with discussion, below.

#### **Affiliations**

*Affiliations* are defined as organizational and professional level relationships that are maintained with external organizations. In the context of the VSOs these affiliated organizations will function within an identified role (e.g. Donor, Regulator). A primary modification is the addition of two related characteristics from the *interactions* dimension. In addition the characteristic of “staff members perform specific roles within the organization” has been interpreted to the context of the VSOs to consider the role ambiguity that is evident in this sector.

Table 4: Affiliations – Modified version for VSOs

<b>Social Actor model: characteristics and behaviours of connected and situated individuals.</b>	<b>Application in the voluntary sector</b>	<b>Specific factors for consideration</b>
1. “Social actor relationships are shaped by networks of organizational affiliations” Lamb and Kling(2003,p 211).	Retains source description.	(a)Relationships with public institutions (Central government institutions, local council, quasi- state institutions ) (Hiemstra 2002; Guo and Acar 2005; (b)Relationships with private sector organizations (Halseth and Ryser 2007) (c)Relationships with voluntary sector organizations (Halseth and Ryser 2007) (d)Role of the organization
2. “Relationships are dynamic and related informational exchanges change with flows of capital ,labour and other resources.” Lamb and Kling (2003,p 212)	Retains source description.	Load shifting arrangements between affiliations.
3. “Relationships are multilevel, multivalent and multi-network.”(Lamb and Kling 2003, p.212)	Retains source description.	The level of relationship and values associated with the affiliation.
4. “As relationships change, interaction practices migrate within and across organizations”. (Lamb and Kling 2003, p.212)	Retains source description.	Change in an existing relationship or an introduction of a new affiliated organization.( Walsh and O’Shea 2008)
5. “Organizational members communicate in legitimate ways” (Lamb and Kling 2003, p 215). [From <i>interactions</i> dimension]	Retains source description.	Flow of information between affiliate organizations. (Burt and Taylor, 2003)
6. “Organizational members may perform specific roles on behalf of their organization in their interaction with affiliate organizations” (Lamb and Kling, 2003, p 216) [From <i>interactions</i> dimension]	Volunteers and staff member may perform both specific and ambiguous roles as provider and the recipient of the service.	Role ambiguity (Billis and Glennerster 1998; Mathieson 2006 ; Walsh and O’Shea 2008)

## Environments

The *environments* dimension in the social actor model has been defined as (Lamb and Kling 2003, p.214) “stabilized, regulated , institutionalised practices, associations, and locations that circumscribe organizational action”. The authors (ibid) have focused on two main areas of organizationally accepted financial and governance practices and the ICT infrastructure. In applying this dimension to the VSOs the definition “Regulatory and self governing practices that define the organizational action” (Tennant et al, 2006) was found to be more appropriate as it enabled better scoping of the dimension. The related behaviours have been interpreted to the context of the VSOs [Table 4). The two characteristics which characterize ICTs have been situated within the *technology* dimension.

Table 5: Environments – Modified version for VSOs

Social Actor model: characteristics and behaviours of connected and situated individuals.	Application in the voluntary sector	Specific factors for consideration
1. "Organizational environments exert technical and institutional pressures on the organization and their members". (Lamb and Kling, 2003, p.214)	Regulatory and organizational practices influence the organization and its members.	(a). Organized - Regulatory requirements by state agency. (Tennant et al 2006) (b) Self Governing – internal governance(Tennant et al, 2006) (c ) Funding mechanism. (d) . Organizational structure (local branch /Head office)
2. "Environmental dynamics vary among industries." (Lamb and Kling, 2003, p.214)	Regulatory and organizational practices vary according to geographical location and the type of service to the community.	(a). Types of services provided.(Information, direct service ,mix) (b). Geographical region(rural /metropolitan)
3. "ICTs are part of the organizational environment.". (Lamb and Kling, 2003, p.215)	Situating within the <i>technology</i> dimension.	
4. "ICTs are part of the industry, national and/or global environment." (Lamb and Kling, 2003, p.215)		

### Interactions

Lamb and Kling (2003) defined *interactions* as "information, resources and media of exchange that organizational members mobilize as they engage with affiliated organizations.". The characteristics and behaviours, within the dimension are relevant to maintaining the relationship with external entities and the tools used in that endeavour. Therefore the behaviours pertaining to the affiliated organizations have been moved to the *affiliations* dimension and technology related behaviours have been moved to the *technology* dimension.

