ORGANISATIONAL IMPLEMENTATION OF INFORMATION & COMMUNICATION TECHNOLOGIES (ICT): A PERSPECTIVE FROM THE VOLUNTARY SECTOR

By

Geoffrey Ocen

Submitted in partial fulfilment of the requirements for the award of the degree of Doctor of Philosophy

School of Arts and Education
Middlesex University

August 2006

Acknowledgements

The successful completion of this PhD research programme has been made possible due to the support and encouragement of a number of people and organisations. I am very grateful to all of them.

I am deeply appreciative of the support and understanding I received from my wife Theresa and the children during the long and demanding journey to the end.

I would like to particularly thank my supervisory team at Middlesex University, namely Professor Peter Newby, Ken Taylor and Terry Russell. They made the process very bearable and were always constructively critical, supportive and very patient.

I also acknowledge the support of Trustees, Senior Management Teams and Staff of O-Regen and Migrant Training, my current and previous employer respectively during the research period. Without their financial and professional support, I would not have been able to complete this programme.

Finally, I would like to acknowledge the co-operation and goodwill shown by the participants and co-researchers from the SMVOs who allowed me to use their experiences as case studies.

Contents

List of Figures

List of Tables

Abstract

This research offers a new framework for dealing with the issues governing ICT adoption and the factors driving wider diffusion in SMVOs. The Internet has provided a great leap in the way the commercial sector does business. Regrettably, the voluntary and community sector, particularly the Small and Medium Voluntary Organisations (SMVOs), risk being left behind. The UK Government is encouraging the Voluntary Sector to improve its infrastructure and deliver public services.

This research considers key characteristics of SMVOs and identifies Technology, Organisational and People (TOP) imperatives that provide new conceptual framework for understanding and implementing websites (WAM), maximising benefits and managing the attendant change.

The research methodology is based on multi-disciplinary theories involving action research which allows change and understanding to be achieved at the same time. The research explores organisation theories and the concept of website adoption within the context of organisational change in a pilot and four selected SMVO case studies.

I conclude my thesis by drawing out the findings based on the Website Adoption Model (WAM) and extending it into a Technology Adoption Model (TAM). The framework presents classification of SMVOs which shows the main characteristics of organisations with high technology, organisational and people imperatives. I suggest that in order to facilitate the understanding of SMVOs in particular and organisations in general, it is helpful to classify organisations using a two-dimensional classification based on TOP schematic diagrams. For the first time, SMVOs can identify a vision, develop an ICT strategy and recognise changes arising out of ICT implementation.

Finally, I reflect and draw out lessons on research methodology and then consider final conclusions about key findings, policy implications and further research.

Chapter 1 Introduction

1.1 Background to the research

1.1.1 Introduction

Two of the most significant forces shaping organisations are globalisation and the continued, rapid and radical changes taking place in Information and Communication Technologies (ICT). The Australian Apec Study Centre (2003) report that the sociologist, Anthony Giddens, defines globalisation as a decoupling of space and time, emphasising that with instantaneous communications, knowledge and culture can be shared around the world simultaneously. It is the advances in ICT that have made instantaneous communications a reality. To date, the extant literature has centred on the technology take up amongst businesses and larger voluntary organisations. This research aims to begin to address this deficit and look at Small (including micro) and Medium Voluntary Organisations (SMVOs).

1.1.2 Structure of the thesis

This thesis is presented in 7 chapters.

In Chapter 1, a brief historical perspective and account of the current field situation regarding usage of ICT by SMVOs sets the scene and provides the reasons for doing the study. A brief overview of the study, the methodology and the key issues concerning the research are also outlined. Finally, the need for responsiveness in the research design is highlighted. The approach adopted is described and justified in the next chapter.

In Chapter 2, extensive literatures on 'organisation' are reviewed. To improve understanding of ICT adoption in organisations, the theories of organisation and Organisational Development are explored. Organisations are also set up to serve a number of purposes including the voluntary sector organisations.

Characteristics of formal and informal organisations are reviewed. Whatever the type of organisation, both formal and informal characteristics interplay to serve a number of purposes.

There are number of factors that affect the structures of organisations and systems of management. Key situational factors or contingency factors include size, technology and environment.

Finally, theories about technology and organisations are reviewed. In order to understand how technology can be best introduced and managed, it is helpful to appreciate the social, economic and political contexts within which the technology is created, introduced and managed. As Mullins (2005) explained, once a particular technology has been developed and introduced, it is then possible to trace the ways in which that technology comes to have a presence within the organisation through a 'technology adoption and introduction' framework which attempts to capture the importance and influence of social, political and economic contexts upon emerging effectiveness and efficiency of the utilisation of that technology. Effective change management process is a crucial part of such framework.

In Chapter 3, the methodology and methods for the research are discussed. The research questions and how the methodology selected answers them are presented. The action research methodology chosen is justified in terms of the rigour and responsiveness of the research process and resulting changes or actions. The literature and theoretical basis of the action research are also provided.

In Chapter 4, an overview of the events and the three phases of the research are outlined. I also provide further details of the research approach adopted in the study. In the chapter, I describe the research settings at Migrant Training, O-Regen and participating SMVOs. The events and activities are examined in more detail in subsequent chapters.

In Chapter 5, a description of the pilot study that was carried out at O-Regen (selected SMVO case study) is provided. It covers the three aspects of the change drivers identified at O-Regen, namely technology, people and organisational. The technology aspect of the research covers the content design and creation, hosting, marketing, internal and external usage, and monitoring of the effectiveness of the organisational website. The benefits of the website are also evaluated. The people aspect of the research covers initial skills assessment, key staff training, staff actions and evaluation of change to identify critical success factors (Stein and Vandenbosch, 1996). The organisational aspect of the research covers organisational culture and change management including organisational cultural web, what customers want, website and service delivery, team structure, attitudes and relationships, budgetary and funding issues, drivers for change (internal and external), and overcoming resistance to change. Indicators of change (such as use of emails and accessing information via web) are described. I also outline the ethical, legal and professional considerations important in ICT take-up and organisational change. I then reflect on my experience as a researcher embedded within the organisation. I summarise in this chapter the key issues and findings of the pilot study. Finally, I encapsulate the Website Adoption Model (WAM) which has its root in the three approaches that traditionally dominated ICT implementation theory, namely technological determinism (Campbell 1996; Markus and Robey 1988), organisational Imperative (Chandler 1962; Andrews 1971; Earl, 1996; Morgan, 1997) and socio-technical interactionism or bottom-up approach (Ciborra 1994; Ciborra, Patriotta and Erlicher 1995).

In Chapter 6, I apply the WAM approach and lessons learnt at O-Regen (chapter 4) to following four carefully selected SMVOs. I selected to study SMVOs that cover smaller organisations (ACDA and ACWDC) and medium sized organisations (UXL and Nappy Gang). I also ensure that the type of services provided are varied ranging from community empowerment, childcare to training. In this chapter, I provide description and analysis of each case study in terms of technology, people and organisational processes.

In Chapter 7, I reflect on my action research experience during the implementation of pilot and case studies, draw up some common themes from the ideas presented across the research and apply institutional theories and action research theories to provide answers to my research questions. I suggest that there are two main claims to knowledge arising out of the research: 1) contribution to new SMVO practices (action outcomes) and 2) contribution to new conceptual technology adoption model (research outcomes). I summarise the key findings based on the Website Adoption Model (WAM) by extending it into a Technology Adoption Model (TAM). I present a new schematic framework for classifying SMVO capabilities with regards to adopting ICT. Finally, I reflect and draw out lessons on research methodology and then present areas of policy implications and further research.

1.1.3 Methodology

Action Research (AR) is selected as a research methodology. This is because AR has the dual aims of action and research. It is a flexible spiral process which allows action (change, improvement) and research (understanding, knowledge) to be achieved at the same time (Dick 2002). The understanding allows more informed change and at the same time it is informed by that change. I used action research methodology to provide both action and research outcomes with regards to organisational implementation of ICT. As explained in chapters 4 (particularly), 5 and 6, I achieve this over three cycles of action research. In cycle 1, I identify the key factors that affect ICT take up. In cycle 2, I undertake a pilot study at O-Regen to create, implement and evaluate the organisational website. In cycle 3, the website adoption model developed is tested at four carefully selected SMVO case studies to assess its 'generalisability'.

As an example of the application of AR, the ICT strategy for the pilot SMVO and content design tasks constituted the key planning stages of the AR process. The action stage was informed by the planning stage and involved creation of the organisational website. The review stage of the AR process

included monitoring and evaluation of the website usage. The members of staff affected by the change were involved in the action research. Dick (2002) describes similar approach to involving participants in action research. It allows the understanding to be widely shared and the change to be pursued with commitment. The outcomes of the study are change for the organisations and learning for the employees and me. This research sets out to change SMVOs and improve the skills and knowledge of participants (employees of SMVOs).

I have chosen AR methodology for a number of reasons. There is a need to determine simultaneously an understanding of the participating SMVOs and the best opportunities for facilitating and maximising use of ICT. The research situation demands responsiveness in terms of a cyclic process of planning, action and review as outlined in chapter 3. AR is flexible because it involves working within a cyclic process which enables research to be responsive. For example, whilst working of the website implementation, the cyclic process ensures that the research design got better as more was learned about the pilot SMVO. Therefore, a better fit to the situation is achieved as the research proceeded (Dick 2002). A cyclic process involving three cycles detailed in chapter 4 also gives more chances to learn from the experiences because there opportunities of reviewing and refining actions and produced website adoption model. AR also establishes my role as co-ordinator of the project well since I am able facilitate the planning, action and review processes with regards to website adoption process. AR also provides excellent mechanism for working with and empowering organisations and community groups as co-researchers to effect change in their organisations as result of the ICT implementation. Finally, a good reason for using Participative AR is that its principles are closely aligned to the voluntary sector's concepts of partnership and empowerment (Seymour-Rolls and Hughes 1995).

The research develops the concept of website adoption within the context of organisational change in a pilot and four selected SMVO case studies. The pilot SMVO (O-Regen) was selected because it was a SMVO, had no website, could provide the necessary resources and funding to develop a website, and

was my employer and therefore I could successfully combine my research with work commitments. The four case study organisations were selected to cover the range of issues below: 1) Size: Small and medium sized organisations. 2) Type of service: broad range of services including socially excluded people, older and younger, women and men. 3) Location: based in east London for ease of access. 4) Level of ICT use: Low or poor use of ICT.

1.1.4 My personal story

Action research is also about personal and professional development (McNiff 2000). I believe that I have an important personal story to tell in terms of how my own professional life has changed during the research period. Apart from the organisational changes that took place, as an action researcher, I have also had considerable positive effects on my career development. I began this research in 1998 when I was employed by Migrant Training as a Training Manager. This was a senior management position which helpfully provided me with access to CEO and Board. Equally, I was also directly in touch with staff and able to negotiate and win their participation.

As the MPhil stage came to an end in 1999, I moved to O-Regen, my current employer, as a junior manager. Having seen the potential benefits, the CEO at the time, immediately lent her support to the research programme. At this level, I still found it easy to negotiate staff participation. As for negotiating CEO/Board appreciation, this could have been more difficult except for the clear vision and approval of the CEO. Within two years, however, I became a member of the senior management team and over the last two years of the research programme (2004-06), I have been promoted to a director of operations. I believe that undertaking the action research helped me on two fronts. Firstly, I was able to develop and improve professionally through reflection and learning cycles of the programme. For example, I employed a participatory style of management which assisted in fostering good team work and delivered organisational goals. Secondly, the research activities and successes helped to raise my profile within the organisation.

1.2 Context: The UK voluntary sector

This section provides information about the UK voluntary sector to within which SMVOs targeted at the pilot and case study stages operate. Financial and organisational characteristics of SMVOs are described. Voluntary Sector National Training Organisation (2002) describes voluntary and community organisations as being active in a broad range of fields. This includes: social care, housing, childcare, disability, health, the environment, cultural heritage, the arts, advice, counselling, guidance, education and many more. They are characterised by having independent volunteer governance and do not distribute profit to shareholders. Voluntary and community organisations have a wider public benefit and various forms of constitution. Many, but not all, are charities. Evidence from the UK Labour Force Survey indicates that the sector employed 608,000 people in 2004, an increase of 45,000 people since 2000. This equates to 2.2% of the overall paid workforce (The UK Voluntary Sector Almanac, 2006). It also suggests that there are at least 3 million volunteer workforce which could rise as high as 22 million. The National Council for Voluntary Organisations (NCVO) also estimates that the value of volunteer contribution to the sector is £15.4 billion. Research undertaken by Learning & Skills Council London East (LSC LE) in 2003 estimates that there are 100,000 people working in the sector in London.

London Training & Enterprise Council (2001), in its London Employer's survey estimated that there were 18,955 voluntary and community organisations employing an estimated 211,713 paid workforce in the Greater London area. Within that figure, for example, were 5,500 organisations in East London - a part of the target research area. However, to demonstrate the difficulty of identifying the precise numbers, another study (Greater London Enterprise, 1999) suggested that in London alone there were 30,000 voluntary and community organisations employing an estimated 46,900 people (full-time equivalents). The distribution of employees in London's voluntary and community sector is as follows (LSC LE 2003):

- 57.1% in health and social work

- 12.6% in community, social and personal care activities
- 10.8% in education and
- 20% spread across several sectors

The UK Voluntary Sector Almanac, produced by NCVO in 2002, defines the voluntary and community sector as:

> *Registered charities, as well as non-charitable non-profit organisations (e.g. Amnesty International), associations, self-help groups and community groups. Typically, organisations belonging to this group have a discernible public benefit and benefit from some aspect of voluntarism* (NCVO 2002).

Voluntary Sector key facts
Size and Structure of the Voluntary Sector (2002)

Size of the voluntary sector: The voluntary sector contains approximately 141,000 registered charities. It also includes a large number of unregistered non-profit organisations, associations, self-help groups and community groups.

Sector structure: The sector is large and complex, ranging from small community-based organisations with no paid staff to large 'household-name' charities with thousands of paid staff. Larger organisations have complex regional and management structures with specialist paid staff for different functions.

Number of paid staff: The voluntary sector employs approximately 563,000 paid staff – equivalent to 2.2% of total UK employees.

Sub-sector employment: The areas of social care, housing, health care and education account for 69% of total employment in the voluntary sector.

Numbers of volunteers: Estimated number of regular volunteers is 3 million (the equivalent of 1.5 million full-time jobs).

Number of trustees: Across the UK there are an estimated 650,000 to 1 million trustees.

Table 1.1 - Voluntary Sector key facts in the UK: Size and Structure of the Voluntary Sector (Voluntary Sector National Training Organisation, 2002).

Voluntary Sector Key Facts Economics
Income: Gross income for general charities is £15.6 billion. Income is concentrated in larger organisations - £9 out of every £10 is accounted for by those with annual incomes over £100,000.
GDP contribution: GDP contribution amounts to £5.4 billion per year.
Volunteers' contribution: Volunteers contribute £15.4 billion to the sector.
Employment growth: 85,000 jobs were created in the voluntary sector in the 5 years between 1997 and 2002.

Table 1.2 - Voluntary Sector key facts in the UK: Economics (Voluntary Sector National Training Organisation 2002).

Recent available data from GuideStar (The UK Voluntary Sector Almanac, 2006) presents the key findings of the estimates of the size and scope of the UK voluntary sector. The findings are derived from a sample of over 40,000 charities' annual reports and accounts held by GuideStar UK, together with data supplied by the Scottish Council for Voluntary Organisations (SCVO) and the Northern Ireland Council for Voluntary Action (NICVA).

In the continuing absence of a clear operational definition of the broader voluntary and community sector, The UK Voluntary Sector Almanac focuses on 'general charities' (which excludes, amongst others, housing associations and independent schools). The UK Voluntary Sector Almanac's definition of general charities includes organisations registered by the Charity Commission in England and Wales, plus organisational lists maintained by SCVO and NICVA in Scotland and Northern Ireland. It excludes housing associations, independent schools, government controlled charities (such as NHS charities and non-departmental public bodies), and organisations whose primary purpose is the promotion of religion. According to The UK Voluntary Sector Almanac (2006), key statistics for 2003/04, the latest data available, indicate that the sector:

- has an income of £26.3 billion
- derives 38% of its income from statutory sources
- has an operating expenditure of £24.9 billion
- has total assets of £66.8 billion
- has a paid workforce of at least 608,000

The Almanac reports significant expansion in terms of numbers, roles and responsibilities since the establishment of the first benchmark of general charities in 1991. This is most visible in the increase in active general charities in the UK from 98,000 in 1991 to 169,000 in 2004. More recently, since 2000, the sector has seen a net increase of 28,000 organisations (see Table 1.1). The Almanac argues that any definition of the broader voluntary and community sector or estimates of its size will need to take account of the thousands of small community-based groups that are under the radar beam of regulators. Nevertheless, small charities constitute the vast majority of the voluntary sector population and much of the growth since the 1990s. It is still the case that over half (56%) the voluntary sector has an annual income of less than £10,000. These categories constitute a significant group of SMVOs which are the target for this research.

Year	Under £100,000	£100,000 - £1 million	£1 million - £10 million	over £10 million	All
1995	109,384	10,164	1,331	121	121,000
2000	126,219	12,838	1,701	206	140,964
2004	146,963	19,064	2,930	290	169,249

Table 1.3 - Number of general charities 1995-2004
Source: UK Voluntary Sector Almanac (2006)

The Almanac further reports that the sector's total income was £26.3 billion in 2003/04, an increase of just over £1 billion from 2002/03. It attributes this growth in income mainly to an increase in the number of charities.

Year	under £10,000	£10,000 - £100,000	£100,000 - £1 million	£1 million - £10 million	over £10 million	All
02/03	290.8	1,845.2	5,541.1	7,656.4	9,939.2	25,272.7
03/04	298.2	1,736.6	5,882.8	8,171.7	10,233.2	26,322.6

Table 1.4 -Total income by size of organisation in 2002/03 and 2003/04 (£million). Source: UK Voluntary Sector Almanac (2006)

The evidence from the Almanac shows that the sector's income is increasing, but this is largely due to an increase in the number of organisations in the sector. It suggests that Individual organisations would appear to be doing less well as average incomes for all organisations in the sector were either static or falling.

The £10,000 to £100,000 band saw the largest decrease from £37,156 in 2002/03 to £33,791 in 2003/04, a fall of almost 10%. Organisations with incomes between £100,000 and £1 million saw an increase in average income of 2.4%. Overall, average income for the whole sector increased from £154,067 to £155,526. According to the report, these average incomes are broadly comparable to those recorded in our 2001/02 survey, suggesting that individual organisations have struggled to increase revenues beyond the rate of inflation.

Year	under £10,000	£10,000 - £100,000	£100,000 - £1 million	£1 million - £10 million	over £10 million	All
02/03	£3,127	£37,156	£301,415	£2,825,549	£35,459,748	£154,067
03/04	£3,121	£33,791	£308,590	£2,789,259	£35,251,216	£155,526

Table 1.5 - Average income by size of organisation in 2003/04 Source: UK Voluntary Sector Almanac (2006)

Large organisations account for a greater share of income. The sector's income continues to be heavily concentrated in a relatively small number of

organisations. Over two-thirds of total income was generated by approximately 3,200 organisations, equivalent to 2% of the sector.

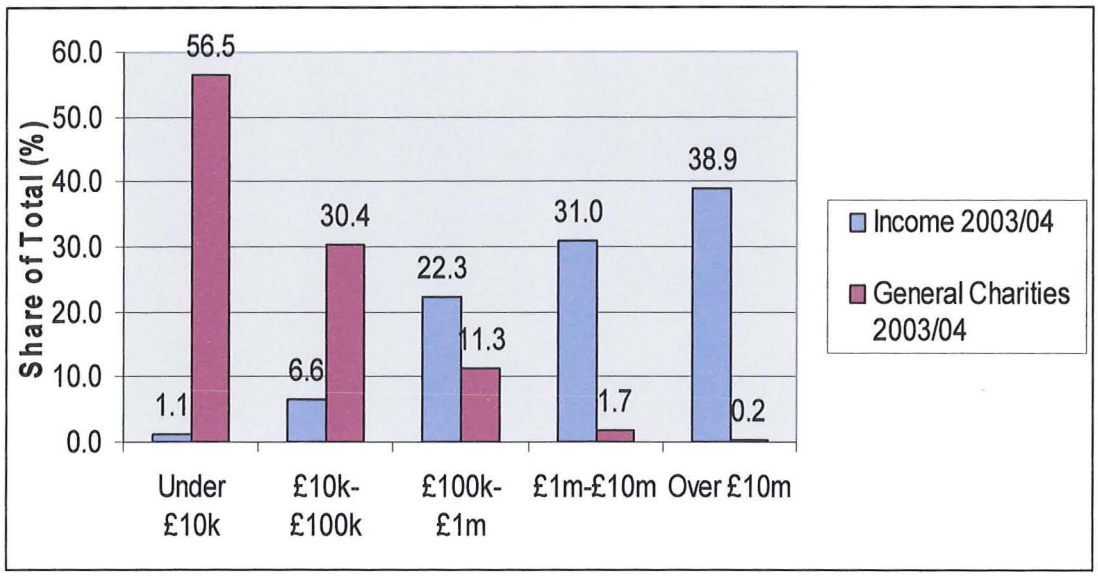


Figure 1.1 - The distribution of income and organisations in 2003/04
Source: UK Voluntary Sector Almanac (2006)

The Almanac suggests that most starkly, there is an emergence of a small group of what might be called 'super-charities': 14 organisations, mostly household name brands, with an annual income of over £100 million. Together, they generate 10% of the sector's income. These organisations have been particularly successful in securing public donations and legacies or delivering public services under contract to government. Some have managed both. These organisations are likely to increasingly shape public perception of the sector as a whole while being responsible for an increasing proportion of the public services delivered by the sector.

At the other end of the scale, the vast majority (87%) of organisations have incomes of less than £100,000, but they generate less than 8% of the sector's income. The Almanac's evidence suggests that this concentration of resources is becoming more acute over time.

The Almanac finds that social enterprise activities are driving the sector's economy. Voluntary income (resources such as grants and donations that are 'given') continues to distinguish the voluntary sector from other sectors, though it increasingly the case that voluntary income and earned income (derived from selling goods and services, which often includes activities to generate funds) are broadly similar in the funding mix. The sector now generates £12.5 billion of earned income and £11.8 billion of voluntary income. The balance is made up by returns on investments of £2 billion, including dividends and interest payments.

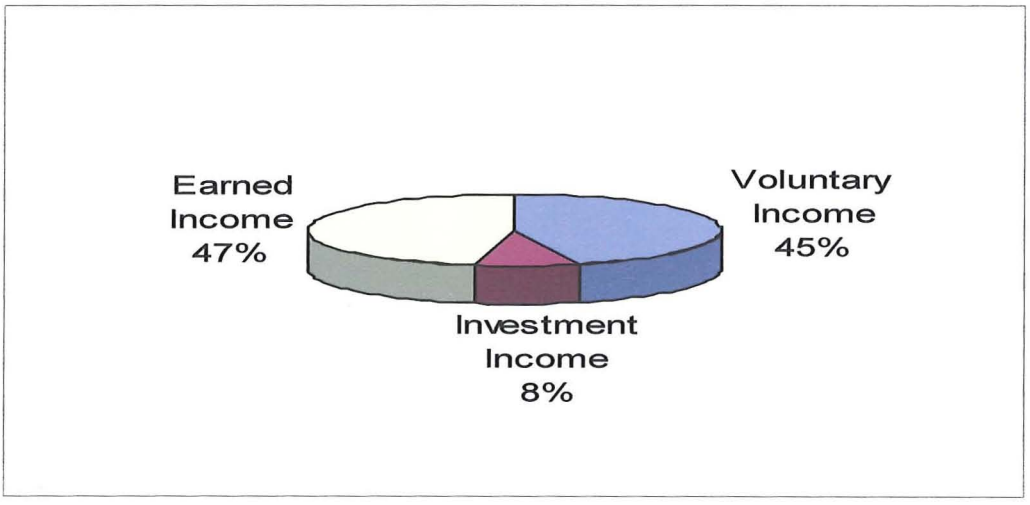


Figure 1.2- Types of income, 2003/04 (%)
Source: UK Voluntary Sector Almanac (2006)

Over time, the Almanac evidence suggests that the voluntary sector is becoming more like the private sector. It is earning more of its income (47% in 2003/04 compared to 43% in 2001/02 and 33% in 1994/95) and the biggest organisations are accounting for a greater share of revenues. Voluntary income has fallen slightly over time as part of the funding mix from 47% in 1994/95 to 45% in 2003/04. Investment income (share dividends and interest on savings) much of which is earned by charitable foundations has consistently been less important in the funding mix in recent years (8% in

2003/04 compared to 20% in 1994/95). The Almanac suggests this reflects lower stock market returns and lower interest rates.

The Almanac suggests the increasing role of the voluntary and community sector in the delivery of public services can be translated into an increasing transfer of resources from the statutory to the voluntary sector. It estimates this to be over £10 billion in 2003/04, a figure that includes income from lottery distributors and overseas government. This is almost £700 million more than income from the public.

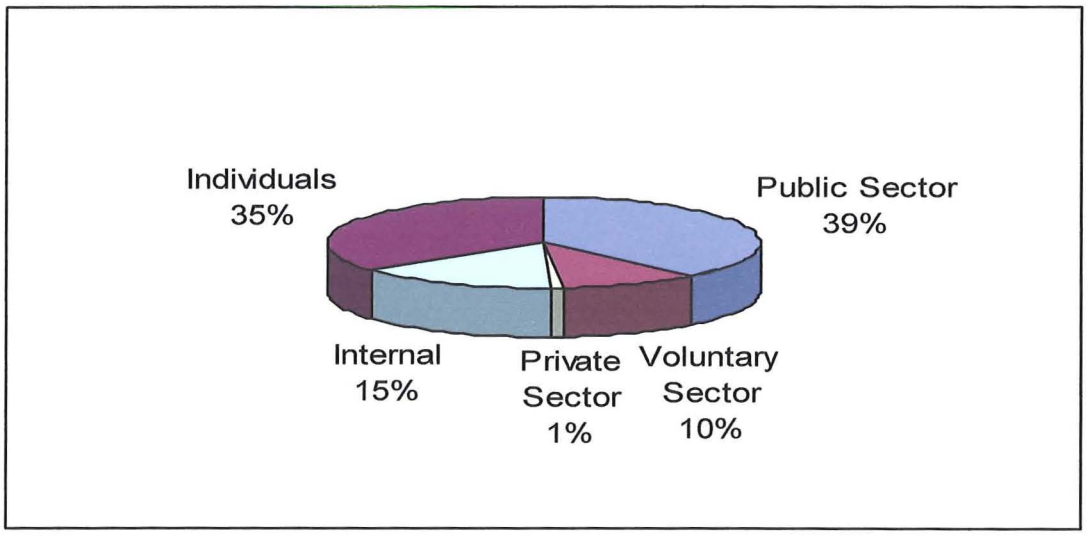


Figure 1.3 - Sources of income, 2003/04 (%)
Source: UK Voluntary Sector Almanac (2006)

The UK Voluntary Sector Almanac (2006) reports that, as a proportion of total income, the state accounts for 38% of revenues, a small increase on that recorded by similar 2001/02 survey. The split between fee and grant income from statutory organisations has tipped towards fee income, which is 53% of statutory income. Although this split can often be artificial it illustrates a long-term shift from grants to contracts.

The UK Voluntary Sector Almanac (2006) further reports that the voluntary sector is now a major employer and the workforce increases by 10,000 every

year. Evidence from the UK Labour Force Survey indicates that the sector employed 608,000 people in 2004, an increase of 45,000 people since 2000. This equates to 2.2% of the overall paid workforce.

Sector	1995	2000	2004
Private	19,095	20,711	20,270
Public	6,042	6,246	6,842
Voluntary	478	563	608
Total	25,616	27,520	27,720

Table 1.6 - UK employment by sector 1995-2004 (headcount, thousands). Source: Labour Force Survey. Base: All people aged 16 and over

Total employment can also be expressed as full-time equivalents (FTEs), a more accurate indicator of the workforce capacity. The sector now employs an estimated 488,000 FTE paid staff. This is an increase of approximately 37,000 since 2000 and over 100,000 since 1995. This is a smaller increase than that for total headcount, a reflection of the significant role of part-time work in the sector. Part-time members of staff are becoming a larger part of the workforce. The sector's fastest employment growth has been in part-time working. Over the last two years, the number employed part-time in the voluntary sector has increased by nearly 30,000 people, from 203,000 in 2002 to 231,000 in 2004. Alongside this, the number of full-time staff increased steadily from 366,000 in 2002 to 377,000 in 2004. Now, 38% of the voluntary sector workforce is employed on a part-time basis. It is possible that members of staff (the majority of whom are women) are attracted to the voluntary sector by the flexible working hours that can contribute to a healthy work-life balance. However, evidence indicates that part-timers are working longer hours, with an average of 18 hours per week in 2004 (excluding paid overtime) compared to 17.5 hours in 2000 and 16.5 hours in 1998 (The UK Voluntary Sector Almanac 2006).

Formal volunteering is slowly increasing. Volunteer input continues to underpin the sector. The Almanac reports that the 2003 Home Office Citizenship Survey (HOCS) estimates that 42% of the population of England and Wales volunteered formally at least once in the last 12 months, a slight increase since 2001 (39%). Formal volunteering is defined as 'giving unpaid help through groups, clubs and organisations to benefit other people or the environment'. The Almanac indicates a large difference between the number of people who have participated at least once in the last 12 months and those making a regular monthly commitment. For the UK adult population as a whole, this amounts to 20.2 million people formally volunteering at least once a year and 13.2 million formally volunteering at least once a month[1].

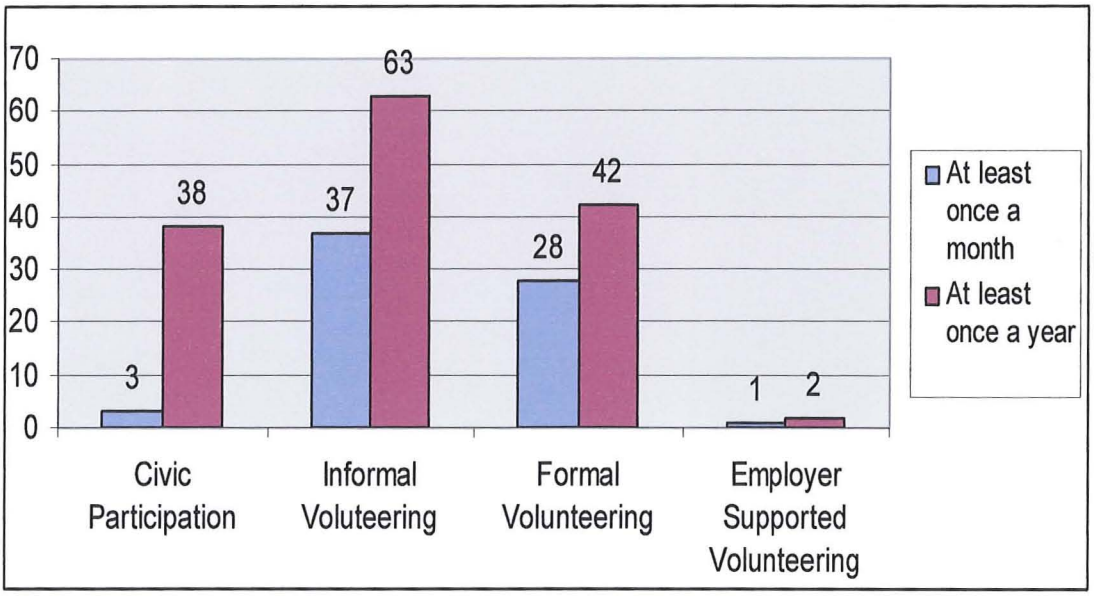


Figure 1.4 - Participation in voluntary and community activities, England and Wales in 2003. Source: UK Voluntary Sector Almanac (2006): HOCS

According to UK Voluntary Sector Almanac (2006), the value of total assets has continued to fall. In contrast to the 4.2% increase in total income between 2002/03 and 2003/04, the value of the sector's assets has fallen slightly, from £68 billion to £66.8 billion. This is a long-term trend that may reflect the imbalance between income and expenditure reported in previous Almanacs.

[1] Mid-year 2003 estimates, based on an England and Wales adult population of 42.4 million and a UK adult population of 47.8 million (source: ONS).

Organisations with incomes between £10,000 and £100,000 were worst affected, with a decline of almost 16% in the value of their assets. Those with incomes over £1 million also saw a fall in the total value of their assets.

Income is almost all accounted for by current expenditure. The evidence suggests that income is largely consumed by expenditure on current operations (such as staff costs and buying goods and services), leaving little for capital expenditure. The sector had operating expenditures of £24.9 billion in 2003/04: a rise of 2.6% compared with 2002/03. This is a smaller increase than income and mainly reflects the large endowments received by a number of new charities. For the sector as a whole, operating expenditure represented 94% of income in 2003/04, a proportion in line with recent years. Expenditure on charitable activities continues to account for the largest proportion of expenditure. If grant making is included, the Almanac data shows that 83% of the sector's expenditure is accounted for by the direct delivery of mission. The balance, 17%, is spent on fundraising, management and administration. This ratio is almost unchanged from that reported in 2001/02 (The UK Voluntary Sector Almanac 2006).

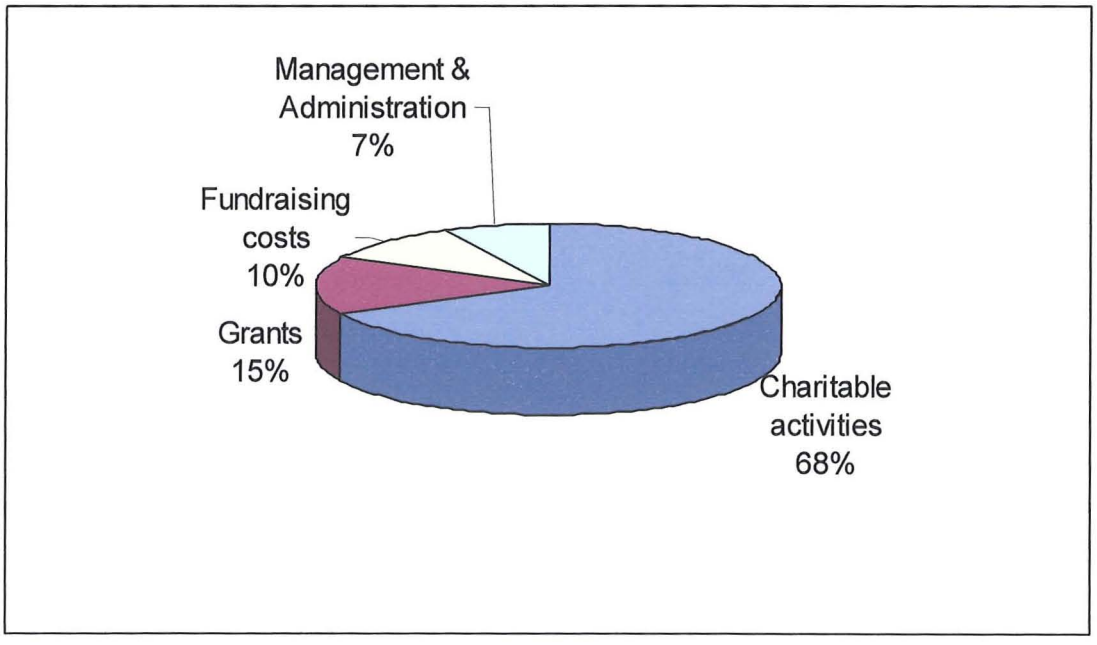


Figure 1.5 - Total current expenditure by category in 2003/04
Source: UK Voluntary Sector Almanac (2006)

With regards to the future, the increasing expectations being placed upon voluntary and community organisations of all shapes and sizes are being played out in much of the evidence outlined by The UK Voluntary Sector Almanac (2006). In particular, the greater emphasis on delivery of public services and the drive to increase active citizenship are leading to a larger, more visible sector, but one where competition for resources remains fierce. The voluntary sector economy in particular will face some difficult challenges in the medium term: the aforementioned competition will be heightened by a government increasingly seeking value for money, the rationalisation or withdrawal of key income streams (such as European structural funds) will hit parts of the sector harder than others, and fragile consumer confidence may limit the ability or willingness of individual donors to support the sector. Nevertheless, the sector continues to enjoy widespread public and political support, while renewed regulatory and development infrastructures seem likely to build sector and organisational capacity. The key challenge will be to embed this change right across the sector.

Adoption and effective use of ICT constitute significant development infrastructures which can build the sector and organisational capacity. In 2002, Paul Boateng wrote in his role as Government minister that:

> *We believe that the voluntary and community sector organisations (VCOs) have a crucial role to play in the reform of the public services and reinvigoration of civic life...They grow out of the determination to provide high quality support to particular groups, are often uniquely placed to reach marginalised groups and enable individuals to participate in their local communities. It is estimated that 70% of the VCOs operate at a local level, so the local dimension is crucial if we are to make a difference* (HM Treasury 2002, p3).

Learning & Skills Council London East (2003) in its workforce development strategy document, reports that Government funding for the sector came to

over £3 billion in 2000-2001. The financial support shows that the Government is using the sector to deliver more and more of its services. In practice many voluntary sector organisations can only survive if they receive grants or project-based funding. The sector has the distinct advantage of reaching marginalised groups in the society. Factors limiting how services are delivered include a lack of highly developed IT facilities within the organisations, and a series of skills gaps and shortages in the sector (Learning & Skills Council London East 2003).

The Learning & Skills Council London East (LSC LE) report also states that as funding issues become important, the sector needs to operate more like businesses, demanding higher level skills from their staff. It reports IT and computer literacy as one of the key skills needed by the voluntary and community sector in East London. Others include management and leadership, fundraising and professional, specialist and technical skills.

The size bands adopted for the voluntary sector in this study are:

Small organisations:	0-25 employees (Micro is used for 0-5 employees)
Medium organisations:	26-249 employees
Large organisations:	250 plus employees

As previously highlighted, the sector ranges from very large organisations that are run on business lines with high public profile to local organisations with little organisational structure. In practice, most employees are in organisations employing fewer than 25 people. A number of organisations possibly depend on the voluntary efforts of a few people who carry out all the functions (Learning & Skills Council London East 2003). Functional ICT skills are quite often lacking.

The London employer survey (London TEC 2002), found that most voluntary and community sector organisations in London were small, with 59% having 1 to 9 employees and a further 17% having 10 to 24 employees.

SMVOs in this research include charities and community groups. The SMVO sector is an important and quite distinctive sector that differs from Small and Medium-sized Enterprises (SMEs) in many aspects. SME terminology is often used to refer to private businesses or organisations run along business lines. SMVOs are primarily engaged in tackling barriers faced by disadvantaged communities. They often employ volunteers which help to up-skill local residents and aim to meet aspirations of disadvantaged beneficiary groups. Whilst SMVOs increasingly have to adopt SMEs' business-like approach to organisational management, the culture is more relaxed and they possess considerable employee participation. There is, however, less developed business planning and budget management utilisation leading in many cases to poor sustainability strategies and lack of resources.

A competitiveness and social inclusion study (London Skills Forecasting Unit 2002), reports that London's voluntary sector is becoming more commercial. It raises £1.48 billion per year of which 42% (£620 million) is earned income. It implies that the sector accounted for at least 5% of all small and medium-sized enterprises in London.

The Internet has provided a great leap in the way the commercial sector does business and the opportunities presented are enormous. The world is changing as the impact of ICT affects schools, homes, private, public and the voluntary sectors. Tagish (1999) claims that the scale of change will be similar to that caused by the earlier Industrial and Agricultural Revolutions.

> *Within the overall UK Government commitments to universal internet access and access to all Government services over the internet by 2005, there are a number of complementary and overlapping themes. Work on central Government's own services, the services of the various government agencies and local government is well underway. Programmes to support business use of the Internet have been in existence for some time. Individual access is being tackled by initiatives such as UK Online, UFI/learndirect. There is,*

however, no single and co-ordinated attempt to support voluntary and community sector in its use of the Internet and similar technologies (Wyatt 2001, p6).

Regrettably, the voluntary and community sector, particularly the Small and Medium Voluntary Organisations (SMVOs), risk being left behind. In order to survive, organisations are using ICT to remain efficient and competitive (Tagish 1999). Organisations which fail to plan for the take up of ICT will not be able to take advantage of the opportunities. Whilst most private and public sector organisations are doing this, voluntary organisations, particularly SMVOs are not taking into account the structural changes that adoption of these technologies cause (Tagish 1999; Wilcox 1999).

In mid 1998, uptake of ICT amongst larger voluntary organisations was high (Burt and Taylor 2001). Over 80% of organisations with incomes between £250,000 and £11m were using some form of electronic networking. It is generally accepted that the very largest voluntary and community sector organisations do have Internet access and have had for some time.

The Office of the E-Envoy in 2001 carried out some email, telephone and focus group surveys to secure information on use of ICT within the voluntary and community sector (Wyatt 2001). Key findings included:

- The Internet and ICT can improve the effectiveness of delivery of service to clients.
- There are also significant benefits in terms of efficiency and networking gains.
- However, overall the level of ICT infrastructure in the sector is poor and this prevents many of the gains being achieved. Only 31% of VS organisations had Internet connection faster than standard telephone line and modem compared to 64% of UK businesses.
- Lack of resources is a barrier to greater use of ICT, as are attitudes in the sector and lack of support and training.

The E-Envoy report recommended a programme of:

- awareness raising of the uses, benefits and barriers to ICT in the sector
- training and related support to assist with integration of ICT into their operations and meeting organisational objectives of delivering services to client groups, and
- assistance to secure funding for equipment, internal networking and fast internet connectivity.

The benefits of ICT are well documented by Learning & Skills Council London East (2003), Home Office (2003), Ticher et al (2002) Wyatt, 2001 Pantry (1999), Bagshaw (1999) and Shearman (1999). These include using email to communicate with many people instantly at once and very cheaply compared to telephone, fax or letters. Documents including reports, graphics, spreadsheets and databases can be sent almost instantly. Electronic mailing lists and newsgroups give access to unlimited pool of expertise and help with sharing of best practices. Bulletin boards can also facilitate the discussion of issues. The Internet can be used to search for and obtain useful information from relevant websites. This information could be used for service delivery or funding application. As a 'broadcast technology', the website is a useful tool for publicity and marketing. All the research work reported above, indicate that there is massive unrealised potential in the adoption of ICT. At present it appears that SMVOs do recognise the benefit of the Internet which include access to information, improved communication and increased marketing potential. Wyatt (2001) report that far fewer have recognised or acted on ICT's potential for transforming service delivery and the internal processes of an organisation. There is a general assertion by all the above authors that such benefits could be considerable.

A Department of Trade and Industry (DTI) study by Wyatt (2001) provided considerable information on the adoption of ICT in the business sector. It found that 94% of UK businesses (micro to medium-sized) have Internet access. The Government's target of 1.5 million micro, small and medium-sized

business going online by 2002 was exceeded in 2000. It also found that the level of Internet access has continued to grow but appeared to be reaching a saturation point as growth slowed down. Of businesses with Internet access, 32% had standard telephone modem, 29% use an ISDN connection, 2% use a cable modem, 2% use ADSL, 34% use leased line and 1% use each a wireless connection and broadband/satellite. 80% of businesses had websites. With regards to the Intranet, 58% of businesses have Intranets. Finally, regarding use of ICT, 79% businesses that use ICT use it to provide information about goods and services and 41% use the internet to recruit.

> *Full use of the Internet doesn't just demand a sound technical basis; it also brings — or should bring — organisational change. When the possibilities for communication and information-sharing are different, the only way to take full advantage of them is for the way people work to be different as well. Advocates of new technology can under-estimate the difficulties of managing change* (Paul Ticher et al 2002, p7).

In recent years, there have been limited and uncoordinated attempts by some Local Authorities and Consortia such as London Borough of Camden (1997) to extend the use of the Internet to voluntary groups. Initiatives, like The Women Connect network (1999) is responding to the networking and shared resource needs of women by getting women online. The project supports, trains and equips member organisations to develop ICT skills.

As part of the Spending Review 2002, the Treasury undertook a review of the role of the voluntary and community sector in service delivery (HM Treasury, 2002). The review identified lack of capacity and patchy public investment as main barriers to increasing involvement of the sector in service delivery. It recommended that the Government and the sector develop a coherent strategy to underpin capacity in the sector.

The Home Office Active Community Unit (2003) is leading cross-Government work to implement these recommendations, as part of Home Office's Public Service Agreement 'to increase voluntary and community sector activity,

including increasing community participation, by 5% by 2006. The Unit published a consultation document on the Voluntary and Community Sector Infrastructure. It set out the case for the development and funding of the sector in England. It identified important general issues that affect running of voluntary organisations, requiring specialist support, which included volunteering, social and community enterprises and ICT. Within ICT the key issues identified included:

- A lack of strategic understanding of ICT at senior management and trustee level. Many organisations do not have ICT strategy.
- Few sources of ICT advice and support.
- Lack of affordable technical support.

The same consultation documentation listed desired outcomes which included:

- High quality support for voluntary and community organisations.
- Strengthened specialist support both nationally and regionally.

Following the consultation, the Government has in 2004, unveiled a Voluntary and Sector Community Infrastructure strategy with a national budget of £90 million. The strategy is aimed at building the infrastructure of the sector.

A workforce development plan by Learning & Skills Council London East (2003) set aside of a budget of £2.5 million to support a number of recommended activities including:

- Further research into the size and scope of the voluntary and community sector in East London in order to better inform future development strategies.
- Detailed analysis of workforce development needs
- Need to provide organisational-development and capacity-building activities within the sector.

Whilst considerable funding is being allocated towards infrastructure support to the sector, there is urgent need to develop models of implementation, particularly of ICT implementation to avoid redundant 'computer boxes' sitting unused.

I will now outline some of the Government's driven initiatives which serve to illustrate the importance of the sector.

1.2.1 ChangeUp agenda

The HM Treasury's 2002 Cross Cutting Review of the Role of the Voluntary and Community Sector in Service Delivery' recognised that the sector and government have a mutual interest in building the capacity of voluntary and community organisations.

In response, the Home Office published ChangeUp, the cross-Government framework on capacity building and infrastructure in the voluntary and community sector, developed in partnership with the sector.

ChangeUp's aim is that by 2014 the needs of frontline voluntary and community organisations will be met by support which is:

- available nationwide
- structured for maximum efficiency
- offering excellent provision
- accessible to all
- truly reflecting and promoting diversity
- sustainably funded.

ChangeUp describes the basic architecture of support which frontline organisations need as agreed with the voluntary and community sector. Implementation of ChangeUp is supported by Home Office investment of £80 million from 2003 - 2006. Investment is made at national, regional, sub-

regional and local levels, with the bulk of investment going through the regions to support sub-regional and local initiatives benefiting organisations on the ground.

There are three spending programmes, with investment made in stages. The aim of the investment is to catalyse modernisation of infrastructure provision in order to improve its sustainability, quality and reach in line with the high level objectives set out in ChangeUp.

The Hubs of Expertise: Part of the ChangeUp project has been to establish six national 'hubs' linked to voluntary and community sector infrastructure issues. The Hubs have brought together voluntary and community sector infrastructure and other key stakeholders in their respective fields of interest to improve efficiency, coherence and strategic development, identify gaps, drive up quality, and better equip those already providing support to the sector. They should also help to reduce the confusion in the sector about where to go for advice and support, providing a gateway through which organisations can access the full range of existing support and development services and opportunities.

1.2.2 Capacitybuilders programme

In June 2005 the Home Secretary announced the creation of the Capacitybuilders agency. The government recognises through ChangeUp that the voluntary and community sector should be in the driving seat in delivering high quality, collaborative and sustainable sector support services and representation. This is already being partly achieved through local and regional consortia as well as national partnerships. The aims are to ensure the right structure is in place:

- to build on some notable early successes and relationships that are evolving as part of the programme's implementation
- to address the challenges identified in the first year of the programme

- and to ensure effective implementation in the long term for the benefit of frontline organisations.

It is intended that the Capacitybuilders agency will manage the ChangeUp framework at arms-length from government. It will:

- provide a sector-led focus for accountability and ownership of ChangeUp
- take ownership of fund management
- ensure the programme is joined up and co-ordinated
- mainstream diversity issues into the design and delivery of activities within ChangeUp
- ensure real time action and longer term evaluation.

1.2.3 Futurebuilders

Futurebuilders is the name of an innovative programme to assist front line voluntary and community organisations to build their capacity to increase the scale and scope of their public service delivery. Responsibility for Futurebuilders lies with the Active Community Unit in the Home Office, which has the strategic lead across Government for the voluntary and community sector. At the heart of the Futurebuilders programme is the £125m Futurebuilders (England) Fund which is run by Futurebuilders England Ltd.

Futurebuilders offers a unique opportunity to strengthen the voluntary and community sector's role in public service delivery through investing in a minimum of 225 exemplar schemes that will demonstrate the distinctive approach and added value that the sector can contribute to improving public services. There will be an emphasis on loan finance, evaluation and knowledge management and sharing, with the ultimate test being on improving outcomes for users. The UK Government's aims for Futurebuilders programme are to:

- overcome obstacles to efficient service delivery

- modernise the VCS for the long term
- increase both the scope and scale of VCS service delivery.

The wider aspirations for the fund are that it can begin to create a step-change in voluntary and community sector service delivery; lead to greater self-sustainability for organisations; and that it will provide a longer term source of investment finance for service delivery for the sector. Above all, the investments it makes must lead to better services for users.

The Government has decided that funding will be directed to those organisations directly involved in delivering key public services in:

- crime
- community cohesion
- education and learning
- support for children and young people
- health and social care

1.2.4 Net:gain

The case for investment in the ICT infrastructure of the Voluntary and Community Sector (VCS) is already well-proven (Wyatt 2001). The Cross-cutting Review of Voluntary Sector Service Provision in 2002 identified a need to provide additional ICT support across the sector, to help organisations to use ICT to maximum effect. Since then, research into the specific ICT support needs of the sector has become increasingly important.

The development of net:gain[2] is based on the following key findings from the consultation run by the Active Community Unit of the Home Office in 2003:

[2] net:gain is a UK Government programme, designed to bring about a step-change in the ICT capability of the voluntary sector. It aims to help voluntary and community organisations to take a practical, appropriate and informed approach to ICT planning and support.

- There is very little ICT specialist provision available to VCOs. Most organisations consequently fail to take full advantage of the benefits offered by ICT.
- There should be investment in specialist VCS infrastructure which would ensure the availability of face-to-face advice, guidance, technical support and some limited training.
- A lack of strategic understanding of ICT at senior management and trustee level of VCS organisations; many organisations do not have an ICT strategy or an ICT budget.
- Economies of scale need to be considered and some infrastructure services might best be provided across more than one local authority area - for example, specialist support for ICT.
- There are few sources of advice which are knowledgeable about both ICT and the specific demands of the VCS.

In 2004, net:gain also undertook its own research which found:

- poor awareness of the range of options for covering ICT costs, and how to go about planning for this
- willingness, regardless of organisation size, to engage in strategic planning for ICT
- a tendency in the sector to prefer trusted intermediaries, such as local, informal, peer support, face-to-face help
- the need for a flexible service that can fill gaps, signpost and adapt to different needs
- any service must offer high added-value, to ensure a willingness among VCOs to dedicate time and money to the process

All of these aspects are being built into the net:gain offer.

Net:gain is a partnership initiative. As the programme develops, it will engage with a much wider range of other partners including:

- Government departments and the Government Offices in the Regions

- the ChangeUp National Hubs
- regional and sub-regional consortia working to further ChangeUp
- UK online centres working to deliver the net:gain programme locally
- Other stakeholders

Key net:gain partners include: 1) ruralnetuk[3], an independent rural regeneration charity. It aims to deliver, usually with partners, both urban and urban/rural VCS support initiatives, usually employing ICT, and encouraging take-up and innovation in ICT. ruralnetuk has operated as a Social Enterprise since 2002, following 14 years as an independent team working within a larger charity. The team's experience, covering both the UK and international work, encompasses project management; rural community and economic development; project planning and sustainability strategies; funding; and supporting stakeholders and partnerships.

2) University for Industry (Ufi) is an independent charitable company limited by guarantee, which operates under the brand name 'Learndirect' in England, Wales and Northern Ireland. One of the government's key partners in delivering the workforce development and lifelong learning agendas, Ufi is responsible for the network of 6000 UK online centres and over 1400 learndirect centres. It aims to drive up demand for learning, help adults improve their employability by acquiring new knowledge and skills, and help businesses become more competitive. Ufi's overall strategy is to widen participation in learning through the use of new technologies and e-learning, and to consequently contribute to a more competitive economy by improving the skills levels of individuals and organisations.

3) Funding Matters is a small consultancy that provides funding information advice and guidance to government departments and agencies, VCS intermediaries and Neighbourhood Learning & UK online centres. The Funding Matters service focuses on ICT-related Social Inclusion, Learning and Regeneration.

[3] ruralnetuk is spelt with small r as shown.

4) The Foyer Federation is the national umbrella body for Foyers in the UK. Foyers provide an integrated service, including accommodation, support and access to training and employment opportunities, for homeless and disadvantaged 16-25 year olds. The Foyer Federation has developed a network of UK online centres in 50 Foyers across England.

1.2.5 ICT HUB Initiative

ICT HUB are a group of voluntary sector organisations who have come together to plan and deliver a co-ordinated framework of ICT guidance, good practice, advice and support for voluntary and community organisations, accessible at a local level. Their aim is to improve voluntary and community sector ICT infrastructure so that voluntary and community organisations are enabled to achieve their missions more efficiently and effectively through the better use of ICT.

The core members of the ICT Hub are IT4Communities, LASA, National Association of Councils for Voluntary Service, Ability Net and the National Council for Voluntary Organisations. The partnership is part of the struggle to develop and implement a strategic framework supporting the sector's use of ICT. The ICT Consortium is in the process of establishing the ChangeUp ICT Hub and implementing the delivery activities. It wishes to ensure that by 2014, frontline organisations and funders share a common awareness of the costs and benefits of ICT enabling them to make informed choices about its use. And also that there are affordable and reliable models of support with user friendly and relevant ICT advice including volunteering and pro bono support.

The ICT Consortium is interested to measure progress, obtain case studies to demonstrate effective applications and to inform subsequent strategies.

1.2.6 London Advice Services Alliance (LASA)

LASA started its Circuit Rider Project in September 2002. LASA have provided ICT advice to voluntary organisations since 1984. LASA aims to

increase the efficiency of ICT equipment, saving time and money for voluntary and community organisations. LASA assists with installing major new systems that will improve the delivery of services; helps with purchasing; establishing sound arrangements for ICT support; and helps organisations get a better understanding of ICT strategy, management, and best practice.

LASA's Circuit Riders are mobile technology development and support workers, each of whom supports a caseload of organisations. The concept developed in the USA, allows grassroots technology workers to support each other, and to debate with funders, networks, policy-makers and suppliers.

1.3 Research problem and hypothesis

It is generally acknowledged that funders are still largely interested in capital equipment rather than investing in strategy and running costs. Whilst equipment is fine, the real value of ICT is in the application of the tools in terms of making it work more effectively (Davey 2005). Survival and competitiveness of SMVOs will, in large part, depend on effective adoption of ICT and developing a culture of innovation and change.

My thesis statement is summarised as follows:

> *The take up of ICT by SMVOs can be supported and facilitated by identifying inhibiting factors and pursuing a programme of* ***technology*** *adoption,* ***staff*** *development and* ***organisational*** *change to achieve effective organisational implementation of ICT.*

The thesis investigates the following two sets of Research Questions:

> *What are the factors that affect organisational implementation of ICT by SMVOs?*

Using website technology as the ICT tool, how can inhibiting factors be mitigated? How can the lessons learnt be employed more generally to tackle ICT implementation within the SMVOs and other organisations?

What is organisational implementation of ICT? Magalhaes (1999) summaries the key issues as: 1) Relating to two types of entities: one of a social nature and the other of a technological nature. 2) The process of integration between the two entities is a fundamental one. Checkland (1998) argues that the process of ICT implementation is, in fact, a process of organisational change. From this, Magalhaes (1999) construes that the process of ICT implementation is a process of change where a key criterion is integration, that is the embedding of IT systems into organisations. He continues that ICT implementation is a (never-ending) process of change aimed at the integration of technological artefacts into the social structures and processes of an organisation.

In this thesis, I use ICT adoption or implementation in a similar way to refer to the technology as well the social object. Selected SMVOs are supported to take up and use ICT and the benefits achieved are measured. The process of how SMVOs made changes to enable the take up and use of ICT (action outcomes) are also documented. The research shows that action outcomes are achieved mostly by involving staff in the planning and the action, and by being flexible and responsive to the situation and people.

Finally the barriers and drivers for change (research outcomes) are determined and transferable elements summarised as models to assist duplication in similar organisations. Dick (1993) suggests that research outcomes are achieved mostly by following the action with critical reflection, seeking out disconfirming evidence that does not match what is expected. This approach is adopted in this research and explained in chapter 2.

This research establishes the impact and investigates the opportunities that ICT presents to SMVOs. A range of selected SMVOs are studied with regards to their use of the ICT. The core of the research aims to:

- establish the take-up (thus far) of ICT by SMVOs
- explore the environmental context such as organisational culture of SMVOs including aims and objectives
- investigate the opportunities that the ICT presents to the SMVOs.
- pioneer use of ICT and present a model for SMVOs
- inform relevant policies.

A pioneering use of ICT in terms of organisational website implementation is undertaken to find out how best the process can be facilitated. Information collection via a pilot website enables assessment of ways in which ICT can enhance the operations of SMVOs. As part of an intervention at O-Regen, a selected SMVO, a pilot website and related ICT systems are set up. The **technology, people** and **organisational** issues are studied and factors that facilitate take up and implementation are then determined. The lessons learnt are applied in case studies to help 4 SMVOs adopt ICT. Training and technical support are also provided.

The research draws up and presents comprehensive guidelines and policies for SMVOs and other stakeholders with regards to more general organisational implementation of ICT systems.

1.4 Justification for the research

Despite several Government funding initiatives outlined earlier in this Chapter, there is a need to ensure that SMVOs become more efficient and run sustainable operations. In this respect, effective use of ICT is important. According to Davey (2005) of the Centre for Charity effectiveness at City University, ICT are three letters to strike fear, or apathy, into the heart of senior management. 'It costs money, it doesn't work and it's all very confusing'. He argues that a strategy and management require an understanding of the issues, planning and effective application. Most managers understand finance and marketing, yet ICT often continues to miss

the target, sometimes dismissed with a brush of the hand or a self-deprecating smile. It's time to develop the metrics which show what ICT really contributes and for senior management to take the leadership which integrates ICT with mission and purpose. He maintains that ICT strategies and implementation plans are still uncommon in voluntary and community organisations and often do not relate to the overall business plan and strategy. It is still seen as something 'the technical people take care of.' He suggested an analogy with a scenario where a Chief Executive said, 'Let's not worry about the numbers, I'm sure our accountant has our financial planning in hand.'

