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Post-adoptive ICT use in non-profit sector organizations that provide long term care for older people

Initial findings from New Zealand

ABSTRACT

With population ageing an increased number of older people live within the community. Non-profit sector organizations deliver healthcare and social care services to older people on behalf of state-sector organizations. As the demand for these services increase, the role of IT in service delivery becomes important. Research which investigates the use of ICT in these aged care organizations is scarce. Whilst individualistic factors such as habit, planned behavior and reasoned action are important to understand continuous ICT use, non-profits are greatly influenced by their external environment and the individualistic models are limited in their ability to contextualize the external factors. Using the social actor model (Lamb and Kling, 2003) this research examines the influence of contextual factors that influence the post-adoptive use of ICT for client record keeping. We examine how funder demands, client needs, relationships with external organizations and changes in service offerings influence the ICT use in these aged care organizations.

Keywords

Post-adoptive ICT usage, IT continuance, social actor model, non-profit sector, older people, client records.

INTRODUCTION

New Zealand's population of older people is increasing in absolute terms and percentage wise in relation to the overall population. In 2006 older people in New Zealand (Statistics New Zealand, 2007) make up one in eight of the total population. This is an increase from one in 12 in the early 1970s. It is projected that by the year 2040 it would increase to be one in four people older than 65 years of age. The latest census figures show that in 2006 there were 495,600 older people compared to 450,000 just 5 years earlier, showing the largest growth in this group during the last 100 years. Within an increasing older population it is important to consider their quality of life to understand why some older people may seek support from non-profit organizations.

With increased life expectancy, growth in the 85+ population will continue to accelerate. Although life expectancy has increased significantly, the quality of life, in relation to being disability free period has not increased at the same pace. (see table 1).

| Year | Life Expectancy | Disability free life expectancy |
|------|-----------------------------|---------------------------------|
| 1996 | Male – 74.4 [Female – 79.7] | Male – 57.8 [Female – 60.5] |
| 2001 | Male - 76.3 [Female – 81.1] | Male - 57.9 [Female- 60.9] |

Table 1: Life expectancy and disability free life expectancy.

Derived from Statistics (2007) – Health Expectancy .

Disability free life expectancy is the age at which older people begin to experience functional limitations. In males this figure is at the age of 58 years and in females at the age of 60. These functional limitations do not impair their ability to live independently. However they contribute to the number of older people who require healthcare growing faster than their age group (Statistics New Zealand, 2007, p.64, p.75).

Two main groups that would require care in New Zealand is the 75-84 age group and the 85 years and over age group. Within these two cohorts as the number of people increase the number of people with disabilities are expected to increase as well. The number of disabled people in the 75-84 age group is expected to double between 2006-2036. It is expected that the

largest increase in the older disabled people will be in the 85+ group, as this group is estimated to increase 3.5 times over the next three decades from 18,800 in 2006 to 66,800 in 2036 (Badkar and Callister, 2009)

In order to care for these older disabled people it is estimated that New Zealand will need 48,200 paid caregivers by 2036. At present there are 17,900 care givers and it is estimated that there will only be 21,400 aged care workers available in 2036 (Badkar and Callister, 2009). This situation is similar in other countries in the OCED (Organizations for Economic Co-operation and Development) that face an increasing demand for a long term care work force for older people. In order to alleviate the demand for long term care workers OECD suggests countries to examine the role of information and communication technology in these aged care organizations.

This research looks at non-profit sector organizations that provide support for older people who have complex health needs and are socially isolated. These older people who have multiple care needs live within the community and not in a residential facility. Older people are referred to these non-profit organizations through a well established process. The doctor (GP) associated with an older person will establish the need for additional services for the older person to remain living within their own homes. He (the doctor) refers the older person to the Care Coordination Centre (CCC) for a formal assessment of needs. The needs assessment is conducted by the staff at the CCC at a face to face meeting with the older person and a care plan is formulated. The staff at CCC communicate the care plan and information about the older person to a non-profit organization that is best suited to provide the care within the community. The services of the non-profit organization is funded through a service contract associated to the district health board (DHB) in each region. At a state sector level the Ministry of health provides the funding for the DHBs.