Table 6: Interactions – Modified version for VSOs

Social actor model: characteristics and behaviours of connected and situated individuals.	Application in the voluntary sector
1. "Organizational members communicate in legitimate ways" (Lamb and Kling, 2003, p 215).	Situating within the <i>affiliations</i> dimension.
2. "Organization members build, design and develop interactions that facilitate flow changes" (Lamb and Kling, 2003, p 216)	Situating within the <i>technology</i> dimension.
3. "ICTs become part of the interaction process"(Lamb and Kling, 2003, p 216)	Situating within the <i>technology</i> dimension.
4. "Organizational members may perform specific roles on behalf of their organization in their interaction with affiliate organizations" (Lamb and Kling, 2003, p 216)	Situating within the <i>affiliations</i> dimension .

### Identities

The *identities* dimension in the social actor model has been defined as the "avowed presentation of the self and ascribed profiles of organization members as individual and collective entities", Lamb and Kling (2003, p 213). Similarly the ICT use in VSOs can be explored to evaluate how the organizational members create identities and maintain the image of the organization. Each of the behaviours in this dimension will be explored within this



context (see Table 6). The first characteristic has been introduced to enable self definition the organizational identity and the third has been situated in the *technology* dimension.

Table 7: Identities – Modified version for VSOs

<b>Social Actor model: characteristics and behaviours of connected and situated individuals.</b>	<b>Application in the Voluntary sector</b>	<b>Specific factors for consideration</b>
SAM focuses on the individual identity. The proposed study is at the organizational level , this definition is required.	1.VSOs have a distinguishing, central and an enduring identity that informs their long term direction and guide their operations. (Young 2001)	(a).Organizational identity (Whetten 2006; Young 2001) (b).Image (Transparency, Accountability) (C).Factors determinant upon the identity.
2. “Social actor identities have an ICT use component” (Lamb and Kling 2003,p 217)	Retains source description .	Use of ICTs to construct organizational identity. (West and Green 2008).
3. “ICT enhanced networks heighten ethnic and multiple other identities.” (Lamb and Kling 2003,p 217).	Retains source description .	ICTs heighten multiple other identities.( Mathieson 2006; McInerney 2007)
4. “ICT enhanced connections among organization members transcend roles” (Lamb and Kling 2003, p 218).		Situated within <i>technology</i> dimension.
5. ”Social actors use ICTs to construct identities and control perceptions” (Lamb and Kling 2003, p 209)	Social actors use ICTs to profile and control perceptions.	(a).Profiling (Burt and Taylor 2003; Hajnal 2002) (b).Self monitoring (Zorn 2007)

## Technology

The *technology* dimension in the social actor model for this proposed study was derived by (a) combining the technological contexts of the *interactions* and the *environments* dimensions (b) including the technological context of the TOE model. This will enable us to explore the technological characteristics in terms of the capital intensive technological models as well as pay per use models that are specifically aimed at the voluntary sector(e.g. Google tools for Non profits)

Table 8: Technology

<b>Social Actor model: characteristics and behaviours of connected and situated individuals.</b>	<b>Application in the voluntary sector</b>	<b>Specific factors for consideration</b>
1. “ICTs are part of the organizational environment.”. (Lamb and Kling, 2003, p.215)	Retains the source description.	(a) Characteristics of technology (Chau and Tam 1997; Tornatzky and Fleischer 1990).(b)ICT investment (Zorn, Li, and Lowry 2007)(c) ICT infrastructure (Burt and Taylor, 1999; Craig and Williamson 2005)
2. “ICTs are part of the industry, national and/or global environment.” (Lamb and Kling, 2003, p.215)	Common ICT infrastructure, funding and knowledge base is a part of the voluntary sector.	(a) Technical support – Circuit Riders , Non Profit Technology Providers (McInerney, 2007; West and Green, 2008) (b) Shared Infrastructure (c) External ICT fund.