Furthermore, Davey (2005) argues that communication is key for charities raising awareness in a crowded marketplace, competing for funds, explaining mission and purpose and sharing information. Websites are effective tools but some are poorly defined and rarely updated. Email is pervasive but can be managed effectively with policies and procedures. Lack of investment creates problems and contributes to the view of ICT as a waste of money. Charities are creating data and collecting and producing information like never before. Many need to share this information but do not collate it in 'standard' formats. Tools (databases) used to collect and collate are out of date, ineffective and insecure and simply not used by staff never given an opportunity, or reason, to effectively engage. As Davey (2005) says, despite the continuing cries of 'we're different', most charities are similar in need and structure. The demands for ICT applications are common to most. Standard systems, policies and frameworks are already out there but the key issues are planning, making ICT fit with vision, wider usage and engaging with staff. Shaving 10% off an ICT budget can multiply problems tenfold.

ICT is on demand - whether websites and online databases or the need of a manager or case worker to access information. Like any utility system, this requires investment and management. It is also imperative to increase the level of basic skills ICT use in charities (Davey 2005 and Wyatt 2001).

All the studies ranging from Government to local Learning and Skills Councils reported above emphasise the importance of the voluntary and community

sector in the provision of vital services, employment and income generation. All studies also recognise that the sector faces major barriers in sustaining and increasing its service delivery. One of the key barriers is lack of ICT infra structure and skills.

This research deals with the ChangeUp, E-Envoy, Active Community Unit and LSC LE recommendations with regards to:

- Getting a deeper understanding of ICT needs and barriers to take up.
- Piloting ICT infrastructure adoption model
- Testing the model in selected voluntary and community organisations.

1.5 Summary

In this chapter, I have provided a brief historical perspective and account of nature and scope of the voluntary and community sector in the UK and sub-regionally in London. Current field situation regarding usage of ICT by SMVOs were also provided. I also provided two sets of research questions that drove the study. A brief overview of the study, the methodology and the key issues concerning the research were also outlined. Finally, the need for responsiveness in the research design was highlighted. Extensive literature on 'organisation' is reviewed in the next chapter.

Chapter 2 Organisations

2.1 Introduction

This thesis deals with how SMVOs can best adopt and use ICT. In order to understand the ICT adoption concept, it is important to have good insight into what organisations are and how they behave. Organisation theory offers many different, sometimes conflicting, views of how the phenomenon 'organisation' can be considered (Nijland 2004). A common assertion is that organisations are highly complex entities dealing with a great number of relevant issues with regard to their creation, existence, functionality and transformation.

There is extensive literature on 'organisation'. To improve understanding of ICT adoption in organisations, I will explore the theories of organisation or Organisational Development. In particular, I will consider the relationship between some high-level and functional theories and the practical application on the ground. In this research, I treat the pilot and selected case study SMVOs as organisations and aim to identify organisational characteristics (technology, organisational and people aspects) that can be used to classify them prior to and post organisational changes brought on by website adoption. As suggested by Checkland (1998), organisational implementation of ICT is about organisational change. My own views regarding organisational theories and technology approaches are provided in chapter 7.

2.2 What is an organisation?

An organisation is a formal group of people with one or more shared goals. The term is often used in many ways. For example in sociology, organisation is understood as planned, coordinated and purposeful action of human beings in order to construct or compile a common tangible or intangible product or service. This action is usually governed by formal membership and form (institutional rules). Organisations can be distinguished into planned formal and unplanned informal (i.e. spontaneously formed) organisations. Sociology analyses organisations in the first line from an institutional perspective. In this

sense, organisation is a permanent arrangement of elements. These elements and their actions are determined by rules so that a certain task can be fulfilled through a system of coordinated division of labour. By coordinated and planned cooperation of the elements, the organisation is able to solve tasks that lie beyond the abilities of the single elements. Advantages of organisations are enhancement (more of the same), addition (combination of different features), and extension. Disadvantages can be inertness (through co-ordination) and loss of interaction.

A commonly accepted definition views all organisations as collections of individuals, organised in groups and working together to achieve a common goal. Under normal circumstances that goal would be complex, with many different aspects to it.

> *Organisations are extremely complex systems. As one observes them they seem to be composed of human activities on many different levels of analysis. Personalities, small groups, intergroups, norms, values, attitudes all seem to exist in an extremely multidimensional pattern. The complexity seems at times almost beyond comprehension* (Argyris 1964, p2).

With regards to the voluntary sector perspective, Farnham and Horton (1996) define organisations as social constructs created by groups in society to achieve specific purposes by means of planned and coordinated activities. These activities involve using human resources to act in association with other inanimate resources in order to achieve the aims of the organisations.

Mullins (2005) outlines the following four common factors in organisations:

- People
- Objectives
- Structure and
- Management

He states that the interaction of people in order to achieve objectives forms the basis of an organisation. Some form of structure is needed by which people's interactions and efforts are channelled and coordinated via management. Some process of management is required by which the activities of the organisation, and the efforts of its members, are directed and controlled towards the pursuit of the objectives.

Mullins (2005) argues that it is important to recognise the importance of management as an integrating activity and as the cornerstone of an organisational effectiveness. Management is interested in organisation mainly from an instrumental point of view. For a company organisation is a means to an end in order to achieve its goals. In this sense organisations can be distinguished into two fundamentally different sets of objectives:

- Organisation whose goal is to generate certain services and/or to produce goods (factories, service enterprises, etc.) or to bring about certain effects in its surrounding world (such as local authorities, police, political parties, interest groups and trade unions).
- Organisation whose goal is to change individuals (such as schools, universities, hospitals and voluntary sector). This type of organisation is also known as a non-profit-organisation.

Mullins (2005) indicates that the increasing scale of privatisation and the blurring of commercial interests and social interests have led to the classification of organisations as profit and those clearly not-for-profit. Not-for-profit includes charities and public organisations. Arnott (2002) points out that a 21st Century charity exists in a highly complex context and that the old distinction between private, public and not-for-profit sectors has been blurred as charities have taken on an ever-increasing role in the delivery of public services. Tough competition for funds and growing public scrutiny have led to many charities to adopt practices once more commonly associated with the commercial sector.

Mullins (2005) states that organisations can only achieve their goals and objectives by the coordinated efforts of their members and it is the task of management to get work done through other people. Management is fundamental to the effective operations of work of organisations. It is the process of management and execution that the work of an organisation is carried out. Management is therefore an integral part of the people – organisation relationship. Schneider and Barsoux (2003) argue that management incorporates beliefs and values. Cultural influences are therefore significant features of management of organisations.

Organisations can be structured to varying degrees giving rise to formal or informal organisations. Schein (1998) describes a formal organisation as the planned coordination of the activities of a number of people for the achievement of some common, explicit purpose or goal, through division of labour, and through a hierarchy of authority and responsibility. The formal organisations are therefore:

- Deliberately planned and created
- Concerned with the coordination of activities
- Hierarchical structured with stated objectives
- Based on certain principles such as the specification of tasks and defined relationships of authority and responsibility.

From my experience, features of the informal organisations are most dominant in voluntary and community organisations. Mullins (2005) explains that the informal organisation arise from the interaction of people working in the organisation, their psychological and social needs the development of groups with their own relationships and norms of behaviour, irrespective of those defined in the formal organisation. The informal organisation is flexible and loosely structured, relationships may be left undefined and membership is spontaneous with varying degrees of involvement. Gray and Starke (1988) and Mullins (2005) identify that the informal organisation can serve a number of important functions. It provides satisfaction of member's social needs and a sense of personal identity and belonging. It provides a means of motivation –

for example, through status, social interaction, and informal methods of work. Finally, it provides a feeling of stability and security and through informal norms of behaviour. The informal organisation therefore has an important influence on morale, motivation, job satisfaction and performance of staff (Mullins 2005).

The IT revolution at the end of the 1990s also had an effect on organisational theory. Through the partial removal of barriers such as distance and information costs that defined the structure of organisation; virtual organisations have become reality.

The changing nature of work organisations and the social context have led to a climate of constant change and the need for organisations to be more flexible. Chowdhury (2000) points out that the 21st century organisations will be characterised by unprecedented complexity and will require a different breed of leader. Ulrich (2000) also suggests that the essence of organisations has shifted from focusing on structure to capability. Capability represents what the organisation can and is able to do rather than the more visible picture of who reports to whom and which rules govern work. Organisations in future will need to nurture a handful of critical capabilities.

The importance of people in the future organisation has been highlighted by many authors. Gratton (2000) suggests that organisational models should be built around what causes high levels of trust and inspiration and considers the organisation against three key influences:

- Do people understand the context in which they operate and the competitive threats and challenges the business faces?
- Are the employees confident about the ability of the organisation to adapt?
- Are they involved in making decisions about themselves and the organisation?

Cloke and Goldsmith (2002) argue that the rise of organisational democracy requires alternative organisational practices. They suggest that the age of management is coming to an end and that the real push for the future is for more authentic human relationships and the humanisation of organisations as crucibles for personal growth and development.

2.3 Approaches to organisation

There have been many studies of organisations, their structure and management. Major trends in organisational behaviour have been identified by many authors including Skipton (1983), Taylor (1947), Fayol (1949), Urwick (1952), Mooney and Riley (1939) and Brech (1965). The following approaches have been outlined by Mullins (2005):

- Classical
- Human Relations
- Systems
- Contingency

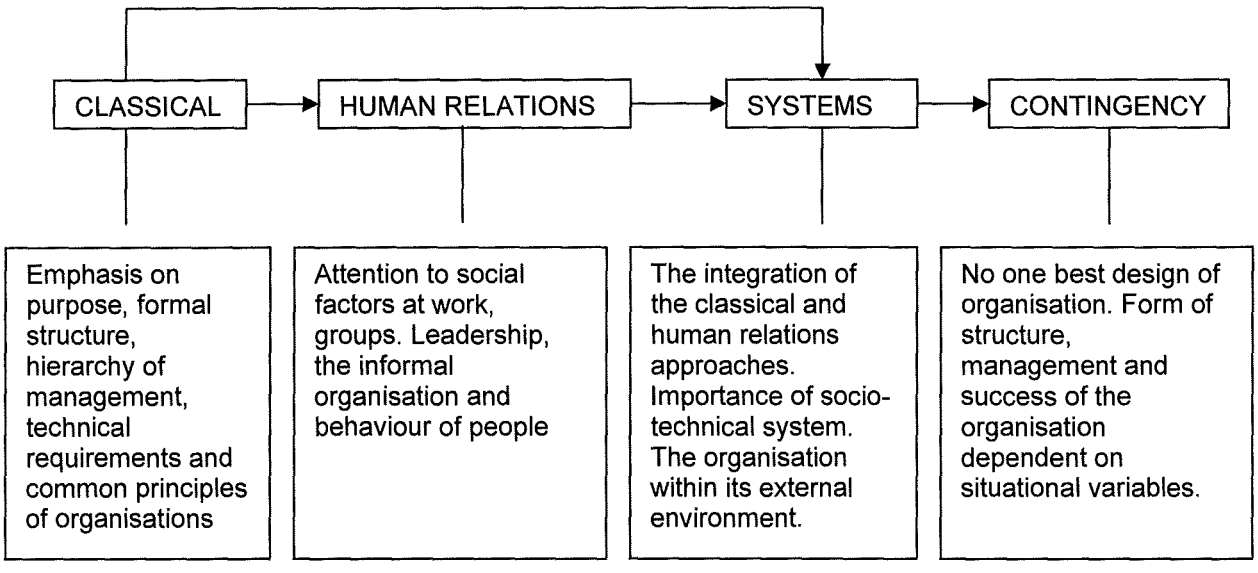


Figure 2.1- Main approaches to organisation, structure and management (From Mullins 2005)

2.3.1 The classical approach

The classical approach also includes scientific management and bureaucracy theories. It largely relates to analyses of organisations which is associated with work carried out in the early part of the last century. Mullins (2005) explains that emphasis is placed on purpose, formal structure, hierarchy of management, technical requirements and common principles of organisations. Urwick (1952) identifies ten common principles for the design of logical structure of organisations. Mooney and Riley (1939) set out the following common principles that relate to all organisations:

- The principle of co-ordination – the need for people to act together with unity of action, the exercise of authority and the need for discipline.
- The scalar principle – the hierarchy of organisation, the grading of duties and the process of delegation.
- The functional principle – specialisation and the distinction between different kinds of duties.

Brech (1965) provides a more flexible approach than other classical writers and recognises situational factors. He places, however, great emphasis on written definition of responsibilities including job descriptions.

According to Mullins (2005) and Simon (1976) criticisms of the classical approaches include: 1) Personality factors are not fully taken account of. 2) Organisational structures created provide people with limited control over their environment. 3) It is illusory to suppose that large complex systems such those in organisations can be created by using so-called principles of classical organisation theory. 4) Classical theory is out-of-date and does not take account of modern situations.

Mullins (2005) concludes that effective application of classical theory must take account of the particular situational variables of each organisation and the psychological and social factors relating to the members of the organisation. The principles of classical approach are still relevant as they

provide the general guidelines to the structuring and efficiency of organisations.

2.3.2 The human relations approach

In contrast to classical writers who emphasised structure and formal organisations before, during the 1920s, greater attention began to be put on social factors at work and the behaviour of employees within an organisation or human relations.

The Hawthorne experiments (1924-32) are regarded as one of the most important of all social science investigations and recognised as probably the single most important foundation of the human relations approach to management and the development of organisational behaviour. In a review of the experiments, Mullins (2005) reports that the Hawthorne experiments generated new ideas about the importance of work groups, leadership, communications, output restrictions, motivation and job design. Personnel management became an important issue. There were four main phases to the Hawthorne Experiments. 1) The Illumination Experiments – which assessed the level of lighting on productivity. It found that level of production was influenced by factors other than changes in physical conditions of work. 2) The Relay Assembly Test Room – which assessed productivity of workers doing boring and repetitive work assembling telephone relays. It found that extra attention given to workers by management led to higher productivity. 3) The Interviewing Programme – More than 20,000 interviews were conducted to assess workers' feelings of managers and conditions of work. It was found that workers were interested to talk about these two issues as well as others such as work groups and family life. The interviews were therefore changed to become impartial, non-judgemental; and concentrated on listening. This gave rise to present-day personnel management and use of counselling interviews. 4) The Bank Wiring Observation Room – which involved the observation of a group of 14 men working in the bank wiring room. Despite a financial incentive scheme where workers could receive more money the more work produced, it was noted that the group which developed its own pattern of informal social

relations decided on level of output well below the level they were capable of producing. Thus, group pressures were stronger than financial incentives offered by management.

Critics of the human relations approach such as Silverman (1970) cite: 1) Failure of taking account of environmental factors. 2) Adoption of a management perspective. 3) A unitary frame of reference. 4) Over-simplified theories.

In a review of the human relations approach, Mullins (2005) concludes that the approach recognised the importance of the informal organisation which will always be present in the formal structure. This informal organisation will always influence the motivation of employees who view the organisation they work for through values and attitudes of the colleagues. Their views of the organisation determine their approach to work and the extent of their motivation. It has also been suggested that the classical approach was concerned about 'organisation without people', and the human relations approach about 'people without organisations'.

The structuralism approach is sometimes regarded as part of a broader human relations approach. It is a synthesis of the classical (or formal) school and the human relations (or informal) school (Etzioni 1964). Aktouf (1992) suggests that structuralism provides a radical perspective to social and organisational behaviour. Greater attention is given to the relationship between formal and informal aspects of the organisation and the study of conflict between the needs of the individual employee and the organisation.

2.3.3 The systems approach

The systems approach is a more recent attempt at reconciling the classical and human relations approaches. It considers organisations as 'systems' with a number of interrelated sub-systems. Within this approach, attention is focused on the total work organisation and the interrelationships of structure and behaviour and the range of variables within the organisation. The

organisation is viewed as a whole and as part of a larger environment. Any part of an organisation can therefore affect all the other parts (Bertanlanffy 1951, Miller and Rice 1967; Boulding 1956).

The view of organisation as an open system considers that there is continual interaction with the broader external environment of which it is part. The systems approach deals with criticisms of earlier approaches and takes account of relationship between technical and social variables within the system. Changes in one part, technical or social, will affect other parts and thus the whole system (Mullins 2005).

Viewed as open systems, organisations can take in inputs from the environment (outputs from other systems) and through a series of activities transform or convert these inputs into outputs (inputs to other systems) to achieve some objective (Mullins 1981). For the business organisation, inputs include people, finance, raw materials and information and outputs include goods and services.

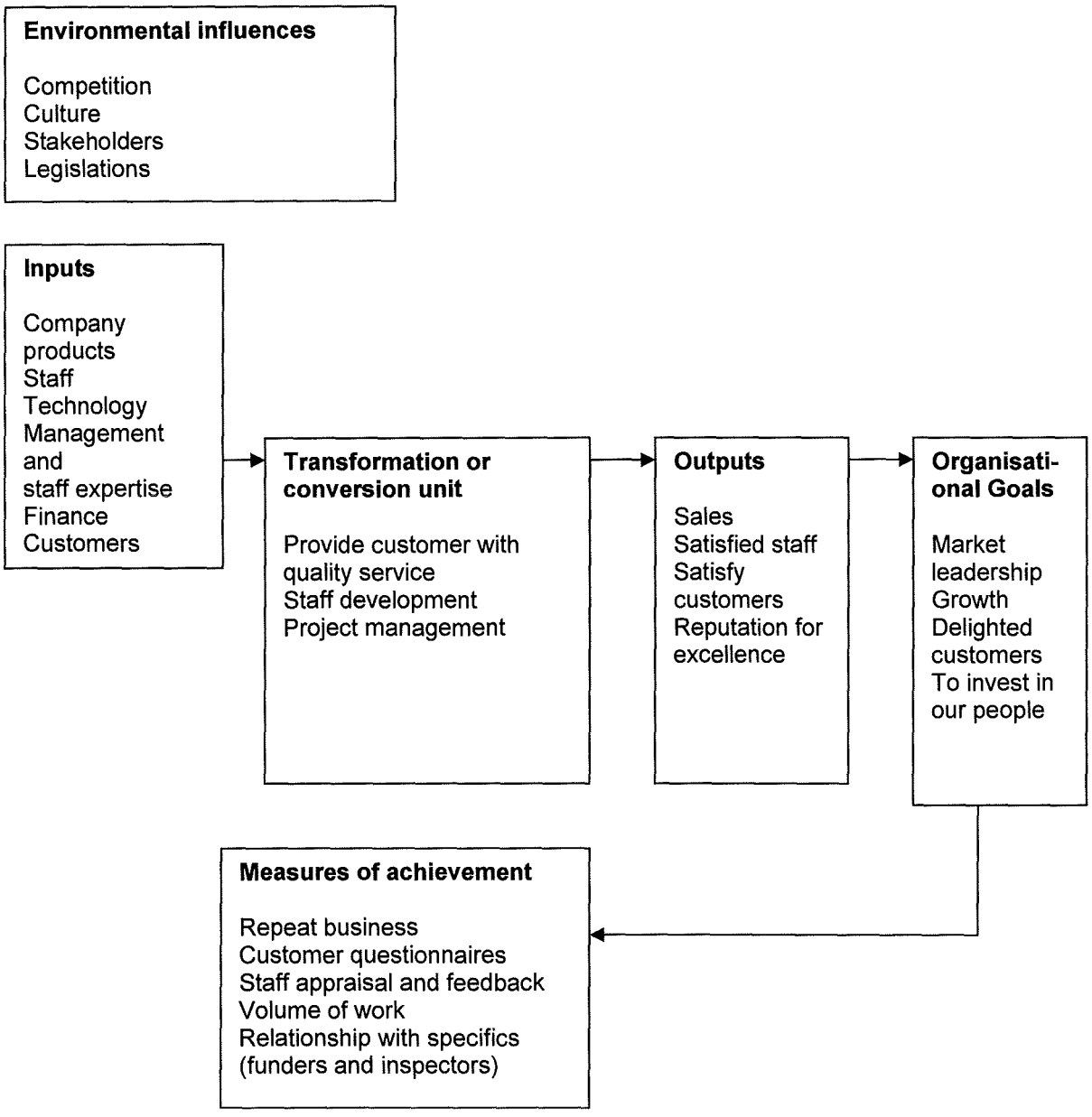


Figure 2.2 – An example of the open systems model (adapted from Mullins 2005)

According to Mullins (1993), viewing organisations as systems provides a common point of reference and allows researchers to take a general approach to the study of organisation, to analyse them and to derive general principles and prescriptions.

2.3.3.1 Socio-technical system

The concept of a social-technical system is concerned with transformation or conversion process. It deals with the interaction between psychological and social factors and the needs and demands of the human part of the organisation and its structural and technological requirements.

Trist (1963) suggests that there are three sub-systems common to all organisations. 1) Technological sub-system. 2) Formal role structure sub-system. 3) The individual members' feelings or sentiments. Hersey and Blanchard (1993) identify four sub-systems: 1) Human/social – which focuses on needs and motivation of employees and styles of leaderships. 2) Administrative/structural – which deals with authority, responsibility and the structure within the organisation. 3) Information/decision making – which focuses on decisions and information necessary to operate the organisation. 4) Technological/economic – this is concerned with the work to be undertaken and its cost effectiveness.

2.3.3.2 Organisational sub-systems

Mullins (2005) suggests five main interrelated sub-systems as a basis for the analysis of organisations:

1) Tasks – the goals and objectives of the organisation. The nature of inputs and outputs and the work activities to be carried out in the transformation or conversation process.
2) Technology – the manner in which the tasks of the organisation are carried out and the nature of work performance. It includes the materials, systems and procedures and equipment used in the transformation or conversion process.
3) Structure – patterns of organisation, lines of authority, formal relationships and channels of communication among members. Also included are division of work and coordination of tasks by which the series of activities are carried out.

4) People – the nature of the employees. This includes, for example, their attitudes, skills and attributes; needs and expectations, interpersonal relations and pattern of behaviour; group functioning and behaviour; informal organisation and styles of leadership.
5) Management – co-ordination of task, technology, structure and people, and policies and procedures for execution of work. Corporate strategy, direction of organisational activity as a whole and interaction with external environment.

Mullins (2005) concludes that an open systems approach provides a perspective from which to compare and contrast different types of organisations and their methods of working.

2.3.4 Contingency approach

Contingency models of organisation emphasise the interrelationships between technology, structure, methods of operations and the nature of environmental influences. Vecchio (2000) suggests that the goal of the contingency view is to explain how differences in the contextual and structural dimensions are related. The approach does not seek universal principles that can be used for every situation, but instead seeks to explain how one attribute or characteristics depends on another. The basis of contingency models is that there is no one best, universal form of organisation. There are large numbers of variables or situational factors which influence organisational design and performance. The contingency approach emphasises the need for flexibility (Mullins 2005).

Luthan (1984) presents the contingency models as 'if-then' form of relationship. *If* certain situational factors exist, *then* certain organisational and managerial variables are most appropriate. The most appropriate structure is dependent on the contingencies of the situation for each individual organisation. The situational factors account for variations in the structure of different organisations.

The contingency approach is considered as a 21st century paradigm because it is flexible and takes account of the more proactive involvement of customers and shareholders in a market-driven environment. The changing nature of the work environment, the increasing demands for flexibility and concerns with contextual factors influencing structure have drawn attention to the contingency approach (Bouchikhi and Kimberly, 2000 and Mullins, 2005).

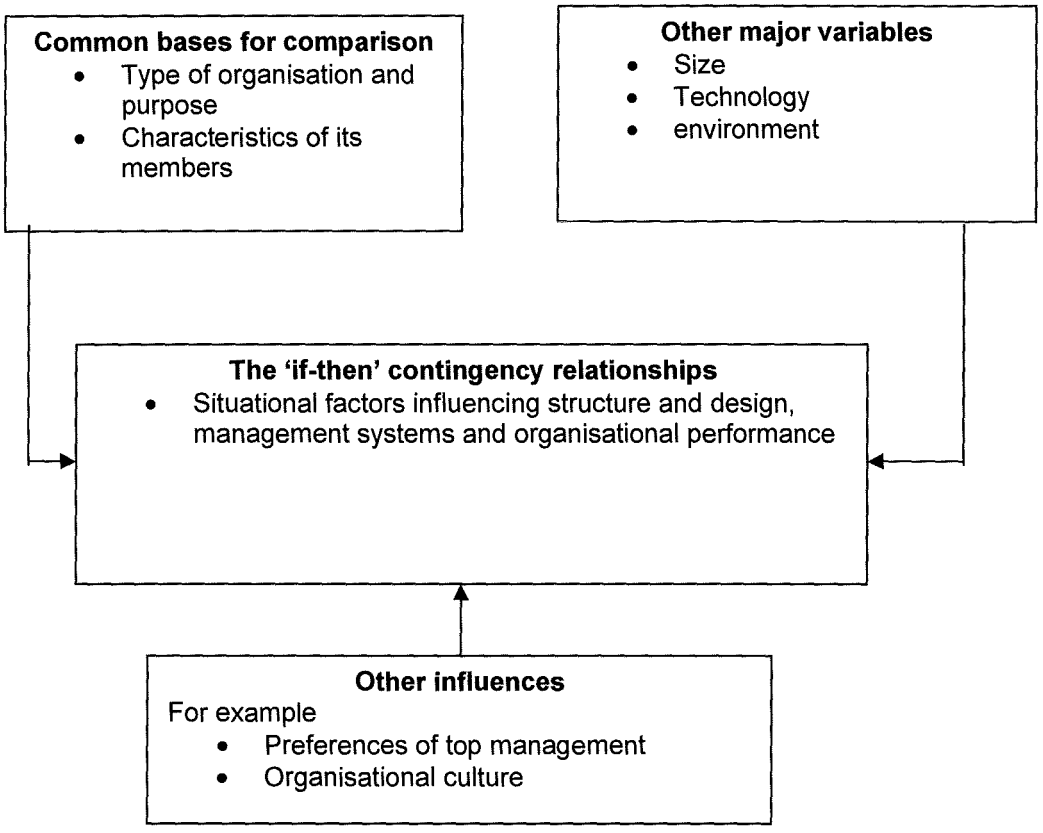


Figure 2.3 – Main influences on the contingency approach (Mullins 2005)

According to Dawson (19790, Child (1988), Mintzberg (1979) and Mullins (2005), the major criticisms of the contingency approaches include: 1) Causal relationship – the nature of causal relationship between organisations and performance is open to questions although the contingency approach implies such a causal relationship. 2) Organisational performance – organisational performance is multifaceted and the measurement of performance applied in many of the contingency studies has not been precise. The contingency model implies that the fit among components of the organisation and situation is related to maximising organisational performance. 3) Multiple contingency

– different patterns of contingency factors have distinctive implications for organisational design. Multiple contingencies may give rise to multi-way relationships among the range of organisational variables. 4) Planned change – contingency models fail to give sufficient emphasis to unanticipated consequences of planned change - for example the effects of the introduction of technology on the internal working of an organisation. 5) Power factors – organisational structure is not necessarily determined by only by impersonal contingency conditions but by 'power factors' such as government control, power needs of members, culture of the organisation and managerial preferences. 6) Timing of organisational change – There must be a significant change in contingency factors before an organisation will respond. Changes in structure tend to lag behind situational change. There is a certain amount of luck in having a fit between structure and prevailing contingency factors.

Notwithstanding the criticisms, the contingency approach has relevance in terms of division of work, coordination of work, hierarchy, definition of responsibilities, methods of work, staff motivation and commitment and management style and systems (Mullins 2005). Fincham and Rhodes (1992) contend that the basic concept of contingency approach assists managers to understand complex situations and take appropriate actions.

2.4 Action and structure

Walsham (1993) explains action and structure and a kind of organisational behaviour in which a conflict exists between two sets of social theories that place emphasis on human agents or action as opposed to the structure of social systems. Action or agency relate to events in which an individual is the perpetrator in the sense that the individual could at any point in a given sequence of conduct, have acted differently (Nijland 2004; Giddens 1984). Action depends upon the capability of an individual to make a difference to a pre-existing state of affairs or course of events (Giddens 1979). The concept of enactment has been developed by Weick (1990; 1995) as a process whereby people unconsciously play a proactive role in creating their world. Morgan (1986) describes organisations as being socially constructed realities

that are as much in the minds of their members as they are in concrete structures. Regarding organisational behaviour, an enactment process suggests that the behaviour does not arise merely from organisations conforming to environmental pressures, but in fact organisations are active in creating and defining some of their own environments (Nijland 2004).

Proponents of structure which refers to pattern of social relationships promote it over action. For example, Giddens (1997) states that the conduct of actors in a society is dominated by the influence of the 'totality' which has the characteristics separate from its individual members. Institutional theorists who support structure argue that actions are the direct effects of ideas, values, and beliefs that originate from institutional environment of the organisations (Greenwood and Hinnings 1996).

Institutional theorists recognise homogenisation, a resulting process where an organisation resembles others that face similar environmental pressures. Powell and DiMaggio (1991) argued that organisations tend to become similar – isomorphism. They indicate that the process of isomorphic changes is driven by three mechanisms: coercive isomorphism, mimetic isomorphism and normative isomorphism. These are explained by Nijland (2004) as follows: Coercive isomorphism is where organisations apply pressures on each other (such as political and government regulation). Mimetic isomorphism relates to competition in which organisations mimic each others. For example, corporate website adoption has been studied by Beatty et al (2001). They show that mimicking organisations place less emphasis on perceived related benefits compared to early adopters. Normative isomorphism relates to the way members of a profession are trained similarly and therefore are influenced in the way they behave and obtain knowledge. Organisations use norms to bring change other organisations.

Nicolaou (1999) examines sources of control over information system development decisions. He analyses the symbolic role of social institutions in exerting control over system development decisions. Three regulatory mechanisms, developed by institutional theorists, were used to explain how

specific social institutions exert their control. The mechanisms of coercive isomorphism, mimetic isomorphism and normative isomorphism help illustrate the types of social forces that enhance similarity of systems across organizations. He also identifies three conditions which moderate these effects: dependence on external institutions having control over an organization's resources; unclear performance standards for system development; and interaction patterns during development. He implies that social control would differ greatly according to whether the major influences on the process of system development arise from within the organization or are imposed from external institutions. The examination of symbolic/institutional forces in system development was useful in the evaluation of system effectiveness.

Giddens (1979) and Walsham (1930) reconcile the duality of action/structure by indicating that agents and structures are not independent but rather interrelated. Human actions draw in structures so that social structures are produced and reproduced. Structure is both enabling and constraining (Nijland (2004). Interactions and choice are both enabled and restricted by 'structural or institutionalised properties'. As a result, a dynamic environment where people act on the basis of their stocks of knowledge (interpretative scheme), the available resources and opportunities (facility) and acceptable behaviour (norms). Orlikowski (1992) argues that technology is both a product and a medium of human action. She said that institutional properties influenced how people interacted with technology. Similarly, technology strengthened certain institutional properties such as domination.

2.5 Emergent versus planned organisational change

Various authors note that organisational change is a continuous activity with diverse and varied origins (Giddens, 1079; Weick 1993; Daft and weick 1984; Orlikowski 1996). They regard change more as improvisation 'as we go along' than as a planned and intended action. They also report that change is never complete and unintended consequences are commonplace. Orlikowski (1996) classifies change as anticipated, emergent and opportunity-based.

Anticipated changes are planned and occur as intended. Emergent changes arise spontaneously out of local innovation which are not originally anticipated or intended. Opportunity-based changes are not anticipated ahead of time but are introduced purposefully and intentionally during the change process in response to an unexpected opportunity, event or breakdown. Nijland (2004) notes that, traditionally, organisational change is perceived as predictable, controllable and structured. In this view, change can be engineered. This rational approach to organisational change is prevalent in the West and is rooted in classical management theories, change management and scientific management.

In terms of organisational ICT adoption, Nijland (2004) and Pettigrew (1990) recognise that change is multifaceted, involving political, cultural, incremental, environmental, and structural, as well rational dimensions. Power, chance, opportunism and accident are as influential in shaping outcomes as are design, negotiated agreements and master-plans.

In this section, I have provided relevant insight into organisational change and the mechanism of such change. It is now appropriate to try and understand more the organisational properties that drive such mechanisms. Organisational culture and climate are briefly explored in the next section.

2.6 Organisational culture

Organisational culture[4] comprises the attitudes, values, beliefs, norms and customs of an organisation. Organisational culture is considered to be less tangible and more difficult to measure. Deal and Kennedy (1982) defined organisational culture as *'the way things get done around here'*. They measured organisations in respect of:

[4] The concept of organisational culture is difficult to define. It derived from anthropology and most people will not be aware of the culture they work in (Mullins 2005).

1) Feedback - quick feedback means an instant response. This could be in monetary terms, but could also be seen in other ways, such as the impact of a great save in a soccer match.

2) Risk - represents the degree of uncertainty in the organisation's activities.

Using these parameters, they were able to suggest four classifications of organisational culture:

1) The Tough-Guy Macho Culture: feedback is quick and the rewards are high. This often applies to fast moving financial activities such as brokerage. This can be a very stressful culture in which to operate and is also sexist.

2) The Work Hard/Play Hard Culture: is characterised by few risks being taken, all with rapid feedback. This is typical in large organisations, which strive for high quality customer service. It is often characterised by team meetings, jargon and buzzwords.

3) The Bet your Company Culture: where big stakes decisions are taken, but it may be years before the results are known. Typically, these might involve development or exploration projects, which take years to come to fruition, such as oil prospecting or military aviation.

4) The Process Culture: occurs in organisations where there is little or no feedback. People become bogged down with how things are done not with what is to be achieved. This is often associated with bureaucracies. Whilst it is easy to criticise these cultures for being over cautious or bogged down in red tape, they do produce consistent results, which is ideal in, for example, public services.

None of the above cultures describe the culture found within SMVOs as they relate mainly to large private and public organisations. The culture within SMVOs comprises collections of beliefs, values and attitudes. A definition of such organisational culture has been provided by McLean and Marshall

(1993) as the collection of traditions, values, policies, beliefs and attitudes that constitute a pervasive context for everything we do and think in an organisation. Jarvis (2003) provides a simple explanation of organisational culture. People classify what they see as the characteristics of organisations. It is socially defined and experienced. The experience of the things we feel as displayed by the 'culture and its practices' affects how we behave and respond to the organisations we work in. Jarvis further explains that culture in organisational terms is broadly the social/behavioural manifestation and experiencing of a whole range of issues such as:

- the way work is organised and experienced
- how authority is exercised and distributed
- how people feel rewarded, are organised and controlled
- the values and work orientation of staff
- the degree of formalisation, standardisation and control through systems there is/should be
- the value placed on planning, analysis, logic, fairness and so on
- how much initiative, risk-taking, scope for individuality and expression is given
- rules and expectations about such things as informality in interpersonal relations, dress, personal eccentricity etc
- differential status
- emphasis given to rules, procedures, specifications of performance and results, team or individual working

Seel (2000) gives a good account of culture as an emergent concept. His working definition of culture is that organisation culture is the emergent result of the continuing negotiations about values, meanings and proprieties between the members of that organisation and with its environment. In other words, culture is the *result* of all the daily conversations and negotiations between the members of an organisation. They are continually agreeing (sometimes explicitly, usually tacitly) about the 'proper' way to do things and how to make meanings about the events of the world around them. If you want

to change a culture you have to change all these conversations—or at least the majority of them.

Johnson (1988) describes a cultural web, identifying a number of elements that can be used to describe or influence Organisational Culture:

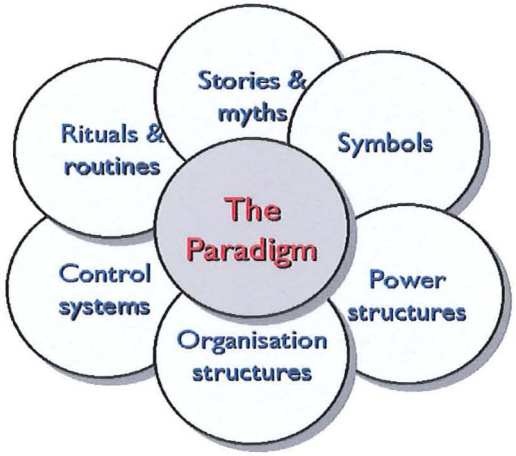
- The Paradigm: What the organization is about, what it does, its mission and its values.
- Control Systems: The processes in place to monitor what is going on. Role cultures would have vast rulebooks. There would be more reliance on individualism in a power culture.
- Organisational Structures: Reporting lines, hierarchies, and the way that work flows through the organisation.
- Power Structures: Who makes the decisions, how widely spread is power, and on what is power based?
- Symbols: These include the logos and designs, but would extend to symbols of power, such as car parking spaces and executive washrooms!
- Rituals and Routines: Management meetings, board reports and so on may become more habitual than necessary.
- Stories and Myths: build up about people and events, and convey a message about what is valued within the organisation.

These elements may overlap. Power structures may depend on control systems, which may exploit the very rituals that generate stories.

Whilst not necessarily denying that organisations are cultural phenomena, critics stress the ways in which cultural assumptions can stifle dissent and reproduce management propaganda and ideology (Seel 2000). After all, it would be naive to believe that a single culture exists in all organisations, or that cultural engineering will reflect the interests of all stakeholders within an organization. Parker (2000) suggests that many of the assumptions of those putting forward theories of organisational culture are not new. They reflect a long-standing tension between cultural and structural (or informal and formal)

versions of what organisations are. Further, it is perfectly reasonable to suggest that complex organisations might have many cultures, and that such sub-cultures might overlap and contradict each other. The neat typologies of cultural forms rarely acknowledge such complexities, or the various economic contradictions that exist in capitalist organizations.

A model of culture, developed by Johnson (1988), may help to explain the difference between the two approaches.



Culture and Complexity Figure 1. Richard Seel

Figure 2.4 - Johnson's Cultural Web (from Seel 2000)

Johnson calls his model the 'cultural web' though Seel likens it to a flower rather than a web. He explains that the paradigm in the centre is the set of core beliefs which result from the multiplicity of conversations and which maintains the unity of the culture. The 'petals' are the manifestations of culture which result from the influence of the paradigm.

Most change programmes concentrate on the petals; they try to effect change by looking at structures, systems and processes. Experience shows us that these initiatives usually have a limited success. A lot of energy (and money) is put into the change programme, with all the usual communication exercises, consultations, workshops, and so on. In the first few months things seem to be

changing but gradually the novelty and impetus wears off and the organisation settles back into something like its previous configuration. The reason for this is simple, though often overlooked—unless the paradigm at the heart of the culture is changed there will be no lasting change.

A paradigm is a self-consistent set of ideas and beliefs which acts as a filter, influencing how we perceive and how we make sense. The term was brought into common currency by Thomas Kuhn in his famous *Structure of Scientific Revolutions*, first published in 1962. Capra (1997) adapted Kuhn's original definition to present it in a form more suitable to the study of organisations Capra considers a paradigm is a constellation of concepts, values, perceptions and practices shared by a community, which forms a particular vision of reality that is the basis of the way a community organises itself.

Seel (2000) provides an epidemiological approach by reporting on his work with the IT division of a major public service organisation looking to change its culture. He develops a different, but equivalent, approach which was both radical enough to offer the prospect of significant change while being contained enough to keep their anxiety at manageable levels. The model is based on an epidemiological approach to culture change. According to Seel, this is not new; the French anthropologist Dan Sperber has been using the model for some years although not in the context of organisational development. In terms of this model an appropriate metaphor for the change agent may be something like a virus - except that this virus is benign and welcomed by the host body. Together with his colleague, Rita McGee, he designed a workshop which was rolled out to everyone in the division. Its explicit aim was to sensitise people to the power of culture and paradigms and to encourage them to discover a compelling vision of a future culture which would motivate them to behave differently. Most importantly, they encouraged all participants to become change agents or 'missionaries', spreading the word and engaging in different kinds of conversation with their colleagues.

Thus, by building greater connectivity between people and by encouraging them to make different meaning about their day-to-day working lives they

aimed to help the organisation remove barriers and open up channels so that *it* could self-organise to the critical position and become much more able to change. Organisational change is sometimes characterised as either *top-down* or *bottom-up*. He claims their approach was not really either of these. Instead it could be characterised as *middle-out*: everyone is involved and there is no preferred starting place. He contends that things are never this simple, of course. Once any real degree of change seems likely the organisation's 'immune system' will start to resist the infection from new ideas and practices. Some people will try to reassert the power they feel they are losing; some will be cynical and pour scorn on the process; some will feel afraid and withdraw from the changes. This is where he believes the senior management have a significant role to play. They must act as an *immuno-suppressant*, trying to damp down resistance and to nurture and encourage the new behaviours. Until a critical mass is achieved the change is very frail and can be easily destroyed.

A leading contributor to the field of organisational culture is E.H Schein. In *Organizational Culture and Leadership* (1992), he defines organisational culture as the residue of success within an organisation. According to Schein, culture is the most difficult to change organisational attribute that exists, outlasting organizational products, services, founders and leadership and all other physical attributes of the organization. His organisational model illuminates culture from the standpoint of the observer, described by three cognitive levels of organizational culture. The first level, named Artefacts, refers to visible organisational structures and processes. Included are the facilities, offices, furnishings, visible awards and recognition, the way that its members dress, and how each person visibly interacts with each other and with organizational outsiders. Since they are hard to decipher it might be dangerous to put too much emphasis on this level in ones conclusions.

The second level, named Espoused Values, refers to corporate values including strategies, goals, mission statements that are professed by the organisation. These values may not necessarily be in use. At this level, company slogans, mission statements and other operational creeds are often

expressed, as are local and personal values widely expressed within the organization. Organisational behaviour at this level can usually be studied by interviewing the organisation's membership and using questionnaires to gather attitudes of organizational membership.

The third level, named Basic Underlying Assumptions, are unconscious, taken-for-granted beliefs, perceptions, thoughts and feelings. This third and deepest level provides the ultimate sources of action and it is where the organisation's tacit assumptions are found. These are the elements of culture that are unseen and not cognitively identified in everyday interactions between organisational members. Additionally, these are the elements of culture which are often taboo to discuss inside the organisation. Many of these 'unspoken rules' exist without the conscious knowledge of the membership. Those with enough organisational experience to understand this deepest level of culture usually become acclimatised to these attributes over time, thus adding to the invisibility of their existence. Surveys and casual interviews with organisational members cannot draw out these attributes-rather much more in-depth means must be used to first identify then understand organisational culture at this level.

According to Schein (1992), espoused values can become the basic underlying assumptions if a leader (CEO) succeeds in instilling in the group's beliefs his/her own chosen values and convinces the group to act accordingly with success.

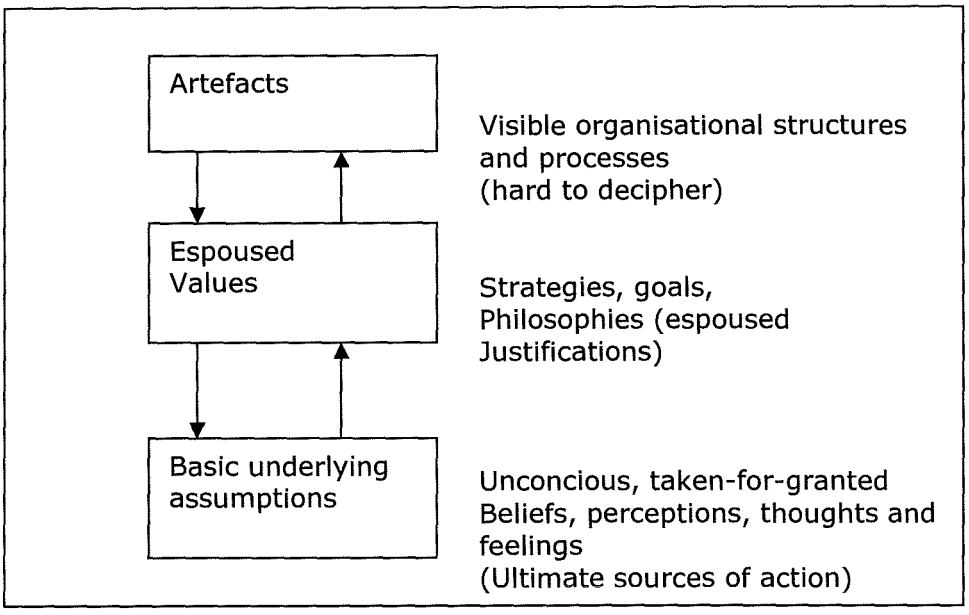


Figure 2.5 - Three levels of organisational culture (Schein 1992)

Using Schein's model, understanding paradoxical organisational behaviours becomes more apparent. For instance, an organisation can profess highly aesthetic and moral standards at the second level of Schein's model while simultaneously displaying curiously opposing behaviour at the third and deepest level of culture. At the surface organisational rewards can imply one organisational norm but at the deepest level imply something completely different. This insight offers an understanding of the difficulty that organisational newcomers have in assimilating organisational culture and why it takes time to become acclimatised. It also explains why organisational change agents usually fail to achieve their goals: underlying tacit cultural norms are generally not understood before would-be change agents begin their actions. It is also noted that merely understanding culture at the deepest level may not be enough to institute cultural change, because the dynamics of interpersonal relationships (under often-times threatening conditions) are added to the dynamics of organisational culture in the process of instituting desired change.

Organisational culture and its role in ICT implementation/management is gaining increased attention (Magalhaes 1999; Davenport 1994; Robey and

Azevedo 1994; Willcocks 1994; Avison and Meyers 1995; Robey 1995; Ward and Peppard 1996). Willcocks (1994) argues that previously, major ICT managerial emphasis fell on technological-environmental-human resources relationships. Willcocks notes that ICT management needs to be a complex multifaceted set of activities. Not only will it be necessary to manage the four fronts – technological, environmental, human resources and organisational, but the inter-relationships between the four fronts will also need to be managed. He further notes that the way forward is to build *information systems culture,* which he defines as the shared and the sharing of norms, values, skills, competencies and the continuous learning related to IT need; the cooperative relationships and the commitment necessary to support existing and required IT applications at organisational, departmental and individual levels.

In this research, I have attempted to analyse the case study organisations by trying to understand the artefacts, espoused values and deep level underlying assumptions whilst looking for factors that inhibit or facilitate ICT adoption.

2.7 Organisational climate

Organisational climate and context are used interchangeably by many authors (Magalhaes 2004; Hansen and Wemerfelt 1989; Schneider 1975; 1990).

> *Applied to organisations, climate can be said to relate to the prevailing atmosphere surrounding the organisation, to the level of morale, and to the strength of the feelings or belonging, care and goodwill among members* (Mullins 2005, p899).

Schneider (1975; 1990) and (Magalhaes 2004) suggest that it is misleading to talk of organisational climate as being one omnibus concept applicable to the whole organisation - global climate. They argue that each organisation creates a number of different types of climates that lead to particular behavioural outcome (such as leadership climate or climate for conflict resolution) or the organisational department (such as the information systems climate).

Magalhaes (2004) concludes that 'climate' which is synonymous with 'sub-culture' is a manifestation of the behaviour of particular department within an organisation.

Schneider (1990) proposes two ways of addressing the issue of organisational climate. Firstly one should specify the criterion or focus of interest behind a particular climate construct. Secondly, one should research the climate in 'strategic mode' rather than 'global mode'. He outlines three important principles about climates or contexts. Climates or contexts 1) are a reflection from and are reflected in organisational routines and rewards. 2) reflect what is important in an organisational setting. 3) are an organisational means for communicating meaning. Magalhaes (1999) reports that these principles are in accordance with the concepts developed by other authors in the organisational climate tradition.

Mullins (2005) summarises characteristics of good organisational climate as including: 1) Integration of organisation and personal goals. 2) Democratic functioning of the organisation will full opportunities for participation. 3) Opportunities for personal development and career. 4) A sense of identity with and loyalty to the organisation and a feeling of being a valued and important member.

2.8 Technology and Organisations

Mullins (2005) writes that technology is pervasive within contemporary organisations. It is brought into organisations by people, is put to work by people and is discarded by people. This means that the ways technology is used and the purposes for which it is used are primarily a result of the decisions taken by members of the organisations and the contexts within which those decisions are taken.

What is technology? There are a variety of definitions and none of them is universally accepted (Mullins 2005). Quite often, technology is defined and conceptualised by different researchers depending on the particular

perspective that is informing their work. Throughout the twentieth century the uses of the term have increased to the point where it now encompasses a number of 'classes' of technology:

- Technology as objects: Tools, machines, instruments, weapons, appliances - the physical devices of technical performance.
- Technology as knowledge: The know-how behind technological innovation.
- Technology as activities: What people do - their skills, methods, procedures and routines.
- Technology as a process: Begins with a need and ends with a solution.
- Technology as a socio-technical system: The manufacture and use of objects involving people and other objects in combination.

Mullins (2005) adopts an approach that defines technology into several categories of conceptions, schools or perspectives within an organisational context.[5] I report on the following four approaches described by Mullins (2005):

- Technology determinism
- Socio-technical systems approaches
- Socio-economic shaping of technology (SST)
- Social construction of technology (SCT)
- Actor network analysis (ANA)

2.8.1 Technology determinism

This is a technology driven approach that focuses mainly on the application of available technologies to organisational set ups through the use of appropriate methodological tools (Campbell 1996; Markus and Robey 1988). Supporters of technological determinism belief in technology as a key governing force in society and that social progress is driven by technological innovation, which in

[5] It is important to note that there is some overlap among the different perspectives.

turn follows an 'inevitable course'. Most interpretations of technological determinism share two general ideas:

- that the development of technology itself follows a path largely beyond cultural or political influence, and
- that technology in turn has effects on organisations that are inherent, rather than socially conditioned.

Therefore technological determinists hold that like the weather, technology is autonomous and causes social change (Langdon 1977). The technological determinist view is a *technology-led* theory of organisational change: technology is seen as 'the prime mover' in history. In economics, this is known as a 'technology-push' theory rather than a 'demand-pull' theory. According to technological determinists, particular technical developments, communications technologies or media, or, most broadly, technology in general are the sole or prime antecedent causes of changes in society, and technology is seen as the fundamental condition underlying the pattern of social organization.

MacKenzie and Wajcman (1999) who belong to 'hard determinism' school, suggest that technology alone causes things to happen. The 'hard technological determinists' interpret technology in general and communications technologies in particular as the basis of society in the past, present and even the future. They say that technologies such as writing or print or television or the computer 'changed society'. In its most extreme form, the entire form of society is seen as being determined by technology: new technologies transform society at every level, including institutions, social interaction and individuals. At the least a wide range of social and cultural phenomena are seen as shaped by technology. 'Human factors' and social arrangements are seen as secondary.

According to Chandler (1996) some critics who use the term 'technological determinism' equate it simply with this notion of inevitability, which is also referred to as '*The technological imperative'.* The doctrine of the technological imperative is that because a particular technology means that we *can* do

something (it is technically possible) then this action either *ought* to (as a moral imperative), *must* (as an operational requirement) or inevitably *will* (in time) be taken (Hasan Ozbekhan 1968).

Arnold Pacey (1983) suggests that the technological imperative is commonly taken to be 'the lure of always pushing toward the greatest feat of technical performance or complexity which is currently available'. The technological imperative is a common assumption amongst commentators on 'new technologies' and argues that the 'information technology revolution' is inevitably on its way and our task as users is to learn to cope with it.

Those who pursue certain problems primarily because they are 'technically sweet' are following the technological imperative. It implies a suspension of ethical judgement or social control: individuals and society are seen as serving the requirements of a technological system which shapes their purposes. Many argue that the pursuit of the technological imperative involves adopting an instrumental attitude: treating even people as a means to an end. The technological imperative is typically argued to develop as technological systems become large, complex, interconnected and interdependent. It can seem prohibitively expensive to abandon a complex technological system such as nuclear power, although it is not impossible, given the political will. Mowshowitz (1976) argues that 'to assert that technology has become an autonomous agent of change is not to attribute an occult quality to the growth of modern society which transcends human choice. It simply means that mechanisation has affected social organisation and individual behaviour in such a way as to create a foundation for further development along certain lines. We have cultivated a special relationship to technology wherein needs and conflicts are almost invariably formulated as technical problems requiring technical solutions'.

2.8.2 Socio-technical systems approaches

This has been previously considered earlier in this chapter. It is a bottom-up approach that deals with the interaction between structures of the technology

and the social structures of the organisation and with the emergent effects arising from such interaction (Ciborra 1994; Ciborra, Patriotta and Erlicher 1995).

According to Mullins (2005), a socio-technical system is a mixture of people and technology[6]. He reports that many of the individual items of a socio-technical system are difficult to distinguish from each other because of their close inter-relationships. They classify socio-technical systems as including:

Hardware: Includes mainframes, workstations, peripherals and networks. This is the classic meaning of technology. A socio-technical system will have some hardware component.

Software: Includes operating systems, utilities, application programs and specialised code. Software is likely to be an integral part of any socio-technical system. Software (and by implication, hardware too) often incorporates social rules and organizational procedures as part of its design (e.g. optimize these parameters, ask for these data, store the data in these formats). Thus, software can serve as a stand-in for some of the factors listed below, and the incorporation of social rules into the technology can make these rules harder to see and harder to change.

Physical surroundings: Buildings also influence and embody social rules, and their design can affect the ways that a technology is used. The manager's office that is protected by a secretary's office is one example; the large office suite with no walls is another. Moving a technology that assumes one physical environment into a different one may cause mismatch problems.

People: Individuals, groups, roles agencies. The person in charge of the microcomputers in our example above may have very different roles in the different socio-technical systems, and these different roles will bring with them different responsibilities and ethical issues.

[6] It is a much more complex mixture.

Procedures: both official and actual, management models, reporting relationships, documentation requirements, data flow, rules & norms. Procedures describe the way things are done in an organization (or at least the official line regarding how they ought to be done). Both the official rules and their actual implementation are important in understanding a socio-technical system. In addition, there are norms about how things are done that allow organizations to work.

Laws and regulations: These also are procedures like those above, but they carry special societal sanctions if the violators are caught. They might be laws regarding the protection of privacy, or regulations about the testing of chips in military use. These societal laws and regulations might be in conflict with internal procedures and rules.

Data and data structures: What data are collected, how they are archived, to whom they are made available, and the formats in which they are stored are all decisions that go into the design of a socio-technical system. Data archiving in an emergency room it will be quite different from that in an insurance company, and will be subject to different ethical issues too.

According to Ropohl (1979), the concept of the socio-technical system was established to stress the reciprocal interrelationship between humans and machines and to foster the program of shaping both the technical and the social conditions of work, in such a way that efficiency and humanity would not contradict each other any longer. The notion of the system, on the other hand, was used very consciously according to general systems theory. He argues that the idea of socio-technical systems was designed to cope with the theoretical and practical problems of working conditions in industry. Widening this idea, he suggested that socio-technical system is regarded as the theoretical construct for describing and explaining technology generally (Ropohl 1979).

2.8.3 Socio-economic shaping of technology (SST)

Williams and Edge (1996) reviews the body of research that addresses `the social shaping of technology' (SST). In contrast to traditional approaches which only addressed the outcomes or 'impacts' of technological change, this work examines the content of technology and the particular processes involved in innovation. They highlight the growth of socio-economic research falling within this very broad definition of SST. They also explore a range of factors - organisational, political, economic and cultural - which pattern the design and implementation of technology.

SST has gained increasing recognition in recent years, particularly in the UK and Europe, as a valuable research focus, for its broader import for the scientific and policy claims of social sciences. SST is seen as playing a positive role in integrating natural and social science concerns; in offering a greater understanding of the relationship between scientific excellence, technological innovation and economic and social well-being; and in broadening the policy agenda, for example in the promotion and management of technological change (Newby 1992). According to Mullins (2005), the focus of SST is upon the ways in which technology is shaped by (rather than itself shaping) the economic, technical, political and social circumstances in which it is designed, developed and utilised. Williams and Edge (1996) suggest the conception of the domain of SST as a `broad church', with different strands and the relationships between them. They showed that SST studies show that technology does not develop according to an inner technical logic but is instead a social product, patterned by the conditions of its creation and use. Every stage in the generation and implementation of new technologies involves a set of choices between different technical options. Alongside narrowly `technical' considerations, a range of `social' factors affect which options are selected - thus influencing the content of technologies, and their social implications. They argue that central to SST is the concept that there are `choices' inherent in both the design of individual artefacts and systems, and in the direction or trajectory of innovation programmes. Significantly, these choices could have differing implications for society and for particular

social groups. The characters of technologies, as well as their social implications, are problematised and opened up for enquiry. The social influences over the particular technological routes taken (and their consequences) can be analysed. This opens up two sets of questions. Firstly, SST stresses the *negotiability* of technology (Cronberg 1992), highlighting the scope for particular groups and forces to shape technologies to their ends and the possibility of different kinds of (`technological' and `social' outcome). Secondly, it raises questions about *irreversibility* (Collingridge 1992; Callon 1993) - the extent and manner in which choices may be foreclosed.

McLoughlin and Harris (1997) argue that in SST, technology is accorded a specific causal status. The idea that technology has causal effects on society is rejected but the idea of technological influences on the shaping of technology itself is not. A precondition of much technological innovation is seen to be existing technology.

The social shaping perspective emerged from a long-standing critique of crude forms of technological determinism (Edge 1988), which held that:

- the nature of technologies and the direction of change were unproblematic or pre-determined (perhaps subject to an inner `technical logic' or `economic imperative').
- technology had necessary and determinate `impacts' upon work, upon economic life and upon society as a whole: technological change thus produces social and organisational change.

It was linked to opposition to ideologies of `technological imperative', that were particularly prevalent in British government and industry in the late 1970s and early 1980s, which suggested that particular paths of technological change were inevitable (William and Edge 1996). However, the SST perspective was not just a response to a public rhetoric of technology, but also criticised the way technology had been conceived by many academics. Social scientists all too frequently took technology for granted - treated it as a *given* - and sought

to assess its social `impacts'.

2.8.4 Social construction of technology (SCT)

Social construction of technology (also referred to as SCT) draws upon the sociology of scientific knowledge to examine the unfolding of technological change over time in its social actor/multi-directional process (Bijker et al 1987). SCT views technology as emerging out of non rational-linear process of invention, design, development and innovation. Mullins (2005) suggests that there is a range of technological options available or identifiable which a variety of people, groups and organisations including IT specialists seek to promote or challenge. Their concerns are partly technical, social, moral and economic. The 'relevant social groups' define the 'problem' for which the artefact is intended to be a 'solution'. Technical change occurs when either sufficient consensus arises for a particular design option or a design option is imposed by a powerful actor or group. The technology is then 'stabilised'.