New Zealand has the seventh largest non profit workforce in the world, as a percentage of the economically active population. At 9.6% it places New Zealand ahead of the averages of United Kingdom, USA, Australia and Nordic countries (see Sanders et al, 2008, p. 13). At 67%, New Zealand non profit sector also has a high level of volunteer participation, relative to the 42% average in all countries and 48% in USA, Australia and UK. It is significant that 90% of the non profit organizations in New Zealand rely solely on volunteers to function and do not employ paid staff (see Sanders et al, 2008, p. 13).

Technology use in non-profit sector are increasing. According to Salamon and Geller (2006) the highest need for capital investment amongst the non-profits in USA was the need to invest in technology. Similarly in New Zealand (Zorn, Li and Lowry, 2007, Zorn, 2007) non-profit sector organizations increasingly adopt technology to deliver their services. There are many studies that analyse the adoption of ICT in the non-profit sector organizations (see Burt and Taylor, 1999; Williamson, A. and Dekkers, J. 2005; Wyatt, 2001; Hajnal, 2002; Lebert, 2002; McNerny, 2007). The primary focus of these studies is to identify the factors that influence the decision to adopt technology within the organization. In comparison fewer studies focus on the actual use of the existing technology in non-profit sector organizations. The question of “how is technology presently used in the day to day activities a non-profit organization?”, remains relatively unexplored.

Post adoptive ICT usage (Jasperson, Carter and Zmud, 2005) is also known as IT continuance, continuing IT use (Ortiz de Guinea and Markus, 2009) and IT usage (Karahanna, Straub and Chervany, 1999; Burton-Jones and Gallivan, 2007). This concept explores how the organizations and individuals use ICT after the initial adoption. Based on the individualistic theories of IT adoption and IT acceptance the focus of these studies is to explore how individual factors such as rational decisions, emotions associated with use and habits influence continuing IT use within organizations. These relate to cognitive function of an individual and the values they associated with ICT use. A recent development in this area is the call to examine environmental cues that influence continuing ICT use (Ortiz de Guinea and Markus, 2009, p. 441). The authors explain that this alternative view would direct attention to the characteristics of technology itself that may motivate or constrain continuing use.

Although individualistic models explain the actions of the individual and explore concepts such as attitudes, beliefs and satisfaction with technology these theories do not consider the contextual environment of the individual. They present a de-contextualised understanding of the individual. Increasingly there have been many research calls to explore the environmental contexts of the individual and pay attention to the environmental cues. (Ortiz de Guinea and Markus, 2009, Lamb and Kling, 2003)

The environmental contexts are important in the non-profit sector. These organizations are strongly connected to their environment as they depend on the external environment for their funding and resources. In the non-profit sector organizations in New Zealand there are many volunteers who and these non profits get funding from a multitude of external organizations. In comparison to for-profit sector the non –profit sector has a need to be integrated to the environment that it operates in. These environmental influences shape the context of a non-profit sector organization and inability to examine this context will provide a limited understanding of the how the post-adoptive ICT use is influenced. Therefore for the purpose of this study we would use the social actor model (Lamb and Kling, 2003) to examine how external environment influences the ICT use.

THEORETICAL FRAMEWORK

Social actor model :The social actor model (Lamb and Kling, 2003) provides a multidimensional framework that can be used to look at the contextual factors of the environment. Although the model is not used as much as the individualistic models , there has been several recent publications detailing how this model can be used (Van Akkeren and Rowlands, 2007)