3. "ICTs become part of the interaction process"(Lamb and Kling, 2003, p 216)	Retains source description.	Frequency and the medium of information exchange within affiliations.
4. "Organization members build, design and develop interactions that facilitate flow changes" (Lamb and Kling, 2003, p 216)	Retains source description.	Organizational members use of existing technological infrastructure
5. "ICT enhanced connections among organization members transcend roles" (Lamb and Kling, 2003, p 218).	Retains source description .	IT roles performed by staff and volunteers. (Schneider, 2003; Mathieson, 2006)

## CONCLUSION: FUTURE RESEARCH AND CONTRIBUTION

A theoretical understanding of the way in which ICTs are used in voluntary sector organizations is lacking at present. Despite the increased proliferation of technology in the voluntary sector, research in this area is still at an early stage. Published research in Information Systems consists of a rich understanding of how ICTs are utilised in commercial organizations (Orlikowski, 2000; Orlikowski and Baroudi, 1991; Lamb and Kling, 2003), but these concepts have not been extended to provide an in-depth understanding of the voluntary sector organizations and their use of ICTs. Studies that examine the ICT use in the voluntary sector remain focused on analysing individualistic and organizational factors.

Based on the limitations of the existing models, this paper highlights the need to consider the unique context that VSOs operate in, and in particular, factors beyond the organizational level that impact on in the voluntary sector. The paper has proposed an adaptation of the Social Actor Model for this purpose. Using recently published research from this sector the Social Actor Model has been modified to consider factors that are external to the organization. The relationship with the external organizations, availability of non profit technology providers and collaborations amongst voluntary sector organizations are proposed as important factors.

In discussing the Social Actor Model as a unit of analysis for further refining the social actor construct, Lamb (2005) illustrates that the Social Actor as a unit could be constructed in many ways – as a professional individual, project based work groups, community based interest groups or an organization with their respective work environments and ICTs. The author intends to use this modified model to examine the ICT use in voluntary sector organizations that provide specialized services to older people who live within the community. Due to ageing populations these organizations have been faced with a multitude of issues. Similarly, other studies could be conducted to explore the use of ICTs in civil advocacy organizations that mediate between the state and people. Further comparative studies between voluntary sector organizations that provide direct services and those that provide information services could be conducted using the modified model. The proposed model would also contribute to the presently limited understanding of the social actor construction as an individual within a community based organization.

## REFERENCES

- Billis, D., and Glennerster, H. 1998. "Human Services and the Voluntary Sector: Towards a Theory of Comparative Advantage," *Journal of Social Policy* (27:1), pp79-98.
- Berlinger, L., and Te'eni, D.1999. "Leaders' Attitudes and Computer use in Religious Congregations," *Nonprofit Management Leadership* (9:4), pp 399-412.
- Burt, E., and Taylor, J. 1999. "Information and Communication Technologies: Reshaping the Voluntary Sector in the Information Age," Centre for Study of Telematics and Government, UK.
- Burt, E., and Taylor, J. 2001. "Advanced Network Technologies in the UK Voluntary Sector," *Voluntas: International journal of Voluntary and non profit organizations* (12:4), pp 313- 325.
- Burt, E., and Taylor, J. 2003. "New Technologies, Embedded Values and Strategic Change: Evidence from the U.K Voluntary Sector," *Nonprofit and Voluntary sector quarterly* (32), pp 115-127.
- Chau, P.Y.K. and Tam, K.Y. 1997. "Factors Affecting the Adoption of Open Systems: An Exploratory Study," *MIS Quarterly*, (21:1), pp 1-24.