Social construction of technology is an institutionalised entity or artefact in a social system 'invented' or 'constructed' by participants in a particular culture or society that exists solely because people agree to behave as if it exists, or agree to follow certain conventional rules. Social constructivist is a school of thought that attempts, to varying degrees, to analyse seemingly natural and given phenomena in terms of social constructs. Social constructions must be seen in an institutional context, as arising from the institutionalisation of patterns of interaction and meaning in society leading to a construction of social institutions and institutionalised perspectives and understandings (Mullins 2005).

Socio-technical ensemble, promoted by Bijker (1987) is a variation of SCT[7] in which technology is considered as a key constituent of the ensemble which emerges within the social, economic and political context of the organisation. Mullins (2005) explains that if an organisation is seen as a collection of

[7] This has no relation with the socio-technical systems discussed under organisation sub-systems.

groups, each of which has a particular technology 'frame', then political behaviour is seen as centring around attempts to achieve ascendancy for a particular frame , and often it is those groups which already have more power that are the most successful in this process. The socio-technical ensemble therefore embodies a web of relationship between individuals, groups, technology and internal and external organisational contexts.

2.8.5 Actor network analysis (ANA)

Actor-network analysis or theory, sometimes abbreviated to ANT is a social science approach for describing and explaining social, organisational, scientific and technological structures, processes and events. It assumes, controversially, that all the components of such structures (whether these are human or otherwise) form a network of relations that can be mapped and described in the same terms or vocabulary (Mullins 2005).

The overlapping stages of ANT[8] consist of 1) Inscription - Technology embodies the beliefs, practices, and relations of the society it emerges from. 2) Translation - When the actor-network is actually created, and when actors other than the primary actor become involved. A powerful actor is able to translate another's interests to his own. This is the stage when negotiation takes place. 3) Framing - As the key issues and debates are resolved within a network, technologies can become stabilised over time.

[8] Developed by two leading French scholars, Callon (1986) and Latour (1987), British sociologist Law (1987), ANT can more technically be described as a 'material-semiotic' method. This means that it maps relations that are simultaneously material (between things) and 'semiotic' (between concepts). It assumes that many relations are both material and 'semiotic' (for instance the interactions in a bank involve both people and their ideas, and computers. Together these form a single network. ANT tries to explain how material-semiotic networks come together to act as a whole. In the ANT approach, for instance, a bank is both a network *and* an actor that hangs together, and for certain purposes acts as a single entity. As a part of this it may look at explicit strategies for relating different elements together into a network so that they form an apparently coherent whole.

ANT does not usually explain *why* a network takes the form that it does. It is much more interested in exploring *how* actor-networks get formed, hold themselves together, or fall apart. Like other perspectives in social science, ANT draws on a range of different philosophical resources, some of which are relatively esoteric. It talks, for instance, of *Actants* to denote human and non-human actors, and assumes that the actors in a network take the shape that they do by virtue of their relations with one another. It assumes that nothing lies outside the network of relations, and as noted above, suggests that there is no difference in the ability of technology, humans, animals, or other non-humans to act (and that there are only enacted alliances.) It further notes that as soon as an actor engages with an actor-network it too is caught up in the web of relations, and becomes part of the network.

Much of the controversy surrounding actor-network theory[9] is caused by its lack of distinction between people and objects. A commonly held view is that people are fundamentally different from animals, and also fundamentally different from objects. However, although only humans can purposely act, their actions are strongly influenced by non-human actors. Bijker (1987) has responded to this criticism by stating that the amorality of ANT is not a necessity. Moral and political positions are possible, but one must first describe the network before taking up such positions. Another criticism is that it suggests that all actors are equal within the network. It does not account for pre-existing structures, such as power, but instead sees these structures as emerging from the actions of actors within the network. Power emerges with the ability of an actor to align other actors to its interests (Mullins 2005).

2.9 ICT Intensity, Infusion and Diffusion

ICT intensity, infusion and diffusion are important concepts in the understanding and description of wider usage of technology to achieve organisational objectives.

[9] ANT is a widespread if controversial range of material-semiotic approaches for the analysis of heterogeneous relations. In part because of its popularity, it is interpreted and used in a wide range of alternative and sometimes incompatible ways.

Porter and Miller (1985) developed the idea of ICT Intensity to determine the pervasiveness and penetration of IT artefacts in an organisation. They noted that the level of ICT Intensity tends to increase in relation to 1) the amount of information processing and 2) content of information in the organisational services or product. Criticisms of the Intensity approach to measuring ICT adoption include inability to address the problem of internal use and identification of factors that affect ICT adoption (Magalhaes 1999). This is addressed by the Diffusion Concept explained below.

The concept of infusion has been suggested by Sullivan (1985). It is the degree of strategic relevance of ICT for a particular organisation's business. This relates to relevance of ICT to Company's strategic objectives and goals. The concept of infusion is similar to ICT intensity in focusing on strategic relevance of ICT. Infusion depends largely on external factors such as market or statutory requirements (Magalhaes 1999).

The concept of diffusion has also been suggested by Sullivan (1985). It is the level of deployment or decentralisation of ICT throughout the organisation. As previously indicated, this concept addresses the issue of internal use of ICT. Diffusion depends mainly on the effectiveness of the organisation's ICT corporate governance processes. Internal forces in the organisation exert constant pressure for ICT artefacts and applications to be more widely diffused and their management to become ever more decentralised (Magalhaes 1999). The trend for both infusion and diffusion is up.

Sullivan (1985) suggested that the upward trend of both infusion and diffusion produced the following consequences:

1) More electic ICT planning methodologies
2) New emphasis on ICT architecture
3) Recognition of human networking and organisational communication

Another way of looking at these consequences, is that the above three factors are key ingredients or imperatives for achieving greater diffusion[10].

2.10 Organisation effectiveness

Organisation effectiveness is an important concept in evaluating the benefits of ICT adoption. Magalhaes (1999) reports that ever since Nobel Laureate Robert Solow put forward the problem that the massive investments in IT were not being met by equally large increase in productivity, the information systems community has been actively searching for an explanation for this phenomenon, known as the 'productivity paradox'. For example, in the US the services industry invested some $750 billion and had an average productivity growth of 0.7% which was significantly lower than growth rate in the 1970s and much lower than the rate achieved by the manufacturing sector. A common explanation is that problem of poor productivity performance is not due to over-investment but of management inadequacy in the planning and implementation of IT systems (Magalhaes 1999); Quin and Baily 1994). Brynjolfsson (1993) report that while the causal link between IT and business performance have consistently been inconclusive, organisations may not produce more but they may maintain or increase their competitiveness by improving the quality of their products or services.

Many authors (Magalhaes 1999; Boynton et al 1994; Davenport 1993; Walton 1988) suggest that the following three measures can be used to determine organisational effectiveness at a very broad level. The benefits include:

1) reduced costs as a result of automation
2) better management of information
3) more suitable positioning in the competitive market.
4) transformation which encapsulates the benefits accrued from previous stages as well from new management structures and process innovation enabled by new technologies

[10] This is the approach that I have adopted in this research.

The earliest IT improved efficiency and effectiveness of individual members of staff or individual functional units, whereas more advance IT applications benefited the entire organisation thereby transforming the operations of both individuals and functional units (Walton 1989; Magalhaes 1999).

Magalhaes (1999) goes on to agree with De Lone and McClean (1992) that the above broad measures or indicators used in the past to evaluate organisational effectiveness of the implementation of IT in an organisation can become meaningless in a cross sectional design. For example, cost reduction can mean different things in different organisation and it would not be feasible to design a questionnaire which could encompass all possible types of organisations. They conclude that attempts to measure impact of management information systems on overall organisational performance are not often undertaken because of the difficulty of isolating the contribution of IT from other contributors to organisational performance.

In this research, benefits of ICT adoption at O-Regen and at selected SMVOs are evaluated as a multi-dimensional construct involving TOP imperatives (chapters 5 and 6). The multi-dimensional approach is recommended by Magalhaes (1999) and De Lone and McClean (1992).

2.11 Organisational learning

Organisational learning is important in achieving organisational change. Sackmann (1991) argues that factual knowledge which is the focus when dealing with organisation learning or knowledge development cannot be divorced from the emotions, values and attitudes which are the foci when dealing with organisational culture. This point is reinforced by Magalhaes (1999). He suggests that organisation culture and learning are not two unrelated concepts. A unifying concept of cultural knowledge has been proposed by Sackmann (1991; 1992). Cultural knowledge is the same as organisational knowledge because it encapsulates the sum total of the factual knowledge of the individuals that work in that particular organisation when

they come together as a group. It is also cultural because it pertains to that organisation and no other (Magalhaes 1999).

Organisation learning is about increasing the stock of knowledge whereas culture is about creating the conditions for knowledge development. Therefore, whilst culture is about stability, learning is about change. Many authors agree that organisational learning is embedded and linked to action (Handy 1997; Ghoshal and Bartlett 1998). Like Magalhaes (1999), I consider organisational learning to be both an organisational process and an outcome. The process involves acquiring and building up organisational skills and the outcome is the phenomenon of change in the existing stock of collective knowledge.

> *Organisational learning as a knowledge development occurs when the capacity to enhance organisational action is achieved over time. Such capacity to enhance organisational action can be regarded as the organisation's collective stock of knowledge or organisational knowledge* (Magalhaes 1999, p97).

2.12 Managing change

Change management is the process of developing a planned approach to change in an organisation. Typically the objective is to maximise the collective benefits for all people involved in the change and minimise the risk of failure of implementing the change. Many authors (Lewin 1951; Mullins 2005) indicate that practitioners help organisations to manage change in various ways including:

- assessing the need for change
- designing the plan for change
- coaching those who will lead others through the transition to change
- helping others adapt to change
- dealing with resistance to change

Authors such as De Lone and McClean (1992) agree that many technical disciplines (for example Information technology) have developed similar approaches to formally control the process of making changes to environments. Change management can be either 'reactive', in which case management is responding to changes in the macro environment (that is, the source of the change is external), or proactive, in which case management is initiating the change in order to achieve a desired goal (that is, the source of the change is internal). Change management can be conducted on a continuous basis, on a regular schedule (such as an annual review), or when deemed necessary on a program-by-program basis. To be effective, change management should be multi-disciplinary, touching all aspects of the organisation (Barnes 2000; Taylor 2002).

Christensen and Overdorf (2000) suggest a framework to help managers understand and manage change. They identify three factors that affect the organisation's responses to different types of change and what an organisation can or can not do: resources (high quality resources increases chances of coping with change), processes (formal and informal) and values (including standards).

The psychology of change: Attitudes towards change result from a complex interplay of emotions and cognitive processes. Because of this complexity everyone reacts to change differently. On the positive side, change is seen as akin to opportunity, rejuvenation, progress, innovation, and growth. But just as legitimately, change can also be seen as akin to instability, upheaval, unpredictability, threat, and disorientation. Whether employees perceive change with fear, anxiety and demoralisation, or with excitement and confidence, or somewhere in between, depend partially on the individual's psychological makeup, partially on management's actions, and partially on the specific nature of the change (Christensen and Overdorf 2000).

An early model of change developed by Lewin (1951) described change as a three-stage process. The first stage he called 'unfreezing'. It involved

overcoming inertia and dismantling the existing 'mind set'. Defence mechanisms have to be bypassed. In the second stage the change occurs. This is typically a period of confusion. We are aware that the old ways are being challenged but we do not have a clear picture to replace them with yet. The third and final stage he called 'refreezing'. The new mind set is crystallising and one's comfort level is returning back to previous levels. An individual's attitude toward a change tends to evolve as they become more familiar with it. The stages a person goes through can consist of: apprehension, denial, anger, resentment, depression, cognitive dissonance, compliance, acceptance, and internalisation. It is management's job to create an environment in which people can go through these stages as quickly as possible and even skip some of them. Effective change management programs are frequently sequential, with early measures directed at overcoming the initial apprehension, denial, anger, and resentment, but gradually evolving into a program that supports compliance, acceptance, and internalisation (Lewin 1951).

2.13 Summary

In this chapter, extensive literatures on 'organisation' are reviewed. To improve understanding of ICT adoption in organisations, the theories of organisation and Organisational Development are explored. Organisations also are set up to serve a number of purposes including the voluntary sector organisations. Characteristics of formal and informal organisations were reviewed. Whatever the type of organisation, both formal and informal characteristics will interplay to serve a number of purposes.

There are a number of factors that affect the structures of organisations and systems of management. Key situational factors or contingency factors include size, technology and environment.

Finally, theories about technology and organisations were reviewed. In order to understand how technology can be best introduced and managed, it is helpful to appreciate the social, economic and political contexts within which

the technology is created, introduced and managed. As Mullins (2005) explained, once a particular technology has been developed and introduced, it is then possible to trace the ways in which that technology comes to have a presence within the organisation through a 'technology adoption and introduction' framework which attempts to capture the importance and influence of social, political and economic contexts upon emerging effectiveness and efficiency of the utilisation of that technology. Effective change management process is a crucial part of such framework.

I have used the technology and organisational concepts and ideas outlined above throughout the later chapters, particularly chapters 5 to 7. For example, in chapter 7, I outline technology, organisational and people aspects of ICT organisational implementation within the contexts of socio-technical systems and organisational change.

In the next chapter, I consider research methodologies, methods and justify selection of those used in this research.

Chapter 3 Research Approach and Methodology

3.1 Introduction

Nijland (2004) explains methodology as being concerned with research methods, approaches and techniques. It deals with the systems, rules and conduct of inquiry (Guba and Lincoln 1989). Research approaches commonly used in information systems research include laboratory experiments, field experiments, surveys, various types of case studies, action research and simulations (Galliers 1991). Orlikowski and Baroudi (1991) states that researchers should be explicit about the philosophical assumptions underlying their research. This is because all research is based on some underlying assumptions or beliefs about what constitutes 'valid' research (Nijland 2004). In this chapter, I will explore the main research paradigms in ICT adoption research and present the case for selecting *interpretive* approach within an *action research* methodology used in this research.

I have selected Action Research (AR) as a research methodology. This is because AR has the dual aims of action and research. According to Dick (2002), it is a flexible spiral process which allows action (change, improvement) and research (understanding, knowledge) to be achieved at the same time. The understanding allows more informed change and at the same time it is informed by that change. The members of staff affected by the change are involved in the action research. It allows the understanding to be widely shared and the change to be pursued with commitment (ibid). The outcomes of the study are change for the organisations and learning for the staff and me. This research sets out to change SMVOs and has improved the skills and knowledge of participants (employees of SMVOs).

3.2 Review of key research paradigms

According to authors such as Bassey (1990) and Cohen, Manion and Morrison (2000), a paradigm is a reflection of people's basic assumptions about world and the basis of knowledge. It is a broad framework of perception,

understanding, belief within which theories and practices operate. It pre-structures perceptions, conceptualisation and understanding. Paradigm is defined by Bassey (1990) as a network of coherent ideas about the nature of the world and the functions of researchers which, adhered to by a group of researchers, conditions their thinking and underpins their research actions. Cohen, Manion and Morrison (2000) consider a paradigm as a basis for comprehension, for interpreting social reality. Kuhn (1962) brings into the mainstream the notion of a paradigm or worldview as an overarching framework which organises our whole approach to being in the world. In contrast to the view that a paradigm is, by its very nature, beyond definition and the grasp of the human mind, O'Brien (1998) argues that it is more extensive than any worldview on which it takes its current cognitive stance. Hence it is possible and essential to expand our awareness to articulate any fundamental way in which we frame our world, for differences of epistemology, methodology, and political perspective are usually based on paradigmatic assumptions. While paradigms can be sketched out in simple cognitive terms, their nature is far richer: as Ogilvy (1986) points out, they are about models, myths, moods and metaphors.

Guba and Lincoln (1994) argue that inquiry paradigms may be viewed as sets of basic beliefs about the nature of reality and how it may be known and that these beliefs are thrown into relief by three fundamental and interrelated questions. They propose the following sets of questions. There is the ontological question, 'What is the form and nature of reality and, therefore, what is there than can be known about it?'; the epistemological question, 'What is the relationship between the knower (researched) or would-be knower (researcher) and what can be known'; and finally the methodological question, 'How can the inquirer... go about finding out whatever he or she believes can be known about?'. Guba and Lincoln (1994) articulate and differentiate competing paradigms which include positivism, post-positivism, critical theory and constructivism as the major paradigms that frame research.

3.2.1 Positivist paradigm

In a detailed account, O'Brien (1998) suggests that the main research paradigm for the past several centuries has been that of Logical Positivism. He explains that the paradigm is based on a number of principles, including: a belief in an objective reality, knowledge of which is only gained from sense data that can be directly experienced and verified between independent observers. Phenomena are subject to natural laws that humans discover in a logical manner through empirical testing, using inductive and deductive hypotheses derived from a body of scientific theory. Its methods rely heavily on quantitative measures, with relationships among variables commonly shown by mathematical means. Positivism, used in scientific and applied research, has been considered by many to be the antithesis of the principles of action research (Susman and Evered 1978; Winter 1989). In positivism, concepts are measured using samples. The phenomenon reduced to simplest form and hypotheses are tested in search for causality. It is based on natural science and assumes an ontological social reality independent of humanity. Laws provide basis of explanation which indicate causal relationships. These are linked to theory in order to explain the phenomenon. Its epistemology (relationship between researcher and researched) is researcher independent (O'Brien 1998).

According to Pachauri (2002), the positivist paradigm encompasses the economic, behavioural, cognitive, motivational/trait/attitudinal, and situational perspectives; these perspectives are referred to as the traditional perspectives as they pre-date the development of the non-positivist paradigm. The positivist paradigm emphasises the supremacy of human reason and that there is a single, objective truth that can be discovered by science. The positivist paradigm regards the world as a rational and ordered place with a clearly defined past, present, and future. The assumption of rationalism is therefore fundamental to the positivist perspective (O'Brien 1998).

3.2.2 Post- positivism, interpretive or phenomenological paradigm

Over the last 50 years, post- positivism research paradigm has emerged in the social sciences to deal with the constraints imposed by positivism. As explained by O'Brien (1998), its emphasis is on the relationship between socially-engendered concept formation and language. It contains such qualitative methodological approaches as phenomenology, action research, ethnography, and hermeneutics, and it is characterised by a belief in a socially constructed, subjectively-based reality, one that is influenced by culture and history. It, however, still retains the ideals of researcher objectivity, and researcher as passive collector and expert interpreter of data.

The phenomenological paradigm is based on social science and deals with action and behaviour developed from within the mind (Giorgi 1995; Becker 1992). Epistemologically, relationship between the researcher and the researched are impossible to separate. Reality is dependent on the mind and it is based on interpretation where the aim is to understand. According to O'Brien (1998), the phenomenological approach has developed out of a criticism of positivism because:

- It is impossible to treat people as separate from the social context
- People cannot be understood without examining their own perceptions
- Highly structured research design imposes constraints. May lead to important variables being missed.
- Researchers are subjective
- Difficult to capture complex phenomena in a single measure

3.2.3 Positivist and post-positivist approaches to ICT systems

According to Burrell and Morgan (1994) and Akomode (1996), the philosophies of positivism and post-positivism in organisational research draws upon the assumptions of conceptualising the nature of science by 'subjective – objective' dimensions for social inquiry; while the assumptions

about the nature of society can be thought of as 'regulation – radical' change dimensions. Akomode (1996) argues that the positivist perspective favours the application of models based on natural science (such as in physics, engineering or biological methods) to the study of human socio-cultural affairs and organisational analysis. In terms of the development and implementation of an ICT the implication is that the systems analyst(s)/designer(s) plays the explicit role of an observer of actions.

In the post-positivist or interpretive approach to organisational investigation the researcher is an active participant in the process with the relevant group (employees) in the organisation. This contrasts with the positivist or natural science approach in which the researcher is an observer, external to the process. The interpretive approach seeks individual consciousness and human participation in a situation of problem-solving as opposed to that of an observer of action. Equally, it favours basic meaning that underlies social life (Burrell and Morgan 1994). Akomode (1996) explains that with regards to information systems design, development and implementation the approach implies an understanding of the subjectively created world in the form of an ongoing process. Both the general form of phenomenology (philosophical examination of the foundation of experience and action) and hermeneutics (interpretation and understanding of the context of our social environment in a manner akin to our interpretation and understanding of text) Winograd and Flores (1990) have ontological commitment to the 'interpretive' paradigm for social inquiry and organisational investigation.

In this research, organisation *Action Research* (AR) strategy is used as means to enable myself as the researcher to be implicitly and actively involved with the employees of participating SMVOS in the subject of investigation. Many authors have described AR usage in similar situation (Rapoport 1970; Foster 1972; Susman and Evered 1978; Hult and Lennung 1980; Checkland 1981; Checkland and Scholes 1990).

One of the strengths of AR is that it combines theory with practice as the researcher acts on the social system. It is viewed by some authors to involve

a cyclic process having five major stages: diagnosis, action planning, action taking, evaluating and specifying learning (Susman and Evered 1978; Stowell and West 1994). The merging of theory and practice then subsequent reflection leads to an increased understanding of the problem situation, which may lead to appropriate action. The AR approach falls into the interpretive paradigm as opposed to the positivist paradigm of resolving organisational problem situations (Akomode 1996).

3.3 Action research as a methodology

Research can be classified as: pure, applied and action research (Easterby-Smith et al, 1991). These are distinguished mainly by the outcomes that are assumed to emerge. In practice, however, the distinctions may not be as clear.

Easterby-Smith et al (1991) further explain that in pure research, the key outcome is that it is intended to lead to theoretical developments; practical implications may or may not arise. Examples of this include discoveries or inventions. Applied research is intended to lead to the solution of specific problems, and usually involves working with clients who identify the problems. A common example is the evaluation of the process and results of particular course of action such as re-organisation of a department or introduction of new technology. Action research does not fit neatly into pure or applied categories. Action research is based on a number of research approaches developed in management research. These start from the view that research should lead into change, and that change should be incorporated into the research process. Action research is most often used in Organisational Development.

Lewin (1946) is generally considered the 'father' of action research. Lewin[11] first coined the term 'action research' in his 1946 paper 'Action Research and Minority Problems', characterising Action Research as 'a comparative

[11] Lewin was a German social and experimental psychologist, and one of the founders of the Gestalt school. He was concerned with social problems, and focused on participative group processes for addressing conflict, crises, and change, generally within organisations. He expressed concern that the traditional science approach to social inquiry was not helping to resolve critical social problems (Susman and Evered 1978).

research on the conditions and effects of various forms of social action and research leading to social action', using a process of 'a spiral of steps, each of which is composed of a cycle of planning, action, and fact-finding about the result of the action'. Lewin applies his research to systemic change in and between organisations. He emphasises direct professional - client collaboration and affirmed the role of group relations as basis for problem-solving. He was an avid proponent of the principle that decisions are best implemented by those who help make them.

The growing importance of labour-management relations led to the application of action research in the areas of Organisation Development, Quality of Working Life (QWL), Socio-technical systems (such as Information Systems), and Organisational Democracy. This approach tends toward the conservative, generally maintaining the status quo with regards to organisational power structures (Akomode 1996). Dick (2002) defines Action research as a research methodology which has the dual aims of action and research. Action research is a flexible spiral process which allows action (change, improvement) and research (understanding, knowledge) to be achieved at the same time. The understanding allows more informed change and at the same time it is informed by that change. People affected by that change usually participate in the action research enabling understanding to be widely shared and the change to be pursued with commitment. According the University of Bath (2003), action research methodologies aim to integrate action and reflection, so that the knowledge developed in the inquiry process is directly relevant to the issues being studied. They help the individual practitioner develop skills of reflective practice; and also help organisation members develop a culture of inquiry as part of their work life, to develop learning organizations or communities of inquiry. Action research has a long history, going back to social scientists' attempts to help solve practical problems in wartime situations in both Europe and America. In recent years, there has been a resurgence of interest, and many developments in both theory and practice. The newer approaches to action research place emphasis on a full integration of action and reflection and on increased collaboration between all those involved in the inquiry project. They include, among other approaches, 'co-

operative inquiry', 'participatory action research', and 'action science' or 'action inquiry'.

Action research may start with an intellectual question or with a desire to make a practical contribution. It often involves the practitioner in a self-study of their attempts to improve their professional practice. Action research projects cycle between action and reflection with various degrees of collaboration between researchers and organisation members. Action research approaches provide the key methodology used in this research. As a flexible strategy, it means that both pure and applied aspects of research are also used in the study. At the early stage, evaluation research was used to understand existing usage of ICT amongst SMVOs and recommendations as to how changes might be introduced are made (Easterby-Smith et al 1991). Activities are then undertaken to encourage change within a model organisation (O-Regen) and 4 selected SMVOs leading to action research.

Dick (1993) explains AR as action to bring about change in some community or organisation and research to increased understanding on the part of the researcher or client (SMVOs) or both (Figure 3.1). The outcomes of action research are change for the organisations and learning for the researcher and participants. This research sets out to change SMVOs and improve the skills and knowledge of participants (employees of SMVOs).

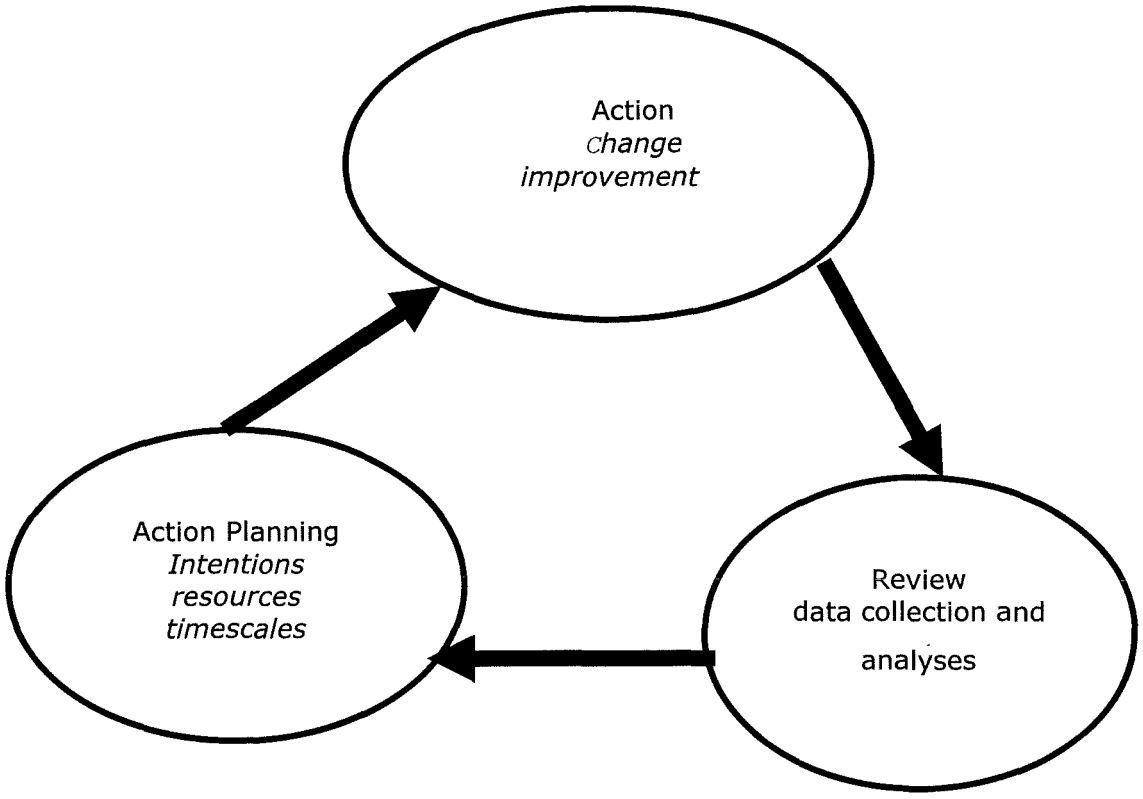


Figure 3.1 - Action research approach (after Dick 1993).

Action research literature is growing. Different disciplines have used AR to achieve desired *action* and *research outcomes*. Examples are Elliot (1991), McKernan (1991), Winter (1989) and Roberts (1997). Whyte (1991) presents a collection of papers that mostly use Participatory Action Research (PAR) in a variety of settings. Kemmis et al (1988) have developed a simple model of the cyclical nature of the typical action research process. Each cycle has four steps: plan, act, observe, and reflect. According to O'Brien (2001), Action Research is often used as a means of coming to grips with constantly changing environments. He puts action research simply as 'learning by doing' – when a group of people identifies a problem, do something to resolve it, see how successful their efforts were, and, if not satisfied, try again. O'Brien (1998) provides a more succinct definition as follows:

> *Action research...aims to contribute both to the practical concerns of people in an immediate problematic situation and to further the goals of social science simultaneously. Thus, there is a dual commitment in*

action research to study a system and concurrently to collaborate with members of the system in changing it in what is together regarded as a desirable direction. Accomplishing this twin goal requires the active collaboration of researcher and client, and thus it stresses the importance of co-learning as a primary aspect of the research process (O'Brien 2001, p2).

O'Brien (2001) also provides an adaptation of Susman's (1983) more elaborate listing of action research. Five phases are conducted within each research cycle (Figure 3.2). As a starting point, a problem is identified and data is collected for a more detailed diagnosis. A collective postulation of several possible solutions is undertaken, from which a single plan of action emerges and is implemented. Data on the results of the intervention are collected and analysed, and the findings are interpreted in light of how successful the action has been. The problem is re-assessed at this point and the process begins another cycle (Figure 3.3). This process continues until the problem is resolved.

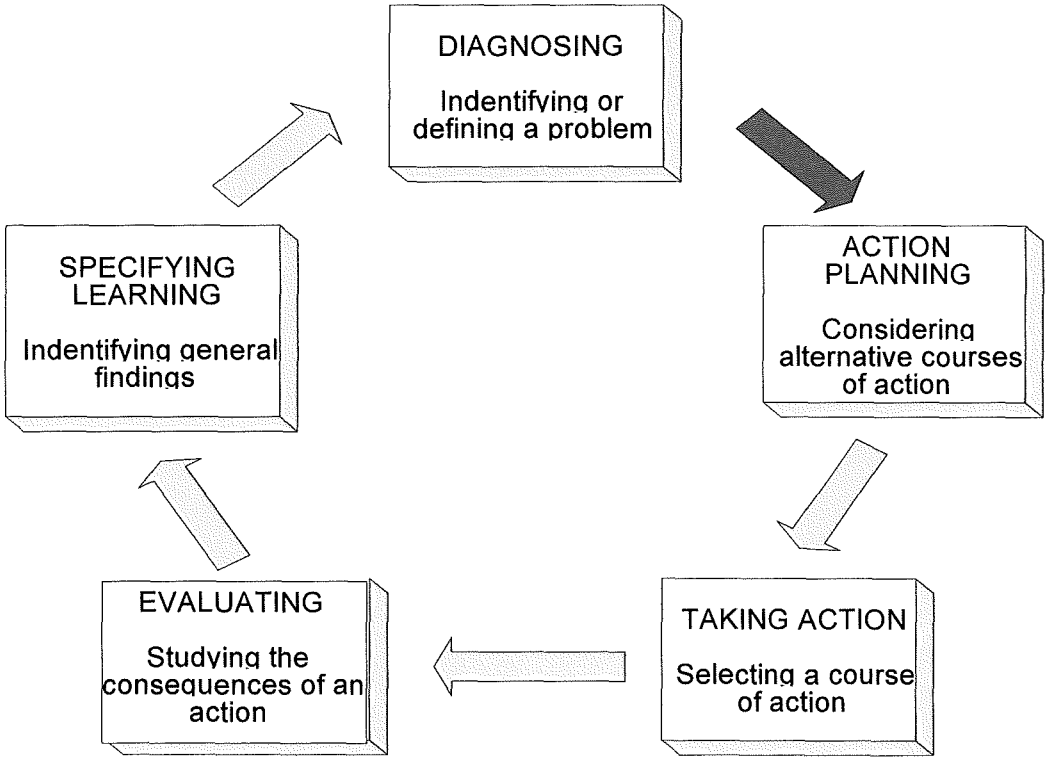


Figure 3.2 - Action research model (O'Brien 2001)

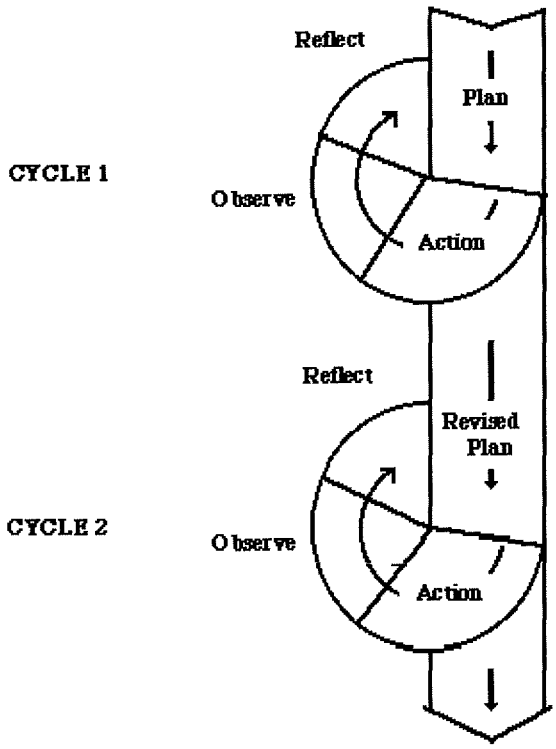


Figure 3.3 - Cyclic nature of action research (O'Brien 2001)

O'Brien (2001) also reports how Winter (1989) provides a comprehensive overview of six key principles that guide action research as follows:

1) Reflexive critique: An account of a situation, such as notes, transcripts or official documents, will make implicit claims to be authoritative, that is , it implies that it is factual and true. Truth in a social setting, however, is relative to the teller. The principle of reflective critique ensures people reflect on issues and processes and make explicit the interpretations, biases, assumptions and concerns upon which judgments are made. In this way, practical accounts can give rise to theoretical considerations.

2) Dialectical critique: Reality, particularly social reality, is consensually validated, which is to say it is shared through language. Phenomena are conceptualised in dialogue, therefore a dialectical critique is required to understand the set of relationships both between the phenomenon and its context, and between the elements constituting the phenomenon. The key elements to focus attention on are those constituent elements that are

unstable, or in opposition to one another. These are the ones that are most likely to create changes.

3) Collaborative Resource: Participants in an action research project are co-researchers. The principle of collaborative resource presupposes that each person's ideas are equally significant as potential resources for creating interpretive categories of analysis, negotiated among the participants. It strives to avoid the skewing of credibility stemming from the prior status of an idea-holder. It especially makes possible the insights gleaned from noting the contradictions both between many viewpoints and within a single viewpoint.

4) Risk: The change process potentially threatens all previously established ways of doing things, thus creating psychic fears among the practitioners. One of the more prominent fears comes from the risk to ego stemming from open discussion of one's interpretations, ideas, and judgments. Initiators of action research will use this principle to allay others' fears and invite participation by pointing out that they, too, will be subject to the same process, and that whatever the outcome, learning will take place.

5) Plural Structure: The nature of the research embodies a multiplicity of views, commentaries and critiques, leading to multiple possible actions and interpretations. This plural structure of inquiry requires a plural text for reporting. This means that there will be many accounts made explicit, with commentaries on their contradictions, and a range of options for action presented. A report, therefore, acts as a support for ongoing discussion among collaborators, rather than a final conclusion of fact.

6) Theory, Practice, and Transformation: For action researchers, theory informs practice, practice refines theory, in a continuous transformation. In any setting, people's actions are based on implicitly held assumptions, theories and hypotheses, and with every observed result, theoretical knowledge is enhanced. The two are intertwined aspects of a single change process. It is up to the researchers to make explicit the theoretical justifications for the actions, and to question the bases of those justifications.

The ensuing practical applications that follow are subjected to further analysis, in a transformative cycle that continuously alternates emphasis between theory and practice.

According to O'Brien (2001), what separates this type of research from general professional practices, consulting, or daily problem-solving is the emphasis on scientific study, which is to say the researcher studies the problem systematically and ensures the intervention is informed by theoretical considerations. Much of the researcher's time is spent on refining the methodological tools to suit the exigencies of the situation, and on collecting, analysing, and presenting data on an ongoing, cyclical basis. Another primary is its focus on turning the people involved into researchers, too - people learn best, and more willingly apply what they have learned, when they do it themselves. It also has a social dimension - the research takes place in real-world situations, and aims to solve real problems.

Kemmis et al (1988) describe an action research approach that is participative and critical. As part of the review cycle of action research, the data collected or observed are critically evaluated to obtain more valid data. Lessons learnt are used to inform the next planning cycle. They further explain observation in PAR as the research portion of PAR where the changes as outlined in the Plan are observed for its effects and the context of the situation.

As part of the review cycle, the research participants (SMVOs employees and I) examined and constructed, then evaluated and reconstructed any concerns (Grundy 1986). It included pre-emptive discussion by participants where shared problems were identified (Seymour-Rolls & Hughes 1995). During reflection, a review of previous actions were undertaken and a plan what to do next was drawn up.

Dick (1992) suggests that critical reflection tested in action provides a basis to pursue rigorous understanding of problems through:

- the involvement of employees which provides more information

- correction of errors during the cyclic process, brief cycles are used to provide adequate iteration.
- multiple data sources are accessed to provide a dialectic
- relevant literature are accessed as part of interpretation to widen dialectic
- within each cycle the assumptions underlying the plans are tested in action

When is Action Research used? Action research is used in real situations, rather than in contrived, experimental studies, since its primary focus is on solving real problems. It can, however, be used by social scientists for preliminary or pilot research, especially when the situation is too ambiguous to frame a precise research question. Mostly, though, in accordance with its principles, it is chosen as in the present study, when circumstances require flexibility, the involvement of the people in the research, or change must take place quickly or holistically (Dick 1992).

It is often the case that those who apply the AR approach are practitioners who wish to improve understanding of their practice, social change activists trying to mount an action campaign, or, more likely, academics who have been invited into an organization (or other domain) by decision-makers aware of a problem requiring action research, but lacking the requisite methodological knowledge to deal with it (Dick 1992; Kemmis et al 1988).

In this study, because change was a desired outcome, and it was more easily achieved if employees were committed to the change. Some participative form of action research (Participative Action Research - PAR) is therefore utilised (Dick 1993).

3.4 Participant Action Research (PAR)

Participant Action Research (PAR) has emerged in recent years as a significant methodology for intervention, development and change within communities and groups. PAR has its roots in post-positivism and

phenomenology. PAR is part of an important shift in paradigm from the positivist and science paradigm which arose to bring certainty and verifiability to research questions, to post-positivism which recognises and tries to address complex human and social problems (Wadsworth 1998).

Another explanation of PAR is summarised as:

> *Essentially Participatory Action Research (PAR) is research which involves all relevant parties in actively examining together current action (which they experience as problematic) in order to change and improve it. They do this by critically reflecting on the historical, political, cultural, economic, geographic and other contexts which make sense of it. ... Participatory action research is not just research which is hoped will be followed by action. It is action which is researched, changed and re-researched, within the research process by participants. Nor is it simply an exotic variant of consultation. Instead, it aims to be active co-research, by and for those to be helped. Nor can it be used by one group of people to get another group of people to do what is thought best for them - whether that is to implement a central policy or an organisational or service change. Instead it tries to be a genuinely democratic or non-coercive process whereby those to be helped, determine the purposes and outcomes of their own inquiry* (Wadsworth 1998, p18).

Wadsworth (1998) argues that the 'research' aspects of PAR attempt to avoid going to a community or organisation, studying their subjects, and taking away their data to write their papers and reports. Research in PAR is ideally by the local people and for the local people and is designed to address specific issues identified by local people or members of an organisation and the results are directly applied to the problems at hand.

PAR proceeds through repeated cycles, in which researchers and the community (or employees) start with the identification of major issues, concerns and problems, initiate research, originate action, learn about this

action and proceed to a new research and action cycle. This process is a continuous one. Participants in Action Research projects continuously reflect on their learning from the actions and proceed to initiate new actions on the spot. Outcomes are very difficult to predict from the outset, challenges are sizeable and achievements depend to a very large extent on researcher's commitment, creativity and imagination.

PAR has many of its roots in social psychology. At its core, PAR revolves around three sets of relationships: relations between individuals within communities and groups, relations between those groups and communities, and relations between people and their physical environment. Management of group dynamics in its many aspects thus plays a central role in PAR processes.

Heron and Reason (1997) provide considerable arguments for a participatory worldview which they articulate based on subjective-objective ontology. They also provide an extended epistemology and practical ways of knowing and a methodology based on co-operative relations between co-researchers.

McTaggart (1989) describes in detail 16 tenets of Participatory Action Research as follows:

- Allows and requires participants to give a reasoned justification of their social (educational) work to others because they can show how the evidence they have gathered and the critical reflection they have done have helped them to create a developed, tested and critically examined rationale for what they are doing.

- Is an approach to improving social practice by changing it and learning from the consequences of change.

- Is contingent on authentic participation which involves a continuing spiral of planning, acting (implementing plans), observing (systematically), reflecting and then re-planning and so round the spiral

again. The process can be initiated in different ways: Collect initial data in an area of general interest (a reconnaissance), reflect on it, and then make a plan for changed action; Make an exploratory change, collect data on what happens, reflect, and then build more refined plans of action. In both cases, if the Lewinian action/reflection spiral is thoughtfully and systematically followed, preferably in a group context, then issues and understandings on the one hand, and the practices themselves, on the other, will develop and evolve.

- Is collaborative: those responsible for action are involved in improving it. The collaborating group is widened from those most directly involved to directly involve as many as possible of those affected by the practices concerned.

- Establishes self-critical communities of people participating and collaborating in the research processes of planning, acting, observing and reflecting. it aims to build communities of people committed to enlightening themselves about the relationship between circumstance, action and consequence, and to emancipating themselves from the institutional and personal constraints which limit their power to live by their legitimate, and freely chosen social values.

- Is a systematic learning process in which people act deliberately through remaining open to surprise and responsive to opportunities. It is a process of using critical intelligence to inform action, and developing it so that social action becomes praxis (critically informed, committed action).

- Involves people in theorising about their practices. This involves them in being inquisitive about and coming to understand the relationship between circumstances, action and consequences in their own lives. The theories that participatory action research develops may be expressed initially in the form of rationales for practice. These initial

rationales are then subjected to critical scrutiny through the participatory action research process.

- Requires that people put their practices, ideas and assumptions about institutions to the test by gathering compelling evidence for substantiation.

- Involves not only keeping records which describe what is happening as accurately as possible but also collecting and analysing the groups judgements, reactions and impressions about what is going on.

- Involves participants in objectifying their own experiences. This can be done by keeping a personal journal in which participants record their progress and their reflections about two parallel sets of learning: (a) about the practices themselves (how the individual and collective practices are developing) and (b) about the process of studying the practices (how the action research project is going).

- Is a political process because it involves people in making changes that will affect others. For this reason it sometimes creates resistance to change, both in the participants themselves and in others.

- Involves making critical analyses of the institutionally structured situations (projects, programmes, systems) in which people work. The resistance to change felt by a researcher is due to conflicts between the proposed new practices and the accepted practices (such as concerning communication, decision-making and educational work) of the institution. This critical analysis will help the participatory action researcher to act politically by (a) involving others collaboratively in the research process and inviting them to explore their practices, and (b) by working in the wider institutional context towards more rational understandings, more just processes of decision-making, and more fulfilling forms of work for all involved.

- Starts small by working on minor changes which individuals can manage and control, and working towards more extensive patterns of change. These might include critiques of ideas of institutions which might lead to ideas for the general reforms of projects, programmes or system-wide policies and practices. Participants should be able to present evidence on how they articulated the thematic concern which holds their group together, and on how they established authentically shared agreements in the group.

- Starts with small cycles of planning, acting, observing and reflecting which can help to define issues, ideas and assumptions more clearly so that those involved can define more powerful questions for themselves as their work progresses.

- Starts with small groups of collaborators but widens the community of participating action researchers so that it gradually includes more and more of those involved and affected by the practices in question.

- Allows and requires participants to build records of their improvements: records of their changing activities and practices; records of the changes in the language and discourse in which they describe, explain and justify their practices; records of the change in the social relationships and forms of organisation which characterise and constrain their practice and records of the development of their expertise in the conduct of action research. Participants must be able to demonstrate evidence of a group climate where people expect and give evidence to support each other's claims. They must show respect for the value of rigorously gathered and analysed evidence – and be able to show and defend evidence to convince others.

In this inquiry, participating employees from O-Regen and the four case studies are involved in making critical analyses of the institutionally structured situations (projects and systems) in which they work, planning and

implementation of the website technology and reviewing its use in order to further improve the technology adoption.

A summary of the rationale for using PAR is outlined below:

- Flexibility of working within the cyclic process enables research to be responsive. The cyclic process ensures that the research design got better as more was learned about SMVOs. Therefore, a better fit to the situation is achieved as the research proceeded (Dick 2002). A cyclic process also gives more chances to learn from the experiences.
- Establishes my role as co-ordinator of the project
- Mechanism for working with and empowering organisations and community groups as co-researchers to effect change in their organisations. A powerful reason for using PAR is that its principles are closely aligned to the voluntary sector's concepts of partnership and empowerment (Seymour-Rolls and Hughes 1995). Kemmis and Taggart (1988) also highlight the empowering effect of PAR.
- The action or change happens in real organisations not as an experiment (Seymour-Rolls & Hughes 1995).
- AR methodologies are processes, which are suited to situations where there is a need for high quality data and accurate interpretations along with flexibility and participation (Dick 1997).

Many authors such as Berger (1966) point out the intrinsically political nature of PAR. Participation is empowerment and empowerment is politics. Furthermore, it is very difficult for PAR to fully extricate itself from the researcher-community relationship that in itself affects local power dynamics. Community participation in such a context should be recognised for what it is - an externally motivated political act. Chambers (1983) argues that there is no escape from a paternal because at the end of the day there is still an outsider seeking to change things. He contends that who the outsider is may change but the relation is the same. A stronger person wants to change things for a person who is weaker.

Finally, a common criticism of action research is its lack of generalisability (Heller 1986) or external validity because action research is specific and responsive to a particular situation. However, the aim of the application of the model stage at O-Regen is to establish transferability template by looking at 4 SMVOs thereby achieving a good level of replicability.

There has been a marked increase in the number of organisations that are making use of ICT. This has led to a number of convergences between information systems and action research. In some cases, it has been a matter of managers employing action research techniques to facilitate large-scale changes to their information systems. In others, it has been a question of community-based action research projects making use of computer communications to broaden participation (Lau and Hayward 1997).

3.5 Research methods

Qualitative methods is often a broad term that describes research that focuses on how individuals and groups view and understand the world and construct meaning out of their experiences. It essentially is narrative-based and uses content analysis methods on selected levels of communication content. Other researchers consider it simply to be research whose goal is not to estimate statistical parameters but to generate hypotheses to be tested quantitatively.

Qualitative methods use descriptions and categories. According to Patton (1987) examples include:

- open-ended interviews
- naturalistic observation (common in anthropology)
- document analysis
- case studies/life histories
- descriptive and self-reflective supplements to experiments and correlational studies

In general, Patton (1987) identifies the following procedure and typical sequence:

1. Observe events/ask questions with open-ended answers,
2. Record/log what is said and/or done
3. Interpret (personal reactions, write emergent speculations or hypotheses, monitor methods)
4. Return to observe, or ask more questions of people
5. Recurring cycles of 2-4 iteration
6. Formal theorising (emerges out of speculations and hypotheses)
7. Draw conclusions

Three kinds of data collection: Interviews, Observation, Documents analyses produce three kinds of data: quotations, descriptions, excerpts of documents. The result is a narrative description including charts and diagrams as appropriate (Patton 1987).

Patton (1987) also outlines several strengths of qualitative research which include:

- Depth and detail - may not get as much depth in a standardized questionnaire
- Openness - can generate new theories and recognize phenomena ignored by most or all previous researchers and literature
- Helps people see the world view of those studies - their categories, rather than imposing categories and simulates their experience of the world
- Attempts to avoid pre-judgments - goal is to try to capture what is happening without being judgmental; present people on their own terms, try to represent them from their perspectives so reader can see their views. Patton (1987) remarks that this is always imperfectly achieved and remains an aim rather than a certainty.

Patton (1987) points weaknesses of qualitative research which include:

- Fewer people studied usually
- Less easily generalized as a result
- Difficult to aggregate data and make systematic comparisons
- Dependent upon researcher's personal attributes and skills
- Participation in setting can always change the social situation (although not participating can always change the social situation as well)

Ratcliff (1995) provides an extensive discussion of qualitative validity and reliability suggesting that validity in qualitative research can be found by:

- Divergence from initial expectations
- Convergence with other sources of data
- Extensive quotations from field notes, transcripts of interviews and other notes
- Other research data such as archival data and recordings (video or audio)
- Independent checks/multiple researchers more than one person involved in the research of those studied and team research approach or other sources of verification.
- Member check - where you go back to those researched, at the completion of the study, and ask them if you are accurate or need correction/elaboration on constructs, hypotheses and so on.

Ratcliff (1995) argues that reliability in qualitative research can also be achieved by:

- Multiple viewings of videotape - by same person or different people
- Multiple listening of audio tape - by same person or different people
- Multiple transcriptions of audio tape - by same person or different people

It is important to note that high reliability may suggest a systematic bias at work in data, a bias shared by multiple researchers or across observations by the same researcher. This is why many qualitative researchers emphasise validity rather than reliability; documenting what occurs in an accurate manner may reveal inconsistencies. This is because reality is dynamic and changes constantly. Putting two different accounts together might result in a better understanding of the whole than either one separately, even though the consistency between those accounts might be rather low. Together, the two very different accounts - reflecting low reliability - could produce even higher validity (Patton 1987; Ratcliff 1995; Peel 2006).

Action Research is more of a holistic approach to problem-solving, rather than a single method for collecting and analysing data. Thus, it allows for several different research tools to be used as the project is conducted. These various methods, which are also common to the qualitative research, include: keeping a research journal, document collection and analysis, participant observation recordings, questionnaire surveys, structured and unstructured interviews, and case studies (Patton 1987).

A summary of data collection methods used in this research is briefly outlined below:

- *Questionnaires:* Are used to obtain answers to a number of fairly simple questions. They are used considerably whilst collecting baseline information about SMVOs and seeking feedback from managers of participating SMVOs.

- *Interviewing:* Ranges from structured to free-ranging conversations. Face-to-face interviews are used based on carefully prepared set of questions. The views of the interviewees are often sought in a flexible positivistic approach. This is relevant where a good deal of thought was required and responses needed to be explored and clarified. Added confidence not found in questionnaires is obtained. I use semi-structured interviews because it provides high degree of flexibility

(Bailey 1962). Peel (2006) suggests that semi-structured interviews in SME research provides high response rate because an SME by its organisational nature, has very limited resources, thus necessitating the adoption of an approach which minimises this potential impact. Layder (1995) argues that interviews allow the individual the opportunity to informally surface their own interpretation and meaning to questions asked. In my experience, there is a remarkably high similarity between SMEs and SMVOs in terms of resources and operational pressures. Therefore the same benefits are realised in this SMVO research.

- *Critical incident technique*: This technique was used in conjunction with the long interview to tease out incidences that were critical to certain situations. For example, respondents were asked to track back to particular instances such as what they considered to have constituted barriers to take up of ICT or how they have benefited from ICT (Easterby-Smith et al 1991).

- *Focus groups*: is a regular tool for market research, is used beginning in open-ended fashion and then becoming more focused as it progresses. It combined some of the advantages of interviewing in focussing the discussion while collecting data in a group situation (Morgan 1988). A focus group is a form of qualitative research in which a group of people are asked about their attitude towards a concept or idea. Questions are asked in an interactive group setting where participants are free to talk with other group members. However, focus groups also have disadvantages: The researcher has less control over a group than a one-on-one interview, and thus time can be lost on issues irrelevant to the topic; the data can be tough to analyse because the talking is in reaction to the comments of other group members; observers/ moderators need to be highly trained, and groups are quite variable and can be tough to get together (Morgan 1988).

- *Group facilitation:* preliminary activities including team building and climate setting, problem-solving, and dealing with emergent problems in group setting (Dick 1991).

- *Participant observation:* is a research method which aims to gain a close and intimate familiarity with a given group of individuals (such as employees) and their practices through an intensive involvement with people in their natural environment (workplace). Such research usually involves a range of methods: informal interviews, direct observation, participation in the life of the group, collective discussions, analyses of the personal documents produced within the group, self-analysis, and life-histories. Participant observation is usually undertaken over an extended period of time, ranging from several months to many years. An extended research time period means that the researcher will be able to obtain more detailed and accurate information about the people he/she is studying. Observable details (like daily time allotment) and more hidden details (like taboo behaviour) are more easily observed and understood over a longer period of time (Cushing cited in O'Brien 1998 and Malinowski[12]). This same method of study is especially successful in the study of groups sharing a strong sense of identity, where only by taking part might the observer truly get access to the lives of those being studied.

Dialectic process is built into each of the above methods by obtaining similar data from different sources. For example, at the testing of the model stage, I use interviewees from each of the four participating SMVOs. This form of triangulation according to Perry (1998) is very useful. Peel (2006) uses similar method when he selects at least two interviewees from each of the five SME studied thereby 'improving reliability and generalisability of the data collected.

[12] During his expeditions to the Trobriand Islands in 1915-16 and 1917-18 he created a revolutionary new style and modern standards for ethnographic fieldwork through his 'participant observation', a process by which he involved himself in the lives of those he studied by living in their community and learning their language and culture (source: http://www.lse.ac.uk/resources/LSEHistory/malinowski.htm)

This had the advantage of ameliorating the possibility of interviewer bias creeping in to the data collection phase..' Another source of triangulation is use of documents and policies including newsletters. Archived materials are, however, not used as smallest SMVOs like SMEs keep scant documentation (Peel 2006).

Qualitative research usually involves few cases with many variables, while quantitative involves many phenomena with few variables. There is some debate over whether quantitative and qualitative methods can be complementary. Some researchers argue that combining the two approaches is beneficial and helps build a more complete picture of the social world, while other researchers believe that the epistemology that underpin each of the approaches are so divergent that they cannot be reconciled within a research project. Quantitative methods are based on a natural science or positivisms and qualitative are based on interpretivism and are more focused around generating theories and accounts. Quantitative approaches traditionally seek to minimise intervention in order to produce valid and reliable statistics, whereas qualitative approaches traditionally treat intervention as something that is necessary[13] (Patton 1987; O'Brien 2001).

However, it is increasingly recognised that the significance of these differences should not be exaggerated and that quantitative and qualitative approaches can be complementary. They can be combined in a number of ways, for example researchers may hypothesise that there would be a positive relationship between positive attitudes of staff and the turnover of a business. However, quantitative structured observation could reveal that this was not the case, and in order to understand why the relationship between the variables was negative the researchers may undertake qualitative case studies of each department including participant observation. This might confirm that the relationship was negative, but that it was not the positive attitude of staff that led to low sales, but rather than high sales led to busy staff who were less likely to be motivated. Qualitative methods allow researchers to provide richer

[13] It is often argued that participation can lead to a better understanding of a social situation.

explanations (and descriptions) of social phenomena, frequently on a smaller scale (Patton 1997).

In this research, I carry out an in-depth case study of O-Regen and four SMVOs in order to determine factors that impede or facilitate ICT adoption with a view to improving the practices and developing a new framework for ICT adoption and diffusion. It is therefore relevant to present an overview of the case study method used in qualitative interpretive and action research approaches.

3.6 Case studies

Cousin and Jenkins (2000) provide a useful explanation of the case study approach. A case study is 'an instance in action' but beyond that simplistic definition case studies can be seen as bearing family resemblances to each other, despite their differences, suggesting that they can be considered as variants on a single logic (Adelman et al 1980). It is conventional to regard a case as in some sense a 'bounded system' perhaps 'a single actor, a single classroom, a single institution or a single enterprise - usually under natural conditions - so as to understand it in its own habitat' (Stake 1988). The more 'natural' the literal or symbolic boundaries, the more the treatment of what lies within as a case will have prima facie validity. Cousin and Jenkins (2000) suggest that case study research is in fact neutral between qualitative and quantitative methods, and can be appropriately conducted within any paradigm capable of studying an exemplary instance. According to Stake (1988) the case study is not a specific technique but a way of organising social data so as to preserve the unitary character of the social object being studied.

There has been considerable discussion about generalising from the single case. According to Cousin and Jenkins (2000), case study research is particularly appropriate where the in-depth investigation of a single instance is likely to yield insights into the class from which the instance is drawn. They argue that this, however, raises the issue of 'representativeness', which in

some circumstances may have a prima facie plausibility. Although representativeness is often claimed as the justification for studying any particular case, a better way of looking at it may be to strive in case studies to get some handle on the problem of adjudicating between generalisable findings and local effects. With regards to the relationship between the instance and the class, they argue that it is in some circumstances a matter of theory, but the nature of the articulation is important. There are several alternative plays here. A researcher primarily interested in the class from which the instance is drawn may choose an instance relatively arbitrarily, but may nonetheless be guided by a theoretical agenda. In other case study research the effort will be largely directed toward towards generalisations within rather than from the case, often using a version of grounded theory in which any theory is interpretive and emerges from the data rather than starting as an initial hypothesis (Cousin and Jenkins, 2000).

With regards to generalisations within a case, Cousin and Jenkins (2000) argue that this is the least problematic type as there is no attempt to generalise from the case to the class of instances that the case is held to represent. Evaluation research within the staff self study model (Jenkins 1973) is often of this kind, since the purpose is to gain feedback in seeking to control local effects. Some forms of action research, too, disclaim any interest in exporting local solutions, but seek generalisations from reflective action on current practice that are capable of informing a subsequent cycle. These are often driven by an interrogation of 'principles of practice' and can take the form of pedagogical hypotheses. Generalisations within a case are best placed to honour the embedded quality of the 'truths' discovered and may be subject to 'decay' (Cronbach 1982).

Stake (1978) makes a distinction between 'formalistic' and 'naturalistic' generalisations. A formalistic generalisation gets the validity of its conclusions by reference to the canons of legitimate inference or other forms of summarising argument. Cousin and Jenkins (2000) argue that the goal of all research, whatever the methodological paradigm, is to say something at some known and declared level of confidence. They suggest that when case studies

are treated cumulatively it is a matter of common sense that one's confidence in the robustness of recurring patterns will increase, and tentative formalistic generalisations can certainly be attempted. They, however, caution that we should regard these as tentative and provisional and not to make exaggerated claims on their behalf.

A 'naturalistic generalisation' according to Stake (1988) is one in which the rich 'thickly described' elaboration of the circumstances of one or more instances in case study research is offered to the reader as a 'surrogate experience' in a way that allows the reader to adjudicate fit. In effect, generalisations towards other settings become the responsibility of the recipients not the authors who adjudicate (Cousin and Jenkins, 2000). Finally, Stake (1988) suggests, most case studies are potentially capable of contributing more to naturalistic generalisation than to scientific generalisation, and in both instances validity will in part depend on the use to which the findings are put.