The social actor model consists of four dimensions and 16 characteristics. (See table 2) The four dimensions are affiliations, interactions, environments and identities. There are 4 characteristics associated with each of the dimensions which

| Social actor dimensions and codes | Characteristics and behaviors of connected and situated individuals (Lamb and Kling, 2003,p.213) |
|-----------------------------------|--|
| Affiliations [AFF] | |
| [AFF-NETWORKS] | Social actor relationships are shaped by networks of organizational affiliations |
| [AFF- EXCH] | Relationships are dynamic, and related informational exchanges change with “flows” of capital, labor, and other resources |
| [AFF-MULTI] | Relationships are multi-level, multi-valent, multi-network (i.e. global/local, local/global, group, organization, intergroup, interorganization, culture) |
| [AFF-RELAT] | As relationships change, interaction practices migrate within and across organizations |
| Environments [ENV] | |
| [ENV-MAND] | Organizational environments exert technical and institutional pressures on firms and their members. |
| [ENV-DYN] | Environmental dynamics vary among industries. |
| [ENV-ICT] | ICTs are part of the organizational environment. |
| [ENV-ICT-INFRA] | ICTs are part of the industry/national/global environment . |
| Interactions [INT] | |
| [INT- COMM] | Organizational individuals seek to communicate in legitimate ways . |
| [INT- MODIFY] | Organizational individuals build, design, and develop interactions that facilitate “flow” changes. |
| [INT- PROCESS] | ICTs become part of the interaction process, (interaction technologies) as people transform and embed available informational resources into connections and interactions. |
| [INT-SPEC] | As firm members, people perform socially embedded (role-based), highly specified actions on behalf of the organization. |

| | |
|------------------|---|
| Identities [IDN] | |
| [IDN-USER] | Social actor identities have an ICT use component. |
| [IDN-HGTN] | ICT-enhanced networks heighten ethnic and multiple other identities (global/local tension). |
| [IDN-ROLES] | ICT-enhanced connections among firm members transcend roles (project-based) . |
| [IDN- PERCEP] | Social actors use ICTs to construct identities and control perceptions. |

Table 2: Social Actor Model (Lamb and Kling, 2003, p.13)

For the purpose of this paper we will only present the initial findings of the affiliations dimension. Affiliations are organizational and professional relationships that connect an organization member to industry, national and international networks.

ORGANIZATION

The case study organization, XPB, provides healthcare and social care services to older people who live within the community. Their niche is the socially isolated older people with complex health issues. Once an assessment is done for these clients by the CCC their detailed assessment of the client is handed over to the XPB organization. This organization supports 140 older people who live within the community. There are 36 volunteers and eight full time staff members at XPB.

The organization provides all the services and support that a family member would provide. Each client is assigned to a social worker and there are a group of volunteers who work with the client in addition to the social worker. The social worker is a full time staff member with the organization. Once a client is accepted to the XPB the social worker assigned visits the client and prepares a comprehensive care plan. This care plan is then enacted with the help of the social worker, community nurses and the volunteers.

These are some of the services that XPB provide.

The social worker provides

1. Arranging for home help – home help services come and help keep the place clean. The social workers coordinate these visits with other agencies.
2. Advocating with legal and family issues – Often as these individuals are socially isolated they have legal and other social issues where they need help.

The volunteers provide

1. Callers to call the older people everyone morning to make sure that they were throughout the night.
2. Take them for hospital visits, appointments.
3. Visit them and help them to provide them with social contact.
4. Find opportunities to engage them with the community.

METHODOLOGY

Semi structured interviews were conducted with key staff members of the two organizations. These one hour interviews were conducted with staff who fulfilled the following roles, team leaders, social workers and volunteers.

FINDINGS

ICT USE : For the purpose of the study we decided to examine how ICTs are used to maintain the client record within the organization. The client record is segmented. Information about the same client is recorded in many separate places of the organization. When a client is first assigned to the organization by the assessment coordination centre, that information is

sent via a fax format. The initial information about the client the date they took them over, the contact details, name, address, phone number, case files, the basic information is entered on to an MS Excel sheet that is maintained by the team leader. This file is used for billing purposes and also to ascertain how long the client has been with the organization. The access to this record is limited to the team leader and other members of the management. The team leader assigns each client to a social worker. The social workers primarily use MS Word to maintain case notes on each of their assigned clients. They maintain a single folder on their hard disk for each client and all information pertaining to a client is stored within that folder in the form of MS Word documents. The case notes are held in many forms - :

Two main forms – 1. Hard copy of the note and then on the computer.