- Craig, B., and Williamson, A. 2004. "Survey of New Zealand community ICT Organizations and Projects." , Retrived 20 December 2008, from <http://www.community.net.nz/hottopics/digital-strategy/publicationsresources/connecting-communities-downloads.htm>
- Febbraro, A.R., Hall, M.H., and Parmegianni, M. 1999. "The Voluntary Health Sector in Canada: Developing a Typology—Definition and Classification Issues." Canadian Centre for Philanthropy, Canadian Policy Research Networks, The Coalition of National Voluntary Organizations and Health Canada. Ottawa.
- Fernley, E., and Light, B. 2008. "Unpacking User Relations in an Emerging Ubiquitous Computing Environment :Introducing the Bystander," *Journal of Information Technology* (23:3), pp 163-175.
- Frumkin, F. 2005. *On being Non profit: a conceptual and policy primer*. Harvard University Press.
- Gurstein, S. 2003. "Effective Use:A Community Informatics Strategy beyond the Digital Divide," *First Monday* (8:12), pp 1-18.
- Gutierrez, O. and Zhang, W. 2007. "Information Systems Research in the Nonprofit Context: A New Frontier," *Proceedings of the Thirteenth Americas Conference on Information Systems (AMCIS)*, August 11, Keystone, Colorado, USA.
- Guo, C., and Acar, M. 2005. "Understanding Collaboration Among Nonprofit Organizations: Combining Resource Dependency, Institutional and Network Perspectives," *Nonprofit and Voluntary Sector Quarterly* (34), pp 340-361.
- Hackler, D. and Saxton, G. 2007. "The Strategic Use of Information Technology by Nonprofit Organizations: Increasing Capacity and Untapped Potential," *Public Administration Review* (67:3), pp 474 – 487.
- Halseth, G., and Ryser, L.M. 2007. "The Deployment of Partnerships by the Voluntary Sector to Address Service Needs in Rural Small Town Canada," *Voluntas* (18), pp 241-265.
- Harrison, Y. and Murray, V. 2007. "Bridging the Effectiveness Divide in ICT Use:The Case of Volunteer Recruitment in Canada," In Cortes M and Rafter K(Eds.) *Non profits and Technology: Emerging Research for usable knowledge* pp 69-83, Lyceum Books,Illinois.
- Hajnal, P. 2002. Oxfam International In Hajnal, P. (Eds.), *Civil Society in the Information Age*. pp. 19-37. USA:Ashgate.
- Hiemstra, J.L. 2002. "Government Relations with Faith-Based Non-profit Social Agencies in Alberta," *Journal of Church and State* (44:1), pp 19-44.
- Lamb, R., and Kling, R. 2003. "Reconceptualising Users as Social Actors in Information Systems Research," *MIS Quarterly* (27:2), pp 197-235.
- Lamb, R. 2005. Social actor modelling in ICT research. In *Proceedings of the 12th European Conference on Information Technology Evaluation (ECITE)*, pp 287-296.
- Lebert, J. 2002. "Information and Communication Technologies and Human Rights Advocacy: The Case of Amnesty International" In Hajnal P (Eds.), *Civil Society in the Information Age* pp. 19-37. USA: Ashgate.
- Mathieson, K. 2006. "Using Volunteers for IT work :Research Questions" *Proceedings from ACM Special Interesse Group in Management Information Systems CPR*, pp 95- 108.
- McInerney, P.2007. "Geeks for Good: Technology Evangelism and the Role of Circuit Riders in IT Adoption Among Nonprofits," In Cortes,M. and Rafter,K. (Eds.) *Non profits and Technology: Emerging Research for usable knowledge*. pp 148-162, Illinois: Lyceum Books.
- Molla, A. & Licker, P.S. 2005. "Perceived E-readiness Factors in E-commerce Adoption: An Empirical Investigation in a Developing Country," *International Journal of electronic Commerce* (10:1), pp 83-110.
- Moore, M. 2000. "Managing for Value: Organizational Strategy in For-profit, Nonprofit and Governmental Organizations," *Nonprofit and Voluntary sector Quarterly* (29:1),pp 183-208.
- O'Hanlon, R. and Chang, V. 2007. "Towards a Model of Internet Technology Adoption for Not-for-profit Organisations," *18th Australasian Conference on Information Systems*, Retrieved 20 January, 2008, from <http://www.acis2007.usq.edu.au/assets/papers/52.pdf>.
- Orbinski, J. 2002. "Medicines Sans Frontiers" In Hajnal P (Eds.), *Civil Society in the Information Age* (pp. 19-37). USA:Ashgate,
- Orlikowski, W.J. 2000. "Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations," *Organization Science* (11:4), pp 404-428.