Cousin and Jenkins (2000) provide a detailed explanation of generalisations across cumulative cases involving cross-site comparisons. They argue that it facilitates comparison when they employ common data collection methods, types of analysis and foci within each site. They indicate that attempting to generalise across settings does not exclude sensitivity to and the analysis of the contextual variations within each setting and indeed attention to this will be necessary. Cumulative cases are perhaps most effective when cross site comparisons are built in to the collection of data from the earliest stages. In some circumstances, cross-site generalisations can be attempted even though the basis for the subsequent analysis was not directly envisaged during the original data collection for the initial case studies. This kind of meta-analysis, attempted for example in trawls to find the conditions under which schools are likely to be successful is not substantially different in principle from the kind of lapsed-time archival quasi experimental research described in Complementary Research Methods in Education (Jaeger 1988). Typically, the researcher will approach the analysis of these studies anew, importing or grounding a new set of theoretical constructs into the analysis.

Some case study research contains data inviting triangulation both internally and externally. Internally, evidence yielded from observation can be cross-checked with quantitative evidence and interview data. Externally, published single case studies often invite further interrogation of their provisional conclusions from researchers working in parallel sites in the relevant field. In much research data is distilled and abstracted in the reporting. What begins as raw evidence is cooked for the reader without the basis for the interpretation being made transparent. At best, case study provides a sufficiently rich evidential base for its interpretations and conclusions to be open to challenge. The ability of a case to support alternative interpretations is itself a naturalistic virtue.

Case studies have been widely used. Eisenhardt (1989) postulates that case study methodology is well suited to new or inadequately researched areas of study. Peel (2006) used case study methodology to explore the relationship between small and medium sized enterprise (SME) and organisational culture and its impact on coaching and mentoring.

3.7 Sampling

Choosing an appropriate sample is not always easy. In this research, I use both cross-sectional and longitudinal designs were used.

Cross-sectional design involved selecting different organisations (SMVOs) and investigating how particular factors vary across the organisations. This approach is used at the cycle 1 stage when factors affecting take up of ICT are determined (see chapter 4, paragraph 4.1). A correlation between the factors is then worked out. A key problem is deciding how large the sample should be in order to be representative. Because questionnaires and survey techniques are used in the cross-sectional design, features of large numbers of SMVOs and employees are effectively described. Two limitations are, however, encountered. These are: reasons for correlations and difficulties in

eliminating all external factors which could have caused observed correlation. For this reason, longitudinal design is also used.

Longitudinal design is used, for example at the cycle 2 and 3 stages (chapters 5 and 6), to focus on a small number of organisation (4) over a longer period in order to remedy the limitations above as suggested by Pettigrew (1985). A practical advantage is that significant results are generated from a small number of case studies. A common criticism of this approach is that it is time consuming. This is not a problem since time is available, as part of the cycle 2 research work.

The research uses a stable sample of four SMVOs at the cycles 3 stage. At the cycle 1 stage, a 'maximum diversity' of 25 SMVOs is used to give better information. In addition, dialectic works better if there is adequate variety in the information analysed (Dick, 1993). Yin (1993) argues for the use of several case studies because they allow for cross-case analysis to be used to build richer theory. This is supported by Eisenhardt (1989) who suggests use of four to ten case studies as appropriate. Hedges (1985) suggests use of four to six groups in establishing a reasonable minimum for the predictable replication of a research being undertaken. Perry (1998) suggests that fewer than four cases make it difficult to generate theory with much complexity and its empirical grounding is likely to unconvincing. Peel (2006) supports this view and selected five SME case studies in his organisational culture study.

A *case study* or *fieldwork* approach was used involving the study of real organisations. During the development of intervention model where O-Regen is used as a pilot organisation (cycle 2), I use ethnography as a research style. As an employee of O-Regen, I immerse myself in the setting and become part of the organisation and employees under study. This is critical in achieving a deeper understanding of the meanings and significances of stakeholders' actions. This avoids what Agar (1986) refers to as 'breakdowns', a common problem where outsiders new to an organisation encounter things they do not understand.

3.8 Ethical considerations

Two main assumptions of the ethics in social research are voluntary participation and no harm to subjects. Ethics attempts to understand the nature of morality to distinguish that which is right from that which is wrong. Because action research is carried out in real-world circumstances, and involves close and open communication among the people involved, the researchers must pay close attention to ethical considerations in the conduct of their work. Winter (1996) lists a number of principles:

- Make sure that the relevant persons, committees and authorities have been consulted, and that the principles guiding the work are accepted in advance by all.
- All participants must be allowed to influence the work, and the wishes of those who do not wish to participate must be respected.
- The development of the work must remain visible and open to suggestions from others.
- Permission must be obtained before making observations or examining documents produced for other purposes.
- Descriptions of others' work and points of view must be negotiated with those concerned before being published.
- The researcher must accept responsibility for maintaining confidentiality.
- Decisions made about the direction of the research and the probable outcomes are collective
- Researchers are explicit about the nature of the research process from the beginning, including all personal biases and interests
- There is equal access to information generated by the process for all participants
- The outside researcher and the initial design team must create a process that maximises the opportunities for involvement of all participants.

In carrying out this research, I am mindful of ethical issues and behaved in a professional manner towards employees and participating organisations. For example, some employees and organisations are sometimes not very forthcoming with information mainly due to fear about what I might use the information for. I deal with these fears by offering copies of interview schedules or findings and giving them assurances about confidentiality. The latter, for example, means that I can not reveal raw data to any one else within the organisation. This 'micro-politics' is particularly evident in medium sized organisations.

I also adhere as close as possible to the principles of data protection. Wherever applicable, I comply with the eight enforceable principles of good practice. That personal data is:

- fairly and lawfully processed;
- processed for limited purposes;
- adequate, relevant and not excessive;
- accurate;
- not kept longer than necessary;
- processed in accordance with the data subject's rights;
- secure;
- not placed on the web without adequate protection.

Personal data covers both facts and opinions about the individual. With processing, the definition incorporates the concepts of 'obtaining', holding' and 'disclosing' information.

As personal data placed on the Internet is available world-wide, I have obtained consent from individuals before publishing their personal data on the website. For example, one member of staff is very mindful about how and where his photographs are published.

On the O-Regen and all SMVO websites, a statement of privacy policy is provided. In the wider sense, a 'privacy statement' helps individuals to decide whether or not to visit a site and, when they do visit, whether or not to provide any personal information to the data controller.

Security is another important issue. For example, the O-Regen staff intranet is protected by username and password.

The Freedom of Information Act 2000 ('FOI Act 2000') was passed on 30 November 2000. It gives a general right of access to all types of 'recorded' information held by public authorities, sets out exemptions from that right and places a number of obligations on public authorities. I have, however, undertaken this research whilst an employee of charitable organisations.

Finally, in one of the participating SMVO there was considerable reluctance to participate and I was only provided with a positive response after I agreed that whatever I wrote would be checked and approved. I was happy to oblige and not go along the route of unnecessary anonymous reporting of data.

3.9 Summary

In this chapter, the methodology and methods for the research were discussed. I explored the main research paradigms in ICT adoption research and presented the case for selecting *interpretive* approach within an *action research* methodology. The action research methodology chosen is justified in terms of the rigour and responsiveness of the research process and resulting changes or actions in the participating SMVOs. The literature and theoretical basis of the action research were also provided.

In the next chapter, overview of events, issues arising and the three cycles of the action research process are provided.

Chapter 4 Overview of events and three cycles of research

4.1 Introduction

In this research, I set out to find answers to the following questions: 1) 'What are the factors that affect organisational implementation of ICT by SMVOs?' 2) 'Using website technology as the ICT tool, how can inhibiting factors be mitigated? 3) How can the lessons learnt be employed more generally to tackle ICT implementation within the SMVOs and other organisations? Throughout the course of my research, I actively sought answers to these questions. My aim is to offer a new framework for dealing with the issues governing ICT adoption and the factors driving wider diffusion in small and medium sized voluntary and community sector organisations. I chose Action Research (AR) methodology because it covers the need for both organisation and people development in terms of *action* to implement ICT take-up and *research* to provide understanding of how the process should be implemented. AR approach has been widely utilised to achieve transformative influence in various practices (Sullivan 2006; McNiff 2002 and Whitehead 2000). My approach is in line with that suggested by McNiff (2002) in using AR to improve practices in order to achieve organisational development and change. As explained below, locating my research within AR methodology enabled me to engage in continuous cycle of set-up, planning, action and reflecting (Sullivan 2006).

In this chapter, I adopt an approach used by Zuber-Skerritt (1992) and Roberts (1999) and organise my action research into three cycles that directly link into the research. Within each cycle, I followed the AR model espoused by Dick (1993). It involved a process of 'plan, action and reflect/review'. I diverge from this by including 'set up' as the initial stage of each cycle.

I undertook cycle 1 when I was employed as a Training Manager at Migrant Training[14]. The aim of cycle 1 was to answer the research question: 'What are

[14] Migrant Training is a pan-London SMVO that provides IT and Skills for life training to refugees and other migrants.

the factors that affect organisational implementation of ICT by SMVOs?' As suggested by Whitehead (1995), this provides opportunity for first account of the action research into the practice being studied. In my case, it was an opportunity for me to explore the status of ICT diffusion in the SMVO sector. In addition, I also carried out a baseline survey to find out the key barriers to ICT take up. The results of the survey were important in determining the needs of the sector and determining cycle 2 (see later in this chapter). Towards the end of cycle 1, I became employed by O-Regen[15]. In this role, I was responsible for managing programmes that assisted individuals and organisations to take up ICT.

In cycle 2, I sought the answers to the question: 'Using website technology as the ICT tool, how can inhibiting factors be mitigated?' This cycle moves into an action enquiry mode at O-Regen (a pilot SMVO). I develop the enquiry into action research in order to determine issues relating to website development and adoption. Technology, organisational and people factors which facilitate website adoption are considered. The key action outcome in this cycle is an effective implementation of a website that contributes to meeting the business needs of O-Regen. The key research outcome is a new TOP-based conceptual model for implementing a website. Within this cycle, I supported the staff at O-Regen to design and develop a website tool that provided an information management medium that improved the practice including helping to publicise services and attract clients. As outlined above I used the 'set-up, plan, action and reflect' actions in this cycle as well. I set up group of employees as co-researchers at O-Regen and proceeded to support them to plan an enquiry into the key issues affecting website design and usage such as artefacts, resources and organisational objectives. This was followed by action enquiry into the development of an effective website (also see chapter 5). At the same time, I supported the staff to learn new ICT skills that enabled them to adapt and make effective use of the organisational website being developed. The participating members of staff and I worked together to develop ourselves as part of what McNiff (2002) describes as 'individuals

[15] O-Regen is a SMVO operating in North East London and provides a range services described in Chapters 5.

undertake their personal enquiry into an aspect their own practice.... and together they form research collectives.' She further describes that in AR managers arrange for organisational structures, processes and resources to encourage individual learning. In chapters 5 and 6, I report on the people development process which includes skills audit and training in identified areas. In action research managers also become learners. This involved engaging staff in learning and team meetings as detailed later in this chapter. Reviews and reflections by staff and I was useful in assessing initial outcomes and modifying where appropriate the next plans and actions. A good example cited later in the chapter, is when it was agreed to change the design of the homepage of the website to one that encouraged regular updates, This involved creating a 'Latest News' section (Figure 5.4). In summary, in cycle 2, I selected O-Regen as the SMVO where I developed an Intervention model that dealt with ways of tackling the main barriers identified in cycle 1. In so doing, I carried out a longitudinal study over 3 years and developed an ICT model described in chapter 5 based on effective use of the website and for organisational effectiveness. This second cycle and the third cycle constituted the main fieldwork/case studies for this doctoral research.

In cycle 3, I selected four other SMVOs (based on a range of criteria described later in this chapter) to test and develop flexible and transferable ICT intervention model. In particular, I sought the answers to the question: 'How can the lessons learnt be employed more generally to tackle ICT implementation within the SMVOs and other organisations?' Following an approach by Whitehead (1995), this cycle considers relevance and rigour in my claim of having a new TOP-based website adoption model developed at O-Regen that could be applied to other SMVOs. In this cycle, I applied the website adoption model and lessons learnt at O-Regen to four carefully selected SMVOs (see chapter 6). McNiff (2002) argues that there is an overwhelming need for the production of case stories to show how researchers improved their own learning and situations. She adds that the more case studies that appear, the more powerful the body of knowledge becomes. Therefore, in chapter 6, I report on how the website adoption model can be replicated giving it some relevance, rigour and validity. In Table 4.1

below I also outline what the plan, action and review/reflection stages of the cycle involved. The table also contains the events of significance in my action research. It summarises issues relating to participation, relationships and key decisions. The contents represent the thesis action research project as suggested by Zuber-Skerritt (1992) and later used by Roberts (1999). The table should be read column (cycle) by column (cycle) to appreciate the time sequence. The final stage of the action research is described in chapter 7, where I present key findings of my action research, summarise key action outcomes and as part of suggest a new framework for implementing organisational ICT systems within the SMVO sector. I also suggest a new classification of SMVOs based on their ICT capabilities which assists managers with the development of suitable ICT strategies and implementation pathways.

Cycle 1 (1998-99)	**Cycle 2 (1999-2006)**	**Cycle 3 (2004-06)**
Set Up	**Set Up**	**Set Up**
Cycle 1 began in 1998 with my setting up of Pan London Learning Network which brought together a group of SMVOs.	Cycle 2 begins in 1999 with securing Trustees' approval to develop an organisational website	Cycle 3 begins in 2004 with seeking of senior management approval to develop organisational website for each of the four case studies SMVO.
I facilitated several sessions of Needs Analyses to determine current uses of ICT and barriers to ICT adoption.	I set up a group of employees as participants and co-researchers who are interested in ICT adoption and changing their way practices and ultimately the organisation.	I set up to two employees as participants and co-researchers who are interested in ICT adoption and changing their way practices and ultimately the organisation.

Plan	**Plan**	**Plan**
Key workers from participating SMVOs were involved in completing questionnaires and taking part in interviews in order to collect baseline information. Semi-structured interviews were used to gain new information needed through interaction with key workers.	Empirical work involved use of unstructured interviews, observation of daily operations, project team meetings and training sessions, document review and informal meetings and 'chats'.	Empirical work involved use of questionnaires, semi-structured interviews and organisational data capture form and training sessions.
Action	**Action**	**Action**
Stakeholders planned and implemented action based on the analyses.	Stakeholders planned and implemented website technology.	Stakeholders planned and implemented website technology.
I facilitated some training sessions to address some of the people's barriers	I facilitated some training sessions to address some of the people's barriers	I facilitated some training sessions to address some of the people's barriers
Review/Reflection	**Review/Reflection**	**Review/Reflection**
Evaluation forms were used by stakeholders to evaluate the intervention action carried out. Based on the evaluation, the nature and times of the training were modified. For	Website monitoring software used to report visitor numbers and provide measure of effectiveness of the site.	Website monitoring software used to report visitor numbers and provide measure of effectiveness of the site.

example, extra courses were requested in Internet and were delivered over the weekends.		
Further reflection on the needs and the learning process were undertaken and this led to Cycle 2	Evaluation forms were used by stakeholders to evaluate the intervention action carried out including the operation of the website.	Further reflection on the website adoption process led to the finalisation of Technology, Organisational and People (TOP) imperatives which are critical factors in the adoption and organisational diffusion of technology.
I select O-Regen as a pilot SMVO where I work with key employees and management to develop ICT adoption model and include findings from the reflections in the first cycle. On reflection, I decide to 'action' and 'research' an organisational adoption and use of a website. This would assist with the identification of issues that affect	Further reflection on the website adoption process led to the identification of Website Adoption Model (WAM) and Technology, Organisational and People (TOP) issues.	Conceptualisation of the Technology Adoption Model (TAM) and final thesis writing

technology take up and help answer the research questions.		
	I decided to engage four SMVOs to act as case studies to apply the ICT models developed at O-Regen and further 'action' and 'research' the model.	
	Continuous improvement and monitoring of the website, people and organisational factors at O-Regen	

Table 4.1 – The relative and overall time relationships between the sequences of cycles 1, 2 and 3.

4.2 Cycle 1 - Determining the needs of SMVOs

This work began when I was employed as a Training Manager at Migrant Training, a SMVO in North London. The study was initially made possible as a result of a European grant. At this stage, I was concerned with getting a feel for the status of ICT usage in the voluntary sector and identifying the barriers to effective organisational implementation.

Set Up

This stage was about setting up basis for participation. With the support of Migrant Training, I set up a working group, under the name Pan London Learning Network (PLLN) and negotiated participation from a range of SMVOs across London.

It was not possible to involve all participants in the partnership, so a sample of 25 SMVOs were identified as stakeholders or participants and used as informants and in some cases as decision makers (Dick, 1993).

My role was as a facilitator. I worked collaboratively to involve the participants in every aspect of the research process.

The main aim of the programme at this stage was to identify barriers that participating SMVOs faced in taking up and using ICT to modernise their organisations, and to begin to develop ways of assisting them. This phase of the research work lasted for one year.

Plan

As part of a baseline survey, key workers from 25 SMVOs from North and East London were involved in completing questionnaires and taking part in interviews in order to collect baseline information (Appendix 1). I also used semi-structured interviews and critical incidents to gain new information needed through interaction with key workers. The information needs of the 25 participating SMVOs were studied with particular emphasis on the methods used to meet these needs. The operation of the communication systems were also studied with emphasis on the methods used for receiving and distributing information within and outside of the organisations.

I found that the smaller the organisation, the more acute the ICT implementation problem. An overbearing barrier therefore appears to be resources. A European grant enabled exploratory intervention programme to be made. At the staff or people level, this included key staff skills audit, Individual Action Plan and training on the Internet and Office systems. At the organisational level, evaluation of current IT usage showed none of the SMVOs participating in the research had Internet access. The tailored support package included free modems and referrals to Internet Service Providers (ISPs) (such as freeserve and teleregion). A deeper understanding of the

organisational structure and culture showed that senior management appreciation of ICT helped the process of introducing ICT.

I organised a series of workshops and seminars across North and East London to analyse the information, gain new insight and determine common understandings of the barriers. Individual action plans for key workers were agreed in line with personal and organisational goals.

From the baseline surveys outlined above, the main barriers to ICT take up within the SMVOs studied can be summarised as below.

Barriers to ICT take up
• Lack of Board and Management appreciation • Lack of technical knowledge & support • Lack of funding, funding pressures, smaller SMVOs • Lack of staff appreciation or staff resistance • Lack of 'Change Champions'

Table 4.2 - Summary of barriers to take up of ICT in SMVOs

Action

Employees of the 25 SMVOs and I planned and implemented action based on the analyses. The intervention measures implemented included:

- SWOT analyses
- Supply of free modems to assist with connections to the Internet
- Technical support
- Preliminary training in Using the Internet and website, email, MS Office software (Word, Excel and Access).

Review

A review of the intervention showed that the more people wanted to learn about the internet and websites. In addition, work commitments meant day time training hours were not always convenient. As a result, the nature and times of the training were modified. Extra learning sessions were delivered in 'Using the Internet and website' and over the weekends to suit the needs of some of the employees.

Following further seminars and visits to participating SMVOs, the above process was repeated - re-entering at the plan (data collection/analysis) phase.

4.3 Cycle 2 - Pilot SMVO and developing ICT adoption model

Figure 4.1 – O-Regen's Epicentre provides community offices and meeting space

I selected O-Regen as a pilot SMVO where I worked with key employees and management to develop ICT adoption model and included findings from the

reflections in the first cycle. Following reflection on cycle 1, I decided to 'action' and 'research' an organisational implementation of the website including adoption and effective use. By using the *website* as the technology *tool*, I believed that this assisted with the identification of issues that affect a *technology* take up and help answer the research questions. O-Regen was chosen as the SMVO where the ICT model was piloted because it had the followings:

1) Size: It was relatively large SMVO employing up to 50 staff before restructure. With annual turn-over over £2m, it had the potential to provide the necessary ICT budget considered essential in completing the research. 2) Type of service: It delivers broad range of services including acting as a second-tier organisation providing support to other SMVOs. 3) Location: It is based in North East London where the research focussed in cycle 1. 4) Level of ICT use: It had no website. Emails were, however, well used despite need for some key staff training.

Ethnography: As an employee, I was able to immerse myself in the organisation, experience organisational culture and undertake useful observation of daily operations (Agar 1986). This was probably the biggest single factor. Volkow (2003) suggests that ethnographic research focuses on exploring the nature of particular social phenomena using structured and unstructured data. Atkinson and Hammersley (1998) suggests such research employs detailed case studies whose analysis requires the explicit interpretation of the meaning and functions of human actions, expressed through rich descriptions of what took place and participants' explanations of those events. According to Pettigrew (1983), the recognition of different cultures is important in ethnographic research acknowledges that the description of cases are reconstruction, and therefore interpretations of events that reflect the social historic context in which they were produced and the inscribed values of the observer.

4.3.1 Overview of O-Regen

Profile of O-Regen	
Company mission and business objectives	O-Regen is a Community Development Trust[16], with its roots in the community. It is a charity limited by guarantee and governed by a Board of 12 Trustees. The work of O-Regen is resourced earned income, external grants and endowment. **Vision for O-Regen:** As a community development trust, with its roots in the community, the organisation is committed to ensuring that the communities that it serves have the skills, vitality and resources to become thriving sustainable communities[17]. Following the restructure and at the away day in February 2004, the board agreed that the vision for the organisation should be to: *Ensure the Communities We Serve Thrive* Principals that drive the organisation: At the February 2004 away day, Trustees set forth a guiding principal for the organisation that is crucial

[16] Development trusts are charitable organisations which are: *Engaged in the economic, environmental and social regeneration of a defined area or community.* Development trusts are in the business of sustainable change. As independent organisations they avoid over-reliance on a single funder, and also aim to reduce dependence on grant-aid in the long term. To do so, they may create an income-earning asset base, and build up trading operations or contract income.

[17] Sustainable communities – are places where people want to live and work, now and in the future.

	to its future development, and provides a focus for the work of the organisation. This principal is that: *O-Regen is an organisation that has a long term future* For the organisation to have a long-term future then the services it delivers need to meet the following principals: • Add value to community activities and other initiatives • Provide equality of access to the local community and then the wider area • Engage the local community • Projects and community buildings are sustainable • Create cohesion
Product/Services	The services that the organisation delivers address issues concerning; • Training/skills development and employability • Young and old people • Community empowerment (see Figure 4.1) • Improving health
Size (no of employees)	25 after restructure, 50 before. Positions include full time and part-time.
ICT and Quality Systems	Prior to this research, there was no website. There existed a Wide Area Network operating on at least 4 sites in Waltham Forest. Following this research intervention, a website has been implemented and relevant staff training undertaken. O-Regen has also been approved as Training Provider by City &

	Guilds of London, British Computer Society and awarded Customer First Accreditation[18].
Staffing	The staff structure is hierarchical with middle level management.
Style & Culture	The culture is informal, friendly but with increasing drive towards professionalism and performance management. Post restructure, staff are increasingly getting more motivated.
Union involvement	Most staff members belong to Transport and General Workers Union (TGWU).
Decision making	Operational decisions are made by SMT and strategic decisions are made by the Board as appropriate.
Communication systems and practices	The new Chief Executive, in his first Business Plan, identified that there was a lack of a Golden Thread running throughout the organisation, helping to bind staff to the vision and goals of the organisation. This lack of a golden thread throughout the organisation meant that staff and Trustees alike were unaware as to the direction and focus of the organisation. In short, members of staff were, in his view, divorced from the organisation's goals and aspirations. This in turn led to amongst other considerations high levels of sick leave being taken, coupled with extremely high levels of staff turnover before restructure. Following restructure, this picture is beginning to

[18] Putting the Customer First Framework has been developed as a means of assessing the quality of business support provision and building the capacity of the provider base. Compliance with the Customer First Framework has been designed as a guaranteed quality requirement for any provider offering a publicly funded business support service.

	improve as a new communication and marketing strategy gets implemented.
Commitment to learning and development	The organisation is committed to learning and development for staff. A clear example is that I have been funded and supported by the organisation in this research. The organisation has a training budget of circa £15,000 pa.
Performance monitoring	O-Regen has monitoring framework and key performance indicators (KPIs) arrangements. The monitoring work is undertaken by a dedicated staff team headed by a project manager. KPIs are reported on a monthly basis to the Senior Management Team with actual and forecast figures. Quarterly/ report are sumbitted to Trustees.
Reward systems	Flexi time and monthly Staff Celebration Award which includes a voucher gift. The organisation is considering a performance appraisal and bonus system.
Total Quality Management, Investors in People, ISO9000 other training initiatives	The organisation is a member of Customer First, Institute of Careers Guidance. Organisation is considering Investor in People[19] and other quality marks.
Equal opportunities statement	O-Regen is committed to Equal Opportunities practices and has a policy in place.

Table 4.3 - Profile of O-Regen

[19] Investors in People (IiP) is a UK national quality standard which sets a level of good practice for improving an organisation's performance through its people.

4.3.2 Getting Started at O-Regen

The first step in commencing cycle 2 in 1999, was a request that I made to O-Regen's first Chief Executive. I presented to her my research objectives and she was very supportive. She put me in charge of co-ordinating the development of a website for the organisation. In order to gain Board approval, I drafted a paper which she presented and the Board approved the setting up O-Regen's website. I mobilised key staff as change champions and set up a Website Committee, which later became known as the Website Update Committee (WUC) and drew up its Terms of Reference.

4.3.3 Techniques used

My empirical work involved use of unstructured interviews, observation of daily operations, project team meetings and training sessions, document review and informal meetings and 'chats' (McGrath 2003).

In technology research, the interview technique has been used extensively (Clark 1994; Rodrigo 1999). The aim of my interviews was to obtain information about the experiences of the employees in order to determine how best to facilitate creation and use organisational website. I conducted semi-structured interviews of 30 to 60 minutes with members of the senior management team and key staff across O-Regen. The meetings involved staff from different hierarchical levels and functional groups as indicated in the table below (McGrath 2003). Table 4.4 provides list of staff interviewed.

Participants involved	Number of interviews
Chief Executive	1
Director of Operations	1
Training/Employment Manager	1
IT Support Staff	1
Project Administrator	1
Trainers	2
Employment Advisors	2
Reception staff	1
Trustee	1
Total	**11**

Table 4.4 - Summary of interviews conducted

In preparing for and conducting the interviews, I took account of the suggestions by Flick (1997) that in order to study a concrete issue like technological change, an interview should meet specific criteria including:

- It should combine invitations to recount concrete events (which are relevant to the issue under study) with more general questions aiming at more general answers (like definitions, argumentation and so on) on topical relevance;
- It should mention concrete situations in which interviewee assumedly have made certain experiences;
- It should be open enough to allow the interviewee to select episodes or situations he or she wants to recount and also to decide which form of presentation he or she wants to provide (such as narrative or a description). Point of reference should be the subjective relevance to the situation for the interviewee.

At the beginning of interviews or meetings, I began by providing information about my research. Within O-Regen, those I interviewed became my co-researchers. I encouraged them to express themselves freely when describing their experiences of ICT implementation. It is fair to say I was an 'action researcher' rather than 'independent researcher' (Walsham and Sahay 1999).

In general the first part of the interview covered a 'technology biography' and the mechanisation of his/her everyday activities. In the central part of the interview, the issues relating to setting and using a website was the focus. This was followed by issues relating to consequences of technological change, responsibility for change and consequences, trust and fears concerning website in particular and technologies in general.

I introduced the interviews in a similar way to Flick's (1997) suggestion:

> *In this interview, I will repeatedly ask you to recount situations in which you have had certain experiences with websites in particular and technology in general* (Flick 1997).

Interview questions included:

1. What does technology mean to you?
2. What does website mean to you?
3. What was your first experience with technology or website?
4. Could you please tell me about your most relevant contact with website in particularly and technology in general?
5. Could you please tell me what you did yesterday and what part a website or technology played?
6. In your opinion, who should be responsible for change due to technology?
7. What developments do you expect or like to see with regards to website in particular and technology in general?
8. Is there anything else you would like to say?

A common criticism of interviews is that of lack of reliability, validity and triangulation. I strove to improve the reliability of the interviews by carefully analysing the first one and learning useful lessons which I applied in the subsequent interviews. This, in practice, is similar to action research process where reflections from previous cycles feed into next cycle. I also ensured validity of the data by checking the outcomes of the interview with the interviewee. Finally, I combined different approaches (narrative and observation) to achieve essential data triangulation (Denzin 1989 and Flick 1992).

One of the consequences of being employed by O-Regen was that most of the members of staff interviewed and/or observed became very informal in the relationships with me. Observation and informal discussions became a significant means of developing historical and cultural context for the research. I also undertook further data collection as participant observer as follows:

Activity	**Number of times**
Team meetings	12
Staff training sessions	4
Periods of observation in workplaces	20

I used observation with key staff and interacted with them as they performed their tasks (with exception trainers who would be in classroom situations). I took notes during periods of the observation.

During the team meetings, I included discussions about the how employees felt about the barriers to and ways of facilitating website creation and use. ICT was always a standing agenda.

During the later stages, staff-away became an important method of reflection on changes and activities within the organisation. I took notes of these meetings including reflections of the events.

An important consideration is the fact that although I joined O-Regen as junior manager in 1999, by 2001 I was a member of the Senior Management Team (SMT). This gave me some advantages in terms of driving through relevant changes and dealing with staff concerns, for example arranging relevant training to ensure effective adoption and use of technology. Some people might argue that being a senior manager might have distanced me from staff. I believe that my personality and accessible leadership style ensured that I remained as close to and trusted by the staff as possible.

In reviewing papers and documents at O-Regen, I accessed business plans, annual reports, staff hand book, promotional materials, press reports and policy and statutory requirements. These were useful in assisting me in understanding the context and environment in which O-Regen operate.

During cycle 2, the research covered the following grounds:

- Technology (Website development and corporate database for effective information management and marketing)
- People (staff training and development)
- Organisational (culture, drivers for change and indicators of change).

In chapter 5, I describe how I achieved the above by piloting the O-Regen website as a tool to undertake a deeper study on O-Regen. By looking at the website technology, the people and organisation I was able to gain a better understanding of the drivers and incentive for change. I also worked collaboratively with key workers within O-Regen to identify the key benefits of a website and related ICT, and how to maximise them.

At the end of the O-Regen case study, participating staff and managers completed questionnaires about their experiences.

The questionnaires for staff included whether they strongly agreed, agreed, disagreed or strongly disagreed with the following statements:

I am better at my job
I am more efficient
I am more effective
Clients are happier with my service
I am more aware of use of website
Website has helped with internal communication

The results of the questionnaires are presented in chapter 5.

A questionnaire for senior management (Chief Executive) explored the following issues, the results of which are presented in chapter 5:

- organisational culture
- how to use the website to service what the customer want
- change facilitators
- attitudes and relationships
- budgetary and funding issues
- drivers for change (internal and external)
- overcoming resistance to change
- indicators of change

4.3.4 Pilot website

Set up

As outlined in paragraph 4.4 above, this cycle began when I joined O-Regen as an ICT Centre Manager. I negotiated Senior Management and Board approval for the website. I set up a Website Committee comprised of four key workers including myself. As a facilitator of the committee, I identified roles and responsibilities for key staff. I worked collaboratively to involve the participants in every aspect of the research process. Developing relationships was a key aspect of the research process requiring negotiation and reciprocity. The relationship between myself and the other participants was

one of 'co-researchers' thereby allowing input not only into results but also into definition of the problems (Aimee, 1999).

Plan

A project brief, timeframes and resources were determined. Board approval was obtained at the planning stage prior to any action.

Action

Having assessed barriers faced by 25 SMVOs in cycle 1 (see paragraph 4.2), a strategy to meet these needs was carefully designed (see chapter 5). O-Regen was selected as a pilot SMVO and provided an environment in which usage of ICT was developed and evaluated. In this era of transition and learning, it was very helpful to study ICT use in a SMVO that had the resources, high ICT appreciation and Board commitment.

As described in chapter 5, a pilot website was designed and created to enable O-Regen to fully participate in the Internet revolution and to meet relevant aspects of its information needs. Different sections and workers were requested to, individually and collectively, look at the best ways presenting information to the site. Suitable pages were created. The website was updated regularly and its external and internal use was monitored at least every month using a website reporting tool. Update forms were designed and circulated to members of staff to facilitate submission of updates. In the early stages, a performance league table showing 'hits' and visits to the website was used at the beginning to drive up interest and encourage different sections/departments to think creatively about keeping their pages up-to-date, relevant and interactive.

Review

At this stage, the key staff and I monitored and evaluated the actions that were taken to create the website. The effectiveness of the website as

monitored by the reporting software was evaluated. Lessons learnt were fed back into the planning and activities needed to improve the site.

ICT users were interviewed to find out how their duties have been affected by use of email, Internet and website. From questionnaires, evaluation forms, one-to-one and group discussions, problems that they face were tackled (see chapter 5).

Preliminary results, detailed in chapter 5, soon indicated that adoption ICT and creation of website had been dependent on:

- Technology: Relevance of the technology to the operation of the organisation. Technology is taken as the manner in which activities are carried out.
- People: the ICT skills and innovative nature of staff, and availability of 'change champions'. People refer to the nature of the members of the organisation undertaking the activities.
- Organisational: size of business, senior management commitment and organisational culture including commitment to change. Organisational is used to refer to tasks, structure and management aspects of the organisation. Tasks specifically relate to the nature of work activities to be carried out. Structure relate to patterns of organisation and formal relationships within which activities are carried out. Finally, management refers to effective co-ordination of the sub-systems and direction of activities of the organisation as a unified whole.

These preliminary findings were further tested and developed in the next AR cycle below. Thong (1999) reports similar findings in small businesses whereby certain Chief Executive Officer, innovation and organisational characteristics were considered important determinants of the decision to adopt.

The findings also show that the key to successfully introducing usage of the website and changing the organisation lies in the people.

> *The most important thing to remember about organisations is that they are not structures; they are people. Take away the structures and you still have organisations. Take away the people and you have none. Theories of organisations are theories of people's lives. Traditional theories of organisation are theories about places. New theories of organisation are story-theories by people for people* (McNiff 2000).

The process of planning, acting and reviewing the progress during this phase has been generally successful. Many authors report account of the difficulties of researching social systems. For example, Beer and Walton (1987) report that change is not brought about by following a grand plan but by continually readjusting directions and goals.

4.3.5 Problems

Several problems or obstacles were faced during the O-Regen case study. These problems either led to delays or change of approaches.

Financial: In 2003, it took longer than expected to secure funding to procure a web server to host not only the O-Regen website but also participating SMVOs. This also led to delay in taking over the hosting of the O-Regen website from a private company.

Chief Executive Change: A new interim Chief Executive took over in June 2003 under very difficult circumstances. Although, web server and a new version of the O-Regen website were available, approval for a number of internal processes could not be secured until September 2003. This led to a delay of some four months, which adversely affected the original work plan.

A permanent Chief Executive Officer was appointed in February 2004. His appointment turned out to be extremely important to the research. He had very strong awareness of the benefits of ICT. In particular, he was instrumental in helping to drive through key aspects of the website

implementation such as staff contributions with regards to production of good news stories.

The model adopted was then tested on four selected SMVOs to ensure the model was robust, flexible and transferable. A common criticism of action research is that of inflexibility of results (Dick 2002).

4.4 Cycle 3 - Testing the model

In testing the model, I selected the following organisations:

UXL: UXL is a medium sized voluntary organisation operating in Hackney, East London. UXL has advised residents and businesses in Hackney on career and personal development. The centre's mission is to relieve poverty of the unemployed and the wider community through the provision of advice and vocational training and to assist them into gainful employment. Its services include:

- ICT training
- Basic Skills and English for Speakers of Other Languages (ESOL) training
- Employability support for the unemployed

Nappy Gang: The Nappy Gang is a small community based Childcare organisation operating in Leyton in East London. It has 15 employees and provides the following childcare services:

- Nursery education for up to 5 years
- Breakfast and After School Club
- Holiday Play Scheme

African Caribbean Disablement Association (ACDA): is a small voluntary organisation operating in East London. It has 1 paid staff and its mission is to

promote the rights, health and well-being of African and Caribbean disabled people in Waltham Forest. The services the organisation deliver includes:

- One-to-one support to identify needs of disabled clients
- Home visits
- Free access to the computer and the Internet
- Social and healthcare support including awareness training to address health inequalities. Sessions run include healthy eating and diabetes awareness.

African Caribbean Women's Development Centre (ACWDC): is also a small voluntary organisation operating in East London. It provides a forum for African Caribbean women and their families in order to improve their quality of life. ACWDC are looking at:

- Delivering basic IT including internet training to their membership.

The organisations were selected to cover the range of issues below:

- Size: Smaller SMVOs since O-Regen was a relatively bigger SMVO.
- Type of service: broad range of services including socially excluded people, older and younger, women and men.
- Location: based in east London for ease of access.
- Level of ICT use: Low or poor use of ICT.

In testing the ICT model, I undertook the following activities:

- ICT audit to determine ICT status of the SMVO
- ICT advice (Buying PCs, networking, internet, security etc.)
- Training Needs Analysis
- Website strategy
- Training in relevant ICT skills including web design and updates
- Workplace (follow-up) visit/support

- Website creation and hosting
- Evaluation and review

Amongst the participating SMVOs, staff attitudes were extremely positive and their confidence increased. The research gave participants the opportunity to network, support each other and possibly partner in future service delivery. However, most of the SMVOs relatively small found it difficult to get cover for their staffs who wished to attend networking sessions. To counter the issues of time and staff cover, the research offered intervention at the workplaces and at times to suit.

4.5 Summary

In this chapter, I provided an overview of the events and the three cycles of the research. Table 4.1 shows the complexity of the research programme in terms of my intervention and how previous cycles and events feed into the next. I also provided further details of the research approach adopted in the study. I described the research settings at Migrant Training, O-Regen and participating SMVOs. The events and activities are examined in more detail in subsequent chapters.

CHAPTER 5: The ICT Model

5.1 Introduction

Figure 5.1 – O-Regen's award-winning Click Centre provides employment and training support

This chapter is dedicated to describing the pilot study that was carried out at O-Regen (selected SMVO case study). It covers the three aspects of the change drivers identified at O-Regen, namely technology, organisational and people. Environmental factors, particularly those relating to Government initiatives have been dealt with in more detail in the background to the research section (chapter 1).

The *technology* aspect of the research covers the content design and creation, hosting, marketing, internal and external usage, and monitoring of the effectiveness of the organisational website. The benefits of the website were also evaluated.

The *organisational* aspect of the research covers organisational culture and change management including organisational cultural web, website and service delivery, team structure, attitudes and relationships, budgetary and funding issues, and overcoming resistance to change. Indicators of change (such as use of emails and accessing information via web) are also described.

The *people* aspect of the research covers initial skills assessment, key staff training, staff actions and evaluation of change to identify critical success factors (Stein and Vandenbosch 1996). I then outline the ethical, legal and professional considerations important in website implementation and organisational change. I also reflect on my experience as a researcher embedded within the organisation. I explain the key findings of the case study by applying organisational theories to the website implementation process.

Finally, I conclude the chapter by summarising the key issues and findings of the pilot study which constitute the basis of my PhD research. I draw out critical success factors and issues that can further assist me with answering the following research questions: *How can the factors identified be mitigated? What are the drivers and incentive for change? How can the benefits of ICT to SMVOs be maximised? How can the lessons learnt be employed more generally to tackle ICT take up within the SMVO sector?* In providing the answers to these questions, I develop and present a Website Adoption Model (WAM) that can be cautiously extended to a generic Technology Adoption Model (TAM).

5.2 Methodology

Further to AR methodology outlined in chapter 4, I developed a Website Development Process (WDP) that was iterative and based on action research approach as follows:

Plan

I set up and chaired a website update committee (appendix 3). Together with the members of the committee (co-researchers), we agreed organisational objectives and the desired outcomes with regards to an operational website that was effective and supported the functions of the organisation. The committee reviewed available resources in terms of technology, people and other organisation resources that are needed to implement and operate a website. An action plan/website strategy covering technology, people and organisational issues were drawn up as outlined below. A Website Navigational Layout (WNL) shown below in figure 5.2 was created to show the desired outcomes regarding the website structure.

Action

At the action stages, the website action plan/strategy was implemented. The technology (website) implementation involved the website committee and staff working with a website design company to create content materials for the website that reflected the functions of the different departments and services. With regards to people, I selected key staff as detailed in section 5.4 and facilitated a learning process that improved their skills. This allowed them to be able to accommodate the changes arising from the website adoption process. As detailed later in this chapter, once the website became operational, the effectiveness of the website implementation was measured using different data sources from visitor numbers to the site, staff feedback on impact on their work and organisational impact generally based on Chief Executive Officer (CEO) feedback. Different data sources provided triangulation required in AR to increase validity. A key aim of the action stage of the research was to improve the effectiveness of the organisation and generate knowledge about how to best implement an organisational website and support the staff to cope with the changes. In addition, final characteristics of the factors that facilitate website implementation were identified and presented as a model of good practice (figure 5.14).

Review

A review of the website implementation process involved diagnosis of website usage, identification of factors facilitating change, potential problems and indicators of change. Guidelines for improvements were drawn up which led to the revisions of website implementation plan. Lessons learnt were used to plan, action and review the website implementation processes in four selected case studies detailed in chapter 6.

5.3 Technology

The ICT strategy (5.3.1) and content design (5.3.2) tasks constituted the planning stage of the AR process. This stage informed and was followed by the action stage when the website was created and implemented (5.3.3). The review stage of the AR process included monitoring and evaluation of the website usage (5.3.5).

5.3.1 ICT strategy

Since I used the website as the main ICT tool, I deliberately restricted the focus of ICT strategy to a 'website strategy' that looked at how the website can best be adopted and used. The strategy was influenced by the survey of needs and barriers faced by 25 SMVOs (see paragraph 4.2). The key problems could be categorised under technology, organisational and people issues. In addition, I undertook an audit of O-Regen's needs with regards to the operations of a website and developed a website strategy from which a Website Navigational Layout (see Figure 5.2) was produced. The basis of the strategy was as follows:

Technology: The artefacts (hardware and software) required to implement the website were specified.

Organisational: The key services delivered by the O-Regen are outlined here. Emphasis was given to those services that can benefit from website online

delivery. Financial resources relating to ICT costs should be included as part of the organisational budget. The website strategy includes costed items of expenditures needed for the successful implementation of the strategy. Items of expenditures included hardware and software, staff or consultancy time, domain name registration, web server, web hosting, staff training and ongoing maintenance and upgrades. A marketing strategy is important to ensure that the website is effectively marketed to potential visitors who can be clients/customers, staff and other stakeholders. Innovative marketing approaches developed as part of the pilot study at O-Regen included e-bulletins that alert stakeholders about good news stories and new services on the website.

People's resources and responsibilities: The various tasks required to implement the website strategy are allocated to individuals or teams of staff. At O-Regen, a website committee was set up to oversee the implementation of the strategy. The CEO took overall responsibility for the implementation of the strategy. Roles that could not be performed internally were assigned to external consultants and agencies such as initially hosting of the website. Staff training programmes were required to ensure that members of staff and volunteers received opportunities to improve or acquire relevant ICT skills. At O-Regen, an effective annual staff appraisal includes staff review and training needs analysis. Website updates and technical support is important. One of the biggest challenges of managing a website is keeping the content current and up-to-date. A successful approach developed at O-Regen to include good news stories as part of the staff 'must do' tasks. It therefore formed part of job descriptions and featured in the key performance targets and annual appraisals. At O-Regen, each member of staff had to produce at least one good news stories per month. This ensured that the O-Regen website was regularly updated.

5.3.2 Content design

From about 88 pages the website has a total of over 200 web pages and this is on the increase as more items are added.

At the beginning, to ensure corporate participation, a Website Committee (which later became known as Website Update Committee) was set up to exercise editorial control, encourage updates and other tasks specified in a 'Terms of Reference' Document.

A staff intranet was designed and implemented which provides direct staff related information and have a remote email access from anywhere. This has proved very popular because access to emails can be from main location at work, at another O-Regen centre or at home. For a multi-sited organisation like O-Regen, this is highly appreciated. As one member of staff put it, 'It has been a complete lifesaver'.

The following main pages encapsulated O-Regen's services and were found to be most appropriate to displaying O-Regen's business objectives:

Home Page

About O-Regen	News & Update	Location
Vacancies	Feedback	Our Supporters

Services

Room Hire	Training	Employment
Fundraising	Grants	Youth Service

O-Regen's Community Centres

Click	Epicentre	Paradox
SCORE	Bell	

People and Contacts

Trustees	Management	Staff
Staff Intranet		

The content was also discussed and agreed design was based on the Website Navigational Layout (WNL) model depicted in Figure 5.2 below. The design of the Home page went through several cycles which began with a narrative that was updated only occasionally to a design based on sub-frames with Latest News Update approach. This approach requires that O-Regen staff and management provide regular updates and in particular 'good news' stories.

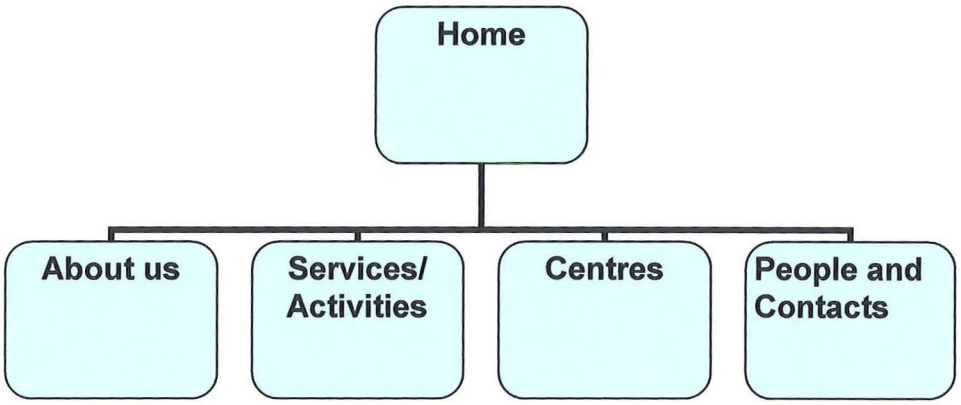


Figure 5.2 – Web Navigational Layout (WNL)

The table below shows how some of the key pages were coded.

Home Page	http://www.o-regen.co.uk
Latest News	http://www.o-regen.co.uk/news_&_updates.htm
Grants Page	http://www.o-regen.co.uk/grants.htm
Fundraising	http://www.o-regen.co.uk/fundraising
Training	http://www.o-regen.co.uk/training.htm
Employment	http://www.o-regen.co.uk/employment.htm
Centres Home page	http://www.o-regen.co.uk/centres.htm
Staff Intranet	http://www.o-regen.co.uk/staff/index.htm

Table 5.1 - Example of pathways to different pages

The next section provides insight into how the website was implemented and the outcomes in terms of some of the most recent pages created.

5.3.3 Website implementation

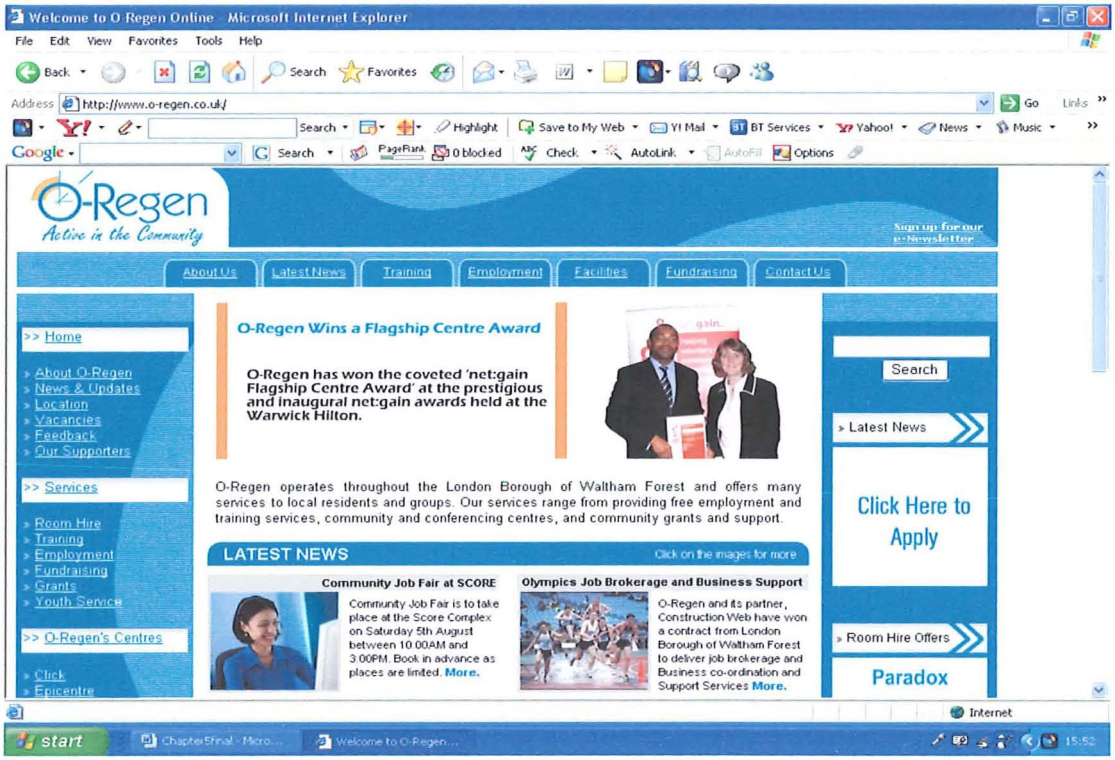


Figure 5.3 - The O-Regen website homepage (20/08/06)

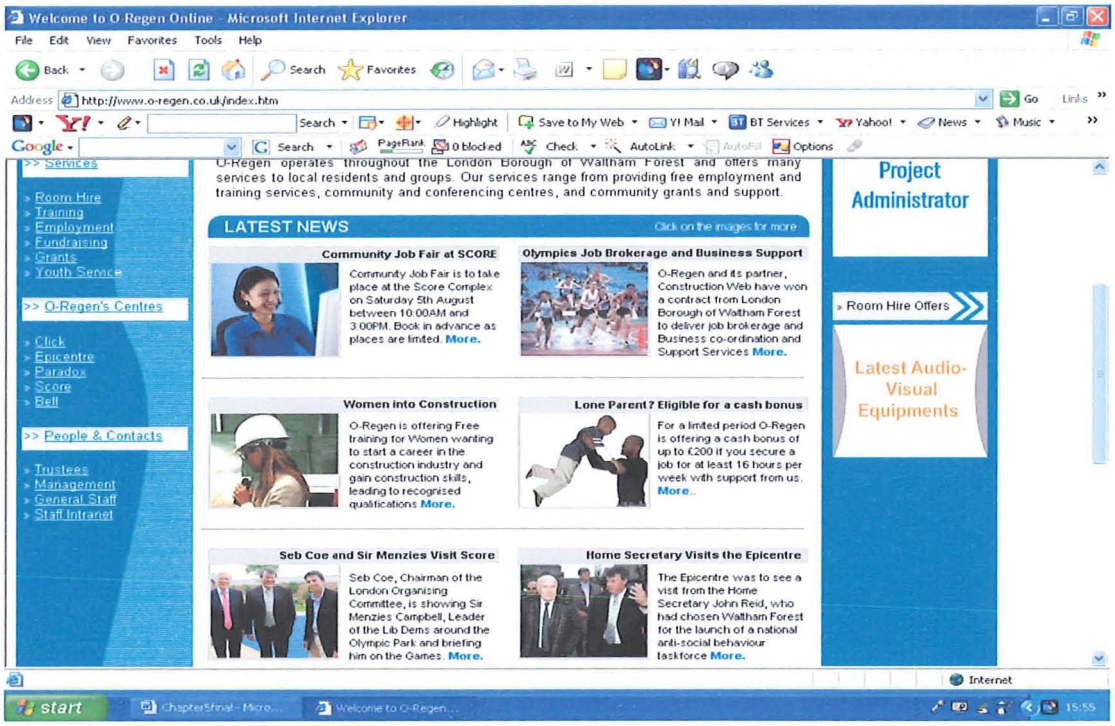


Figure 5.4 - Part of O-Regen's homepage showing 'Easy Update' Latest News design format (20/08/06)

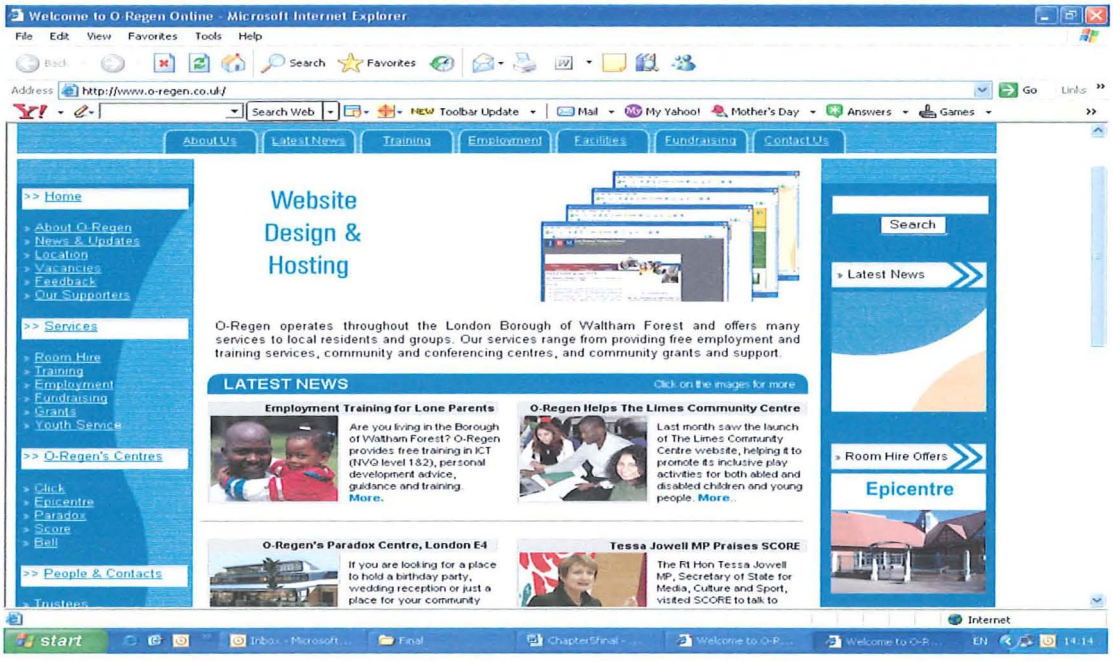


Figure 5.5 - Part of O-Regen's homepage showing website design advertisement (1/03/06)

Figure 5.6 - The O-Regen website Employment & Training page (20/08/06)

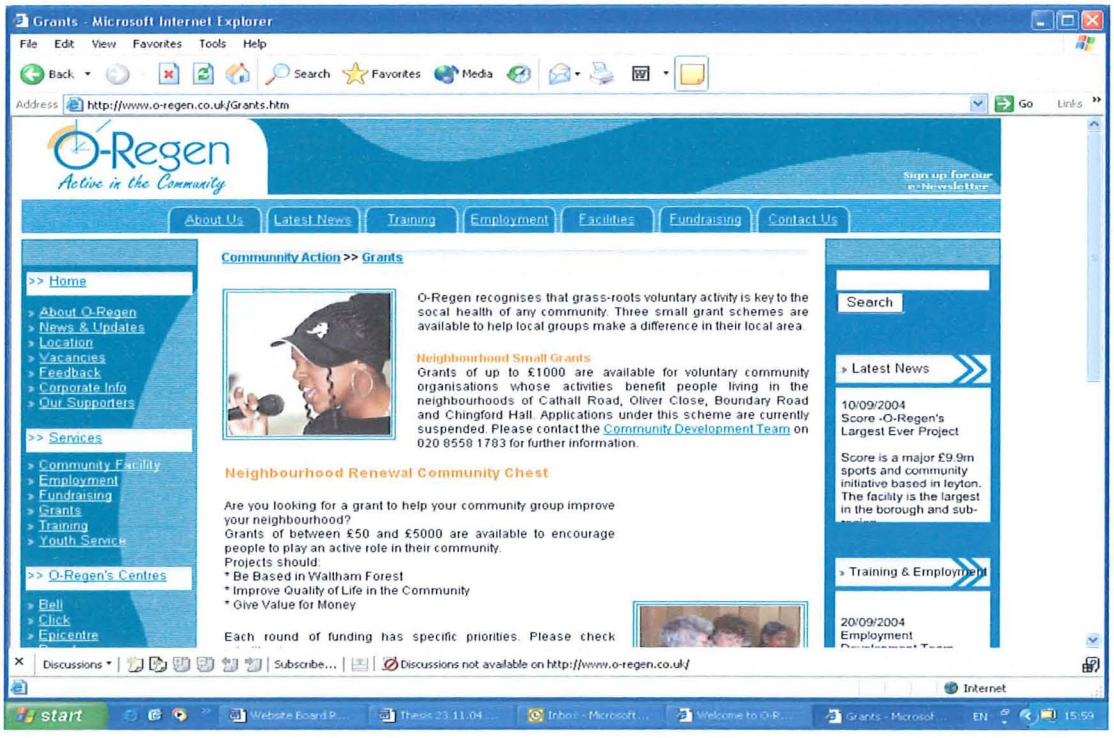


Figure 5.7 - The O-Regen website Grants page (23/11/05)

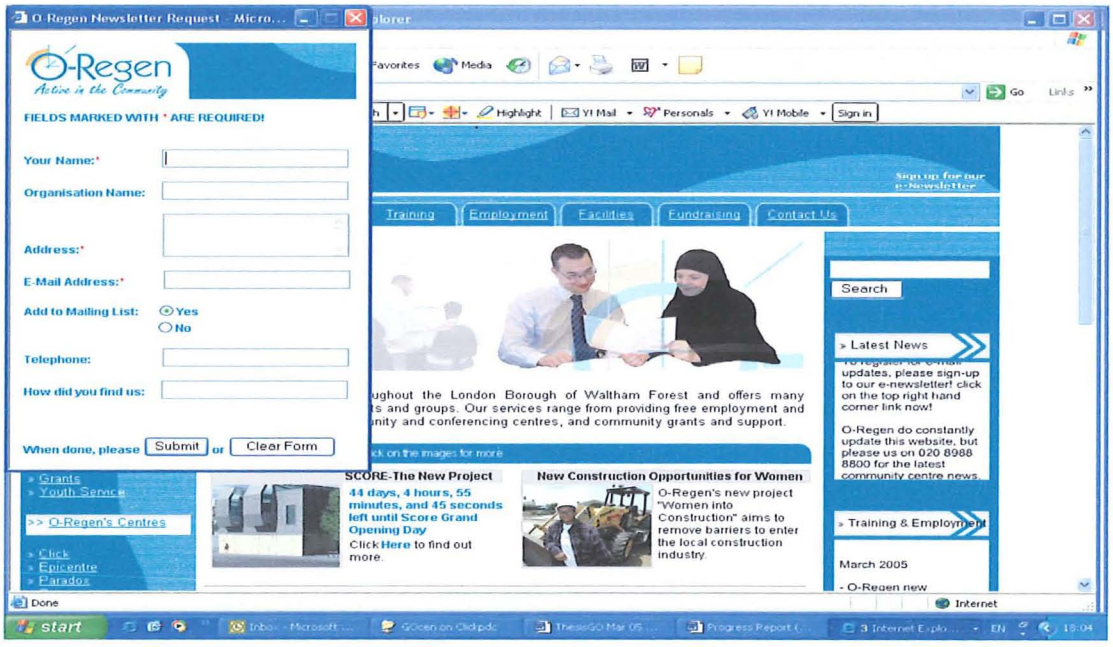


Figure 5.8 - O-Regen's e-newsletter online registration form (23/11/05)

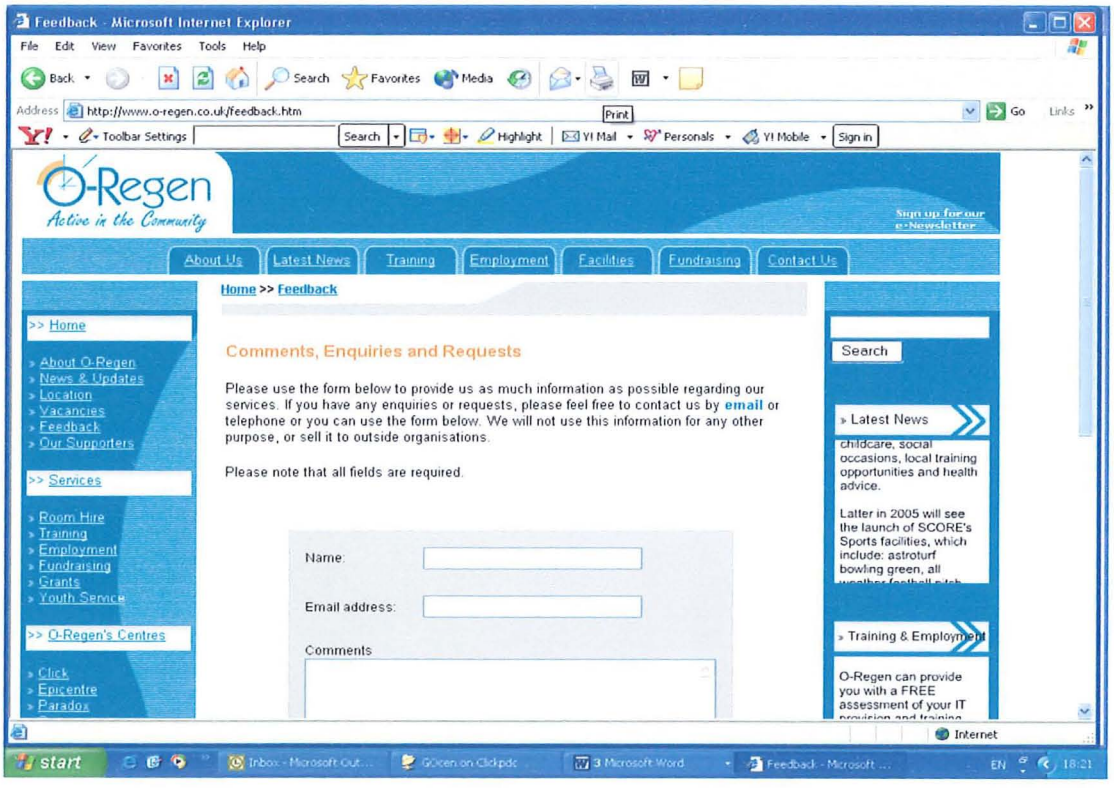


Figure 5.9 - Comments, enquiries and feedback form (23/11/05)

Hosting and updates

The first version of O-Regen website created in May 2000 was hosted by a private service provider. This was an attractive proposition because of:

- Lack of in-house web hosting capability at O-Regen
- Lack of in-house skills to enable regular update
- External professional support in terms of web creation, hosting and updating was certainly affordable at the time.