1. the initial visit generates a care plan which is done in consolidation with the care plan provided by the Care coordination centre.
2. The social worker does weekly visits for the first six weeks for each client and these generates as a report or a narrative and in a Word document.
3. The case workers also prepare a narrative report on their clients which is to be submitted twice a year.
4. In addition to this the social worker keeps a record of all information pertaining to the client that is generated external to the organization but are channelled through the organization.

e.x – dealings with the IRD, hospital records , copies of tests, by banks .

These documents are photocopied and out in the hard copy of the client's file.

5. And then also the phone conversations with the client and the phone conversations with the external organizations, or with family are also typed in a narrative form in Word documents.
6. In addition sometimes a problem or a particular aspect of the client is discussed with the team leader or with other team members. This information could be in the form of email or in the form of a telephone conversation. This information too is added to the case notes to the file.
7. In addition they have a CDOI. And that information is maintained in a separate database.

All information is also printed out and kept as hard copies in the client file.

Due to this labour intensive record keeping process there are many issues that the staff face

1. Due to the way this information kept there is none of data sharing and sort of figuring out what works and what does not work for each client.
2. The data is maintained in a very individualized manner depending on the expertise and the context of the individual case worker.
3. The primary focus is in providing the information that the funder wants and as that is a narrative report they are able to provide that information to the funder.
4. The staff complain of how difficult it is to find information in the hard copy of the client file and how when a person

In addition to this recording the volunteers also record the time they spent with the client and then high light if they have any issues about the client well being to the social worker and that information too is recorded in Word documents by the social worker.

Affiliations [AFF]

| Social actor dimensions and codes | Characteristics and behaviours of connected and situated individuals (Lamb and Kling, 2003,p.213) | Examples from the case |
|--|--|--|
| [AFF-NETWRKS] | Social actor relationships are shaped by net works of organizational affiliations | Funders require specific information about the clients and how the funding is being utilized by the organization. [Demands from the funder.] |
| <p>Findings – [AFF –Networks]</p> <p>We found that client data management is strongly influenced by the information that the funders required. The organization works with 2-3 main funders and 4-6 supplementary funders. These funding relationships are established at the beginning of each financial year as the budget is prepared. The organization works with two main funders [name them here] . The main funding comes to us from government departments. Ministry of health, DHB are usually the two main funders. PXB is a contractor to them . These are the two main contracts. These affiliations area engaged at an organizational level. Social workers have a clear understanding of the of the information requirements of the funder. The team leaders communicate the requirements of the funder to the social workers.</p> <p>“They [funders] are essentially paying us to deliver a set of services on their behalf. So they want to know if we are capable of doing that. Right at the beginning we know what type of reports they will need. It is spelled out in the contract we have with them .We have to show very clearly how the client is supported. And how the client is progressing from one reporting period to another. ”</p> <p>“When we are in the process of establishing the funding the information they need is different. Then they want more information about the organization. How many staff we have and how many volunteers we have and how many clients we have. So at the beginning it is very much about the numbers, but during the relationship it is much more about the client. They still want the numbers but the client report becomes primary and the narratives and if the client is progressing well”</p> | | |
| [AFF- EXCH] | Relationships are dynamic, and related informational exchanges change with “flows” of capital, labour, and other resources | Relationships with external organizations improve and access to resources is dependent on providing complete information. |

Social workers liaise immensely with external organizations on behalf of the client. These external organizations could be state agencies that provide financial support to the client [e.g. Work and Income department] or they could be private sector organizations or other non-profit sector organizations [e.g. Age Concern]