- Orlikowski, W., and Baroudi, J. 1991. "Studying Information Technology in Organizations :Research Approaches and Assumptions," *Information Systems Research* ( 2:1), pp 1-28.
- Pinho, J. and Macedo, I. 2006. "The Benefits and Barriers Associated with the Use of the Internet Within the Non-profit Sector," *Journal of Nonprofit & Public sector Marketing* (16:1/2), pp 171- 193.
- Reilly, C. 2005. "Evaluation of Frameworks for Knowledge Management in the Third sector," *16th Australasian Conference on Information Systems*.
- Salamon, L. and Anheier, H. 1992. "In Search of the Non profit Sector 1:The question of definition, " Working paper No 2, The Johns Hopkins University, Institute for Policy Studies.
- Salamon, L. and Anheier, H. 1997. *Defining the non profit sector*. Manchester: Manchester University Press.
- Salamon L. and Geller S. 2006. "Investment Capital: the Challenge for American Non profits", Communiqué No:5, Listening Post Project, Centre for Civil Society Studies, John Hopkins University.
- Schneider, J. 2003. "Small, Minority-based Nonprofits in the Information Age," *Nonprofit Management and Leadership* (13:4), pp 383 – 399.
- Silverman, C. Rafter, M. and Martinez, A. 2007. "Successful Technology use in Small Grassroots Non profits," Institute for Nonprofit Organization Management, University of San Francisco. Retrieved 20 March , 2008, from [http://www.cps.usfca.edu/inom/INOM\\_Tech\\_Use\\_Small\\_NPs.PDF](http://www.cps.usfca.edu/inom/INOM_Tech_Use_Small_NPs.PDF).
- Tennant .M, Sanders .J, O'Brien .M and Castle, C. 2006. "Defining the non-profit sector :New Zealand" Working papers of the Johns Hopkins Comparative Nonprofit Sector Project, No 45, Baltimore: The Johns Hopkins Centre for Civil Society Studies.
- Te'eni, D., and Speltz, N. 1993. "Management Information Systems in the Cultural Institutions" In R. Hollister, D. Young and V.Hodgkinson (Eds) *Good Leadership and Management Practice for Nonprofit Organizations: Essays by researchers and practitioners*. San Francisco:Jossey-Bass.
- Tornatzky, L.G. & Fleischer, M. 1990. *The Processes of technological innovation*. Massachusetts: Lexington Books, Lexington,
- United Nations. 2003. "Handbook on Non Profit Institutions in the System of Accounts" , Department of Economic and Social Affairs, United Nations.
- Van Akkeren, J. and Rowlands, B. 2007, "An epidemic of pain in an Australian radiology practice," *European Journal of Information Systems*, (16:6), pp 695-711.
- Walsh, K., and O'Shea, E. 2008. "Responding to Rural Social Care Needs: Older people Empowering Themselves, Others and Their Community," *Health and Place* (14), pp 795-805.
- Walsham, G. 1995. "Interpretive case studies in IS research: nature and method," *European Journal in Information Systems* (4:2), pp 74-81.
- West, H. and Green, G. 2008. "Because Excel will mind me ! The State of Constituent Data Management in Small Nonprofit Organizations," *Proceedings of the fourteenth Americas Conference on Information Systems*, pp. 135-147.
- Whetten, D. 2006. "Albert and Whetten Revisited :Strengthening the Concept of Organizational Identity," *Journal of Management Inquiry* (15), pp 219- 234.
- Williamson, A. and Dekkers, J 2005. "ICT as an Enabler in the Community and Voluntary Sector in New Zealand," *Proceedings of the Community Informatics Research Network Conference* (pp 408-429).
- Zmud, R., Carte, T., and Te'nni, D. 2004, "Information Systems in Nonprofits and Governments: Do We Need Different Theories ?," *Twenty fifth International Conference on Information Systems*, pp 456-460.
- Zorn, T. E. 2007. "Social and Political Influences on Information Technology Adoption among Civil Society Organisations in New Zealand: A Preliminary Report." *Conference Proceedings of 5th International Symposium on Politics and Information Systems, Technologies and Applications* pp . 378- 477.
- Zorn, T. E., Li, C., and Lowry, S. L. 2007. "Survey of community and voluntary organisations' use of information and communication technologies" University of Waikato, Working paper. Retrieved 1 February 2009, from <http://wms-soros.mngt.waikato.ac.nz/ICT/Research+Papers.htm>.

## **COPYRIGHT**

Nishanie Pereira and Rowena Cullen © 2009. The authors assign to ACIS and educational and non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The authors also grant a non-exclusive licence to ACIS to publish this document in full in the Conference Papers and Proceedings. Those documents may be published on the World Wide Web, CD-ROM, in printed form, and on mirror sites on the World Wide Web. Any other usage is prohibited without the express permission of the authors.