However, as the organisation learning and stock of skills increased, it became possible in 2003 to implement in-house web hosting service. This was made affordable through a European grant that I obtained.

The web hosting infrastructure (artefacts) included the following key components: web server and internet link. The web server had the following specifications:

- Intel Zeon 4, 1.8 GHz speed, 1Gb memory and 137Gb hard drive
- Internet and Information Service software version 6
- Windows 2000 server software
- 2Mb ADSL Internet access link

The in-house web hosting capabilities provided the following benefits:

- Full editorial control over content
- Prompt updates of the website on demand
- Reduced update costs since the organisation did not have to pay charges to web hosting company

A common problem with websites is that the contents are often out-of-date. A good website must be kept up-to-date. The design chosen for the final version of the O-Regen website has features that enabled and *impelled* staff to

maintain regular updates. This was achieved by arranging the content of the homepage with *'sub-frames'* that contained brief descriptions of eye-catching 'news' items that invited the visitor to click on *read more*. The emphasis on 'news' items therefore impelled staff members to ensure that the items are news worthy at all time hence the need to update the homepage and website. Another measure that I adopted was to encourage all staff to have the corporate website set as the homepage on their computers. This meant that every time a member of staff accessed the Internet, he or she was able to see and be reminded of the content and currency of the website.

To facilitate regular updates, I developed 'website update form' that members of staff were encouraged to use. Key features of the update form included:

- Name of staff and department or business unit
- Website Page to be Updated (if known)
- Date for Update Material to be Implemented
- Date for Update Material to be Removed
- Content information

The rest of the website update procedure required staff to:

- Identify and agree good news stories or news worthy information from own line of work with line manager
- Write commentary by completing the update form
- Take digital photos where appropriate to enhance stories with illustrations
- Email information to webmaster

5.3.4 Promotion and wider utilisation

A website is useful if it is widely used both internally and externally. In order to increase usage, a marketing strategy was developed. This included monthly online newsletter that were sent to all stakeholders. The 'e-newsletter'

highlighted key activities then invited those who received it to read more on the website. This approach was very effective. Feedback from users included, 'this is very good,' 'O-Regen is at the cutting edge', 'I really like your website' and 'Very impressive website..'

E-mail marketing was useful in a number of ways:

- Recipients are interested in the product as they volunteered their e-mail addresses.
- It is free to carry out the mailing.
- It increases hits to the website.
- Sends out the right messages about the professionalism of O-Regen with regard to using new technology.

Marketing is such an important part of the success of the website. I provide some guidelines and helpful prompts that were useful in getting some O-Regen's Business Units to think 'marketing' in Table 5.2.

Click Page Update
Main Contact: Project Administrator
Target Audience: People who use the Click Internet or visit the site.
Prompt: Staff members were requested to list if there are any offers or discounts for the users at the click, and also what other service can be accessed. Are there any clubs which meet there? or going to be set-up? Please list changes made to the internet café including the any new software, refurbishment etc.

Epicentre Page Update
Main Contact: Centre Manager
Target Audience: Individuals who would like to attend the public and local events held at the centre (including meetings, cultural events etc).
Prompt: State the activities and projects which are going to take place in the new year. In the e-mail update entitled "O-Regen Centres – Groups" will promote the conferencing and meeting room hire side of the centre, so in the information for e-mail bulletins, please concentrate on the individuals using the centre.

Employment and Training Pages Update

Main Contact: Training Manager Target Audience: People including organisations who may like to access local training opportunities and unemployed looking job search support. Prompt: List all the current training courses and opportunities which people can access, also any possibilities in the future. **Fundraising & Capacity Building Page Update** Main Contact: Community Worker Target Audience: All groups accessing the fundraising & capacity building service, and voluntary and community groups in the area. Prompt: List the services on offer from the grants and fundraising services, the new deadlines for the grants regimes, and any seminars, workshops and funder open days.

Table 5.2 - Marketing prompts for keeping website up-to-date

5.3.5 Monitoring of the effectiveness of the organisational website

I believe that for most SMVOS, it is important to know how effective the website is by monitoring the number of visitors to the site. Quite often this supports their mission of raising the profile of the activities to potential clients as well as stakeholders and funders. It is also to use an appropriate measure to determine the effectiveness of the website.

According to Website for Sale (2005) website, the value or effectiveness of a website can be determined using the following measures:

Monthly Revenue - The total amount of money generated by the business before any costs, or expenditures.

Net Income - The amount of money the website has made after all expenses have been subtracted. That is its profit.

Link Popularity - The number of people linking to a site through-out the internet. This may be checked for free at www.linkpopularitycheck.com.

Link Popularity Report	
AltaVista:	37
MSN:	110
AllTheWeb:	35

Table 5.3 - O-Regen website Link Popularity Report (22 March 2005)

Total Visitors - This is the number of total visitors to a site usually measured by website tracking software tools as the total visits. For instance, if one person came to a site twice in a month, that would count as two visits.

Unique Visitors - This is the number of actual people visiting a site, measured by many website tracking software tools as the number of unique IP addresses or sessions served. This number is not the number of hits or page views to a site. For instance, if one person came to a site twice in a month, this would only count as one visitor.

For a SMVO such as O-Regen which is not engaged in significant e-commerce activities, I chose to use *Total Visitors* and *Unique Visitors*. The research questions are concerned with identifying framework for organisational implementation of technology (website). In this respect, it is important to determine (measure) whether a website is effective in achieving what it set out to do. I therefore adopted the approach recommended by various authors (Website for sale 2005). Furthermore, by monitoring user statistics, it is possible to positively influence organisational change by improving website implementation process in terms of the technology, organisational and people perspectives. A good example was that the design and content of pages that had low hits were improved following review of monitoring statistics. Staff members were assisted to rewrite appropriate pages in attractive formats.

In this research, I used dedicated software: EasyStat 4.1 software which provided the following key monitoring information:

- Summary statistics including number of *visitors, page views* and *page reloads*
- Daily breakdown of number of *unique visitors* and time of visits
- Time spent on site
- Report on top requested pages
- Details of search engines used to gain referral to the site
- Details of most commonly used search words or phrases used to gain referral to the site
- Visitors by number of visits
- Referring domains or websites

Summary statistics including number of *visitors, page views* and *page reloads*

This is best illustrated by looking at the number of visitors between 22 October 2004 and 21 March 2005. Over the five month period, 3,063 visitors visited the website. This was an average of 37 (up to 60) visitors per day or 1,153 per month. A total of 7,655 pages were viewed on average 2,351 pages per month at 137 per day. A total of 1,304 page reloads occurred on average 530 per month at 15 per day. These figures approximate to the total numbers of visitors (hits) who visited the site. These figures are comparable to popular e-commerce websites who register 120 to 250 hits per day (Website for Sale 2005)

Daily breakdown of number of *unique visitors* and time of visits

Typically during the period of development, between 40 to 60 unique visitors accessed the website everyday. The unique visitor number rose to a maximum 129 per day in the later part of the research. As an example on 15 March 2005, 57 unique visitors accessed the site between 9am and 11pm. The breakdown was as follows;

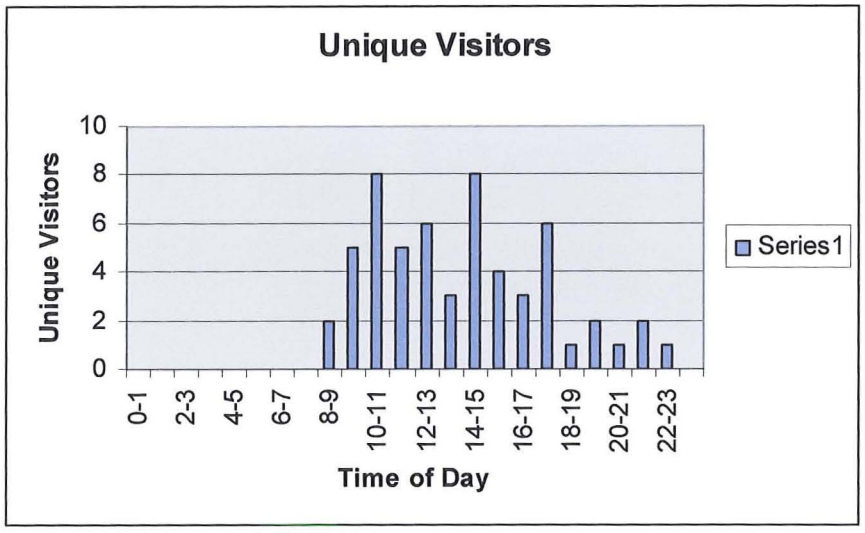


Figure 5.10 - Unique Visitors

Time spent on site

This is a good indicator of how useful and engaging the site is. Nearly 50% of unique visitors spend 15 seconds to 30 minutes.

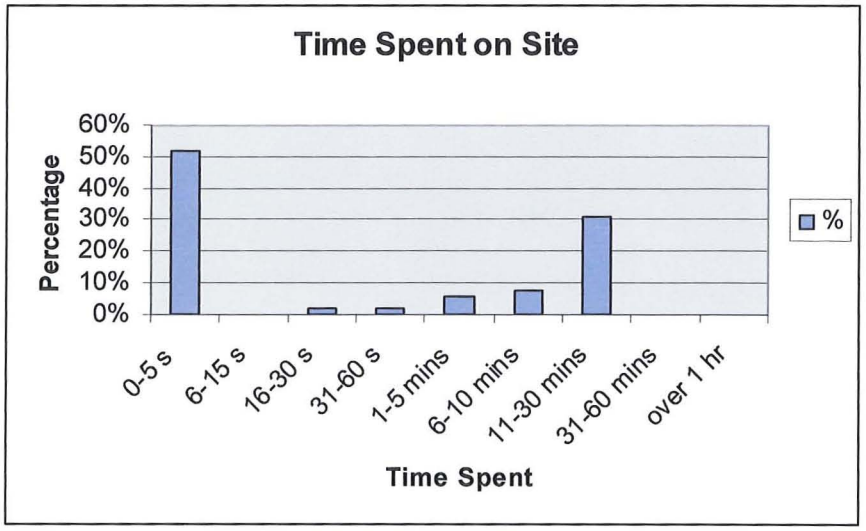


Figure 5.11 - Time spent on site

Report on top requested pages

The top requested pages were:

- O-Regen home page
- Grants and fundraising
- Epicentre

This information is significant because poorly accessed pages can be promoted more and well-used pages are monitored for consistency. It is not surprising apart from the home page, the next most visited pages relate to fundraising and grants. These pages contain information on how SMVOs can apply for grants some of which are managed by O-Regen.

Details of search engines used to gain referral to the site

O-Regen website has been registered with Search Engines. The internet constitutes a vast source of information. People will usually first refer to a search engine when trying to find a web site. The importance of registering with the main search engines is obvious but it surprising how often this is overlooked.

Search Engine is a generic term for the software that "searches" the web for pages relating to a specific query. Google and Yahoo are two examples of common search engines which index and search the whole web. In an effort to extend its services to clients and promote itself to a wider audience, the O-Regen website has been successfully registered with the worlds most famous Search Engines. This gives O-Regen's clients the ability to search and find out its services from any of this Search Engines. The list included google, yahoo, MSN, wanadoo, lycos, tiscali and so on. Analyses showed that typically 60% of those who used search engines came via Google, 20% through MS Network and 10% via Yahoo. The dominance of Google indicates that it must be included when SMVOs are considering registration of websites.

Details of most commonly used search words or phrases used to gain referral to the site

For O-Regen the most commonly used words or phrases included: O-Regen, oregen, regen, Epicentre, Regeneration in Waltham Forest, Careers, Grants, Development service, Fundraising, Case study and Training. These words are important as they give some clues regarding the types of visitors who are interested in O-Regen's services. This in turn can assist O-Regen in the development and marketing of its services.

Visitors by number of visits

I found that most unique visitors (91%) only tend to access the website once a day and 2% access it up to 10 times a day. This latter is most likely to be internal staff.

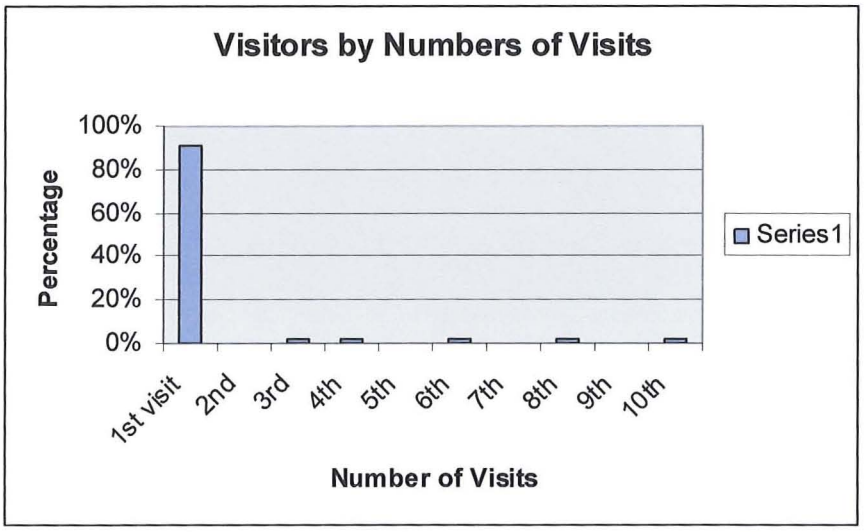


Figure 5.12 - Visitors by number of visits

Referring domains or websites

The table below shows that some 70% of visitors reach the site by direct access. Nearly 30% of visitors come through variety of paths or domains including search engines, information agencies (office of the deputy prime

minister and funderfinder). These sources are significant when considering where to advertise the site. The referring domains are shown below:

Referring Domains	Visitors	%
1. Direct access	41	72
2. google.co.uk	5	9
3. msn.co.uk	3	5
4. newliferefugee.org.uk	2	4
5. o-regen.co.uk	2	4
6. odpm.gov.uk	1	2
7. funderfinder	1	2
8. yahoo.com	1	2
9. google.com	1	2

Table 5.4 - Summary of referring domains (15 March 2005)

5.3.6 Evaluation of benefits of the website

I carried out a survey of senior managers and staff to evaluate the benefits of the website. A total of 11 members of staff completed a questionnaire. Benefits included:

- Higher profile
- Appear professional
- Staff can refer clients to information on the website
- Cost saving in terms of advertisement
- Means of getting referrals to organisation
- More efficiency in terms of assisting staff to be more organised and information-aware.
- Need to keep website up-to-date means staff constantly thinking of new ways/product leading to innovations
- Intranet is a 'lifesaver' for multi-sited organisations
- Staff can interact with clients

5.4 People

The people aspect of the research covered initial skills assessment, key staff training, mentoring, staff actions and evaluation of change to identify critical success factors (Stein and Vandenbosch 1996).

O-Regen recognises the importance of developing and supporting staff as part of the continuous process of improving standards, achieving organisational objectives and recognising accountability. O-Regen acknowledges the value of regular formal one-to-one discussions at all levels and the importance of managers not only supporting and developing those who report to them but giving staff the opportunity to discuss those personal issues which may affect their work. The organisation understands and promotes the need for all staff at every level being included in the development and supervision structure and receiving an annual appraisal and endorses this as an integral part of Performance Management.

The action research involved cyclic planned and unplanned meetings between the staff taking part and I.

The key aims of People (Staff) Development Programme (PDP) was:

- To provide each participating member of staff with a regular opportunity to take part in all aspects of the action research and to review progress in his/her job.
- To provide each member of staff with a regular opportunity for sharing and developing good practice and innovation.
- To provide each member of staff with a regular opportunity to seek support and guidance in undertaking their participatory research role
- To provide each member of staff with a regular opportunity to assess his/her effectiveness and personal impact on service users and stakeholders

- To provide each member of staff with a regular opportunity to identify training and personal development needs as it relates to the organisation requirements and change

At the beginning of the research programme, I conducted semi-structured interviews with 11 employees in order to find out about initial perceptions and establish a people's context for the research. Questions asked included:

- What does technology means to you?
- What does website means to you?
- When was your first experience with technology or website?
- What daily interaction do you have with technology?
- Who do you think should be responsible for change due to technology?
- What changes do you expect or like to see brought by adopting the website?

When asked what technology means to you, the interviewees responded that technology meant various forms of ICT including emails (11), computers (11), telephone/fax (9) and websites (7). It is worth noting a culture of very high level of emails use existed in the organisation when this research began. There was no organisational website at the time and the relevance of the website was not universally appreciated. The Chief Executive was, however, a great 'believer' in websites. When asked what website means to you, interviewees responded that websites are like online libraries or books where one gets information (10), place where we can display information (6) and not sure (1). For most of the interviewees, first experience with technology or website ranged from when they were first employed or joined O-Regen (mainly with regards to emails). 7 of the 11 interviewees had accessed a website. They said the most relevant contact with website in particularly had been when they were searching for information about their professional areas of work. When asked about daily interaction they had with technology, all interviewees were active users of the email. With regards to who should be responsible for change due to technology, interviewees felt it was the responsibility of managers only (4), managers and staff (7). The changes that

interviewees expected or liked to see with regards to website included having an O-Regen website in which they could advertise their work (10) and refer clients. 9 of the interviewees also would like to undergo training to update their ICT skills.

I chose to work with the following eight key members who participated in greater levels (co-researchers):

- Project Administrator
- Training Manager
- Training Officer
- Employment Manager
- Employment Officer
- IT Support Staff
- Receptionist
- Marketing Officer

It is important to note that I was also the line managers of the above members of staff. As indicated in chapter 7 (paragraph 7.7.3), I was careful to ensure that there was no correlation between results and patronage. I ensured that every member of staff shared experience of how to cope with change and acted as co-champions in the organisations. For each member of staff, I outline their role, initial set of skills, key skills gaps, training received and feedback regarding change as follows:

Project Administrator (PA)

The role of the Project Administrator is to provide administrative and secretarial support to the service delivery team. The post holder had good basic IT skills including word and email. Important skills lacking were desktop publishing (DTP) and excel skills. The post holder attended in-house training as part of the programme in DTP and excel skills focusing on charts. These were helpful in assisting the post holder with effective content contribution and

presentation. The post holder completed an exit questionnaire at the end of the research. Responses are summarised in table 5.5.

Training Manager (TM)

The role of the TM is to line manage the training team and co-ordinate training delivery. The post holder had excellent IT skills including MS Office packages and email. There were no immediate training needs. The post holder, however, benefited from softer skills support including change management. The post holder completed an exit questionnaire at the end of the research and expressed views presented in table 5.5.

Training Officer (TO)

The role of the TO is to deliver ICT training to clients. The post holder had excellent IT skills including MS Office packages and email. The post holder required higher level ICT skills and benefited from Micro Soft User training and project/change management and quality control. The post holder completed an exit questionnaire at the end of the research. The TO expressed the opinions shown in table 5.5.

Employment Manager (EM)

The role of the EM is to line manage the employment advisors and co-ordinate careers advice and guidance delivery. The post holder had excellent IT skills including MS Office packages and email. There were no immediate training needs. The post holder, however, also benefited from softer skills support including change management. The post holder completed an exit questionnaire at the end of the research and the responses are shown in table 5.5.

Employment Officer (EO)

The role of the EO is to provide advice and guidance to unemployed clients. The post holder had good basic IT skills including word and email. Important skills lacking was desktop publishing (DTP) for leaflets and content design. The post holder also attended in-house training as part of the programme in DTP. Table 5.13 shows the views expressed by the EO.

IT Support Staff (ITSS)

The role of the ITSS is to manage the ICT infra-structure and provide support to staff. The post holder had excellent IT skills including MS Office packages and email. He required support to update web design and network management skills. The post holder, however, benefited from website design, project management skills, system development and network management training. Table 5.5 shows the views expressed by the post holder who completed an exit questionnaire at the end of the research.

Receptionist (R)

The role of the Receptionist is to provide a professional reception service to clients. The post holder had good basic IT skills including word and email. Important skills lacking were desktop publishing (DTP) and customer care. The post holder attended in-house training as part of the programme in customer care and DTP. The post holder completed an exit questionnaire at the end of the research. She expressed her opinion as provide in table 5.5.

Marketing Officer (MO)

The role of the MO is to co-ordinate marketing initiatives within the organisation and ensure corporate 'culture' is adhered to. He was the vanguard of 'O-Regen image'. The post holder had excellent IT skills including MS Office packages and email. There were no immediate training needs. The

MO completed an exit questionnaire at the end of the research and responded with the views shown in table 5.5.

In general, table 5.5 shows that all staff strongly agreed with the views that 'I am more aware of the use of the website' and that the 'website has helped with internal communication'. Whilst still endorsed by all staff, only one out of eight members strongly agreed with the view that their clients were happier with their services as a result of participating in the website adoption process. This is to be expected as it is quite difficult to attribute client happiness to a single causal effect.

The staff development played a crucial part in developing organisation learning which is concerned with increasing the stock of knowledge regarding website and related ICT skills. Organisational features that were important in the research study at O-Regen are described in the next section.

Issue	Project Administrator	Training Manager	Training Officer	Employment Manager	Employment Officer	IT Support Staff	Receptionist	Marketing Officer
I am better at my job	Strongly agree	Agree	Strongly agree	Agree	Strongly agree	Strongly agree	Strongly agree	Agree
I am more efficient	Strongly agree	Agree	Agree	Agree	Strongly agree	Strongly agree	Strongly agree	Agree
I am more effective	Strongly agree	Agree	Strongly agree	Agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Clients are happier with my service	Agree	Agree	Agree	Agree	Agree		Agree	Strongly agree
I am more aware of use of website	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Website has helped with internal communication	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree

Table 5.5 – Results of completed exit questionnaires by key staff

5.5 Organisational

The organisational aspect of the research covers organisational culture and change management including organisational cultural web, what the customer want, website and service delivery, organisational structure, attitudes and relationships, budgetary and funding issues, drivers for change and overcoming resistance to change. I also describe indicators of change (such as use of emails and accessing information via web).

5.5.1 Background

O-Regen is a Community Development Trust, with its roots in the community. It is a charity limited by guarantee and governed by a Board of 12 Trustees. The background to O-Regen is summarised in chapter 4.

5.5.2 Organisational culture and website implementation

I used an approach based on the cultural web developed by Johnson (1992) to research the O-Regen's organisational culture (Figure 5.13). During a senior management away day in 2002, the following issues were identified as current and future. Therefore 'Now' relates to 2002 and 'Future' relates to 2005 and beyond.

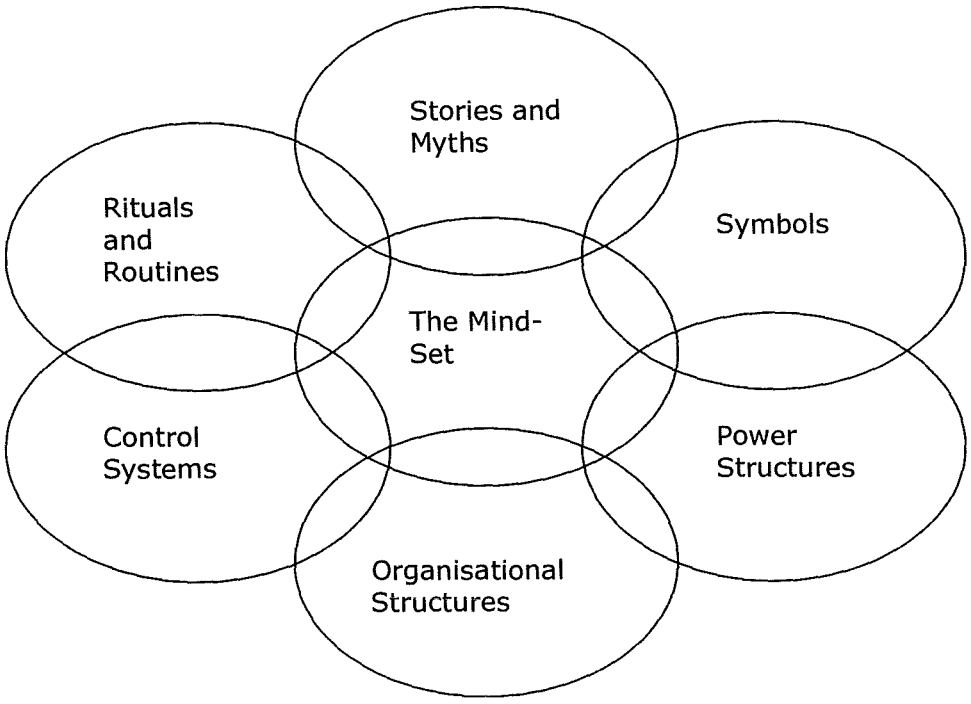


Figure 5.13 - Cultural web (Johnson 1992)

The tables below summarise the key improvements to O-Regen's organisational culture as identified by the senior management team during their workshops as part of annual business planning process. In addition, my ethnographic experience enabled me to make relevant observations between 2002 and 2005.

Mind-Set: This constitutes the paradigm or self-consistent set of ideas and views of what the organisation is about and holds as important.

In 2002, the mind-set was best described as follows:

Now (2002)	**Future (2005+)**	**Achieved (2005)**
Initial endowment funding	Sustainability important as need to secure long term funding	Partially
Excellent community involvement and resident participation	Community involvement continues	Yes
Project Creativity and	Creativity and innovation	Yes

innovation	continues	
Consult or respond to business needs	Responsive with "can do" attitude	Yes
Tends to be reactive	Pro-active rather than reactive	Yes
Panic and pull together, need to devise policy	Policy in place (such as ICT and staff development and appraisal), pull together (permanent synergy)	Yes

Table 5.6 - Mind-Set

Power: This relates to who holds power and how it is exercised.

Now (2002)	**Future (2005+)**	**Achieved (2005)**
Complex and dispersed, lack corporate purpose.	Accountability to Board	Yes
Chair, too many sub-committees;	Better structure to management team	Yes, restructure and fewer sub-committees
Flat management structure, SMT too large	More hierarchical structure, empowering SMT	Yes, fewer SMT

Table 5.7 - Power

Organisational structures: This relates to how organisation is structured and which parts of the organisation get priority for resources

Now (2002)	**Future (2005+)**	**Achieved (2005)**
Lack of clarity in staff structure	Clear lines of communication	Yes
Better balance between strategic and operational	Good balance	Yes, details to sub-committees
Conflict between departmental and organisational priorities	Organisational priorities more important	Yes, fewer departments as well following restructure and units work more closely. Re-structure with fewer staff (25 instead of over 50)

Table 5.8 -Organisational Structures

Control Systems: This refers to how performance and resources are controlled

Now (2002)	Future (2005+)	Achieved (2005)
Internal and external Audit undertaken. Internal auditors appointed as consultant.	Corporate and project Key Performance Indicators monitored. Internal audits functions taken up by Finance Department.	Yes
Several O-Regen monitoring committees	Unified Policy and Resource committee	Yes
Need to improve risk assessments	Qualitative risk assessments in development	Partial
Formal staff appraisal needed	Formal staff appraisal in place	Yes

Table 5.9 - Control Systems

Rituals and Routines: Includes culture and 'how we do things around here' – behaviour, custom and practice

Now (2002)	Future (2005+)	Achieved (2005)
Embedded in Waltham Forest Housing Action Trust[20] nostalgia	O-Regen culture developed	Yes, professional SMVO
Non-systematic approach to routine tasks	Systematic approach to routine tasks	Yes, utilising Website and other ICT
Planned Annual General Meeting (AGM)	AGM used as evaluation and planning tool	Yes
Senior Management Team (SMT) meetings to be more constructive	Exchange of information – constructive	Yes
Aim for more effective staff away days	Thinking time during staff away days	Partially, busy culture, fewer staff
More creativity required	More creativity being achieved	Yes, innovation based on ICT and website

Table 5.10- Rituals and Routines

[20] Waltham Forest HAT was a well-funded government short-term housing and regeneration agency that set up O-Regen as its successor vehicle to continue community regeneration initiatives.

Stories and Myths: This relates to real and not so real accounts of events in the history of the organisation.

Now (2002)	Future (2005+)	Achieved (2005)
People say O-Regen is about empire building	O-Regen seen as partner of choice	Yes
O-Regen has loads of money	O-Regen manages resources effectively achieving value for money	Yes
Over dependent on Waltham Forest HAT	Independent, self sufficient community development trust	Yes

Table 5.11 - Stories and Myths

Symbols: These relate to key representations of all of the above.

Now (2002)	Future (2005+)	Achieved (2005)
No quality awards	Customer First Award, IiP expected in late 2006	Yes
Associated with its modern community buildings	Still associated with its modern community buildings plus other buildings such as SCORE. Also other services such as grants have visible profiles	Yes
Good community engagement	Strong professional corporate image	Yes

Table 5.12 – Symbols

The research programme has clearly benefited from separate sets of actions by Trustees and senior management to restructure and make O-Regen a more viable and efficient organisation. The re-structure was mainly driven by the need to reduce overheads and re-align resources and policies to ensure a more sustainable organisation. The website adoption process has played an

important role in improving and adding value to the rituals and routines. For example, emails and websites were important in improving creativity and routines of communications.

5.5.3 Change facilitators

This research is concerned with, among other things, ways of facilitating website/technology adoption. I conducted a questionnaire survey with senior management to determine change facilitators including website-friendly structures, attitudes and relationships, budgetary and funding issues, drivers for change[21].

Change facilitators were listed as including:

Technology: 1) ICT Strategy - this helps to set out the path to be taken and resources needed to achieve the changes. 2) Website Development Process (WDP) – represents a well thought out iterative process which allows for good design. 3) Website Navigational Layout (WNL) – represents a structural framework for presenting the information in a standard and easy to navigate manner. 4) ICT artefacts - such as in-house web server and master which allow greater control on when creation and updates can be done.

Organisational: 1) Board and CEO appreciation and ICT intent are important pre-requisites. 2) Funding – is important to ensure the resources needed to implement and maintain website adoption are in place. 3) Learning culture - assists in improving the skills base of staff so that the opportunities presented by the website can be properly exploited. 4) Professionalism – Effective use of website is associated with professionalism in the sector. 5) Marketing strategy – is important to ensure numbers of visitors to the website is increased leading to potential clients contacting O-Regen for services. 6) Staff appraisal – this

[21] O-Regen's management believed that the website is effective in providing what the customers want in terms of information and in some cases service delivery - for example room booking and registration for training courses. In terms of how to use website to service what the customer want, all agreed that website is a great communication tool and important to business needs.

ensures that staff are regularly appraised and supported to use and update the website with latest information for clients.

People: 1) Change champions - presence of ICT-enlightened staff within teams who can support change by assisting other less able staff. 2) ICT Skills – are required by staff in order to learn and acquire the new skills needed to use and update the website. 3) Individual values, attitudes and behaviour – these are important to ensure that staff are open to changes and develop 'can do' culture.

Whilst not the focus of this research, external pressures from competitors and Government, local government and Learning & Skills Councils in terms of commissioning and funding process have been very important. For example, the Government move to e-procurements has seen contracts from Jobcentreplus (a Department of Works and Pensions agency) applied for entirely online.

The above technology, organisational and people factors interact and influence each other. For example, the website as a technology must: 1) Meet organisational aspirations particularly as resources are limited. 2) Serve organisational visions or standards. 3) Assist staff and be marketable to them in order to ensure commitment. This encourages better take-up and use of website.

5.6 Overcoming resistance to change

Interviews and exit questionnaires completed by staff and observations by me showed that resistance to change generally arose due to staff feeling ill-prepared, not motivated and competing demands on their time. At O-Regen this was adversely affected by the organisational restructure where staff had additional anxieties relating to new job roles and appropriate (adequate) remuneration.

The best ways of overcoming resistance to change included training the individuals or groups. A learning culture was introduced and this began to bear fruits as the organisation applied for Investor in People award[22] in 2006. This was applied at the participating SMVOs. A 'carrot and stick' approach developed at O-Regen works by incorporating participation in the technology process in the staff appraisal and monitoring framework. The carrot represents the rewards such as congratulatory letters and/or vouchers given to staff members who meet their targets. The stick relates to the fact that undertaking website-related tasks were made mandatory.

I will now describe in more detail how resistance to change was tackled at O-Regen.

Training the individual or group: My ethnographic experience at O-Regen, as illustrated below, has shown me that by talking to the members of staff it soon became apparent that sometimes people resisted change because they were not clear about the changes and how they were expected to comply. Staff training is therefore a useful tool for overcoming resistance to change. The following example demonstrates what I mean.

Senior managers instructed that all members of staff should provide at least one good news story (or case study) per month that can be posted on to the website. Overall, this meant that there were at least two good news stories per week. Initial staff response was lukewarm and some went as far as saying that they had no good news stories. The situation was resolved by educating and training employees and volunteers about what good news stories were, their

---

[22] Investors in People (IiP) is a national standard which sets out a level of good practice for training and development of people to achieve business goals. The Standard was developed during 1990 by the National Training Task Force in partnership with leading national businesses, personnel, professional and employee organisations such as the Confederation of British Industry (CBI), Trades Union Congress (TUC) and the Institute of Personnel and Development (IPD). The work was supported by the Employment Department. Investors in People is cyclical and takes an action research approach to engendering the culture of continuous improvement via plan, do and review strategies.

benefits, how to identify and prepare them. In another scenario, managers drew up a rota to manage the weekly production of good news stories. This ensured that each member of staff knew exactly when they were expected to produce a story. The disadvantage of this approach is that the stories should be instantaneous because one can not always plan news stories. Overall, I suggest that a planned approach that is flexibly administered to take account of important and instantaneous events is a good practical way of ensuring that there is constant flow of content materials for the website albeit only when there are many good news stories.

Using change champions: Within O-Regen, I acted as the change champion. This was helped by the fact that I had important portfolios which increased significantly when I was promoted into a directorship role in the last two years of my research. The CEO was also a committed technology champion and that made my tasks considerably easier. I deal with the wider implications of my role in chapter 7. Considering the CEO and myself as change champions, important characteristics of a change champion are best summarised as follows:

- Senior manager, preferably member of senior management team. Better results were obtained when the CEO performed this role.
- Respected by both staff and managers. Implicit in this are good communication skills and ability to win over Board, managers and staff.
- Innovative and open to new ideas.
- High appreciation of ICT. Being ICT literate was a distinct advantage.

My role as change champion included: 1) initiating and influencing development of website strategy at Board, senior management and staff levels; 2) obtaining ownership of the website strategy at all levels; 3) ensuring the issues relating to WNL and TOP imperatives were addressed to remove barriers to website implementation and use; and 4) driving through the changes and generally keeping 'an eye on the ball' to ensure the website adoption process was on time and according to budget.

Top-Down approach: As referred to above, the latest CEO was extremely committed to the website implementation process. He also believed there was definitely a role for a top-down approach to drive through the website adoption process. He agreed that employing a 'carrot and stick' approach (described in earlier in this section) by incorporating the change process into staff routines including appraisal process was helpful in tackling staff resistance to change. He introduced 1) production of content materials including good news stories for websites as part of employees' job description and 2) staff annual appraisal process included website related performance criteria including contribution to website updates and training needs.

5.7 Improvements to the practice and indicators of change

It is important to be able to know whether or not the technology is improving the effectiveness and efficiency of the organisation. The benefits and successes of ICT adoption at O-Regen were measured as a multi-dimensional construct, an approach recommended by Magalhaes (1999) and De Lone and McClean (1992). The key benefits, confirmed through a questionnaire completed by the CEO, include:

1) Increased use of emails: There was increased use of emails as the website was developed and made operational. There was increased use of email as members of staff embraced the technology. One notable example given was increased use of the email to communicate content materials amongst the staff team.

2) Staff accessing information via website: Staff accessing information on the website is a good indicator of the appreciation of the role the website plays as a knowledge resource. A good example was staff in another department looking up information about a community centre facility and passing it on to their clients. A consequence of staff regularly accessing information on the website was that out of date content materials that required updating or removal were more quickly spotted and remedial action taken. Staff became more aware of individual and corporate services as they participated in the

design and updates of the site, and by regularly accessing the site to determine age of the contents or inputting information for clients.

3) Up-to-date website pages: There was better management of information by providing up-to-date and effective information for clients on the site, regular news update and good news stories. An up-to-date website is a good indicator of that the website is integrated into the business operations and practices of the organisation.

4) Regular good news stories posted by staff on the website: A good measure of how much employees are engaged with a technology (website in this case) is how often they use it. At O-Regen members of staff regularly posted good news stories and information about their activities on the website. This could be because they were told to do so. Nevertheless, this also had the added effect of boosting morale and spreading feel good factor as some of the members of staff were genuinely pleased to hear some of the successes of the organisation.

5) More client referrals: The ultimate indicator that the website is effective is clients and customers visiting the website and proceeding to access the services provided by O-Regen. A good example is that following email bulletin regarding grants, O-Regen staff reported that the number of telephone calls and hits on the fundraising website went up to 129 unique visitors per day compared to average of 61.

The above measures compliment the views taken by many authors including Magalhaes (1999), Boynton et al (1994), Davenport (1993) and Walton (1988) who suggest that the following three measures can be used to determine organisational effectiveness at a very broad level: 1) reduced costs as a result of automation; 2) better management of information; 3) more suitable positioning in the competitive market and 4) transformation which encapsulates the benefits accrued from previous stages as well from new management structures and process innovation enabled by new technologies.

5.8 Reflections

In this section, I reflect on my action research experience and apply institutional theories to explain what happened.

This thesis deals with how SMVOs can best adopt and use ICT (website). Implementing ICT in organisations can not be seen as a one way process. Orlikowski (1992) used concepts from Gidden's (1984) saturation theory and argued that technology is a socially constructed product in the sense that new structures *emerge* in human action as people interact with the technology.

As explained in Chapter 2, in order to understand the ICT take up concept, it is important to have good insight into what organisations are and how they behave. Organisation theory offers many different, sometimes conflicting, views of how the phenomenon 'organisation' can be considered (Nijland 2004). A common assertion is that organisations are highly complex entities dealing with a great number of relevant issues with regard to their creation, existence, functionality and transformation.

I will explain two dualities of change concerning O-Regen: namely action versus structure, and planned versus emergent change.

5.8.1 Action and structure

Action depends upon the capability of an individual to make a difference to a pre-existing state of affairs or course of events (Giddens 1979). In this action research, the researcher and 8 key staff were actors in the organisations and drove through the adoption and diffusion of the technology. I also believe that the *actors* engendered the process of enactment. The concept of enactment has been developed by Weick (1990; 1995) as a process whereby people unconsciously play a proactive role in creating their world. Morgan (1986) describes organisations as being socially constructed realities that are as much in the minds of their members as they are in concrete structures. Regarding organisational behaviour, an enactment process suggests that the

behaviour does not arise merely from organisations conforming to environmental pressures, but in fact organisations are active in creating and defining some of their own environments (Nijland 2004).

O-Regen underwent *homogenisation* by adapting to changes from within O-Regen and the other drivers for change. Institutional theorists, proponent of structure, argue that actions are the direct effects of ideas, values, and beliefs that originate from institutional environment of the organisations (Greenwood and Hinnings 1996). Institutional theorists recognise homogenisation, a resulting process where an organisation resembles others that face similar environmental pressures. Powell and DiMaggio (1991) argue that organisations tend to become similar – isomorphism. They indicated that the process of isomorphic changes is driven by three mechanisms: coercive isomorphism, mimetic isomorphism and normative isomorphism. In case of O-Regen, I could recognise the following (Nijland, 2004): 1) Coercive isomorphism is where organisations apply pressures on each other. These came from Local Government, Central Government, and Learning & Skills Councils. 2) Mimetic isomorphism relates to competition in which organisations mimic each others. Whilst this pilot study ensured that O-Regen led the way, I am aware that the experience was influenced by exchanges and communication with other SMVOs within the Development Trust Association. For example, use of marketing online newsletters was absorbed in this manner. 3) Normative isomorphism relates to the way members of a profession are trained similarly and therefore are influenced in the way they behave and obtain knowledge. For example, within the Training Team, certain norms existed which are associated with high performance and quality service delivery. As part of the change action, I ensured diffusion of these norms to other parts of the organisation. This was made easier because I co-ordinated the diffusion of Customer First Framework.

Orlikowski (1992) argues that technology is both a product and a medium of human action. I found this to be true in the case of the domination enjoyed by the Training team where the website and ICT diffusion was widespread.

5.8.2 Emergent versus planned organisational change

In terms of organisational ICT adoption, like Nijland (2004) and Pettigrew (1990), I recognise that change is multifaceted, involving political, cultural, incremental, environmental, and structural, as well rational dimensions. Power, chance, opportunism and accident are as influential in shaping outcomes as are design, negotiated agreements and master-plans. Certainly through action research, the changes were planned but equally some were unplanned such as the benefits arising out restructure.

It is now appropriate to explain the organisational properties that drive such mechanisms.

5.8.3 Organisational culture

As outlined in Chapter 2, organisational culture and its role in ICT implementation/management is gaining increased attention (Magalhaes 1999; Davenport 1994; Robey and Azevedo 1994; Willcocks 1994; Avison and Meyers 1995; Robey 1995; Ward and Peppard 1996). Willcocks (1994) argued that previously, major ICT managerial emphasis fell on technological-environmental-human resources relationships. Like Seel (2000), I have provided an epidemiological approach by considering the now and future situations regarding the organisational culture[23]. I considered the culture situation in 2002 and post 2005 (see Tables 5.5 to 5.11).

The participants or actors became change agents or 'missionaries', spreading the word and engaging in different kinds of conversation with their colleagues.

Organisational change is sometimes characterised as either *top-down* or *bottom-up* (Seel 2000). As a senior manager, I believe that my approach was top-down but with genuine room for influence and moderation from junior managers and staff. Thus, I was able to act as Seel's (2000) *immuno-*

[23] Seel's work was based on IT division of a major public service.

suppressant, trying to damp down resistance and to nurture and encourage the new behaviours. Until a critical mass is achieved the change is very frail and can be easily destroyed (Seel 2000). By working with a team of 8 employees or co-researchers involving more than 25% of the staff, I was able to achieve the necessary critical mass.

5.8.4 Organisation effectiveness

In this research, benefits and successes of ICT adoption at O-Regen were measured as a multi-dimensional construct (Magalhaes 1999; De Lone and McClean 1992). In paragraph 5.7, I identified 5 indicators of change that are good measures of organisational effectiveness in terms of implementation of the website.

Many authors (Magalhaes 1999; Boynton et al 1994; Davenport 1993; Walton 1988) suggest the following four similar measures that can be used to determine organisational effectiveness at a very broad level. The benefits include:

- reduced costs as a result of automation
- better management of information
- more suitable positioning in the competitive market.
- transformation which encapsulates the benefits accrued from previous stages as well from new management structures and process innovation enabled by new technologies

I agree with Magalhaes (1999) and De Lone and McClean (1992) who argue that the above broad measures or indicators used in the past to evaluate organisational effectiveness of the implementation of IT in an organisation can become meaningless in a cross sectional design. For example, cost reduction can mean different things in different organisations and it would not be feasible to design a questionnaire which could encompass all possible types of organisations. They conclude that attempts to measure impact of management information systems on overall organisational performance are

not often undertaken because of the difficulty of isolating the contribution of IT from other contributors to organisational performance.

5.8.5 Organisational learning

Organisational knowledge encapsulates the sum total of the factual knowledge of the individuals that work in that particular organisation when they come together as a group.

Organisation learning is about increasing the stock of knowledge whereas culture is about creating the conditions for knowledge development. Therefore, whilst culture is about stability, learning is about change. Many authors agree that organisational learning is embedded and linked to action (Handy 1997; Ghoshal and Bartlett 1998). Like Magalhaes (1999), I consider organisational learning to be both an organisational process and an outcome. The process involves acquiring and building up organisational skills and the outcome is the phenomenon of change in the existing stock of collective knowledge. This is best illustrated by the People Development Programme (PDP) for the eight key members of staff which resulted in improvements in the skills and work performances.

5.8.6 Action Research

The outcomes of action research are change for the organisations and learning for the researcher and participants. This research sets out to change O-Regen and improve the skills and knowledge employees. In this study, because change was a desired outcome, it was more easily achieved as employees were committed to the change. Some participative form of action research (*Participative Action Research* - PAR) was therefore utilised (Dick, 1993). As part of the review cycle, the research participants (employees and I) examined and constructed, then evaluated and reconstructed any concerns (Grundy, 1986). It included pre-emptive discussion by participants where shared problems were identified (Seymour-Rolls & Hughes, 1995). During reflection, a *review* of previous actions were undertaken and a *plan* what to do

next was drawn up. Critical reflection tested in action provided a basis to pursue rigorous understanding of the problems through (Dick 2002):

- the involvement of employees which provides more information
- correction of errors during the cyclic process, brief cycles are used to provide adequate iteration.
- multiple data sources are accessed to provide a dialectic
- within each cycle the assumptions underlying the plans are tested in action

5.8.7 Conceptualisation of the ICT model at O-Regen

Based on the case study at O-Regen and rooted in action research methodology described earlier in paragraph 5.2, a summary of key issues to be dealt with when setting up an organisational website is summarised in Website Development Process below.

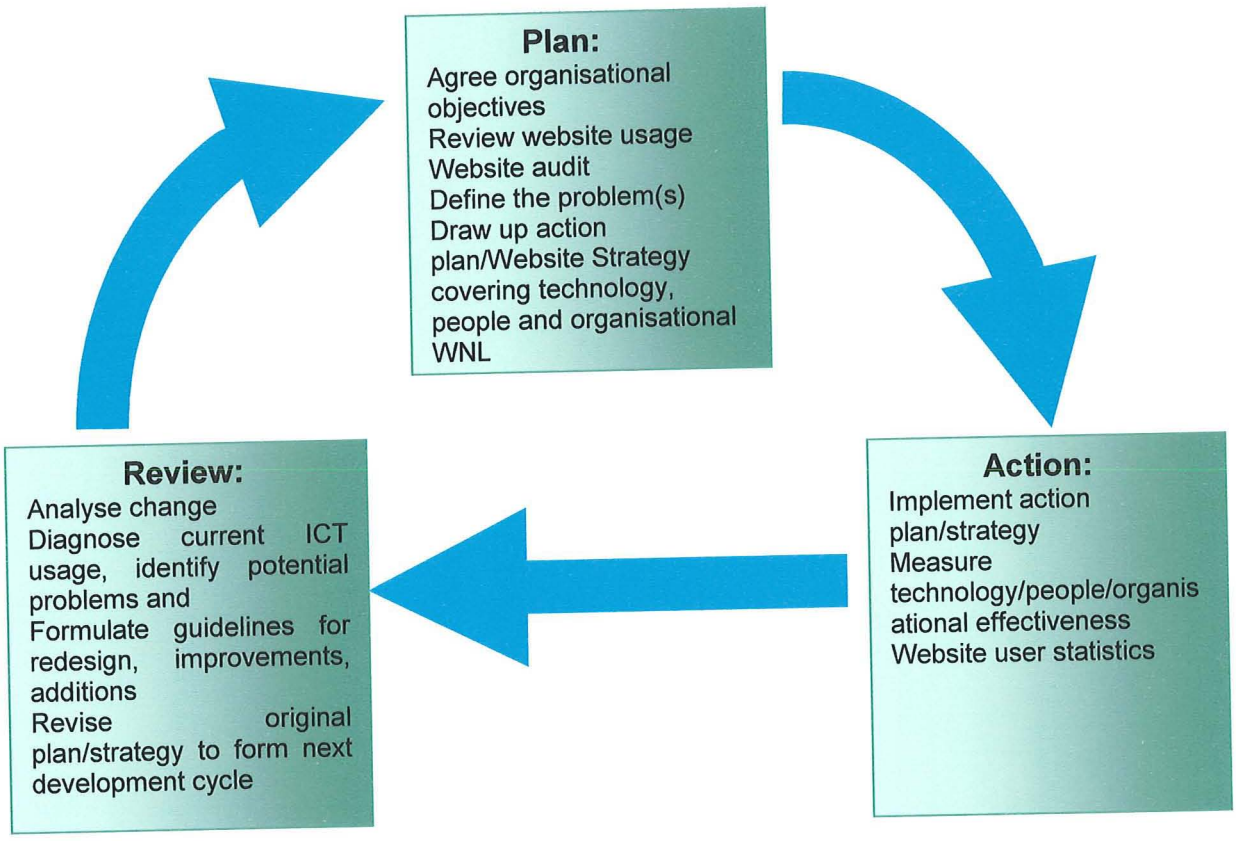


Figure 5.14 – Illustration of Website Development Process (WDP) cycles through O-Regen pilot study

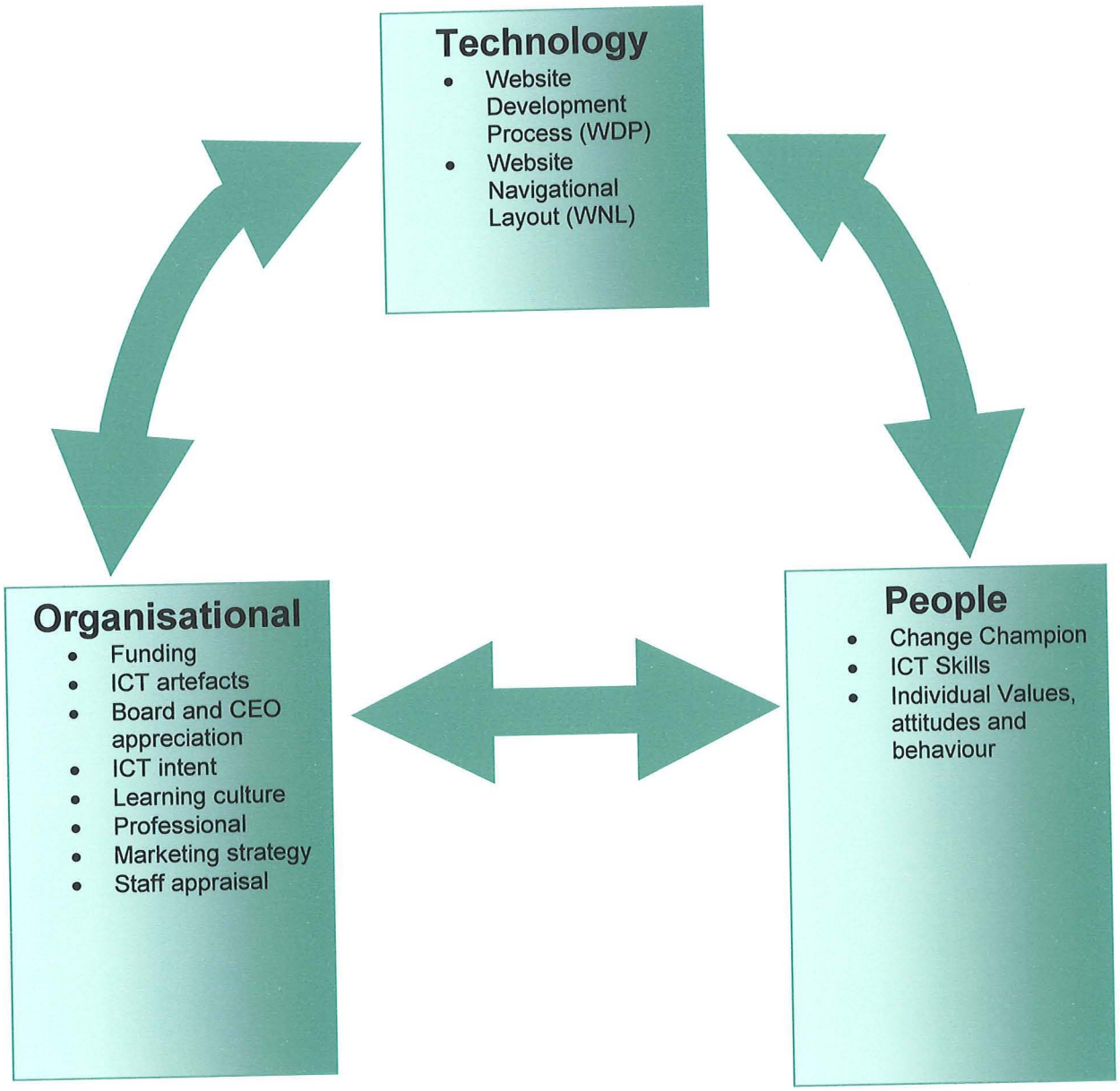


Figure 5.15 - Website Adoption Model (WAM)

I have encapsulated the Website Adoption Model (WAM) shown in Figure 5.15 which has its root in the three approaches that traditionally dominated ICT implementation theory, namely technological determinism (Campbell 1996; Markus and Robey 1988), organisational imperative (Chandler 1962; Andrews 1971; Earl, 1996; Morgan 1997) and socio-technical interactionism or bottom-up approach (Ciborra 1994; Ciborra, Patriotta and Erlicher 1995).

The new Website Adoption Model (WAM) I propose is based on what I refer to as 'Technology, Organisational and People (TOP) Imperatives'. The model is largely driven by the organisational imperative in terms of utilising senior management appreciation, appointing them as change champions and aligning technology to business objectives and service delivery. Wider diffusion and use of the website in terms of ongoing updates depends to a large extent on bottom-up participation from the people or staff. The technology imperatives are significant in the identification and determination of simple and effective technology to aid diffusion.

The TOP imperatives interact with each other and can also be grounded in the contingency model. As outlined in Chapter 2, contingency models of organisation emphasise the interrelationships between technology, structure, methods of operations and the nature of environmental influences. Vecchio (2000) and (Mullins 2005) suggest that the contingency approach emphasises the need for flexibility and the approach does not seek universal principles that can be used for every situation, but instead seeks to explain how one attribute or characteristic depends on another. I agree with both Bouchikhi and Kimberly (2000) and Mullins (2005) who argue the contingency approach is considered as a 21st century paradigm because it is flexible and takes account of the more proactive involvement of customers and shareholders in a market-driven environment. However, my interest is in the flexibility of the contingency approach in taking account of situational factors found within SMVOs which are the results on interactions between technology, people and other organisational variables. It suits the changing nature of the work environment, the increasing demands for flexibility and concerns with contextual factors influencing structure.

From the case study at O-Regen, I have been able to demonstrate that the contingency-based TOP model which causally relates information technology implementation (in terms of design and implementation of website) to organisational structures (in terms of culture and managerial inputs) and people (in terms of job roles, learning and skills acquisition). The model

integrates multiple and well-grounded theoretical streams of research. These three key factors interact and influence each other as they determine how organisations implement website/technology. This research focused on the key factors or imperatives that must exist in order to facilitate website implementation 'operationalising' them with key factors which form the Website Adoption Model (WAM).