The social workers need to deal with these different types of organizations as the services their clients need vary. And the social workers try to utilise all the services that are available within the community to fulfil the needs of the client as the needs of the clients cannot be met with a single requirement.. say for instance a client may need service A, B and C and explain it here from the client's side. Yes, that is what needs to be done here. The social workers do the needs assessment and then figures out what services the client needs and then liases with a whole bunch of external organizations to get them. Due to the complexity of the client's situation some clients require as many as 6-8 external organizations to liase with. And in dealing with each of these organizations they need to give information about the client

“We liase with a lot of external organizations on behalf of our client. GP's hospitals, banks, IRD, Work and Income, super annuation , these organizations need different information about our client. When we have a complete record of our client it is much easier to deal with these organizations. Our clients want something to happen with each of these organizations or they want something from them, and the organizations want complete information about the client to release what the client wants ” [too long edit]

These affiliations are established the social workers utilising existing networks and also building new ones. The requirements of these organizations do not have a legally imposed variety.

Isomorphism (DiMaggio and Powell, 1991) explains how organizations adopt similar practices. DiMaggio and Powell (1991) explain three types of institutional isomorphic pressures that come from other organizations, regulative (legally imposed), cognitive (imitating the leader) and normative (codes of conduct associated) . This organizations have responded to regulative pressures and this is displayed in their adoption of the ICTs to handle client data and the primary aim being the reporting to the funders. The thing that we will be looking for in our case studies is the normative practices. The funders specially the healthcare sector organizations, e.g district health boards do not have a normative expectation of what the healthcare industry seem to be doing.

The social workers deal with a multitude of organizations that require information about their client in exchange for the services these organizations can provide and the information requirements of these organizations influence how the information is kept within the organization.

| | | |
|-------------|---|--|
| [AFF-MULTI] | Relationships are multi-level, multi-valent, multi-network (i.e. global/local, local/global, group, organization, intergroup, interorganization, culture) | Social workers require the input from multiple sources to complete each of the client processes. |
|-------------|---|--|

As more complex the client needs are more complex these relationships become. Social workers engage volunteers , community organizations and family members, friends to fuifill the demands. Organization goes to a lot of trouble to ensure that a client only has to deal with a single social worker. The relationships that the social worker establish with the external organizations and the community are at all different levels and family and friends too.

| | | |
|-------------|--|--|
| [AFF-RELAT] | As relationships change, interaction practices migrate within and across organizations | <p>[The proposed study will utilize this characteristic to examine a new service offering or an identified change within the client base, funding, or the resource base and the response of the voluntary organization to this change. It will examine an identified practice that has been established as a direct response to this change and associated information activity.</p> <p>With the changing of the funding more volunteers are needed and different levels of volunteers.</p> <p>“We have also started to look at client reciprocity. This is a trend that we have identified and it is a way of connecting these individuals back to the community. So one additional piece of information that we now collect is how can the clients reciprocate.”</p> |
|-------------|--|--|

In their relationship with the Funder there are three stages of it.

1. The initial requirement – This is when the organization basically have to give all the types of information to the funder. More information to establish the relationship.
2. The ongoing requirement – At the ongoing relationship stage the focused is more on the client data reporting so this stage has a stronger influence on how the ICTs are used for client data management.
3. Load shifting arrangement is part of the ongoing relationships.

The relationship with the regulators [e.g. charities commission] does not influence the client record management as the regulator is more interested in the financial aspects of the operation and the quantitative side of the client information. Like how many clients, how many staff, how many hours-

Also two main types of relationships – load shifting relationships – requires more information than the normal type of relationships. The normal types of relationships require only partial information (e.g. dealing with a bank, requires the clients account numbers)

Now this again leads to another issue the type of data recorded

1. Information about the care plan
2. Different types of information about the client –[e.g client’s bank account number, the telephone number of the neighbor, the hospital nurse and rehab place]

CONCLUSION

This paper reported the initial findings of how ICT use of a aged care non-profit organization is influenced by external contextualized factors. Using the affiliations dimension of the social actor model this paper presented an understanding of how donor demands, client needs, relationships with external organizations and changes in service provision influences how ICTs are used.

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