5.9 Ethical considerations

Two main assumptions of the ethics in social research are voluntary participation and no harm to subjects. Ethics attempts to understand the nature of morality to distinguish that which is right from that which is wrong. Because action research is carried out in real-world circumstances, and involves close and open communication among the people involved, the researchers must pay close attention to ethical considerations in the conduct of their work. Winter (1996) lists a number of principles:

- Make sure that the relevant persons, committees and authorities have been consulted, and that the principles guiding the work are accepted in advance by all.
- All participants must be allowed to influence the work, and the wishes of those who do not wish to participate must be respected.
- The development of the work must remain visible and open to suggestions from others.
- Permission must be obtained before making observations or examining documents produced for other purposes.
- Descriptions of others' work and points of view must be negotiated with those concerned before being published.
- The researcher must accept responsibility for maintaining confidentiality.
- Decisions made about the direction of the research and the probable outcomes are collective
- Researchers are explicit about the nature of the research process from the beginning, including all personal biases and interests

- There is equal access to information generated by the process for all participants
- The outside researcher and the initial design team must create a process that maximises the opportunities for involvement of all participants.

In carrying out this research, I have been mindful of ethical issues and behaved in a professional manner towards employees. For example as previously highlighted, some employees have sometimes not been very forthcoming with information mainly due to fear about what I might use the information for. I dealt with these fears by offering copies of interview schedules or findings and giving them assurances about confidentiality. I have also adhered as close as possible to the principles of data protection. Wherever applicable, I have complied with the eight enforceable principles of good practice. That personal data was:

- fairly and lawfully processed;
- processed for limited purposes;
- adequate, relevant and not excessive;
- accurate;
- not kept longer than necessary;
- processed in accordance with the data subject's rights;
- secure;
- not placed on the web without adequate protection.

5.10 Summary

I have encapsulated the Website Adoption Model (WAM) which has its root in the three approaches that traditionally dominated ICT implementation theory, namely technological determinism (Campbell, 1996; Markus and Robey, 1988), organisational Imperative (Chandler, 1962; Andrews 1971; Earl, 1996; Morgan, 1997) and socio-technical interactionism or bottom-up approach (Ciborra, 1994; Ciborra, Patriotta and Erlicher, 1995).

The new Website Adoption Model (WAM) I propose is based on what I refer to as 'Technology, Organisational and People (TOP) Imperatives'. From the case study at O-Regen, I have been able to demonstrate there the contingency-based TOP model which causally relates information technology implementation (in terms of design and implementation of website) to organisational structures (in terms of culture and managerial inputs) and people (in terms of job roles, learning and skills acquisition). The model integrates multiple and well-grounded theoretical streams of research. These three key factors interact and influence each other as they determine how organisations implement website/technology. This research focused on the key factors or imperatives that must exist in order to facilitate website implementation 'operationalising' them with key factors which form the Website Adoption Model (WAM).

In the next chapter, I apply the WAM approach and lessons learnt at O-Regen to four carefully selected SMVOs.

Chapter 6: Application of model in selected SMVOs

6.1 Introduction

In Chapter 1, my thesis statement is summarised as follows:

*The take up of ICT by SMVOs can be supported and facilitated by identifying inhibiting factors and pursuing a programme of **technology** adoption, **staff** development and **organisational** change to achieve effective organisational implementation of ICT.*

In Chapter 5, I encapsulated the Website Adoption Model (WAM) which has its root in the three approaches for ICT implementation theory, namely technological determinism (Campbell 1996; Markus and Robey 1988), organisational imperative (Chandler 1962; Andrews 1971; Earl, 1996; Morgan 1997) and socio-technical interactionism or bottom-up approach (Ciborra 1994; Ciborra, Patriotta and Erlicher 1995).

The new Website Adoption Model (WAM) I developed at O-Regen, is based on what I refer to as 'Technology, Organisational and People (TOP) Imperatives'. The model is largely driven by the *organisational* imperative in terms of utilising senior management appreciation, appointing them as change champions and aligning technology to business objectives and service delivery. Wider diffusion and use of the website in terms of ongoing updates depends to a large extent on bottom-up participation from the *people* or staff. The *technology* imperatives are significant in the identification and determination of simple and effective technology to aid diffusion.

In this chapter, I apply the WAM approach and lessons learnt at O-Regen (chapter 5) to the following four carefully selected SMVOs.

SMVO	Type of Service	Size (Number of staff/volunteers)	Number of Computers
Nappy Gang (NG)	Childcare	16	10 PCs, 1 PC for Internet access
UXL	Training & Employment	12	30 PCs linked to Internet
Afro-Caribbean Disablement Association (ACDA)	Community Empowerment and Advocacy	2	14 PCs, 1 PC for Internet access
African Caribbean Women's Development Centre (ACWDC)	Training and Community Empowerment	2	3 PCs, 1 PC for Internet access

Table 6.1 – Overview of case studies

I selected to study SMVOs that cover smaller organisations (ACDA and ACWDC) and medium sized organisations (UXL and Nappy Gang). I also ensured that the type of services provided were varied and as typical as possible of the voluntary and community sector ranging from community empowerment, childcare to training.

In this chapter, I also provide description and analysis of each case study in terms of technology, people and organisational processes. I conclude the chapter by reflecting on the website adoption experience by drawing out critical success factors and issues that can further assist me in answering the following research questions: *What are the factors that affect organisational implementation of ICT by SMVOs? Using website technology as the ICT tool, how can inhibiting factors be mitigated? How can the lessons learnt be*

employed more generally to tackle ICT implementation within the SMVOs and other organisations?

6.2 Nappy Gang (NG)

Figure 6.1 - The Nappy Gang's new facilities based at the O-Regen's SCORE Complex in Leyton

6.2.1 Profile of NG

The table below provides a summary of the main features and characteristics of NG.

Company mission and business objectives	The Nappy Gang is a small community based Childcare organisation operating in Leyton in East London. Its key objectives include the following: • Ensure equal access by providing free and low cost childcare services to families • Strengthen parent's role through needs-led, awareness raising workshops and activities

	within the centre • Support the development and learning of children in the early years through stimulating play experiences • Ensure that children and their families with special needs are quickly identified and assessments of care/action plans put into place • Support learning, social and creative skills of school age children through the provision of a breakfast club, after-school and holiday play programmes • Involve parents, children and staff in the development and running of the Nappy Gang • Work in partnerships with other professionals to meet the specific needs of the parents or community.
When Formed	1985
Product/Services	Provides the following childcare services: • Nursery education for up to 5 years • Breakfast and After School Club • Holiday Play Scheme
Size (no of employees)	16 full-time and part-time staff
ICT and Quality Systems	The organisation has: • 10 stand alone PCs • 1 PC connected to BT broadband Internet access
Staffing	Childcare workers and volunteers
Style & Culture	Nappy Gang is a busy, vibrant childcare organisation. It has just moved into modern, custom built rented

	premises. The culture is friendly with strong parental participation. Specific practices include: • All Parents/carers are welcomed, treated with respect, valued and included in the life of the nursery. • All Parents/carers are welcomed at anytime to come in to observe and participate in activities with their children. • They ask for Parent/carer opinions and ideas and make sure that this is included into the development and life of the Nursery. • They share information about the life of the nursery and the individual development of the child with the parent/carer. Information is shared in various ways (in the family language, notice boards, letters, meetings, home books, tapes and other resources). • Parent/carer complaints are welcomed and these are used positively to 'improve what we do'. • Some Parents/carers may face particular hardships, discrimination and social exclusion and so 'we provide specific support to meet their needs'.
Union involvement	There is no union representation at the organisation
Decision making	Operational decisions are made by the manager and strategic decisions are made by the Management Committee or Chair as appropriate.
Communication systems and practices	The Chair is closely involved in the running of the organisation, reporting several days in a week. The Manager is responsible for the day-to-day running of the organisation and reports to the Chair on a weekly sometimes daily basis.

Commitment to learning and development	NG appreciates learning and development as evidenced by: • In-house staff training held every Thursday. • All childcare workers have achieved or are working towards NVQ2 to NVQ4[24] in Childcare and/or Management. One of the staff is on an Education degree course. • The main obstacles to learning and development are time and ICT expertise.
Performance monitoring	Performance management is important and monitored in order to comply with early year education requirements.
Reward systems	Informal
Total Quality Management, Investors in People, ISO9000 other training initiatives	NG complies with: • OFSTED • London Borough of Waltham Forest Early Years inspection regimes
Equal opportunities statement	The Nappy Gang ensures that its staff, policies, procedures, services and resources reflect the diversity and needs of the wider community. They work creatively to ensure that there is equal access to their services, resources and support.

Table 6.2 - Profile of NG

[24] National Vocational Qualifications (NVQs) are work-related, competence-based qualifications. They reflect the skills and knowledge needed to do a job effectively, and show that a candidate is competent in the area of work the NVQ represents. NVQs are organised into five levels, based on the competences required.

6.2.2 People

The people aspect of the research covered the actions and experiences of the change champion who is also Chair of Nappy Gang. Critical success factors are also identified and evaluated (Stein and Vandenbosch, 1996).

NG aims to be a professional childcare service provider. In this respect it values staff development as part of the continuous process of improving standards and achieving organisational objectives. NG has been quite successful in achieving staff development through vocational training. All childcare workers have achieved or are working towards NVQ2 to NVQ4 in Childcare and/or Management. One of the members of staff is on an Education first degree course.

The main obstacles to learning and development that I identified are lack of time and in-house ICT expertise to allow affordable in-house training. As part of this research, essential guidance, advice and support was provided to encourage and build the capacity of the change champion and key staff.

The two participating people were:

- Chair
- Nursery Manager

From interviews and questionnaire assessments, I assessed their particular skills and how they viewed the use of websites to support their service delivery. For each participant, I shall now outline their role, initial set of skills, key skills gaps, training received and feedback regarding change.

Chair

The Chair is closely involved in the running of the organisation, reporting for several days in a week. The role of the Chair is to develop services, seek

funding and have overall responsibility for the strategic direction of the nursery.

The Chair is a childcare professional with over 13 years experience and NVQ Level 3 qualification in childcare. She is due to complete a NVQ Level 4 in management/childcare. She had prior relevant IT skills including word and email. She has very high appreciation of ICT, a vision of networking all 10 computers, linking every PC to broadband Internet access and involving all nursery staff in using ICT in different aspects of the children's learning.

The Chair was closely involved in designing and determining the content of the website by offering useful suggestions and regularly reviewing the content. As part of the exit interview, the Chair indicated that the website was useful to provide clients and stakeholders with access to NG's activities and services. The key success indicator of the website's effectiveness is parents looking up the services on the website and contacting the organisation to visit and/or register for the service. To achieve this, she committed NG to ensuring that the website was always up-to-date and easy to navigate. She appreciated the research programme's recommendation of posting 'good news' stories on the website. This gives the organisation a positive image that says 'NG is effective and gets things done'. In terms of updates, the Chair preferred a firm arrangement for quarterly website updates with in-between updates to include best news stories and urgent news items or services.

According to the Chair, one of the most effective ways of facilitating ICT take up is through staff training undertaken in-house. Where no in-house expertise exists, members of staff are referred externally. For example, two members of staff including the Nursery Manager took part in the ICT training provided under this research programme. The Chair agreed very strongly with the research programme's recommendation to undertake active marketing of the website through recommended practices including e-bulletins and links to partner websites. Suggested partner links included Children's Information Services and Local Authority Early Years Directorate.

Nursery Manager

She is the chief operating officer of NG accountable to the Management Committee. She is responsible for the day-to-day management of service delivery.

The manager has been working at NG for over a year. She is a hands-on manager, with a good sense of humour and closely involved in front line service delivery. She is an experienced childcare professional with NVQ Level 3 qualification in Childcare. The manager had some IT skills but received some training, as part of the research programme, in the use of the Internet and surfing the web.

6.2.3 Technology

Content design

The Website Development Process (WDP) followed the model developed at O-Regen (see paragraph 5.8.7). The model is based on an iteration process. At the start, the terms of the project were agreed and relevant timeframes were set. The main concern was time since the Chair and relevant members of staff were almost always involved in childcare service delivery. However, the Chair's commitment meant that time was normally made available when the need arose. The domain name chosen was www.nappygang.org.uk.

The content was also discussed and agreed design was based on the Website Navigational Layout (WNL) model developed (Figure 6.1). A key feature is that NG opted for the Home Page design based on sub-frames with Latest News Update approach. This model requires that NG staff and management come up with regular updates and in particular 'good news' stories. The website began with few pages and is growing as its usage becomes more entrenched in the organisation. The following main pages encapsulated NG's services and were found to be most appropriate to its business objectives:

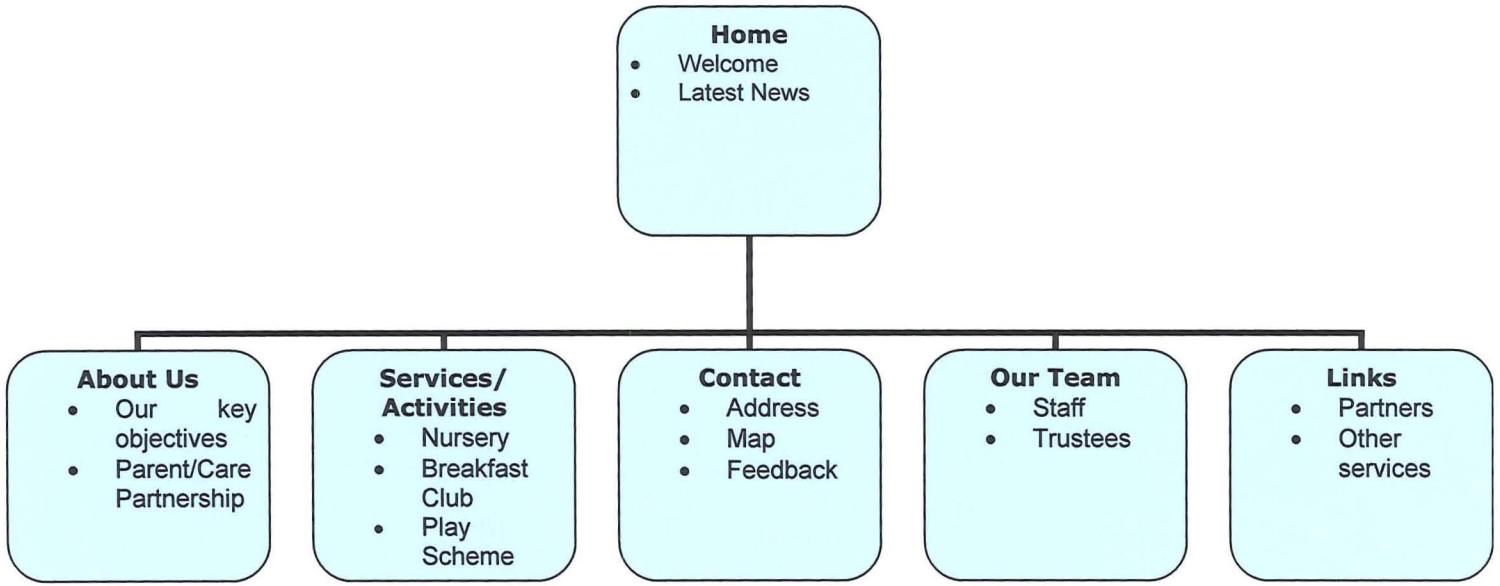


Figure 6.2 - Website Navigational Layout (WNL) for NG

In the design, different pathways were created as exemplified in Table 5.2.

Home Page: http://www.nappygang.org.uk/index.htm
About Us: http://www.nappygang.org.uk/about_us.htm
Our Team: http://www.nappygang.org.uk/team.htm
Contact: http://www.nappygang.org.uk/contact.htm
Links: http://www.nappygang.org.uk/links.

Table 6.3 - Example of pathways to different pages of NG

Descriptions and 'screen dumps' of the key pages are provided below to give insight into the character and appearance of the pages.

Figure 6.3 - The Nappy Gang Homepage (20/08/06)

Latest News

This included news worthy information such as the move to new premises within the SCORE complex just about 150 metres from their previous location. To learn more about the SCORE building, an ultra modern and multi purpose centre visitors are invited to click on a hyperlink.

The Parent/Carer Partnership Policy and 'our improved services were also presented as news items and visitors were invited to click on appropriate links.

About Us

On this page, NG presented its objectives, values and principles as enshrined in the Parent/Carer Partnership and Equal Opportunities policies. The appearance is captured in the figure below.

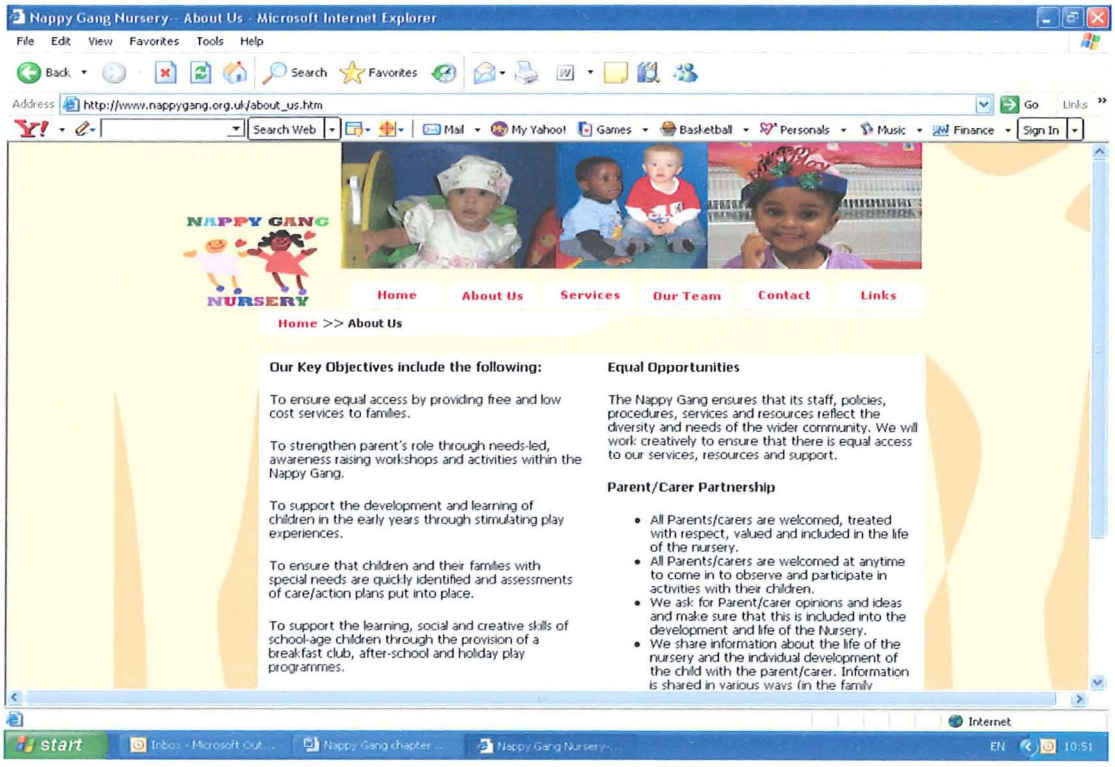


Figure 6.4 - The Nappy Gang About Us Web Page (20/08/06)

Services

In this section, NG provided information on childcare services including Nursery education for up to 5 years old, Breakfast and After School Club and Holiday Play Scheme. The appearance of the page is captured below (Figure 6.5).

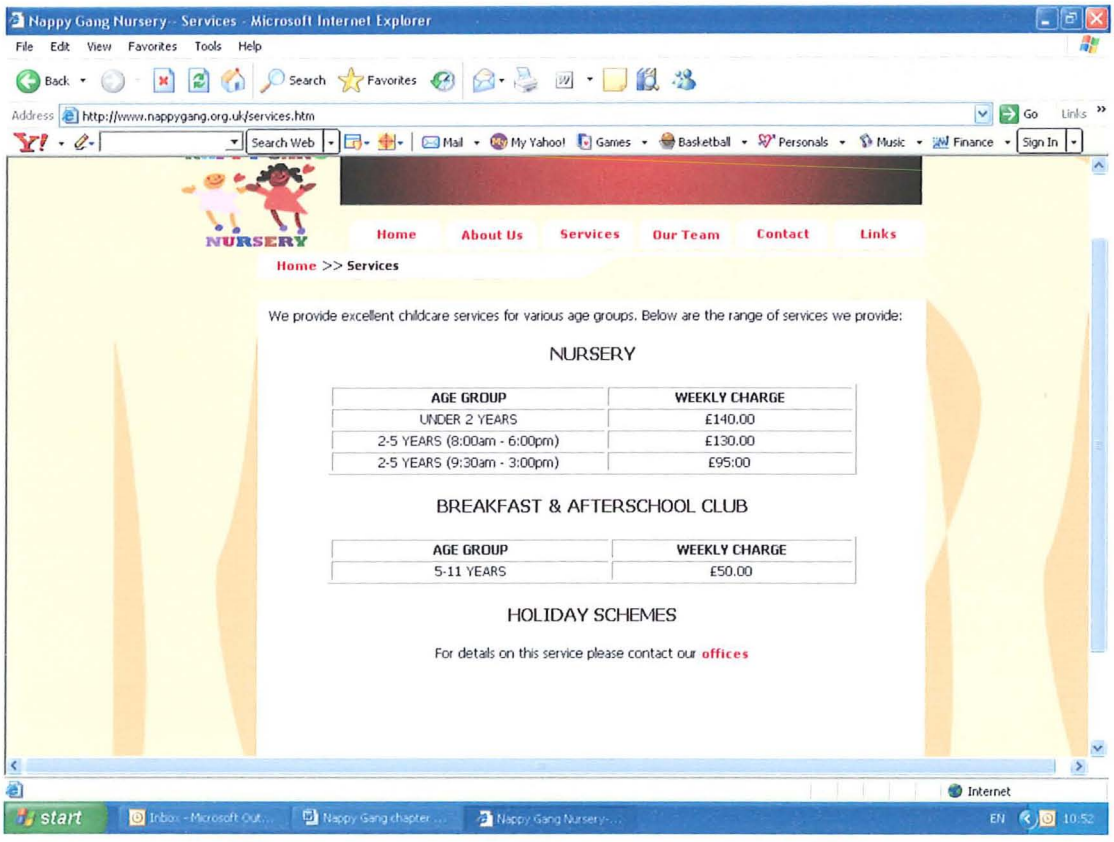


Figure 6.5 - The Nappy Gang Services Web Page (20/08/06)

Our Team

This page is a colourful and photo-filled section that provides a professional and 'humorous' description of who the key member of staff, their experiences and background. It portrays an image of an organisation that values professional staff development and team work. The appearance is illustrated in the figure below.

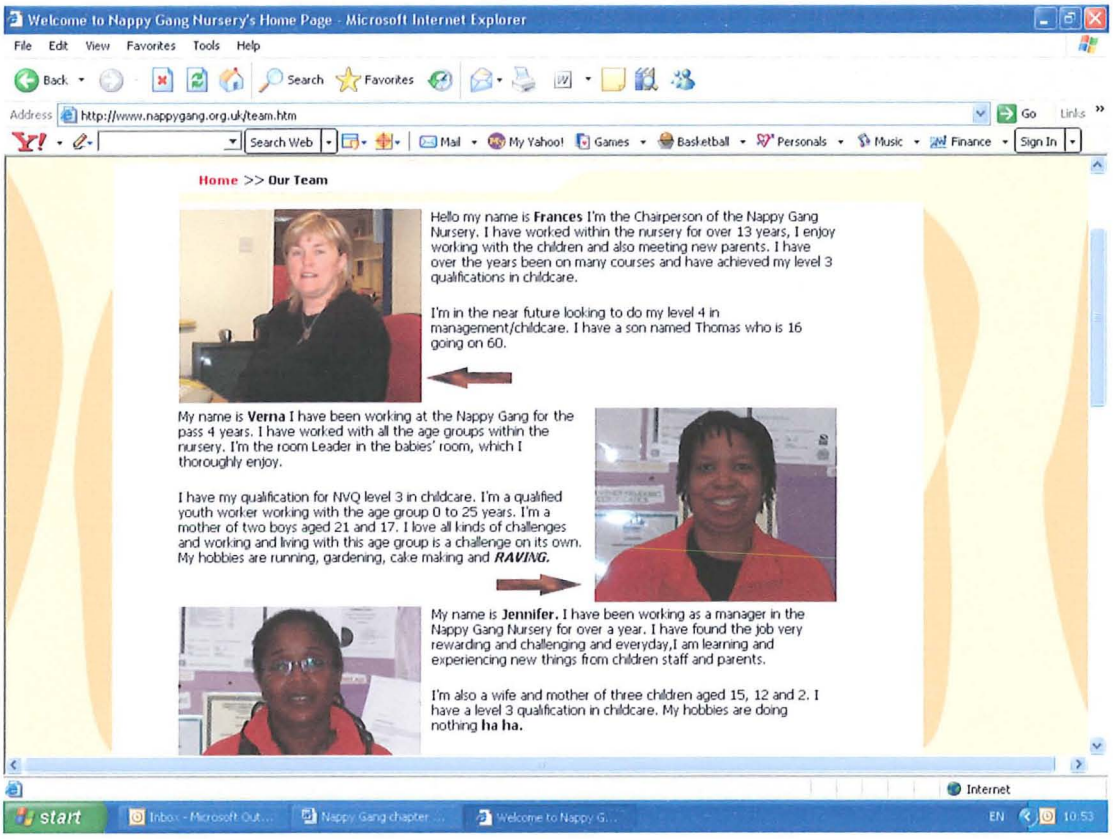


Figure 6.6 - The Nappy Gang Our Team web page (20/08/06)

Links

This page provides information about complimentary sites that visitors might benefit from visiting. They include:

ChildCare Link: A SureStart[25] sponsored site providing information about childcare available within the area and nationally together with other useful links.

Ofsted's Main Page: Information provided by the Government Body that oversees the provision of childcare and education.

---

[25] Sure Start is the government programme to deliver the best start in life for every child involving early education, childcare, health and family support.

BBC Parenting Guide: A BBC Link Covering Parenting website

Working Tax Credit: Useful information for parents intending to claim Child Benefits and Working Tax Credits.

Gingerbread: Gingerbread is an organisation set up specifically to help, advice and support single parents. This site provides useful links and information to those who are raising children by themselves.

The appearance of the link page is captured in the figure below.

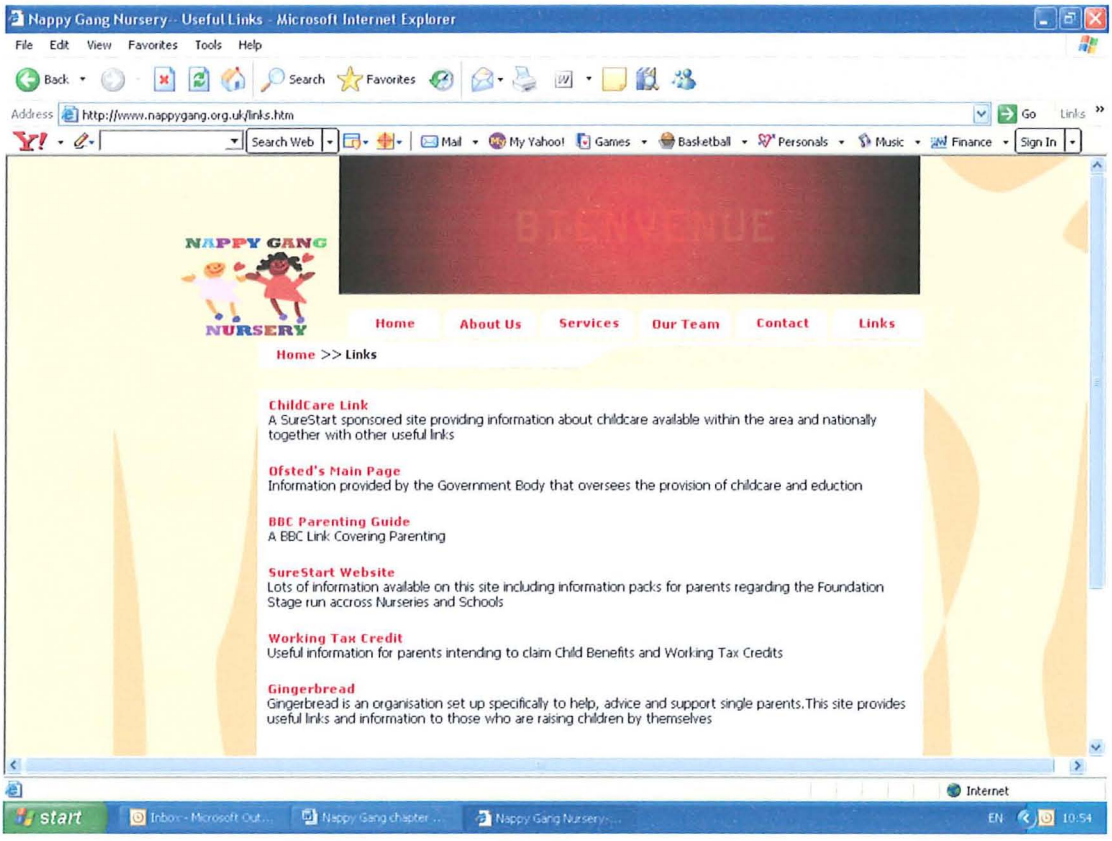


Figure 6.7 - The Nappy Gang Links web page (21/08/06)

Hosting and updates

The Nappy Gang website was hosted at the web server at O-Regen. Features of the arrangements included:

- Free hosting
- Updates on request (at least once a month)
- Updates are emailed to the webmaster at O-Regen for implementation

The elaborate update procedures developed and used at O-Regen was not required. A simplified version was adopted whereby the Development Worker emailed contents to the web master. This was appropriate because the level of activity was much lower compared to O-Regen's.

Marketing

A website is useful if it is widely used both internally and externally. In order to increase external usage, a simplified version of O-Regen's marketing strategy was adopted.

For example, over 1000 e-mails were sent out to stakeholders and potential clients. The results indicated an increase in the number of visitors to the site. Like at O-Regen, emailing was useful in a number of ways: Recipients are interested in the product as they gave us their e-mail addresses, it is free to carry out the mailing, it increases hits to the website and sends out the right messages by using new technology.

Monitoring of the effectiveness of the organisational website

For NG website, I used dedicated software: Web stat software by Surfstat which provided the following key monitoring information:

- Unique Visits by day

- Unique visits by month
- Page views by day
- Hour of the day activity
- Day of the week activity
- Number of returning visitors

Daily breakdown of number of *unique* visitors

In June 2005, up to 28 unique visitors per day accessed the website. For example, on 16 June 2005, 28 unique visitors accessed the site. The breakdown was as shown in table below.

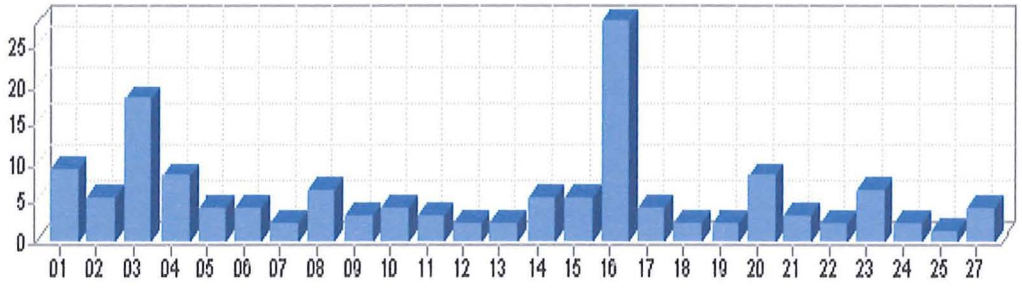


Figure 6.8 - Unique Visitors per day (June 2005)

Over the month, 142 unique visitors came to the site. This is low at 4% of the O-Regen's figures of 3276 for the same period but compares well with the same stage in the development cycle of the pilot site.

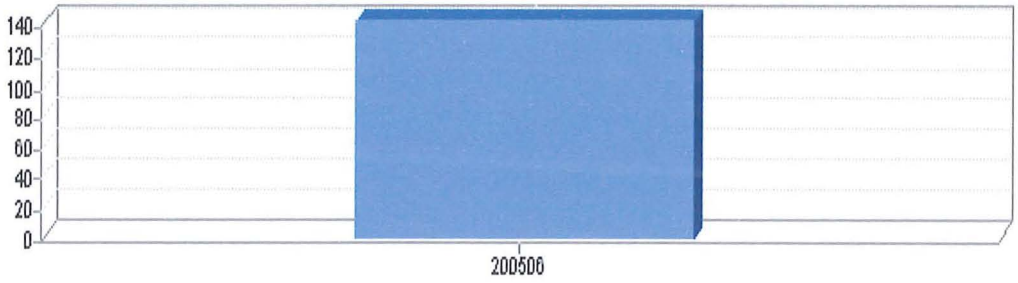


Figure 6.9 - Unique Visitors per month (June 2005)

253 pages were successfully viewed by all visitors in the month of June at average of 10 pages per day with up to 36 pages being viewed in a day. This is 2% of current O-Regen figures which stand at 16861 for same period.

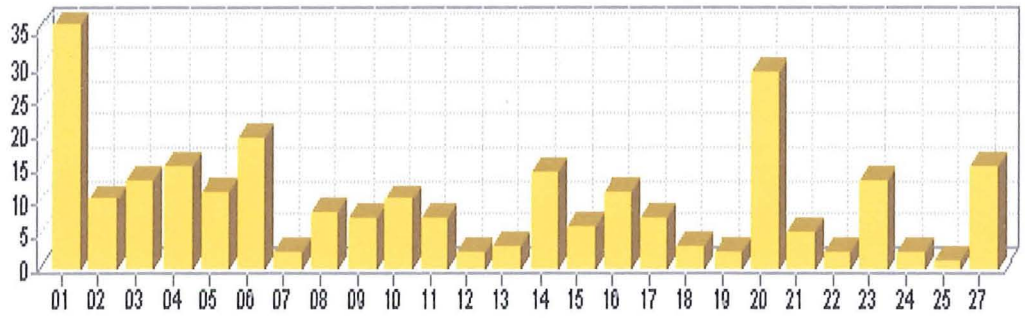


Figure 6.10 - Report on page views per day

In terms of hits and pages viewed, the most active hours of the day are between 9am and 3pm. Unique visitors, however, peak at between 5pm to 7pm. This appears to be the most opportune time when parents new to NG seek access to information regarding its services, possibly after their work. The difference in the two types of measurements was also detected at O-Regen where unique visits peaked at 7am but hits had flat peak between 11am to 3pm.

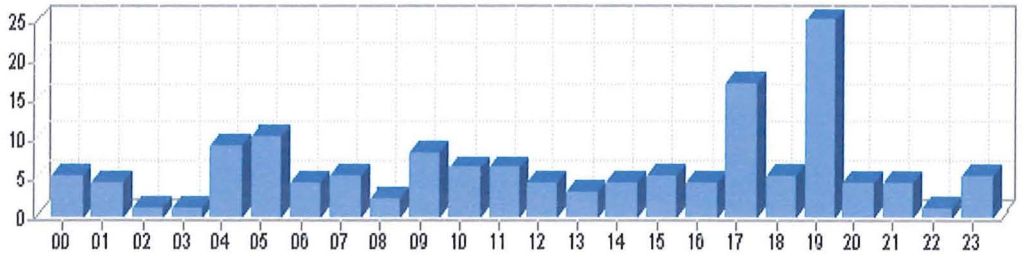


Figure 6.11 - Hour of the day activity by unique visits

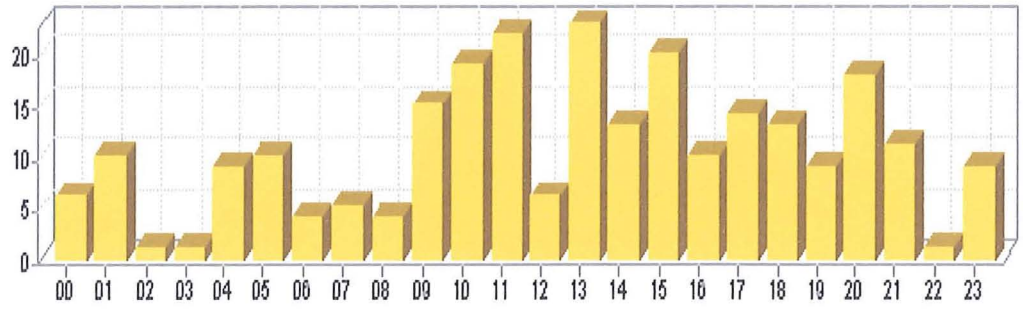


Figure 6.12 - Hour of the day activity by hits

During the study period, the most active day of the week was Monday (as measured by hits). Thursdays was the day when most unique visitors accessed the site. These were identical to O-Regen's active days of the week. A possible explanation could be that the weekend provides an interruption and visitors are looking to 'catch-up' of information. By the end of the week, clients tend to 'shop around' and it is more likely that new/unique visitors will appear.

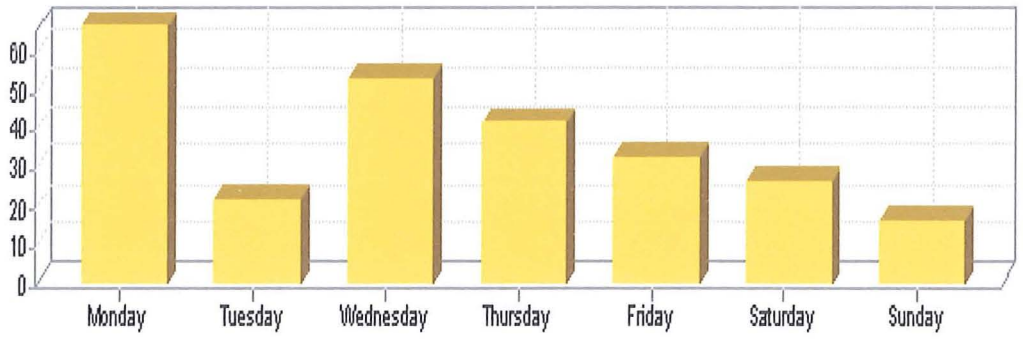


Figure 6.13 - Day of the week activity by hits

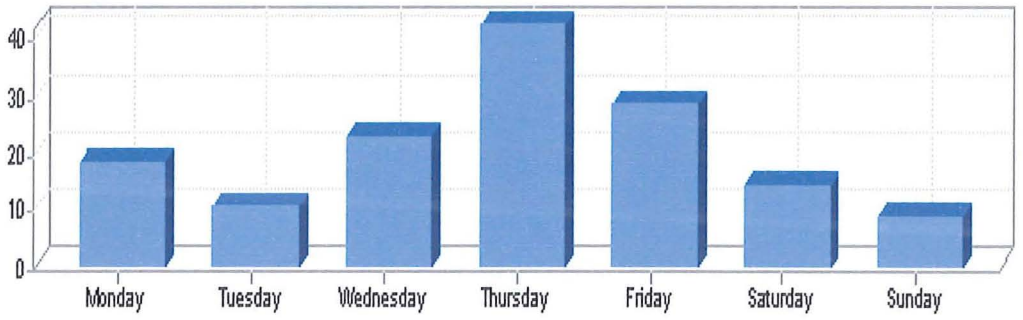


Figure 6.14 - Day of the week activity by unique visits

6.2.4 Organisational factors at NG

The organisational aspect of the research covered organisational culture and change management including organisational cultural web, service delivery, organisational structure, attitudes and relationships, budgetary and funding issues. The Nappy Gang is a small community based Childcare organisation operating in Leyton in East London. Its mission is summarised ion Table 6.1.

6.3 African Caribbean Disablement Association (ACDA)

6.3.1 Profile of ACDA

The table below provides a summary of the main features and characteristics of ACDA.

Company mission and business objectives	ACDA is a small voluntary organisation operating in East London. Its mission is to: • promote the rights, health and well-being of African and Caribbean disabled people in Waltham Forest. • promote equal access to service providers and policy makers. • support and empower African and Caribbean people to achieve their full potential and • encourage their active participation in community and society.
When Formed	February 1991
Product/Services	The services the organisation delivers includes: • One-to-one support to identify needs of disabled clients • Home visits • Free access to the computer and the Internet

	• Social and healthcare support including awareness training to address health inequalities. Sessions run include healthy eating and diabetes awareness.
Size (no of employees)	1 Part-Time staff and 1 volunteer
ICT and Quality Systems	The organisation has: • 3 PCs of which 2 are networked and share a printer. • BT broadband Internet access through one of the standalone PC.
Staffing	1 part-time Development Worker and 1 volunteer. 9 Trustees who constitute the management committee of ACDA also act as volunteers as required. The Development Worker manages the volunteer and reports to a management committee via the chair.
Style & Culture	The culture is informal, friendly but with increasing drive towards professionalism. Performance management requires further development. There is a lot energy and desire to provide more and high quality services but this is severely affected by a lack of funding and staffing resources. There is a culture of strong accountability and reporting to the management committee.
Union involvement	There is no union representation at the organisation
Decision making	Operational decisions are made by Development Worker and strategic decisions are made by the Management Committee as appropriate.
Communication systems and practices	The Management Committee meets every six weeks to review the operations and strategic issues affecting

	ACDA. Extraordinary meetings are called in-between the scheduled meetings as necessary. The Development Worker's duties and responsibilities are contained in a work programme and business plan. She updates the committee on progress at the meetings.
Commitment to learning and development	ACDA appreciates learning and development as evidenced by: • Development Worker has attended web design course • She has acted as 'change champion' during this research The main obstacle to learning and development is lack of funding.
Performance monitoring	Progress on work programme is reported on a six weekly basis to the Management Committee.
Reward systems	Informal
Total Quality Management, Investors in People, ISO9000 other training initiatives	Awarded Quality Mark by Community Legal Service (CLS)
Equal opportunities statement	ACDA is committed to Equal Opportunities practices and has a policy in place.

Table 6.4 - Profile of ACDA

6.3.2 People at ACDA

Like at Nappy Gang, the people aspect of the research covered the actions and experiences of the change champion and only employee of ACDA and evaluation of change to identify critical success factors. ACDA recognises the importance of developing and supporting staff as part of the continuous process of improving standards, achieving organisational objectives but has been adversely affected by severe lack of funding. As part of this research, essential guidance, advice and support was provided to encourage and build the capacity of the change champion.

The two participating people were: Development Worker and a volunteer. I met with both participants and interviewed them on their particular skills and how they viewed the use of websites to support their service delivery. For each participant, I shall now outline their role, initial set of skills, key skills gaps, training received and feedback regarding change experienced.

Development Worker (DW)

The role of the DW is to develop services, seek funding and manage the service delivery. She is also the chief operating officer of ACDA accountable to a Management Committee.

The post holder had good basic IT skills including, PowerPoint, basic web design, word and email. Being the only employee, she had to acquire a range of skills and proved to be a good example of the evolving breed of 'multi-skilled' officers who run small voluntary organisations. This reminded me of operatives within the construction sector who have to develop multi-skills in order to sustain longer term employment by moving from one type of job to another.

The post holder did not require any significant training. In fact, she took a leading role in designing and reviewing ACDA's website. She showed such a

high level of motivation and interest in the programme and came up with several improved versions of how she wanted the site to look.

As part of the exit interview, the post holder indicated that the website was useful to provide clients and stakeholders with access to ACDA's activities and services. It also raised awareness of how clients could access other service providers by clicking on partner links. The main problem, she regretted, was difficulty in prioritising and giving ICT the importance it deserved due to competing demands on the small resources ACDA had.

Volunteer

The role of the volunteer is to provide administrative support. The volunteer is a fresh Business Administration and IT university graduate who is keen to gain some practical experience of the workplace. The volunteer had good IT skills including word and email. Important skills lacking were web design skills.

6.3.3 Technology at ACDA

Content design

The Website Development Process (WDP) also followed the model developed at O-Regen. The model is based on an iteration process ranging from Stage 1 to Stage VII. Like at Nappy Gang, Stage 1 involved agreeing the terms of the project and setting relevant timeframes. The main concern was lack of staff time as the organisation employs only one staff and uses occasional volunteer. The domain name chosen was www.wf-acda.org.uk. As in other case studies, the content was also discussed and agreed design was based on the website Navigational Layout (WNL) model developed in chapter 4.

The website began with 6 pages and is growing as its usage becomes more entrenched in the organisation. With one part-time staff and a volunteer, ACDA was the smallest of the organisations studied in this research. Despite the obvious resource disadvantage, the small size presented peculiar

advantages. For example, decision-making was much faster as it often required the Development Worker/Change Champion consulting with just one other person (the Chair). There was no long bureaucratic channel to travel. Another feature of ACDA, was that it undertook to modify the website template it was presented with and opted for what is becoming a dated appearance for the Home Page. They felt that being a very small organisation, the lack of intense activity and relative infrequent news update meant that that the traditionally looking home page was 'lower maintenance'. Another adaptation by ACDA was the decision to use bigger fonts (size 14 or more) for the text. This was in order to accommodate the needs of visually impaired clients who are likely to access the site.

The following design and main pages encapsulated ACDA's services and were found to be most appropriate to its business objectives:

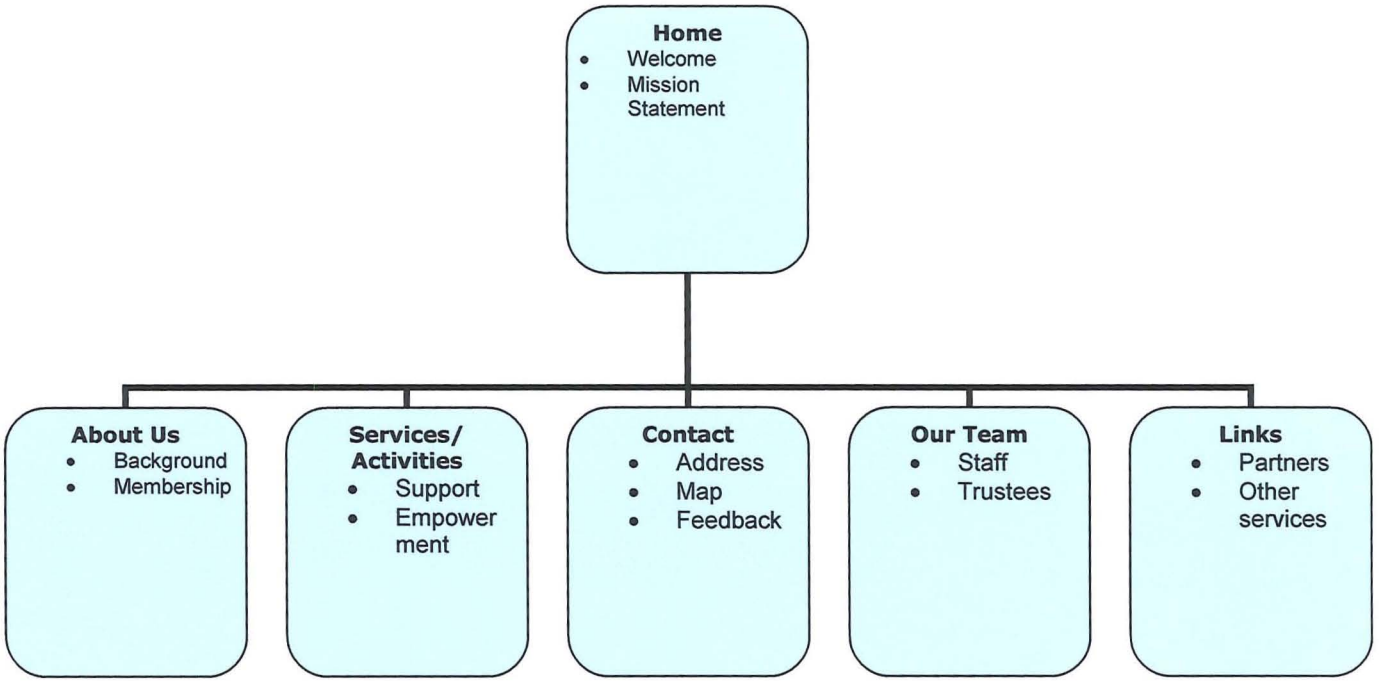


Figure 6.15 - Website Navigational Layout (WNL) for ACDA

In the design, different pathways were created as exemplified in Table below.

Home Page: http://www.wf-acda.org.uk/index.htm
About Us: http://www.wf-acda.org.uk/about_us.htm
Our Team: http://www.wf-acda.org.uk/team.htm
Contact: http://www.wf-acda.org.uk/contact.htm
Links: http://www.wf-acda.org.uk/links.

Table 6.5 - Example of pathways to different pages of ACDA

Descriptions and 'screen dumps' of the key pages are provided below to give insight into the character and appearance of the pages.

Home Page

On this page, ACDA presented information regarding its mission statement which includes promoting the rights, health and well-being of African and Caribbean disabled people in Waltham Forest.

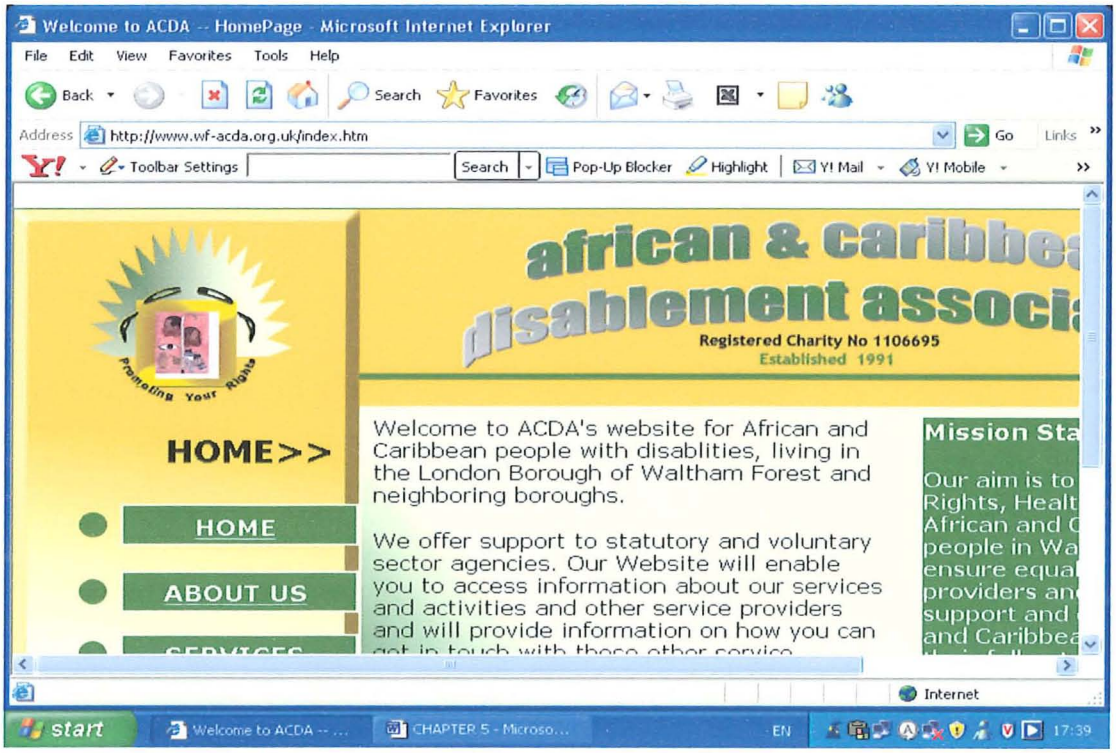


Figure 6.16 - The ACDA website homepage (21/08/06)

About Us

As shown in the figure below, ACDA provided information about its background and membership on this page.

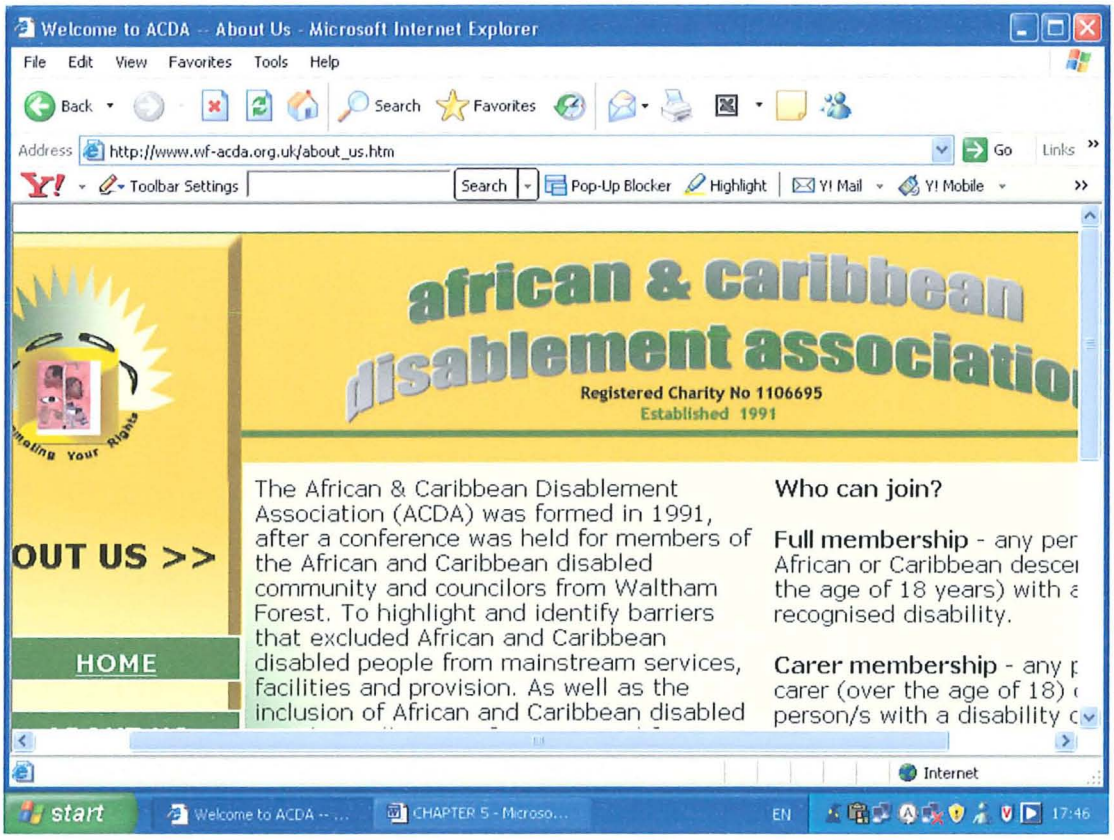


Figure 6.17 - The ACDA About Us Webpage (21/08/06)

Our Team

This page, shown below, contains information and photographs of the management team and the Development Worker.

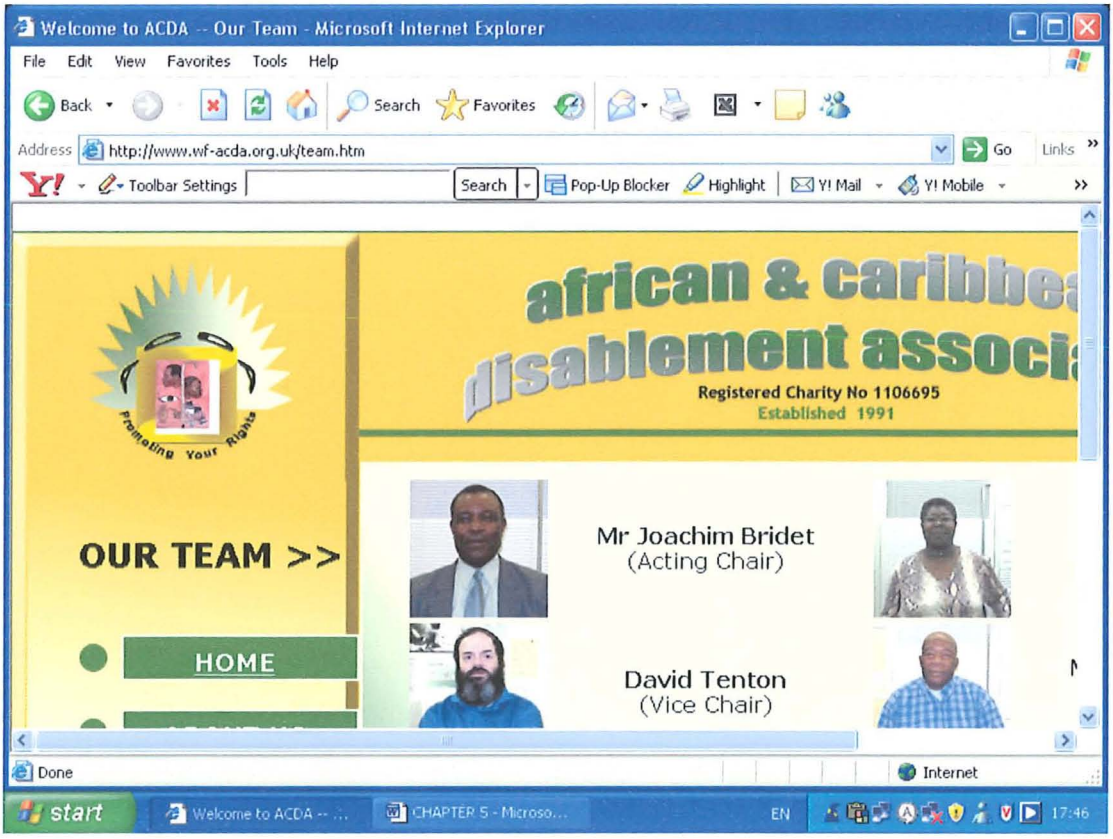


Figure 6.18 - The ACDA Team Webpage (21/08/06)

Hosting and updates

The ACDA website was hosted at the web server at O-Regen. Features of the arrangements included the following standard measures:

- Free hosting
- Updates on request but at least once a month
- Updates are emailed to the webmaster at O-Regen for implementation

As previously indicated, the web model template developed at O-Regen had to be 'flexibly applied' to ACDA. Although, ACDA took on the style whereby the contents were arranged in *'sub-frames'*, it did not wish to adopt the 'latest news' approach where descriptions of eye-catching 'news' items invite the visitor to click on *read more*. ACDA felt that its small size, relative lack of activities and news would make the website difficult to maintain and would look more dated. At O-Regen, The emphasis on 'news' items impelled staff to ensure that the items are news worthy at all times hence needed to regularly update the homepage and website. Another measure that was adopted was to put the ACDA website as the homepage on the one computer used for Internet access. As at other SMVOs, this meant that every time a member of staff accessed the Internet, he or she was able to see and be reminded of the content and currency of the website.

The elaborate update procedures developed and used at O-Regen was not required. A simplified version was adopted whereby the Development Worker emailed contents to the web master.

Marketing

In order to increase external usage, a simplified version of O-Regen's marketing strategy was adopted similar to those applied at NG.

Monitoring of the effectiveness of the organisational website

For ACDA website, I also used a dedicated software, namely Web stat software by Surfstat which provided the following key monitoring information:

Daily breakdown of number of *unique* visitors

In June 2005, up to 11 unique visitors per day accessed the website. For example, on 17 June 2005, 11 unique visitors accessed the site. The breakdown was as shown in table below.

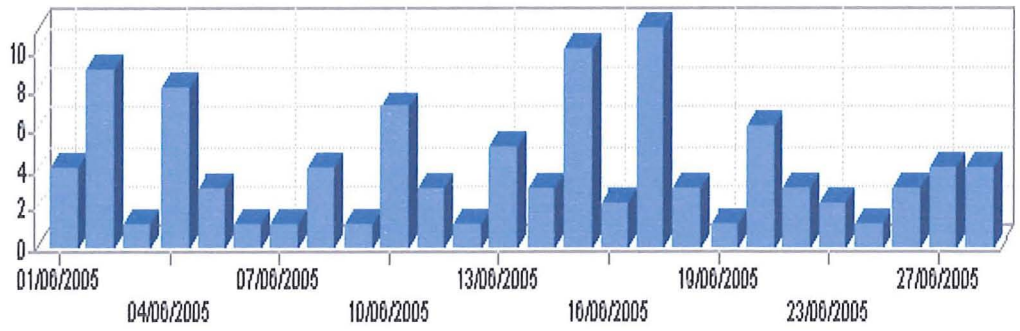


Figure 6.19 - Unique Visitors per day (June 2005)

Over the month, 108 unique visitors came to the site. This is low at 3% of the O-Regen's figures of 3276 for the same period but compares well for same stage in the development cycle of the O-Regen pilot website.

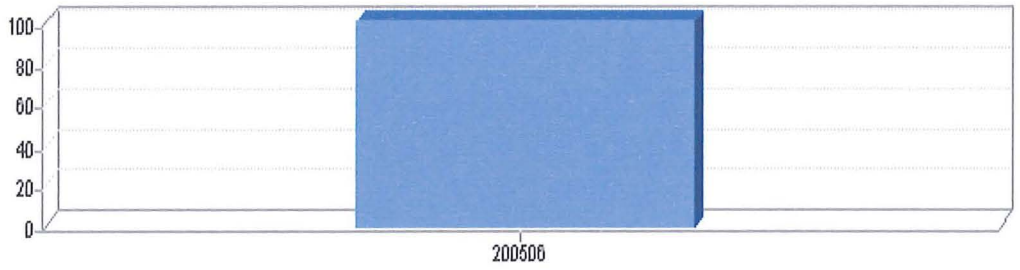


Figure 6.20 - Unique Visitors per month (June 2005)

181 pages were successfully viewed by all visitors in the month of June at average of 7 pages per day with up to 28 pages being viewed in a day. This is less than 2% of current O-Regen figures which stand at 16861 for same period.

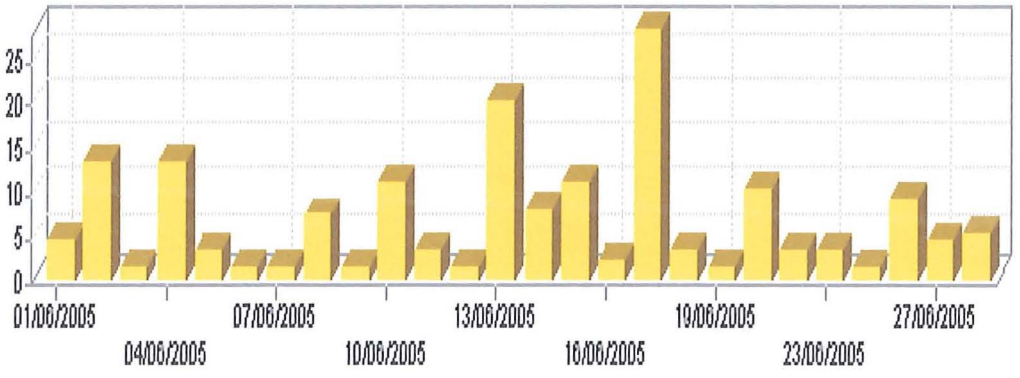


Figure 6.21 - Report on page views per day

In terms of hits and pages viewed, the most active hours of the day are between 2pm and 3pm. Unique visitors, however, peak at between 5am to 9pm. It is reasonable to expect greatest hits in the afternoon, because as one client put it, 'I will have got the morning pressures out of the way.'

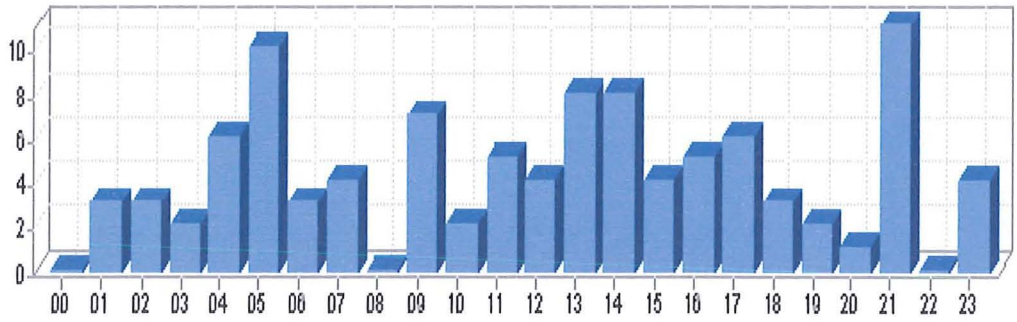


Figure 6.22 - Hour of the day activity by unique visits

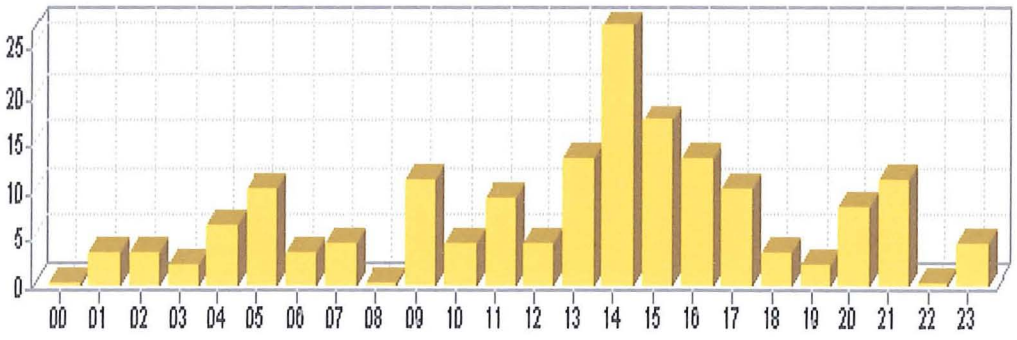


Figure 6.23 - Hour of the day activity by hits

In June 2005, the most active day of the week was Friday as measured by both hits and unique visits. These were different to O-Regen's active days of the week (Monday). It is remarkable that on both measures, Friday was the most active day. It may say something about the lifestyle/preferences of the visitors.

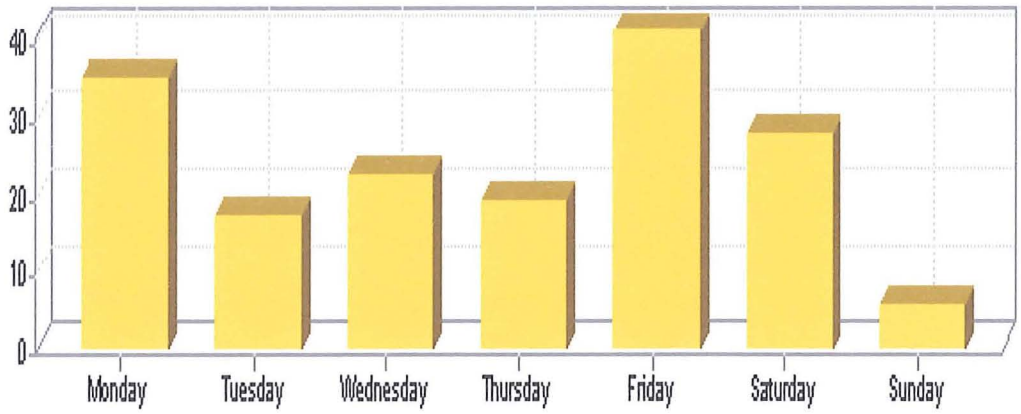


Figure 6.24 - Day of the week activity by hits

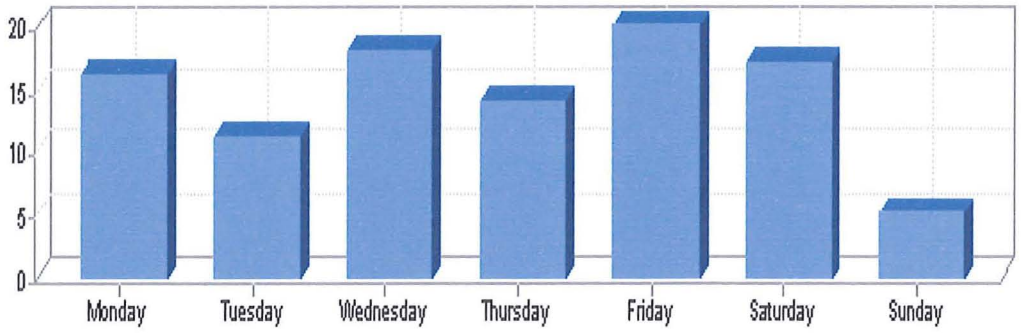


Figure 6.25 - Day of the week activity by unique visits

6.3.4 Organisational factors at ACDA

Like at Nappy Gang, the organisational aspect of the research covered organisational culture, change management, organisational structure, attitudes, relationships, budgetary and funding issues. ACDA is a small voluntary organisation operating in East London with key characteristics outlined in Table 6.4.

6.4 African Caribbean Women's Development Centre (ACWDC)

6.4.1 Profile of ACWDC

The table below provides a summary of the main features and characteristics of ACWDC

Company mission and business objectives	ACWDC is undergoing a positive process of change and from mid 2005 plans to recruit staff and launch a new programme of activities. ACWDC has been a vital resource for African Caribbean women and their children in the Borough for more than 20 years. In that time it has worked in partnership with the community groups, the local authority and other key agencies to deliver a wide range of services in the fields of social welfare, education and health which impact positively on the quality of life of our local community. Over the years its users have consistently expressed a high level of satisfaction with the services it provides.
When Formed	1986
Product/Services	The ACWDC operate from a large four story terraced property which is situated in the heart of Waltham Forest. The premises are easily accessible by public transport, and are open 5 days a week plus evenings and weekends where necessary. **Meeting room facilities** There are designated rooms within the building which are available for use by local groups for training, workshops and meetings. The building is accessible with a ground floor toilet adapted for the use of elderly and disabled people. There are kitchen facilities on the ground and first floors which are also available for use. **Renting office space** Over the years, ACDWC has been able to support small developing community groups through the provision of support and information and in particular,

	the renting of office space at affordable rates. At present a number of community groups operate from the premises but there is space for more. **Computer training facilities** The Centre has a computer training room with 7 computers all with on line facilities. The computers can be used by groups and individuals who wish to develop new skills or enhance existing ones to improve their chances in the employment market.
Size (no of employees)	2 Volunteers (Trustees) 1 Cleaner/Premises Caretaker 1 Centre Manager (soon to be appointed)
ICT and Quality Systems	The organisation has: • 14 PCs • BT broadband Internet access
Staffing	The Secretary and Treasurer are handling key aspects of operational activities until the newly appointed Centre Manager starts. There is a cleaner who looks after the premises.
Style & Culture	Following several years of inactivity and lack of paid staff, ACDWC is in the process of regaining its strength. There is very strong and passionate desire from its Management Committee to foster a greater a sense of professionalism and quality services. Expected funding and this programme's support are timely.
Union involvement	There is no union representation at the organisation
Decision making	Currently all decisions are made by the Management Committee.
Communication systems and practices	The Management Committee meets quarterly to review the operations and strategic issues affecting

	ACWDC or as required.
Commitment to learning and development	ACWDC appreciates learning and development as evidenced by: • Secretary's motivation and commitment by acting as 'change champion' • Treasurer's participation in the training provided by the research programme. The main obstacles to learning and development were lack of funding and staff.
Performance monitoring	No staff in place yet
Reward systems	None
Total Quality Management, Investors in People, ISO9000 other training initiatives	None
Equal opportunities statement	Is committed to Equal Opportunities practices and has a policy in place.

Table 6.5 - Profile of ACWDC

6.4.2 People at ACDWC

Like at Nappy Gang and ACDA, the people aspect of the research covered the actions and experiences of the change champion and secretary of ACWDC and evaluation of change to identify critical success factors.

Like at ACDA, ACWDC recognises the importance of developing and supporting staff as part of the continuous process of improving standards, achieving organisational objectives but has been adversely affected by severe lack of funding. As part of this research, essential guidance, advice and

support was provided to encourage and build the capacity of the change champion.

I met with the secretary and Treasurer and interviewed them on their particular skills and how she viewed the use of websites to support their service delivery.

I shall now outline their role, initial set of skills, key skills gaps, training received and feedback regarding change.

Secretary

In the absence of paid staff, the secretary took on the role of looking after the operational and strategic activities of the centre. In partnership with the Treasurer, she is developing services, seeking funding and managing the service delivery.

The post holder demonstrated good sets of 'multi-skills'. She has good grasp of management and strategic issues as well as a high appreciation of ICT. The post holder did not require any significant training. As part of the exit interview, the post holder indicated that the website was a very timely tool because the organisation was undergoing a period of positive change. It had received some funding and was in the process of appointing a full time Centre Manager after a long period of time. She valued the benefits of the website. It also raised awareness of how clients could access other service providers by clicking on partner links.

Treasurer

The Treasurer worked as a team with the Secretary to maintain service delivery until a paid staff member is appointed. The Treasurer had good appreciation of the problems faced by her clients. She participated in training and staff development provided as part of the programme. She received training basic ICT skills including word, internet and surfing the web.

6.4.3 Technology at ACWDC

Content design

The content design followed the Website Development Process (WDP) based on an iteration process ranging from Stage 1 to Stage VII (chapter 5).

Like at Nappy Gang and ACDA, Stage 1 involved agreeing the terms of the project and setting relevant timeframes. The main concern was lack of staff time as the organisation did not employ paid staff. However, the Secretary very ably filled in the gaps and provided information as required. The domain name chosen was www.africaribwomen.co.uk.

As in other case studies, the content was also discussed and the agreed design was based on the website Navigational Layout (WNL) model developed in chapter 5.

Due to lack of activities, this was the smallest website of the four case studies with only four pages at the start.

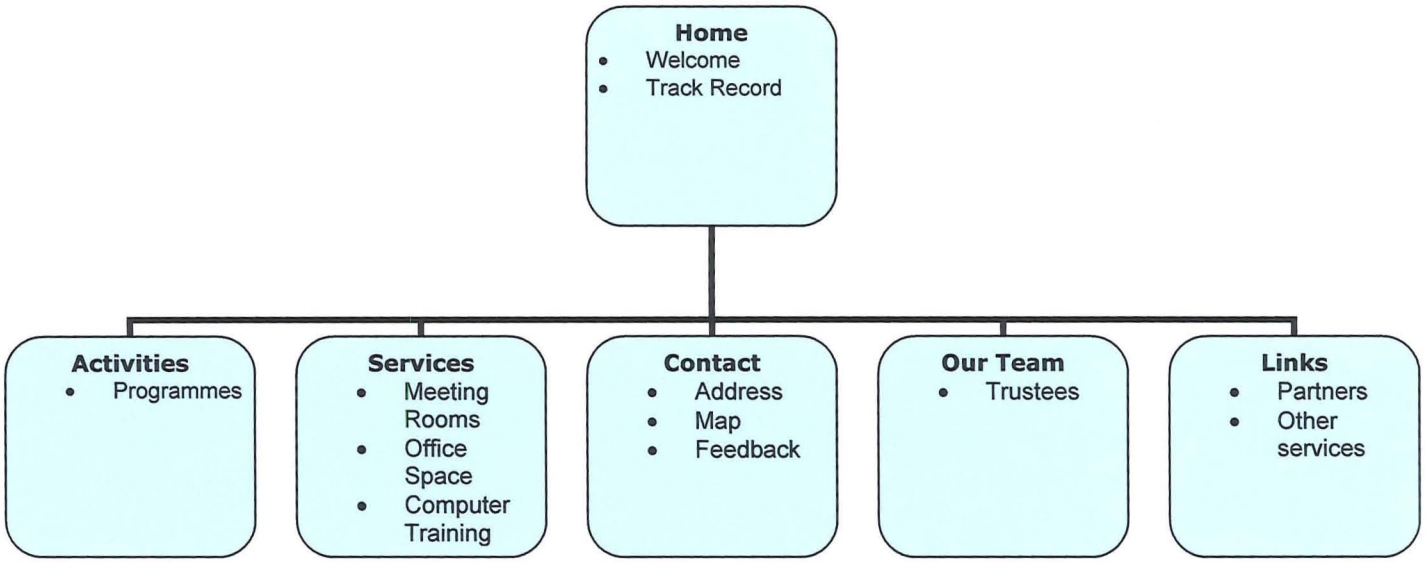


Figure 6.26 - Website Navigational Layout (WNL) for ACWDC

The following WNL and main pages encapsulated ACDWC's services and were found to be most appropriate:

In the design, different pathways were created as exemplified in Table 6.6 below.

Home Page: http://www.africaribwomen.org.uk/index.htm Services: http://www. africaribwomen.org /services.htm Activities: http://www. africaribwomen.org /activties.htm Our Team: http://www. africaribwomen.org /team.htm Contact: http://www. africaribwomen.org /contact.htm Links: http://www.africaribwomen.org /links.

Table 6.7 - Example of pathways to different pages

Key pages are provided below to give insight into the character and appearance of the pages.

Home Page

On this page, ACDA presented information regarding its mission statement which includes promoting the rights, health and well-being of African and Caribbean disabled people in Waltham Forest.

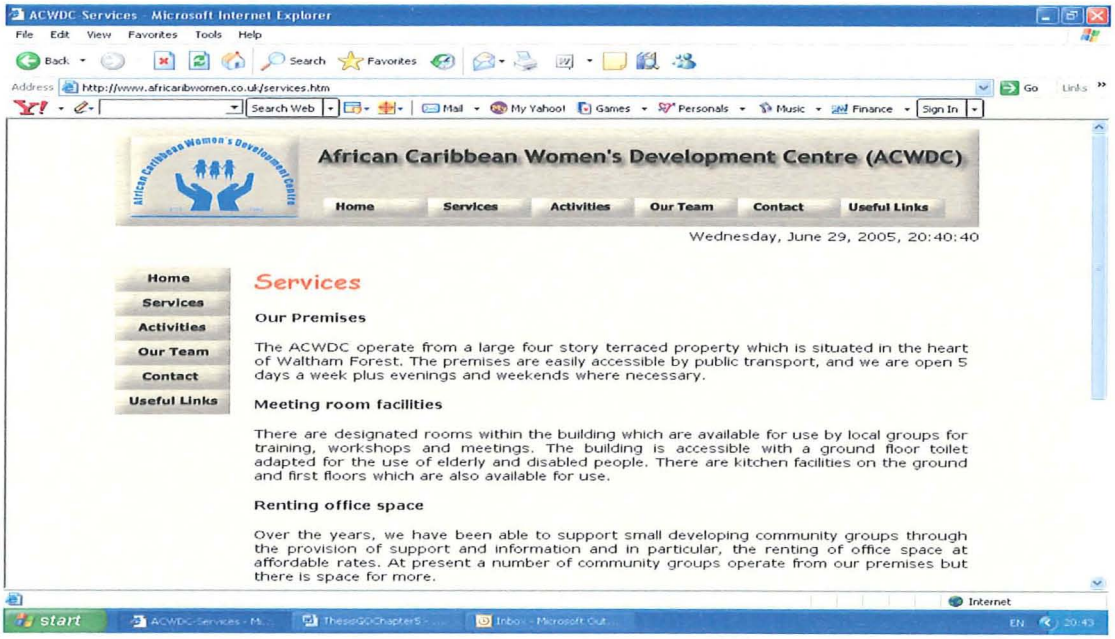


Figure 6.27 - The ACWDC website homepage (21/08/06)

Appearance of the page is shown in the figure below.

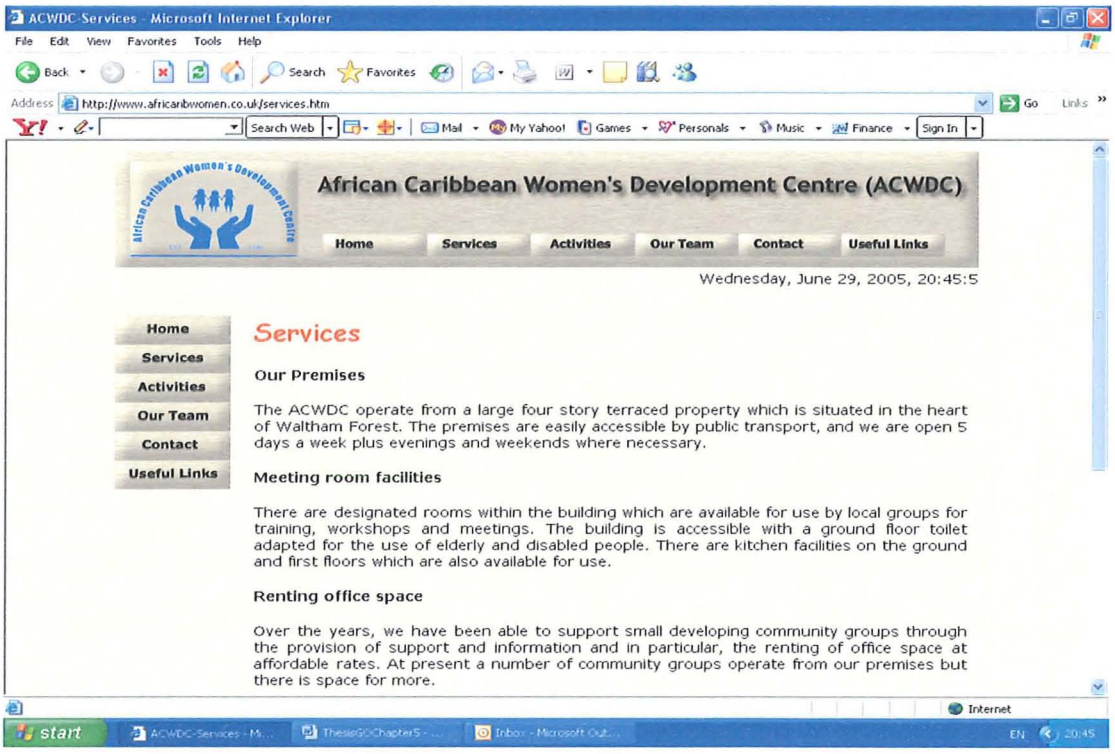


Figure 6.28 - ACWDC Service Page (21/08/06)

Hosting and updates

The ACWDC website was hosted at the web server at O-Regen. Standard features of the arrangements included:

- Free hosting
- Updates on request but at least once a month
- Updates are emailed to the webmaster at O-Regen for implementation

Marketing

Like at ACDA, in order to increase external usage, a simplified version of O-Regen's marketing strategy was adopted. This included e-bulletins and e-alerts informing potential clients who volunteered email addresses. O-Regen also promoted the site as part of its marketing activities.

Monitoring of the effectiveness of the organisational website

For ACWDC website, I used a dedicated software: Web stat software by Surfstat which provided the following key monitoring information:

Daily breakdown of number of *unique* visitors

In June 2005, up to 10 unique visitors per day accessed the website. For example, on 17 June 2005, 10 unique visitors accessed the site. The breakdown was as shown in the figure below.

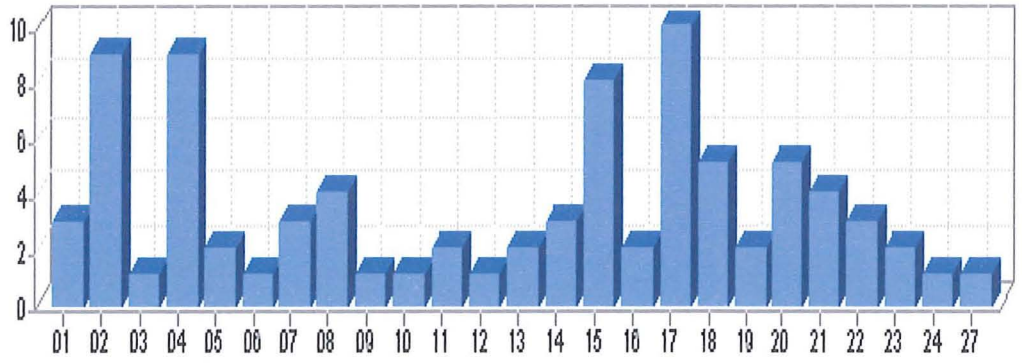


Figure 6.29 - Unique Visitors per day (June 2005)

Over the month, 85 unique visitors came to the site. This is low at 3% of the O-Regen's figures of 3276 for the same period but compares well for the same stage in the development cycle of the pilot site.

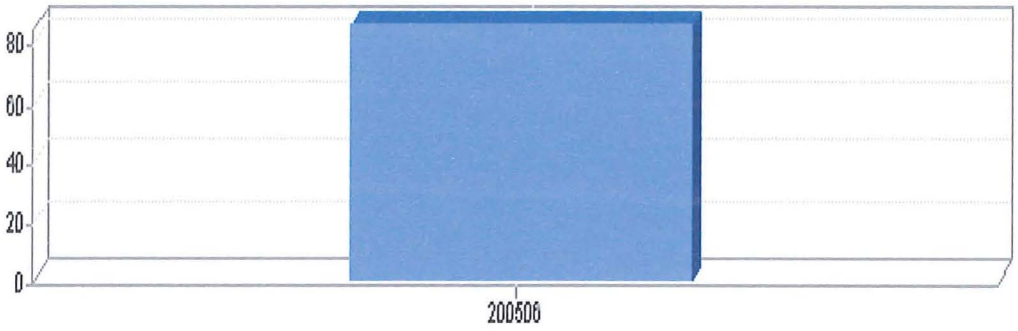


Figure 6.30 - Unique Visitors per month (June 2005)

136 pages were successfully viewed by all visitors in the month of June at an average of 5 pages per day with up to 21 pages being viewed in a day. This is 1% of current O-Regen's figure which stands at 16861 for same period.

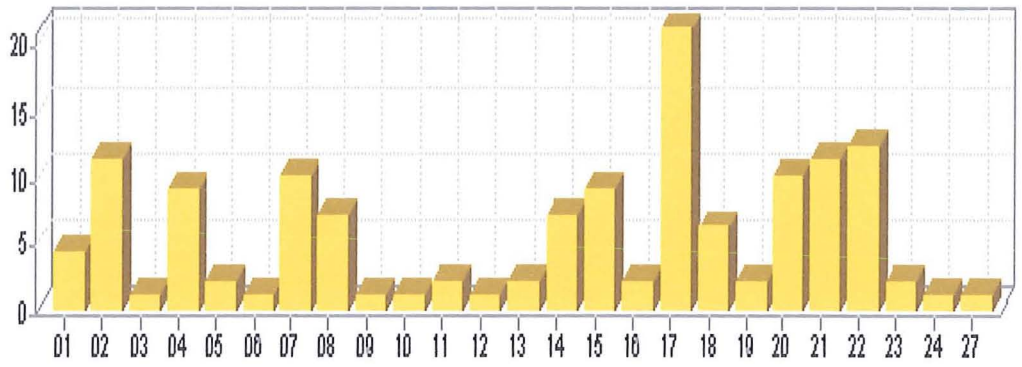


Figure 6.31 - Report on page views per day (June 2005)

In terms of hits and pages viewed, the most active hour of the day is 11am. Unique visitors, however, peaked at 5pm. These hours are reasonable as they occur late mornings to late afternoons, perhaps when potential clients have spare moments.

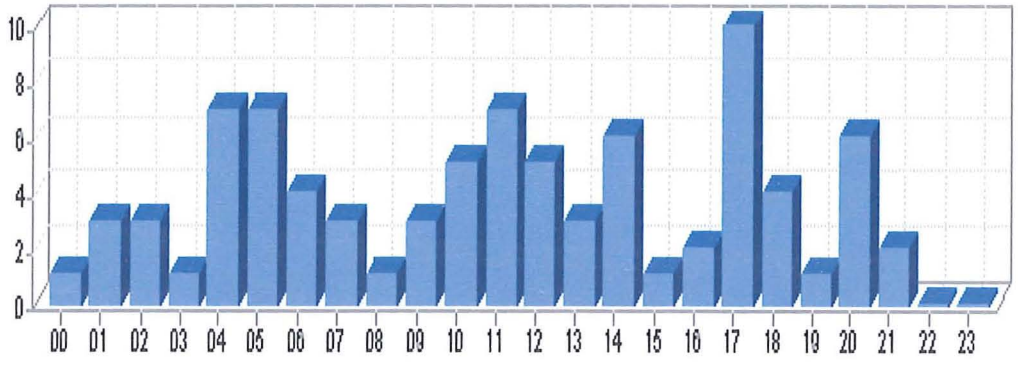


Figure 6.32 - Hour of the day activity by unique visits

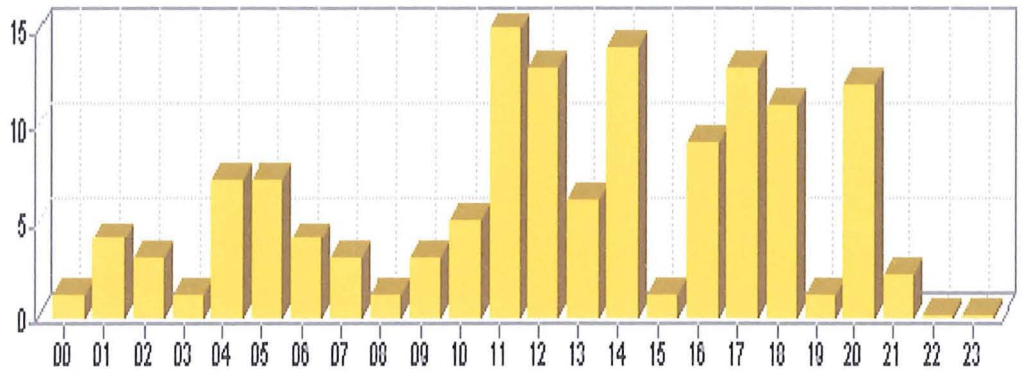


Figure 6.33 - Hour of the day activity by hits

In the period monitored, the most active day of the week was Wednesday as measured by both hits and unique visits. These were different to O-Regen's active days of the week (Monday). Like with ACDA, it is remarkable that on both measures, Wednesdays was the most active day. Thus Wednesdays are important days when updates and publications are being considered by the organisation.

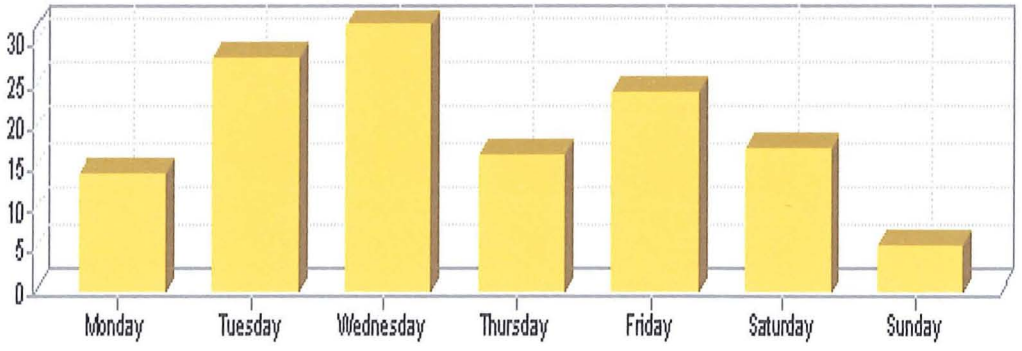


Figure 6.34 - Day of the week activity by hits

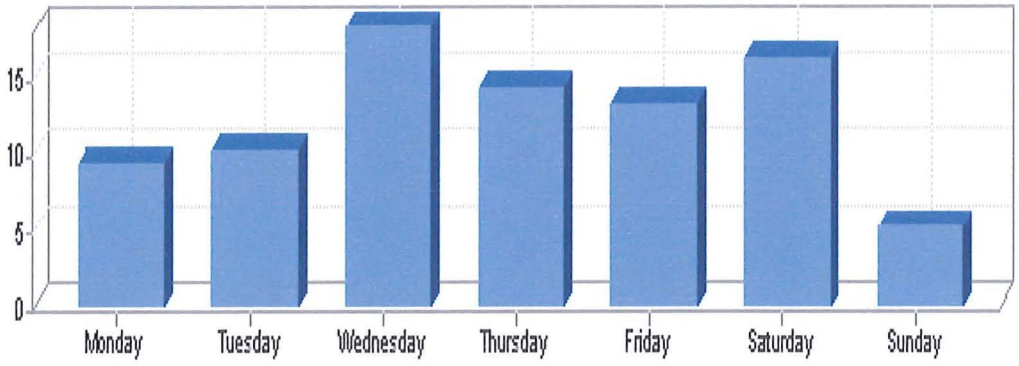


Figure 6.35 - Day of the week activity by unique visits

6.4.4 Organisational factors at ACWDC

ACWDC is undergoing a positive process of change and is also in the process of recruiting staff and launching a new programme of activities. Following several years of inactivity and lack of paid staff, ACDWC is in the process of regaining its strength. There is a very strong and passionate desire from its Management Committee to foster a greater a sense of professionalism and quality services. In deed the secretary said, 'this programme (intervention) is very timely for us'. ACWDC appreciates learning and development as evidenced by the Secretary's motivation and commitment by acting as 'change champion'. The Treasurer' also participated in the training provided by the research programme. Table 6.5 provides details of relevant organisational factors at ACWDC including culture.

6.5 UXL

6.5.1 Profile of UXL

Figure 6.36 – UXL's premises in Hackney, East London

The table below provides a summary of the main features and characteristics of UXL.

Company mission and business objectives	UXL is a medium sized voluntary organisation operating in Hackney, East London. UXL advises residents and businesses in Hackney on career and personal development. The centre's mission is to relieve the poverty of the unemployed who are in need in the London Borough of Hackney and the wider community through the provision of advice and vocational training and to assist them into employment. Since 1993 UXL has supported residents and businesses in Hackney in all matters relating to employment and training. In 1996 it started training courses for the long-term unemployed in

	IT. As demand grew the services expanded to Sound Engineering training for young people aged 16-24 years and thereafter PC maintenance and networking, Basic Skills and English for Speakers of Other Languages for all ages. Other programmes include coaching and mentoring local business managers, carrying out training needs assessment and drawing up customised training plans.
When Formed	1993
Product/Services	UXL's services include: • ICT training • Basic Skills and English for Speakers of Other Languages (ESOL) training • Employability support for the unemployed • Workforce development
Size (no of employees)	12 full-time staff
ICT and Quality Systems	The organisation has: • 30 networked PCs with Internet access • Investor in People award status
Staffing	Director, Training Manager, Tutors, Finance Manager, Administrative Officer and Reception staff
Style & Culture	UXL is a training provider with a professional outlook. The culture is friendly with client-sensitive service provision because staff composition very closely reflects the community it

	serves. Specific practices include training and publicity materials are translated in community languages
Union involvement	There is no union representation at the organisation
Decision making	Operational decisions are made by the Director and strategic decisions are made by a Board of Trustees or Chair as appropriate.
Communication systems and practices	The Chair and the Treasurer are closely involved in the management of the organisation. The Director and senior management team are responsible for the day-to-day running of the organisation. There are weekly staff and team meetings.
Commitment to learning and development	UXL's appreciation of continuous learning and professional development is evidenced by: • All tutors have achieved or are working towards Assessor Qualifications. • One of staff is on an Education degree course. • The main obstacles to learning and development are funding and time constraints.
Performance monitoring	Performance management is very important in order to meet project funders' contractual obligations.
Reward systems	Informal
Total Quality Management, Investors in People,	UXL complies with requirements of: • Adult Learning Inspectorate/OFSTED • Qualifications awarding bodies such as City

ISO9000 other training initiatives	& Guilds • Investor in People (IiP)
Equal opportunities statement	UXL adheres to its published Equal Opportunities policies. It is proud of its record of ensuring that staff, policies, procedures, services and resources reflect the diversity and needs of the wider community.

Table 6.8 - Profile of UXL

6.5.2 People

The people aspect of the research covered the actions and experiences of the change champion who is the Director and a tutor. As in all the case studies, critical success factors are also identified and evaluated (Stein and Vandenbosch 1996). UXL holds an Investor in people (IiP) award which demonstrates its commitment to investing in staff. It has got in place clear staff appraisal and support systems which makes it a good example of organisational learning in practice. The main obstacles to learning and development are financial resources and lack of time. Some of the learning needs are very expensive as they relate to CISCO training. As part of this research, essential guidance, advice and support were provided to encourage and build the capacity of the change champion and the tutor who acted as co-researchers. The two participating people were Director and Tutor. From interviews and questionnaire assessments, I obtained their particular skills and how they viewed the use of websites to support their service delivery.

Director

The Director is responsible for directing and managing the day to day operation and liaising with Trustees regarding the strategic direction of the organisation. He is also responsible for business development.

The Director is a graduate with relevant vocational ICT skills which has provided him with a sound basis for facilitating website adoption in particular and ICT in general. The Director is keen to set up an internet café and to develop online service delivery in the medium term. He was very closely involved in designing, determining and reviewing the content of the website.

As part of the exit questionnaire, the Director agreed or strongly agreed with statements that factors that facilitate website adoption include culture of professionalism, ICT appreciation by Board/CEO. He also supported the presence of ICT enlightened staff and said this was particularly true of UXL because most tutors specialised in different aspects of ICT. Indeed one of the tutors has recently trained as a webmaster and is involved in the ongoing maintenance of the website. With regards to technological factors, the Director strongly supports the concept of developing ICT strategy and installing in-house webs server. UXL made a choice to have its website hosted by a third party and is looking at developing in-house infrastructure to allow web hosting in the near future.

With regards to the role of the website, the Director agreed that a website is a great communication tool and is effective in providing what the customers want. He added that, *'Nowadays, many people and businesses use websites to access information and purchase products. Therefore, you will be able to reach as many customers as possible in different parts of the world.. It can be cost effective in such a way that you will be able to reduce considerably marketing costs'.*

The Director agreed that overcoming resistance to change is crucial, if the website is to be implemented fully. Measures that can be used top overcome barriers include training, using change champions to drive process, and using compulsion and reward system. Finally, the Director agreed with all the identified change indicators identified at O-Regen and elsewhere. He, however, cautioned that the use of the website raises some security questions whish must be addressed, for example, through effective firewall and password systems.

Tutor

The tutor is an Engineering graduate with very good ICT skills. As an ICT trainer, he is a very able and active user of the Internet and the web. The tutor is a hard working member of staff with good sense of humour. The tutor did not require any specific ICT training and was a real bonus to the programme.

6.5.3 Technology

Content design

The Website Development Process (WDP) followed the model developed at O-Regen. Due to the high level ICT appreciation at UXL, the senior management team took a decision to modify the proposed ICT model. A key advantage was that this demonstrated a high level of ICT adoption maturity and customisation. The only disadvantage was that the level of perfection and expectation meant that it took relatively longer to agree final website navigational layout and contents. The domain name chosen was www.uxl.org. The WNL was determined and is depicted in Figure 6.37

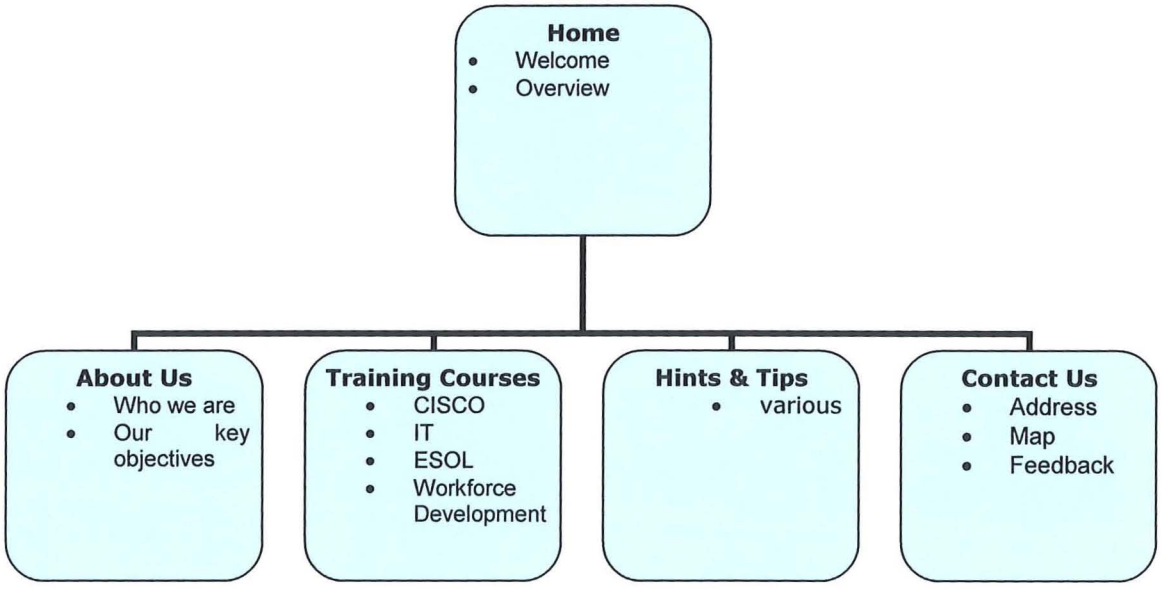


Figure 6.37 - Website Navigational Layout (WNL) for UXL

In the design, different pathways were created as exemplified in the table below.

Home Page: http://www.uxl.org.uk/index.htm About Us: http://www.uxl.org.uk/aboutus/index.htm Training Courses: http://www.uxl.org.uk/training/index.htm Hints & Tips: http://www.uxl.org.uk/resources/hints-tips/index.htm Contact Us: http://www.uxl.org.uk/contactus/index.htm

Table 6.8 - Example of pathways to different pages of UXL

Descriptions and 'screen dumps' of the key pages are provided below to give insight into the character and appearance of the pages.

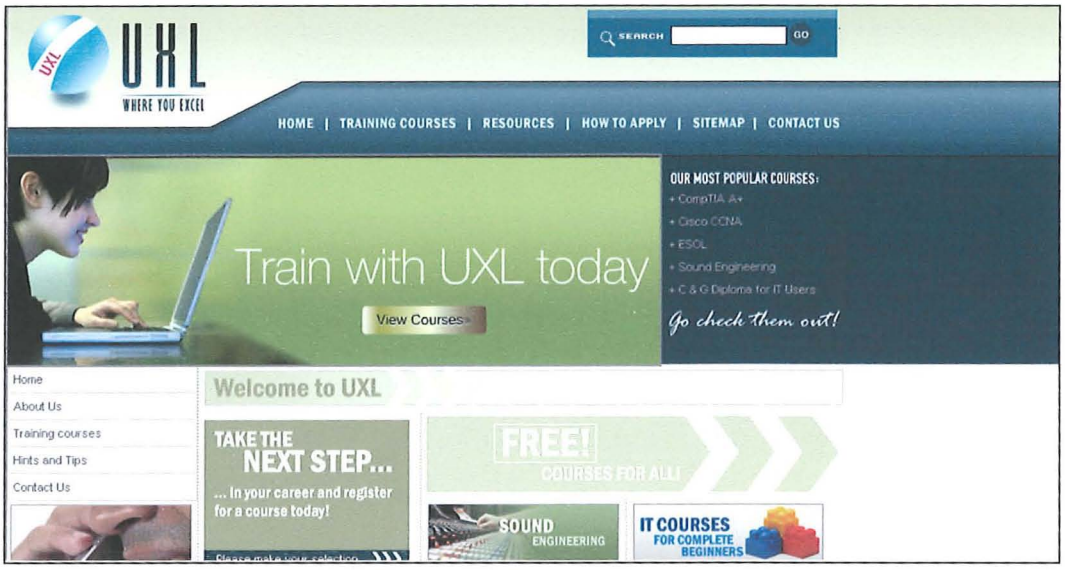


Figure 6.38 - The UXL Homepage (22/08/06)

Home

The home page provides a welcome message and an overview of the site and links to services and important information.

About Us

On this page, UXL presented 'who we are' with information about its mission, objectives and values. The appearance is captured in the figure below.

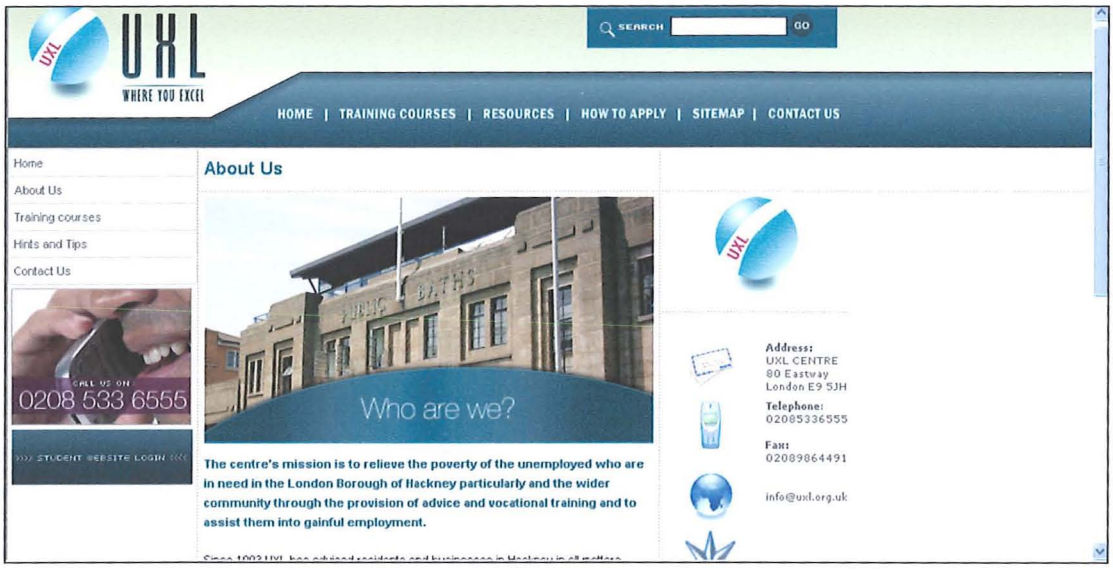


Figure 6.39 - The UXL About Us Web Page (22/08/06)

Services

In this section, UXL provided information about its services including training courses in CISCO, IT, English for Speakers of Other languages (ESOL) and IT training for employees of small and medium sized enterprises (SMEs). The appearance is captured in the figure below.

Figure 6.40 - The UXL Training Courses Web Page (22/08/06)

The CISCO Certified Networking Associate course teaches students the skills needed to design, build, and maintain small office networks up to larger intranets. This provides the opportunity to enter the workforce and/or further their education and training in the computer network field. The course is delivered through a mixture of online learning materials, tutorials and practical hands on sessions in a purpose built networking laboratory. UXL also provides certificates for IT Users (e-Quals) at levels 1, 2 or 3. The courses suit people looking for work from office assistant, junior administrators, clerical assistants, receptionists, customer service advisors, accounts assistants to a senior managers, project managers or account executives. English for Speakers of Other languages (ESOL) are designed for adult (16+) speakers whose home language is not English and living in the UK. Finally, the Workforce Development course is for training employees of Small to Medium Enterprises (SMEs) so as to improve their performance and thereby improve competitiveness of their organisations.

Hints & Tips

This innovative section is an interactive section that provides a learning opportunity for visitors to the site who are looking for some quick gains.

Visitors are invited to click of particular links that gives them tutorials on a chosen topic. Examples of topics covered include:

- Windows XP
- Windows Desktop
- Internet and emails
- Windows XP tools

For example, the Internet and emails option will provide instruction in:

- Accessing a website
- Saving favourite sites
- Viewing history file
- Clearing internet history and temporary files and
- Sending first email
- Attaching files to an email and
- Adding people to your address book

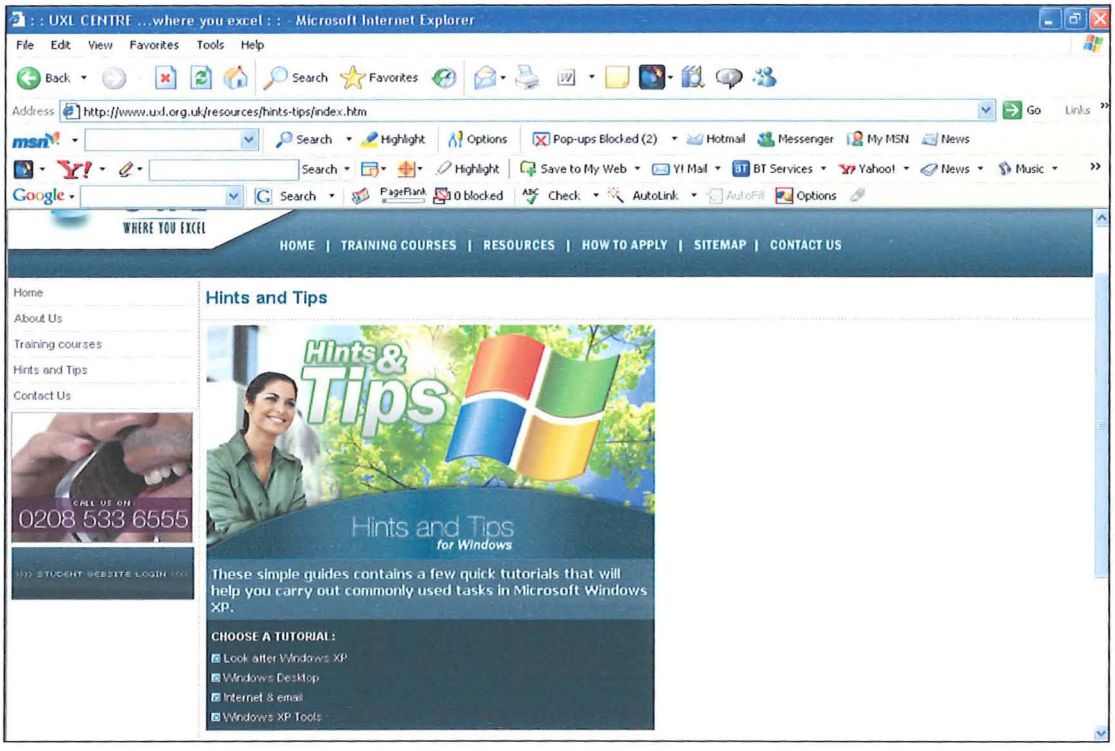


Figure 6.41 - UXL's Hints & Tips Page (22/08/06)

Contact Us

This page contains a form that visitors can complete online to submit a message or comment. The message is then emailed to UXL's webmaster.

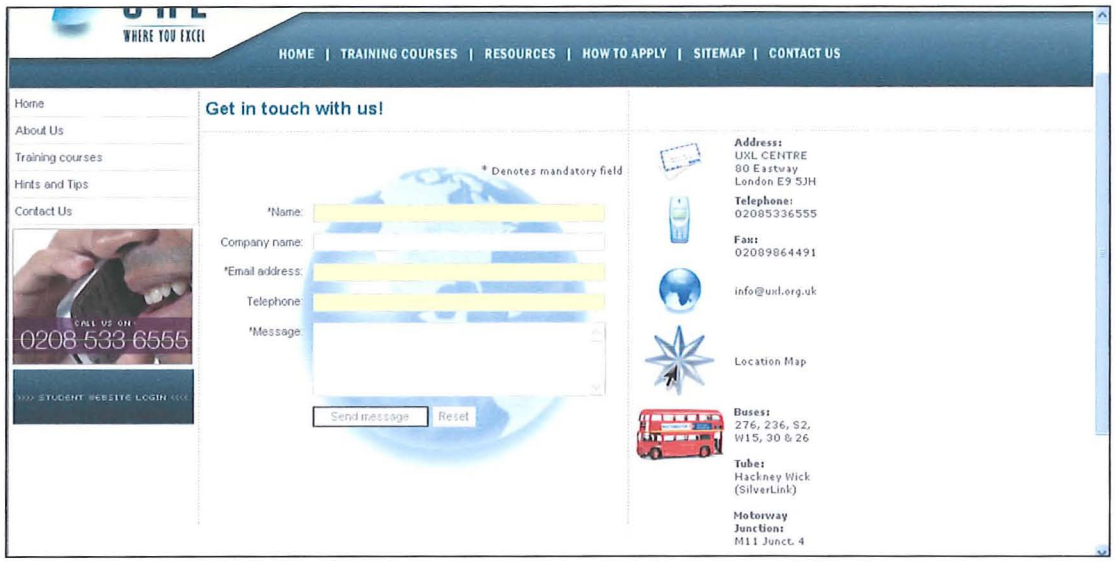


Figure 6.42 – UXL's Contact Us Page (22/08/06)

Student website intranet

This is based on the O-Regen staff intranet. Students on UXL's courses can access relevant information by logging in using a particular username and password.

Hosting and updates

The UXL website is hosted by a third party. Features of the arrangements include:

- Hosting fee as part of Internet Service Provider (ISP) package
- Remote updates possible at any time
- Updates are emailed internally by staff to webmaster at UXL for implementation

Monitoring of the effectiveness of the organisational website

Since the website is hosted by a third party, a different web statistic software was used to provide the following key monitoring information:

- Unique Visitors by day
- First Time visitors by day
- Returning visitors by day and
- Page loads by day

Hits for all visitors

This is best illustrated by looking at the number of visitors between 29 August and 25 September 2005. Over the one month period, 945 unique visitors as measured by hits visited the website. This was an average of 34 hits per day with highest hits per day of 68 unique visitors. A total of 2351 page loads were undertaken in the month at maximum daily rate of 178 and average 84 per day. Since the hits figures measure a request for any object or file and page views are hits to files defined as pages, it can be said that these figures approximate to the total numbers of visitors (hits) who visited the site. These figures are comparable to hits recorded in popular e-commerce websites who register 120 to 250 hits per day (Website for Sale 2005). It is also comparable to the O-Regen's website (pilot) which is very high at an average of 2314 hits per day. It appears that although not too many unique visitors are recorded compared to for example, the Nappy Gang site, those who visit the site surf through several pages – which is a good thing. On average, everyday 13 visitors were first time visitors and 20 were returning visitors. These figures rose to maximum of 38 and 40 respectively during the month.

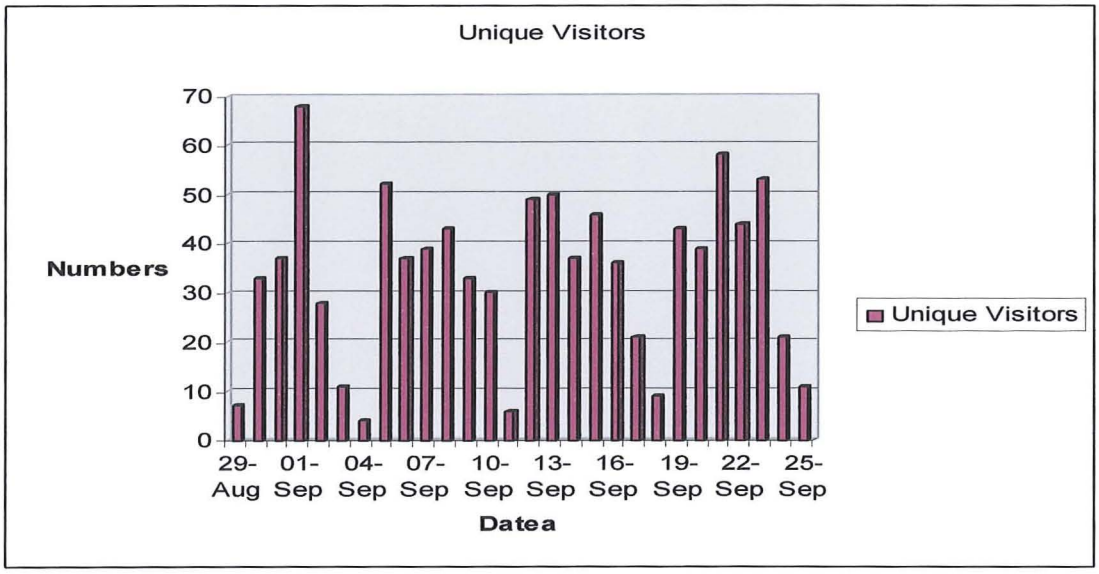


Figure 6.43 - Unique Visitors per day (September 2005)

Figure 6.44 – First Time Visitors per day (September 2005)

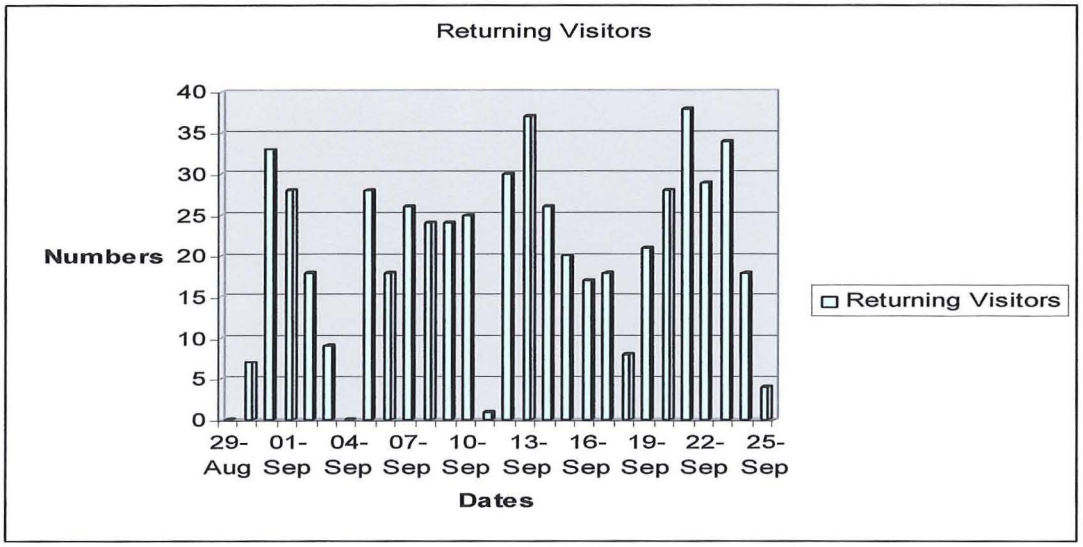


Figure 6.45 - Returning Visitors per day (September 2005)

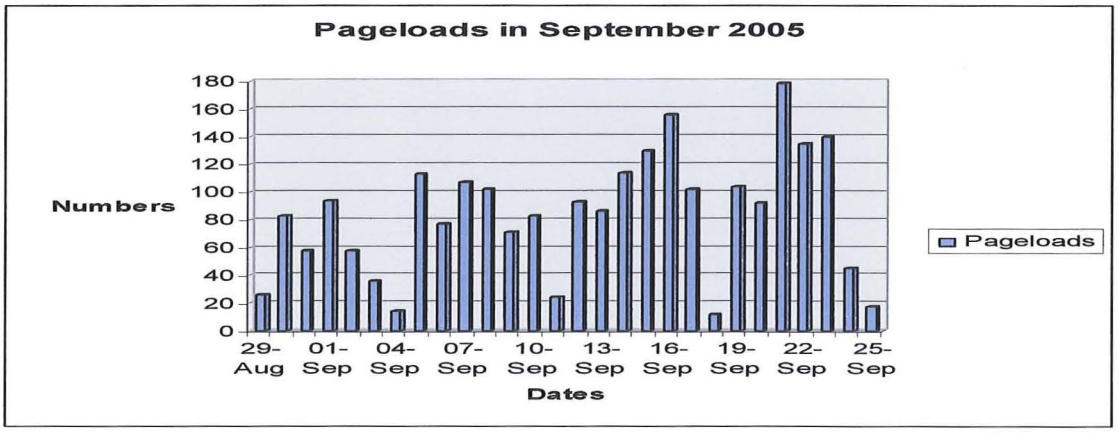


Figure 6.46 – Page Loads per day (September 2005)

6.5.4 Organisational factors at UXL

A profile of UXL is provided in Table 6.8. UXL operates in Hackney, East London. It provides employment and training support to local residents. UXL is a training provider with a professional outlook where ICT usage is seen as a key ingredient for achieving service excellence.

6.5.5 Ethical issues at UXL

UXL paid great attention to developing a privacy policy that was intended to assure users and visitors to the site. I have reproduced the policy below and it covers important aspects of privacy and disclaimer including information collected, cookies, disclosure of personal information, links to third party sites, user access to personal information and protection of information.

Your Privacy

Your privacy is of great importance to us. As a user of this web site (the "Site"), you are valued by us and we will take appropriate measures to protect the information provided by and collected from you on the Site in connection with the functions, facilities, and services offered on our Site. As our business changes and grows, so will this policy. Please check back periodically for additions and changes.

Information We Collect and How we use it

We only request and use information absolutely essential to respond to your requests for information on our services and to inform you of services we think may be of interest to you. Our site uses your IP address (an IP address identifies the type of browser you are using i.e. Netscape; Internet Explorer by assigning a unique number) for general system administration to serve you better by diagnosing problems with our server.

Cookies

At times, we may use a feature of your browser to send your computer a "cookie". Cookies are used by thousands of web sites in order to enhance your web experience. A cookie is a small data file that assigns a unique anonymous number to your browser from a web server and is stored on your computer's hard drive. Cookies can not damage or read information stored on your hard drive. Cookies make your web experience more enjoyable by storing passwords and preferences. You can adjust your browser settings to refuse all cookies or to inform you when a cookie is being placed on your hard drive. However, your election not to accept cookies may diminish your experience with the Site because of additional time needed to repeatedly enter information.

Disclosure of Personal Information

We will not disclose, sell, trade, or rent Personal Information without your prior consent, except to the extent necessary to provide you with a requested UXL Service. In certain rare circumstances, we may be compelled by law to disclose your Personal Information, such as in connection with a lawsuit or other legal proceeding. In the event disclosure is required, we will use reasonable commercial efforts to try to secure confidential treatment of the disclosed Personal Information, including prohibiting use of the information for any commercial purpose. In addition, we reserve the right to disclose certain information when, in its sole discretion, it determines that such disclosure is necessary to protect UXL or its employees, their rights or property, or to protect the physical safety or health of employees of UXL or a member of the general public.

Links to Third Party Sites

You may be able to access third party web sites through links available on this Site. You understand and agree that your use of such third party sites, will be governed by the privacy policies of those sites and not by this Privacy Statement.

User Access to Personal Information

If you desire access to your own Personal Information, to correct existing Personal Information, or to remove your Personal Information, please contact us using the CONTACT US link provided below. If you request removal of Personal Information, you acknowledge that residual Personal Information may continue to reside in UXL's records and archives, but UXL will not use that information for a commercial purpose.

Protection of Information

UXL will maintain the confidentiality of the information it collects. We maintain internal practices that help protect the security and confidentiality of this information by limiting employee access to and use of this information.

Table 6.9 – Privacy policy at UXL

6.6 Main Findings

I conducted a semi-structured interview with the Chair of Nappy Gang, Director of UXL, Secretary of ACWDC and Co-ordinator at ACDA with the following main findings.

Benefits of the website included:

- Higher profile, for example, through marketing of the website to stakeholders, the community and funders.
- Professional appearance, for example, the Coordinator at ACDA said they can refer potential funders such as Primary Care Trust to their site.
- Staff can refer clients to information on the website. The Chair of the Nappy Gang remarked that several clients had been to the site before visiting to check out the nursery facilities.
- Cost saving in terms of advertisement. This was particularly emphasised by the Director of UXL. He has also said that at least two new learners joined their courses after visiting their website in the first two months of its operation.
- Means of getting referrals to organisation. Self or third party referrals can be sent and received via the web.
- More efficiency, mainly because improved information flow and storage on the website/intranet.

Organisational culture: They believed that ICT appreciation by CEO/Board are important mind-sets or paradigm for an SMVO aspiring to be seen as 'professional'. Being seen as a 'professional' organisation at ease with technology is an advantage when funders are looking to award contracts.

Role of website: The website is effective in providing what the customers want in terms of information. They all agreed that the website is a great communication tool and important to business needs.

Change facilitators: These were listed as including:

- Planned staff development time
- Website-friendly organisational structures
- Appreciative Board and Senior Management

- Presence of ICT-enlightened staff or volunteer
- Organisational learning
- The ACDA co-ordinator believed that the need to behave in 'a modern and professional manner will assist with winning and retaining contracts from agencies including the Primary Care Trust (PCT)'
- Long-term funding was emphasised by ACWDC

Overcoming resistance to change: All four respondents felt that resistance to change could best be overcome by:

- Training the individual
- Using change champions who are employees and respected within the organisation

Indicators of change: Response included:

- Increased use of emails
- Up-to-date website pages
- More parents and carer (clients) referrals
- More effective information accessed by clients on the website

6.7 Summary

In this chapter, I applied and tested the WAM model developed at O-Regen to four selected SMVOs. The main findings confirmed those identified at O-Regen.

In the next and final chapter, I reflect and undertake a comparative study of my experiences at O-Regen and the four case studies. I also seek the answers to my research questions by presenting the main findings of the research as Technology, Organisational and People (TOP) imperatives. In addition, I provide the literature and theoretical basis of the research. I

conclude by drawing out the key findings based on the Website Adoption Model (WAM) and extending it into a Technology Adoption Model (TAM). I also reflect and draw out lessons on research methodology and then consider final conclusions about the research problem, policy implications and further research.

Chapter 7: Conclusion and Implications

7.1 Introduction

In this chapter, I reflect and undertake a comparative study of my experiences at O-Regen and the four case studies. I also seek the answers to my research questions by presenting the main findings of the research as Technology, Organisational and People (TOP) imperatives. I use the term imperative to denote desirable aspects or characteristics that facilitate organisational implementation of ICT. I also provide the literature and theoretical basis of the research. My claim for doctoral award arises from 1) the implementation of the websites and improvements to the practices as evidenced by the reported indicators of change. 2) New TOP-based conceptual framework gleaned from the Website Adoption Model (WAM) that are extended into a Technology Adoption Model (TAM) illustrated in figure 7.1. For the first time, this new framework allows schematic classification of any SMVO so that action plan can be drawn up and implemented to move the organisation from its current position to a higher TOP status (figures 7.2 to 7.4). I conclude my thesis by reflecting and drawing out lessons learnt with respect to the research methodology and then consider final conclusions about policy implications and further research.

7.2 Contextual setting for the research

I will now turn my attention to drawing together the different ideas and strands that were introduced across the research work. In chapter 1, I provided a brief historical perspective and account of the nature and scope of the voluntary and community sector in the UK and sub-regionally in London. Current field situation regarding usage of ICT by SMVOs were also provided which showed that SMVOs faced serious challenges in introducing ICT. I also provided two sets of research questions that drove the study, namely: 1) 'What are the factors that affect organisational implementation of ICT by SMVOs?' 2) 'Using website technology as the ICT tool, how can inhibiting factors be mitigated?

How can the lessons learnt be employed more generally to tackle ICT implementation within the SMVOs and other organisations?

In chapter 2, I reviewed extensive literatures on 'organisation.' To improve understanding of ICT adoption in organisations, I explained that the theories of organisation and Organisational Development must be explored. Voluntary sector like other organisations are set up to serve particular purposes. I noted that whatever the type of organisation, both formal and informal characteristics of organisations will interplay. Situational factors or contingency factors which affect organisations include size, technology and environment. I also reviewed theories about technology and organisations which must be studied in order to understand how technology can be best introduced and managed. As Mullins (2005) explained, once a particular technology has been developed and introduced, it is then possible to trace the ways in which that technology comes to have a presence within the organisation through a 'technology adoption and introduction' framework. This framework attempts to capture the importance and influence of social, political and economic contexts upon emerging effectiveness and efficiency of the utilisation of that technology.

Although SMVOs are not-for-profit organisations, they still behave as organisations (see chapters 5 and 6). As explained in Chapter 2, in order to understand the ICT take up concept, it is important to have good insight into what organisations are and how they behave. Major trends in organisational behaviour have been identified by many authors including Skipton (1983), Taylor (1947), Fayol (1949), Urwick (1952), Mooney and Riley (1939), Brech (1965) and Mullins (2005). The main organisational theories categorised under Classical, Human Relations, Systems and Contingency were examined in chapter 2. I consider the classical view of organisation to be inflexible as it is too regimented and technical with its emphasis of formal structure and hierarchy. The human relations approach is more flexible and I welcome its attention to social factors at work in SMVOs. I found its main problem was too much emphasis on people's factors and not enough recognition of management inputs with regards to clear vision and direction which was an essential element in the identified TOP imperatives. The contingency

approach is considered as a 21st century paradigm because it is flexible and takes account of the more proactive involvement of customers and shareholders in a market-driven environment. The changing nature of the work environment, the increasing demands for flexibility and concerns with contextual factors influencing structure have drawn attention to the contingency approach (Bouchikhi and Kimberly 2000 and Mullins 2005). Notwithstanding criticisms reported in chapter 2, I consider the contingency approach to be relevant to the way tasks are assigned with regards to ICT implementation, how staff work, and how senior management encourage and motivate staff. Fincham and Rhodes (1992) suggest that the basic concept of contingency approach assists managers to understand complex situations and take appropriate actions. I would add that the contingency approach provides managers with a framework to be pragmatic and deal with each situation appropriately. In practice, therefore, the best approach to implementation of a website or a technology is based on the situational TOP factors identified as part of the schematic classification and resulting action plan outlined for the first time in this chapter. I suggest that organisations have generic and particular characteristics. For example, I found that all the SMVOs studied had clear objectives and missions. They were all organised around similar governance structures (classical theory). The key differences arose out of the human aspects of the organisations where the key stakeholders such as the Board and senior managers influenced the direction and practices within those organisations (interplay between human relations and systems approaches). Often, this determined the effectiveness or success of the organisation. Overall, the contingency model of organisations was a useful framework because it enabled senior managers to take account of situational TOP factors and implement relevant policies and practices to promote ICT adoption.

According to Mullins (2005), the main approaches that have dominated ICT implementation theory include: technological determinism, socio-technical interactionism, socio-economic shaping of technology (SST), social construction of technology (SCT), actor network analysis (ANA) and organisational imperative. With the exception of technological determinism, all the approaches recognise some *interaction* between structures of the

technology and the social structures of the organisation and with the emergent effects arising from such interaction (Ciborra 1994; Ciborra, Patriotta and Erlicher 1995). It is the *interaction* that is of great interest to me in this research. By improving the interaction between technology structures (technology imperatives) and social structures (organisational and people imperatives), the technology adoption process can be enhanced. In other words, getting the right TOP imperatives will facilitate ICT implementation. I agree with Rodrigo (1999) that none of the above approaches tackles ICT implementation exclusively. The new Website/Technology Adoption Model (W/TAM) I propose is based on what I refer to as 'Technology, Organisational and People (TOP) Imperatives'. The model is largely driven by the *organisational* imperative in terms of utilising senior management appreciation, appointing them as change champions and aligning technology to business objectives and service delivery. Wider diffusion and use of the website in terms of ongoing updates will depend to a large extent on bottom-up participation from the *people* or staff. The *technology* imperatives are significant in the identification and determination of simple and effective technology to aid diffusion.

I have used the technology and organisational concepts and ideas outlined above throughout the later chapters, particularly chapters 5 to 7. For example, later in this chapter, I outline technology, organisational and people aspects of ICT organisational implementation within the contexts of socio-technical systems and organisational change.

In chapter 3, I gave an account of the methodology and methods used in the research. I explored the main research paradigms in ICT adoption research and presented the case for selecting *interpretive* approach within an *action research* methodology. The action research methodology chosen is justified in terms of the need to change the SMVO practices through action which is informed by understanding, ethnographic experience, rigour and responsiveness of the research process. I provided the literature and theoretical basis of the action research including previous work by researchers such as Sullivan (2006), Dick (1991), McNiff (2002) and Roberts (1999). In

chapter 4, I provided an overview of the events and the three cycles of the action research. Table 4.1 shows how complex the research programme is in terms of my intervention and how previous cycles and events feed into the next. I described the research settings at the participating SMVOs. I provided an account of the research from first accounts at Migrant Training (cycle 1) to action enquiry and website adoption model (cycle 2) at O-Regen to case studies at four selected SMVOs (cycle 3) covering the replication and 'generalisability' of the model.

Two types of outcomes can be recognised from action research, namely *action outcomes* and *research outcomes.* Dick (2002) explains that action outcomes are achieved mostly by involving people in the planning and the action. Like Sullivan (2006), I have used action outcome to describe the contributions made to the participating SMVOs with regards to the creation and operation of the websites. Dick (2002) further explains that research outcomes are mostly achieved by following the action with critical reflection. In this research I have, through critical reflection, paid a lot of attention to the research findings (see summary later in this chapter) and was able to generate conceptual model that can contribute to knowledge as outlined below. With regards to action outcomes, one of the aims of my research was to achieve a beneficial change in my SMVO practice with regards to achieving effective use of website/ICT (Sullivan 2006). My research benefited the participating SMVOs and individual members of staff who participated as co-researchers. As part of the research outcomes, I also aimed to develop a new technology adoption model that could assist other SMVOs looking to implement ICT. In the rest of this chapter, I discuss the significance of my research in terms of the following two claims to knowledge:

1. Contribution to new SMVO practices (action outcomes).
2. Contribution to a new conceptual ICT adoption model (research outcomes).

This resonates with a suggestion by Dick (1997) that action research can make contributions to knowledge in the areas of specific client/organisational

system, people and change. Sullivan (2006) gives an account of action research with similar categorisation of claims to knowledge, namely contributions to practice and theory.

7.3 Contribution to new SMVO practices

When I started this research, O-Regen where my practice is located did not have a website. In addition, the staff missed out on the information management capabilities and efficiencies that a website provided. The same situation applied to all the four case study SMVOs. Together with key members of staff detailed in chapters 4, 5 and 6, we set about planning and 'actioning' a website in each of the participating SMVO. I suggest that the operational websites constituted my action outcomes in terms client systems developed as a result of the actions taken. I have provided detailed descriptions of the websites in chapters 5 and 6. In this section, I report on what some of the changes brought about to SMVO practices by implementation of websites were. I have referred to these changes as indicators of change to aid their recognition. I suggest that these changes constitute what Sullivan (2006) referred to as 'transformative influence' on practices.

7.3.1 Improvements to SMVO practices and indicators of change

Firstly, it is important to be able to know whether or not the technology (in my case the website) is improving the effectiveness and efficiency of the organisation. As explained in Chapter 2, many authors (Magalhaes 1999; Boynton et al 1994; Davenport 1993; Walton 1988) suggest that the following three measures (benefits) can be used to determine organisational effectiveness at a very broad level:

1) reduced costs as a result of automation
2) better management of information
3) more suitable positioning in the competitive market.

4) transformation which encapsulates the benefits accrued from previous stages as well from new management structures and process innovation enabled by new technologies

The earliest IT are reported to have improved efficiency and effectiveness of individual members of staff or individual functional units, whereas more advance IT applications benefited the entire organisation thereby transforming the operations of both individuals ands functional units (Walton 1989; Magalhaes 1999). Magalhaes (1999) agrees with De Lone and McClean (1992) that the above broad measures or indicators used in the past to evaluate organisational effectiveness of the implementation of IT in an organisation can become meaningless in a cross sectional design. For example, cost reduction can mean different things in different organisation and it would not be feasible to design a questionnaire which could encompass all possible types of organisations. They conclude that attempts to measure impact of management information systems on overall organisational performance are not often undertaken because of the difficulty of isolating the contribution of IT from other contributors to organisational performance.

Ticher et al (2002) compare the process of introducing technology to a journey. First you have to decide where you want to go. The next stage is planning when you buy maps, make sure you have enough money and perhaps read up on pit falls. Once the journey is underway, you rely on all sorts of specialists to help you along. I suggest that it is important to know when you have arrived at you destination. In the journey analogy, you will recognise the locality if you have been there before or if you are new to the place you will see the signs that identify the locality. I also suggest that ICT introduction is a 'journey' which is better described as a 'move' because at a minimum you do not wish to return to where you came from and at most you would like to continue moving on.

In the same way, I suggest that SMVOs should aim to change or improve their practices using technology and be able to recognise the indicators of change which show that the objectives of introducing the technology have been

achieved. In this respect, I interviewed senior managers at participating SMVOs who suggested that introducing the websites had made a difference to their activities. The key changes, universally applicable to all the SMVO case studies include:

- Increased use of email as members of staff embrace the technology. Content information and updates are emailed internally and externally.
- Staff became more aware of individual and corporate services as they participated in the design and updates of the site, and by regularly accessing the site to determine age of the contents or inputting information for clients.
- There was better management of information by providing up-to-date and effective information for clients on the site, regular news update and good news stories.
- With the case, of Nappy Gang, parents are able to access the site and call up the organisation to enrol their children or seek further clarification.

I provide below a detailed consideration of the changes listed above which are also in line with multi-dimensional construct approach recommended by Magalhaes (1999) and De Lone and McClean (1992).

Increased use of emails

From personal observation and interviews with managers, it was evident that there was increased use of emails both during the development and operational stages of the website. One notable example given was increased use of the email to communicate content materials amongst the staff team. In one SMVO, this was the first time one member of staff had opened an email with attachment. In terms of ongoing website update, employees and volunteers were more actively engaged in using the email system to communicate updates to webmaster who was either internal (as in the case of O-Regen and UXL) or external in the case of the other three SMVOs.

Staff accessing information via website

In all the participating SMVOs, it is clear that the websites were used as reference resources by employees and volunteers. Staff accessing information on the website is a good indicator of the appreciation of the role the website plays as a knowledge resource. A good example was a typical story of employees of one of the SMVOs looking up information about available courses on the website when clients enquired. A consequence of staff regularly accessing information on the website was that, for example at O-Regen, out of date content materials that required updating or removal were more quickly spotted and remedial action taken.

Up-to-date website pages

A manager of small SMVOs indicated that she would be happy to be in the 'good' position of operating an up-to-date website. She believed that an up-to-date website is a good sign that the organisation has achieved a functional website. This, of course, assumes that the content is relevant. The larger SMVOs, particularly O-Regen and UXL, achieved up-to-date websites with relative ease. The main reason for this is probably because the larger SMVOs have more varied content to post of their sites as a result of more activities. Despite sustained encouragement, it was notable that the smaller SMVOs had more difficulties preparing and posting new and varied content materials on their sites.

Staff engaged

A good measure of how much staffs are engaged with a technology (website in this case) is how often they use it. At O-Regen members of staff regularly posted good news stories and information about their activities on the website. This also had the added effect of boosting morale and spreading a feel good factor as most members of staff were genuinely pleased to read about some of the successes achieved by beneficiaries.

More client referrals

The ultimate change attributable to the effective website is clients and customers visiting the website and proceeding to access the services provided by the SMVO. More effective information accessed by clients on the website. As the manager of the Nappy Gang nursery put it, 'A number of our parents have been to our website'.

The above findings compliment those of Sullivan (1985) who suggests that the upward trend of both infusion and diffusion produced the following consequences:

- More electic ICT planning methodologies
- New emphasis on ICT architecture
- Recognition of human networking and organisational communication

7.3.2 Overcoming resistance to change

Another improvement to SMVO practices was the way that resistance to change were addressed. Overcoming resistance to change also had the effect of improving staff working relationships and participation. Questionnaires completed by change champions and my experience with them showed that resistance to change generally arose due to staff feeling ill-prepared, not motivated and competing demands on their time.

The best ways of overcoming resistance to change included training the individuals or groups. This was applied at the participating SMVOs. At Nappy Gang group training was conducted as necessary on Thursdays. Use of senior change champions was also helpful in motivating staff and in some cases change champions were also effective in prioritising the website in the work programmes of the employees. A 'carrot and stick' approach deployed by some SMVOs enabled the change process to progress in a timely and planned manner. A 'carrot and stick' approach developed at O-Regen works

by incorporating participation in the technology process in the staff appraisal and monitoring framework.

Ticher et al (2002) conducted a study of 30 voluntary sector organisations. One of their most important finding is that the biggest barriers to effective use of ICT are internal. This is in line with the TOP approach I have developed in this thesis where these key issues are internal to the organisations (paragraph 7.2). They suggest that some changes should not be a matter of personal choice, if they are for the good of the organisation. They further suggest that staff training and change of habit could be all that is needed to overcome such resistance. A top down approach is also recommended. In one example, they report that one of the fastest switches to senior managers using email came in an organisation where the edict went out that 'from next month expenses will only be paid if claims are submitted by email'. The study, however, did not provide a detailed guide to how the resistance to change could be tackled.

Since overcoming resistance to change contributed to the improvements at the participating practices as outlined above, I will now consider how resistance to change was tackled.

Training the individual or group: As illustrated below, some members of staff appeared to resist change because they wanted to be 'difficult'. When I talked to a cross-section of the staff it soon became apparent that sometimes people were not clear about the change and how they are expected to comply. Staff training is therefore a useful tool for overcoming resistance to change. The following example demonstrates what I mean. Senior managers instructed that all members of staff should provide at least one good news story (case study) per month that can be posted on to the website. Overall, this meant that there were at least two good news stories per week. Initial staff response was lukewarm and some went as far as saying that they had no good news stories. The situation was resolved by educating and training employees and volunteers about what good news stories were, benefits, how to identify and prepare them. In another scenario, managers drew up a rota to manage the weekly production of good news stories. This ensured that each member of

staff knew exactly when they needed to produce a story. The disadvantage of this approach is that the stories should be spontaneous. Overall, I suggest that a planned approach that is flexibly administered to take account of important and spontaneous events is a good practical way of ensuring that there is constant flow of content materials for the website.

Using change champions: In each of the participating SMVO, I engaged at least one senior manager who acted as a change champion. At all the SMVOs, it was important that the change manager was a member of the senior management team and respected within the organisation. For the very small organisations, the change champions were often the only manager or the chair. Within O-Regen, I acted as the change champion. This was helped by the fact that I had important portfolios which increased significantly when I was promoted into a directorship role in the last two years of my research. I deal with the wider implications of my role in paragraph 7.7.3. From my observation and interviews, important characteristics of a change champion are best summarised as follows:

- Senior manager, preferably member of senior management team. Better results were obtained when the CEO performed this role such as at O-Regen, UXL and Nappy Gang.
- Respected by both staff and managers. Good communication skills and ability to win over Board, managers and staff were advantageous.
- Innovative and open to new ideas. For example, one of the change champions at the participating SMVOs said, '...for us the sky is the limit'.
- High appreciation of ICT. There was distinct advantage when the person was ICT literate although this criterion was not obligatory. Commitment and determination to pursue an objective (ICT) was essential.

In all SMVOs the role of the change champion included:

- Initiating and influencing development of the website strategy at Board, senior management and staff levels
- Obtaining ownership of the website strategy at all levels
- Ensuring the issues relating to WNL and TOP imperatives were addressed to remove barriers to website implementation use.
- Driving through the changes and generally keeping 'an eye on the ball' to ensure the website adoption process was on time and according to budget.

Top-Down: As was pointed out by one of the managers, 'I am absolutely convinced that we must embrace new technology and I will do whatever is necessary to make sure that we do not lose out.' Ultimately, there was definitely a role for a top-down approach to drive through the website adoption process. All the managers agreed that employing a 'carrot and stick' approach by incorporating the change process into staff routines including the appraisal process was helpful in tackling staff resistance to change. A top-down approach was demonstrated in several ways at the SMVOs, with the followings as the most common:

- Production of content materials including good news stories for websites was drafted as part of employees' job description
- Staff annual appraisal process included website related performance criteria including contribution to website updates and training needs

7.4 Contribution to a new conceptual ICT adoption model

In chapter 5, I have encapsulated the Website Adoption Model (WAM) which has its root in the three approaches that traditionally dominated ICT implementation theory, namely technological determinism (Campbell, 1996; Markus and Robey, 1988), organisational Imperative (Chandler, 1962; Andrews 1971; Earl, 1996; Morgan, 1997) and socio-technical interactionism or bottom-up approach (Ciborra, 1994; Ciborra, Patriotta and Erlicher, 1995). The new model I propose is based on what I refer to as 'Technology,

Organisational and People (TOP) Imperatives'. From the case study at O-Regen, I have been able to demonstrate that the contingency-based TOP model causally relates information technology implementation (in terms of design and implementation of website) to organisational structures (in terms of culture and managerial inputs) and people (in terms of job roles, learning and skills acquisition). The model integrates multiple and well-grounded theoretical streams of research. These three key factors interact and influence each other as they determine how organisations implement website/technology. This research focused on the key factors or imperatives that must exist in order to facilitate website implementation. In chapter 6, I applied and tested the WAM model developed at O-Regen to four selected SMVOs. The main findings stated in chapter 6 confirmed those identified at O-Regen.

In an attempt to develop a new conceptual framework for organisational implementation ICT, I sought to first answer the question: 'What are the factors that affect organisational implementation of ICT by SMVOs?' I will now explore the TOP issues that arose from pilot work undertaken at O-Regen and the extension of lessons to other SMVOs. In chapter 5, I showed how W/TAM is informed and driven by the TOP Imperatives (see paragraph 5.8.7). The three general issues that I will discuss in more details are:

1. Technology Imperatives: Installation of more technological artefacts (hardware and software).
2. Organisational Imperatives: Wider usage of the technology to achieve organisational objectives.
3. People Imperatives: Staff and volunteers taking more responsibility of their roles in exploiting the technology to deliver organisational goals.

With reference to my proposed TOP imperatives and W/TAM, several relationships can be discerned which ground my research within the socio-technical interactions and diffusion domain with some contributions from the infusion concept (see chapter 2). The social and technical interaction nature means that some of the TOP features can be categorised under more than one imperative. As an example, some of the technology imperatives can

arguably be included and reported under organisational imperatives. The ICT budget could be such an example.

7.4.1 Technology Imperatives

In terms of website adoption, Technology Imperatives require the presence of in-house ICT artefacts seen at O-Regen such as access to an in-house or a remote web-server for ease of updates. I suggest that in terms of wider technology adoption and use, Technology Imperatives relate very closely to ICT Infusion, Intent and to what Sullivan (1985) referred to as new emphasis on information system architecture. I found that in the SMVOs with the right level of ICT artefacts such as O-Regen, UXL and The Nappy Gang, there were also greater ICT awareness and intent mainly driven by senior managers. I therefore suggest that Technology imperatives are related to and determined by ICT Intent. Magalhaes (1999) gives a very good account of ICT Intent which he developed from the older notion of ICT Intention. Intent is explained as the awareness, the understanding, the action and the pro-action from all the organisation's managers regarding the role of ICT in helping to achieve their own business objectives and, ultimately, the organisation's strategic aims. Nonaka and Takeuchi (1995) presented three attributes of intention that enables conditions for the creations of organisational knowledge: 1) the organisational aspirations to its goals 2) the organisational visions 3) something capable of fostering collective commitment.

Many authors agree that technology-strategy relationship is important and determines the level and nature of ICT investment in an organisation (Itami and Numagami 1992; Porter and Millar 1985; Venkatraman 1991 and Maghallaes 1999). For example, Magalhaes (1999) suggests that ICT Infusion can be usefully further sub-divided into three analytical categories: 1) strategy capitalises on ICT 2) strategy cultivates ICT and 3) ICT drives cognition of learning. Finally with respect to successful wider technology adoption, I redefine Nonaka and Takeuchi's (1995) findings and suggest the following summary for Technology Imperative attributes. Selected technology must:

1) Meet organisational aspirations. This is more so with SMVOs who have limited resources which must be prudently used.
2) Be in line with organisational visions or standards
3) Be marketable to staff in order to ensure commitment and ownership. This leads to better diffusion and decentralisation.

7.4.2 Organisational Imperatives

A common feature found in all the case studies was the existence or desire to be a 'professional[26]' organisation. As part of the Government's new Future Builders and Third Sector agenda[27], there is a move to 'professionalise' the sector. The participating SMVO therefore felt that being an ICT literate organisation with maximum ICT diffusion will become an advantage when competing for contracts. In addition, funders also look favourably on SMVOs who are at ease with technology and have modernised their operations.

ICT appreciation by CEO and/or Board: This was important in fulfilling several of the roles identified by Bartlett and Ghoshall (1993). From the case studies at four SMVOs (chapter 6), these included shaping and embedding corporate purpose, translating the charitable intent and purpose, developing and nurturing positive organisational values, championing ICT issues at all levels of the organisations including Board, establishing performance targets that includes ICT utilisation and personal involvement in strategic management of ICT.

All participating SMVOs strongly agreed with the questionnaire assumptions that ICT appreciation by Board and senior management was important. This was best demonstrated at the Nappy Gang where the Chair acted as change champion and actively took part in the design and implementation of the

[26] 'Professional' organisation is considered to be one where modern business practices and systems are used
[27] This agenda is described more fully in Chapter 1.

website. The Secretary of ACWDC also showed her appreciation when she remarked, '.. this is happening for us at the right time.'

Paul et al (2002) suggest that two of the most important attributes for managers in the voluntary sector were a vision about what the organisation could do with ICT and the confidence and determination to take the ideas forward. At O-Regen and UXL, both CEOs were very clear about how they wanted to use ICT and were able to obtain Board approval and drive through the adoption process. From the interviews at the SMVOs appearing in the lower quadrant (bottom left) of the square TOP matrix (paragraph 7.4), I suggest that these CEOs and managers require help and support to develop a vision for their organisations. An important point is that all CEOs interviewed appreciated the fact that ICT was crucial for their organisation despite not all of them being very clear about how ICT could best be used. It was significant that one CEO was not confident to be interviewed alone and asked a member of the Board with some ICT appreciation to attend the interview.

Schein (1992) considers the role of CEOs in the introduction and management of ICT and concludes that most CEOs find the field of ICT too complex. Feeny et al (1992) suggest that attitudes of CEOs could be changed through actions which changed their perception, appreciation or experience of ICT. Magalhaes (1999) also concludes that 'Top management is not only crucial in the management of the ICT function, but also that such a role depends very much on the attitudes and not just on the factual knowledge. In this case, attitudes towards ICT.

In this research and as described in chapters 5 and 6, I addressed this crucial issue of ICT appreciation and positive attitudes by providing:

- ICT awareness and skills training where needed
- Ongoing support to increase their confidence and assist with driving through changes required for ICT adoption.

This intervention proved important in initiating ICT adoption and is recommended to agencies and institutions that are looking to adopt ICT or facilitate it.

Effective marketing and communication strategy: All managers interviewed agreed that a website will be more effectively and widely used by the organisation if a marketing and communication strategy exists to make use of it. In other words, an effective marketing and communication strategy is an important ingredient for better website adoption. O-Regen, in particular, had a well developed strategy where the email was extensively used to send out e-bulletins that alert stakeholders about good news stories and new services on the website. In order to keep the website up-to-date and increase visitor numbers, effective marketing and communication strategy is an important organisational imperative. Participating SMVOs found the concept of 'good news' stories[28] developed at O-Regen very useful. With this approach, senior managers request staff to formalise provision of such stories as part of their routine tasks. In practice, this means that most staff involved in service delivery will provide regular updates (weekly to quarterly) depending on the volume of activities.

Organisational learning practices: Organisational learning is another imperative that assisted the introduction of the website by enabling staff and the organisation to adapt to the new situation and challenges. Good practices were seen at Nappy Gang where great emphasis was placed on staff learning. For example, learning is so important that Thursday is designated a learning day at Nappy Gang. Organisational learning is important and leads to change. Introducing ICT brings about change in organisational procedures (Davies and Olson 1985; Lucas 1994). Land (1992) concludes that six factors were essential in the change management process which in turn determines successful adoption of the new system: 1) motivation for introducing the system; 2) commitment to the system; 3) organisational culture; 4) management of the implementation process; 5) the distance between the

[28] Good news is brief information or case stories often accompanied by digital images that portray the good work or performance of the organisation.

existing system and the replacement system and 6) the technology itself. From this it can be seen that the implementation process includes technology, people and organisational aspects. Huff et al (1988) use the concept of expansion and control, to suggest that the introduction of new technology triggers the need for an organisation to learn and expand in terms of knowledge or ICT artefacts. The work of Choo and Cements (1994) is very important in linking ICT introduction and organisational learning. They suggest that growth is driven by advances in technology and the organisation's capacity to learn the technology.

I organised training in Internet related skills including email and website design. I identified key worker from each of the participating SMVO and designated them as *change champions*. Change champions received training as appropriate and then cascaded the training in-house. It is important to point out that in the bigger SMVOs such as UXL and O-Regen there was little or no training required by the change champions. This is probably due to the fact that bigger SMVOs had better trained staff in the first place. In all cases a strategy of how to implement organisational learning was important. The role of change champions was critical in achieving the desired objectives.

Organisations with successful implementation of organisational learning or training had:

- Significant training budget. The smallest SMVOs studied had no training budget whilst the largest and most successful SMVO had a training budget of over £15,000 per year Considering how tight budgets are in the SMVO sector, the lessons from the study suggest that a training budget is required to encourage effective organisational learning.
- Relevant training which is closely linked to organisational objectives.
- Access to free training services provided by external agencies and network organisations such as O-Regen and umbrella organisations.

ICT Budget including website maintenance costs: Three out five SMVOs studied have an ICT budget[29]. The higher the ICT budget, the more successful the organisation was in achieving ICT adoption as measured by the success of the website In fact, the least successful SMVO had great difficulties internalising ICT operations in terms of setting up routines and procedures to ensure the all staff had a role in website maintenance and use. One manager complained about the difficulty of obtaining capital funding to procure essential computer hardware. Another manager had been successful securing grant funding to purchase the latest computing hardware, software and printing accessories. She was very proud to display the new organisational website as the homepage on the new computer which is used by both staff and clients. This was an interesting situation because it demonstrated how ICT budget and managerial action and vision came together to drive forward ICT diffusion

Funding is an important consideration because it enables SMVOs to own an ICT budget. Funding also helps with levering in the necessary staffing and ICT infra-structure/artefacts to oil the wheels of change. For most SMVOs, up to 100% of the organisational budget comes from external funding sources such as the Learning & Skills Councils (LSCs)[30] and the Regional Development Agencies (RDAs)[31]. One CEO said that in recent years, there has been a funding requirement from these funding agencies that ICT use is addressed as part of 'cross-cutting' issues[32]. This approach provides CEOs and managers with the opportunity to think about how ICT can best used to support service delivery.

---

[29] Budget was comparable to organisation size and commitment to ICT. It varied from a few hundred pounds to over 10,000 per year.

[30] LSCs are responsible for funding and planning education and training for over 16-year-olds in England.

[31] Regional Development Agencies (RDAs) were set up by Government to promote sustainable economic development in England. Their main tasks are to help the English regions improve their relative economic performance and reduce social and economic disparities within and between regions.

[32] Such cross-cutting issues include innovation, environmental sustainability issues and equal opportunities.

I suggest that funding is an important organisational imperative that allows website and ICT artefacts and adoption to be afforded via an ICT budget. As outlined in chapters 5 and 6, organisations that were successful in operating ICT budgets had the following important features:

- ICT costs were central or core costs managed at corporate level.
- Departments and/or projects raised ICT budgets through fundraising.
- Cost sharing of ICT by different projects and/or departments ensured effectiveness and efficiency gains.
- Ability to regularly review ICT costs and maximise returns from investment. One of the organisations studied significantly reduced its ICT costs by ending external ICT contract and employing an ICT Technician with a range of skills including web design and network management skills.
- An ICT budget as perceived from the very successful practices at both O-Regen and UXL.
- Ability to make the most out of free services and equipment provided by capacity building agencies and umbrella or second tier organisations. As an example, O-Regen won a contract to provide capacity building services to SMVOs and support could include small grants to purchase ICT equipment as well free website hosting.

7.4.3 People Imperatives

The presence of ICT-enlightened staff, such as at O-Regen and UXL, was helpful in implementing change and delivering high quality website. The downside of this was that there was much higher expectation which led to a much longer Web design stage. The clear advantage, however, was that members of staff were present who could effectively manage ongoing updates.

The role of CEOs was important in all the cases and was best illustrated at O-Regen and UXL. Both CEOs, in their response to the senior management team questionnaire indicated very clear understanding of the role of website and ICT as a powerful tool for delivering organisational goals.

Staff roles are important. The various tasks required to implement the website/ICT adoption are allocated to individual or teams of staff. At O-Regen, a website committee was set up to oversee the implementation of the strategy. It is important the CEO takes overall responsibility for the implementation of the strategy. Roles that can not be performed internally are assigned to external consultants and agencies. For example, the design and updates of the website is one role that was performed externally by this research programme at three of the four SMVO cases studied.

In the larger SMVOs studied, the managers and staff had good ICT skills. Ticher et al (2002) considers ICT successes in voluntary sector and finds that more and more new recruits into the sector are tested to ensure that they have essential ICT skills. The situation is yet to improve in the smaller SMVOs and those operating in non-ICT sectors such as childcare (see chapter 6). Smaller SMVOs and non-ICT sectors risk being left behind in terms of competitiveness and organisational effectiveness unless managers and recruits have better ICT skills and/or appreciation.

For organisations that are more successful at implementing the website (with greater complexity and visitor numbers), the following people features were found to exist:

- Most or all members of staff and volunteers could use ICT and regularly visited the website.
- Presence of staff who can update the website.
- There is at least one member of staff employed as an ICT Administrator or Technician. In one SMVO, there were at least two members of staff who could design websites and maintain a network.

The SMVOs who took part in the case studies would most likely have been unsuccessful in their attempts to set up and operate a website without help from the research programme. It is clear from the research programme that where there is no internal expertise, access to external advice is very important. As one manager put it to me, 'we would have been lost without you'. It is worth pointing out that when I first approached the SMVOs, the managers were suspicious of my intentions. Although I told them the support would be free, they would not believe it. This fear stems from the fact that some ICT specialists have previously approached SMVOs and charged expensive fees to write ICT strategies or undertake website creation.

The above TOP considerations were helpful in answering the research question about the factors that affected ICT adoption. Thus far, I have accordingly provided the basis for developing a new ICT adoption framework. In this quest, I next sought to answer my second research question: 'Using website technology as the ICT tool, how can inhibiting factors be mitigated?' I will address this by giving an account of an effective strategy required to address inhibiting factors arising out of lack of TOP imperatives.

7.4.4 ICT strategy

Since I used the website as the main ICT tool, I deliberately restricted the focus of ICT strategy to a 'website strategy' that looked at how the website can best be adopted and used. In chapter 5, paragraph 5.3.1, I outline key TOP issues that must be addressed in an ICT strategy. Following further research at the four SMVO cases studied, I suggest that the website strategy can be extended and applied to ICT strategy as outlined below.

Technology: *Technology* imperatives must be planned for here. The artefacts (hardware and software) required to implement the website were specified. Accessibility to the technology should be addressed. For example, steps should be taken to ensure members of staff can access and use the technology with ease and efficiency. Access was relatively easy at the larger SMVOs but quite difficult at the smaller organisations. The concept of ICT

access is also closely linked to ICT diffusion. The concept of diffusion as suggested by Sullivan (1985) describes the level of deployment or decentralisation of ICT throughout the organisation. The more accessible the technology, the more decentralised and potentially utilised it is.

Organisational: Strategies to achieve *organisational* imperatives must be planned for. The vision and role to be played by the CEO and Board to initiate and drive through organisational changes must be stated. Steps to be taken in order to achieve a learning organisation where training is planned and structured must be outlined. Like at O-Regen and UXL, ICT use by individual members of staff must be incorporated into the staff appraisal process. Financial resources that are managed organisationally must be identified. Finally, an effective marketing strategy must be developed to promote internal and external communication.

People: The various tasks required to implement the technology strategy are allocated to individual or teams of *people* (staff). For example at O-Regen, a website committee was set up to oversee the implementation of the strategy. Besides internal staff, the roles of external staff or consultants are very important and must be set out in the strategy. Staff training programmes are required to ensure that members of staff and volunteers are provided with opportunities to improve or acquire relevant ICT skills.

In the preceding sections, I have discussed the TOP factors that affect ICT adoption and gave an account of how an effective strategy could be used to mitigate the lack of TOP imperatives. In the next critical section, I will formulate a technology adoption framework that could be applied to other SMVOs in particular and other organisations in general. I will do this by seeking an answer to my last research question: 'How can the lessons learnt be employed more generally to tackle ICT implementation within the SMVOs and other organisations?' In doing so, I also argue that before the framework can be used, it is important to classify the SMVO in question to see how best the framework can be applied.

7.4.5 The new Website/Technology Adoption Model (W/TAM) and proposed classification of SMVOs

The new Website/Technology Adoption Model (W/TAM) described in previous chapters (5 and 6) and based on 'Technology, Organisational and People (TOP) Imperatives' provide model or template for replication in other SMVOs. The model is largely driven by the organisational imperative in terms of utilising senior management appreciation, appointing them as change champions and aligning technology to business objectives and service delivery. In chapters 5 and 6, I have shown that wider diffusion and use of the website in terms of ongoing updates depends to a large extent on bottom-up participation from the people or staff. The technology imperatives are significant in the identification and determination of simple and effective technology to aid diffusion.

Contingency models of organisation were discussed in Chapter 2. The models can be used to ground the W/TAM developed in this research. Contingency models emphasise the interrelationships between technology, structure, methods of operations and the nature of environmental influences. I agree with Vecchio (2000) and Mullins (2005) who suggest that the contingency approach emphasises the need for flexibility and the approach does not seek universal principles that can be used for every situation, but instead seeks to explain how one attribute or characteristics depends on another. I have found that it suits general and specific natures of SMVOs who despite having similar organisational and governance structures often have different situational TOP features that must be taken account of by managers. Pateli and Giaglis (2005) also construct and test, through its application to a real case study, a methodology that generates contingencies for the evolution of a company business model (BM) under the impact of a technology innovation. They advise that such a methodology needs to be complemented with a contingency framework for guiding the selection of the scenario that better suits the internal and external environment of the company. In the case of SMVOs, I would argue that account needs to be taken of relevant technology,

organisational and people's factors identified as part of the schematic classification proposed later in this chapter.

The concept of diffusion can also be cited to ground the new W/TAM approach. Sullivan (1985) argues that diffusion may take place in organisational terms, as companies use more ICT in support of more and more functions and business units. Diffusion may occur as follows:

- In physical terms as more computers or artefacts are installed
- In terms of responsibilities as line managers take more control of systems design, development and operations

Magalhaes (1999) restates diffusion as encapsulating all the organisational consequences, including structural arrangements, procedures, routines and managerial action which flow from the strategic choices regarding ICT investments in the face of competitive pressures. Sullivan (1985) mainly argues that diffusion is about physical infra structure (Technology). Magalhaes (1999) on the other hand argues that diffusion is in the main about organisational structures and relationships between people. Based on the pilot and case studies in this thesis described in chapters 5 and 6, I suggest that diffusion has three aspects:

1) Technology proliferation: Installation of more technological artefacts (hardware and software).
2) Organisational: Wider usage of the technology to achieve organisational objectives.
3) People: Staff and volunteers taking more responsibility for their roles in exploiting the technology to deliver organisational goals.

I further suggest that not all three aspects may take place at the same time. Clearly, maximum diffusion was found where all three aspects applied (Figures 7.1 to 7.4). O-Regen and UXL studies found strong presence of all three aspects. The other three SMVOs had relatively weaker presence of all

three. O-Regen has installed more than 80 computers with each of the 25 members staff having a computer. There were at least four Local Area Networks (LAN) covering the four operational sites. UXL has installed over 30 computers within its Local Area Network. Each member of staff has been allocated a computer. In both cases, there exists high level of use of computers to deliver business objectives which include ICT training. O-Regen and UXL are therefore good examples of technologically mature organisations. Sprague and McNurlin (1993) explain the concept of technologically mature organisations as being those in which management is comfortable managing the use of ICT and employees are comfortable using the technology. Obviously, technologically mature organisations are the ones most likely to take advantage of the new uses of ICT.

Within the W/TAM framework, it is possible to specify features or diagnostics that can assist in its implementation. The main characteristics of organisations with high *technology* imperatives are:

- The artefacts (hardware and software) required to implement the ICT/website are in place
- As a minimum all employees and volunteers should be able to access a computer with internet access on demand.
- Ability to own a web server, though not essential, is a distinct advantage for website management and updates
- Access to remote web server to enable regular updates preferably at no additional costs

The main characteristics of organisations with high *organisational* imperatives are:

- CEOs and Board appreciate strategic role of ICT/Website in improving service delivery and ability to drive through relevant organisational changes
- An ICT/Website strategy

- Learning organisation where training is planned and structured
- Review of individual ICT use is part of staff appraisal system
- ICT/Website budget managed organisationally
- Effective marketing strategy includes use of ICT media such as website and e-bulletins

The main characteristics of organisations with high *people* imperatives are:

- Staff and employees with ICT skills that can enable to use ICT applications such as Word, emails and accessing websites
- ICT enlightened staff and volunteers who appreciate the benefits of ICT/website and motivated to embrace change
- Managers willing to act as change champions
- Staff or volunteers with ICT technical expertise such as web master to provide technical advice, support and training

The above imperatives are best encapsulated in a Technology Adoption Model (TAM) based on the Website Adoption Model (WAM) described in chapter 5. It is important to note that the interaction between technology, organisational and people factors will determine how successful the adoption process will be. For the first time, SMVOs can recognise the important factors that affect ICT adoption. SMVOs can also identify and map out a route to achieving the TOP imperatives.

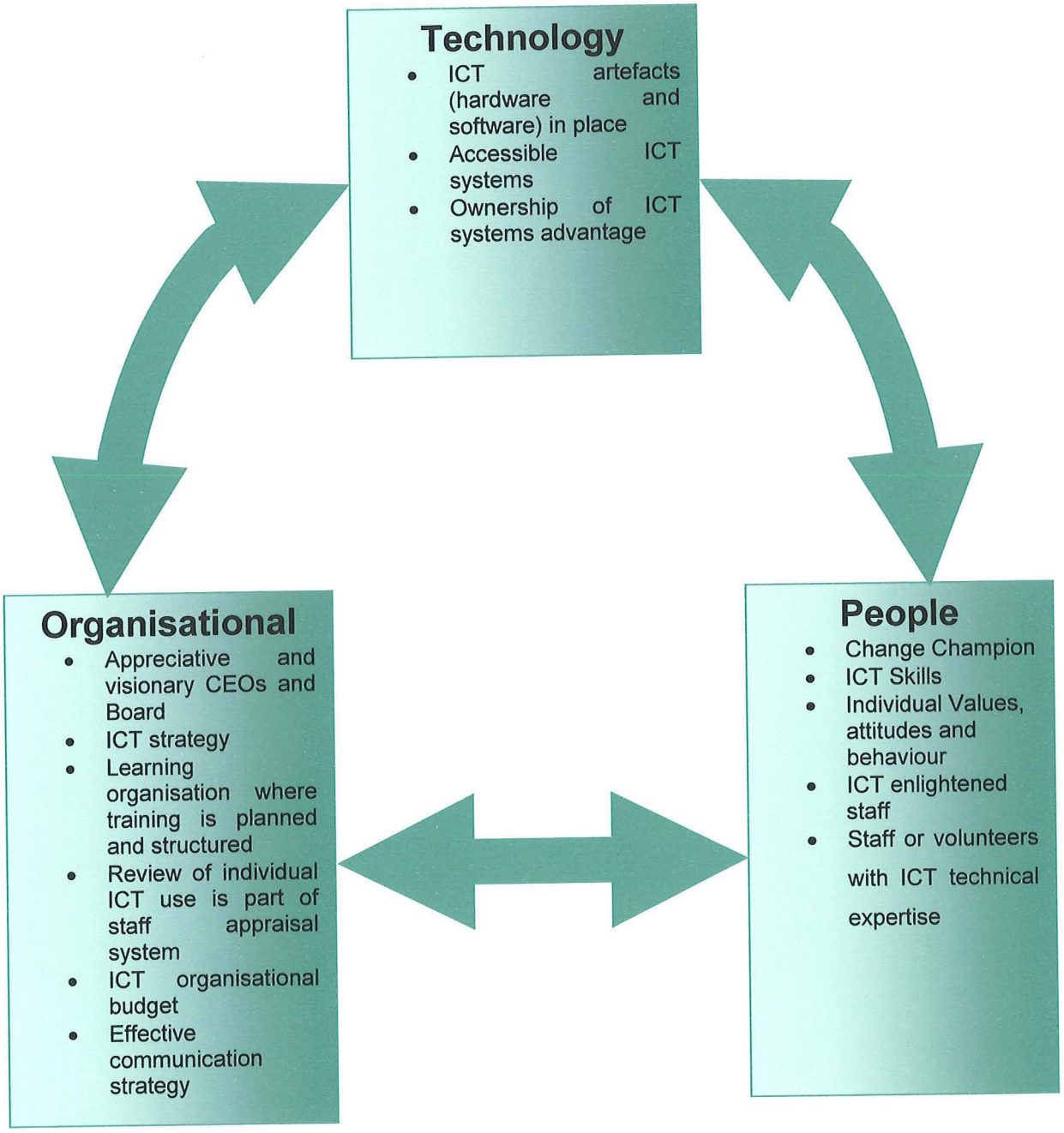


Figure 7.1 - Technology Adoption Model (TAM)

To assist SMVOs with mapping out a route (ICT strategy) and to facilitate the understanding of SMVOs in particular and organisations in general, I suggest that it is helpful to classify organisations using a two-dimensional classification based on TOP schematic diagrams below. Once the status of an organisation has been determined, the challenge is therefore to develop and implement an ICT strategy that moves an organisation to the appropriate top right quadrant.

The Technology–Organisational (T-O) diagram (Figure 7.1) shows the status of an organisation with respect to having a high or low Technology or Organisational Imperatives. In Figure 7.1, O-Regen displays the highest T-O imperatives, UXL has high T imperative but low O imperatives. NG, ACDA and ACWDA have low T-O imperatives.

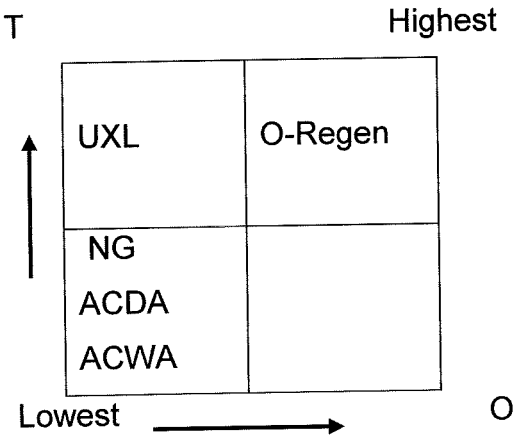


Figure 7.2 - T-O Diagram

The People–Organisational (P-O) diagram shows the status of an organisation with respect to having a high or low People or Organisational Imperatives. In Figure 7.2, O-Regen displays the highest P-O imperatives, UXL has high P imperative but low O imperatives. NG, ACDA and ACWDA have low P-O imperatives.

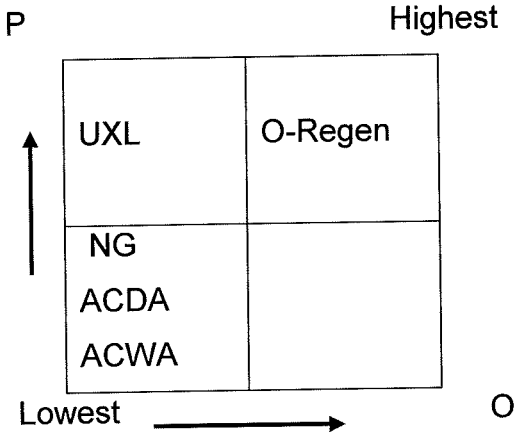


Figure 7.3 - P-O Diagram

The Technology–People (T-P) diagram shows the status of an organisation with respect to having a high or low Technology or People Imperatives. In Figure 7.3, O-Regen and UXL display the high T-O imperatives, whereas NG, ACDA and ACWDA have low T-P imperatives and so the aim is to build their capacities with regards to technology and people imperatives so to move them to the top right quarter. The decision as to whether an organisation has low or high T/P/O imperative is based on qualitative assessment that takes account of the characteristics associated with high imperatives highlighted above (section 7.4).

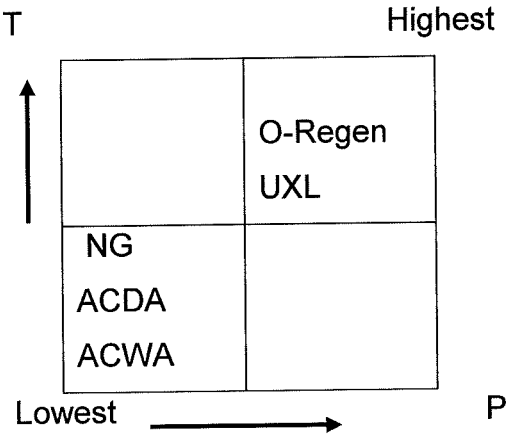


Figure 7.4 - T-P Diagram

The importance of the classifications, outlined above, is that once it is undertaken, the barriers that need breaking down and the actions that must be taken become clearer. The aim is to move an organisation from the low quarter to the high quarter (top right) in the two dimensional diagram. Using this model, for the first time, SMVOs can easily identify a vision and can recognise change required to realise ICT implementation.

In the next section, I will provide a summary of the key research findings and draw useful conclusions about the action research methodology.

7.5 Reflection on key findings and conclusions

7.5.1 Action research outcomes

Table 7.1 shows a summary of the key emergent outcomes from my research. The format adopted follows the scheme presented by Perry and Zuber-Kerritt (1992) and Roberts (1997) to outline outcomes for action research programmes.

Action Research	**Emergent Outcome/Key Findings**
Phase 1: Initial Needs Analyses of SMVOs	Barriers to ICT take up included: • Lack of Board and Management appreciation • Lack of technical knowledge & support • Lack of funding, funding pressures, smaller SMVOs • Lack of staff appreciation • High staff resistance • Lack of 'Change Champions'
Phase 2: Pilot Study	Web Development Process (WDP) involves seven stages, namely: Purpose, Planning, Design & Development, Review, Publish, Monitoring, Updates Pilot study at O-Regen produced website adoption model (WAM) based on TOP imperatives as follows: **Technology** • ICT artefacts • Accessibility to online technology (computers) • Planned process, in this case, Website

	Development Process (WDP) and Website Navigational Layout (WNL) in place. **Organisational** • Board and CEO appreciation • Website strategy • Learning culture • Staff appraisal • Funding/ICT budget • Marketing strategy • ICT intent • Professionalism **People** • ICT Skills and technical expertise • ICT enlightened staff • Change Champion • Positive individual values, attitudes and behaviour
Phase 3: Case Studies	The main characteristics of organisations with high technology imperatives: • The artefacts (hardware and software) required to implement the ICT/website in place • As minimum all employees and volunteers should be able to access a computer with internet access on demand. • Ability to own a web server, though not essential, is a distinct advantage for website management and updates • Access to remote web server to enable

	regular updates preferably at no additional costs The main characteristics of organisations with high organisational imperatives: • CEOs and Board appreciate strategic role of ICT/Website in improving service delivery and ability to drive through relevant organisational changes • A formal ICT/Website strategy • Learning organisation where training is planned and structured • Review of individual ICT use is part of staff appraisal system • ICT/Website budget managed organisationally • Effective marketing strategy includes use of ICT media such as website and e-bulletins The main characteristics of organisations with high people imperatives: • Staff and employees with ICT skills that can enable to use ICT applications such as Word, emails and accessing websites • ICT enlightened staff and volunteers who appreciate the benefits of ICT/website and motivated to embrace change • Managers willing to act as change champions • Staff or volunteers with ICT technical expertise such as web master to provide technical advice, support and training

	Resistance to change can be best overcome by • Training the individual or group • Using change champions • Top-Down

Table 7.1 - Summary of emergent outcomes

7.5.2 Appropriateness of research methods

Action research: I used action research methodology to provide both action and research outcomes with regards to organisational implementation of ICT. I did this over three cycles of action research. In cycle 1, I identified the key factors that affect ICT take up, categorising them as TOP factors. In cycle 2, I undertook a pilot study at O-Regen and worked with key staff (co-researchers) to create, implement and evaluate the organisational website. In cycle 3, the website adoption model developed was applied to four carefully selected SMVO case studies to assess its 'generalisability'.

Within each cycle, setup, planning, action and review/reflection were undertaken. This can best be illustrated using the O-Regen, the pilot SMVO. Its website strategy and content design tasks constituted the key planning elements of the AR process. These elements informed and led to the action stage which involved creation of the organisational website. The review stage of the AR process included monitoring and evaluation of the website usage. The same approach was adopted for staff development. Initial identification of training needs led to the implementation of planned training. These members of staff affected by the change were involved in the action research. In this research I used the post-positivist or interpretive approach to organisational investigation where I (the researcher) was an active participant in the process with the employees in the participating SMVOs. This contrasts with the positivist or natural science approach in which the researcher is an observer, external to the process. Akomode (1996) suggests that with regards to information systems design, development and implementation, the interpretive

approach implies an understanding of the subjectively created world in the form of an ongoing process. In this research, I also utilise *Action Research* (AR) strategy as a means to enable myself as the researcher to be implicitly and actively involved with the employees of participating SMVOS in the subject of investigation. Many authors describe AR usage in similar situation (Rapoport 1970; Foster 1972; Susman and Evered 1978; Hult and Lennung 1980; Checkland 1981; Checkland and Scholes 1990).

I chose action research as a research methodology because it has the dual aims of action and research. At the pilot and case study stages, action research allowed action (change, improvement) and research (understanding, knowledge) to be achieved at the same time. The reflections of change champions at participating SMVOs and my own allowed more informed change and at the same time were informed by the changes. By investigating the best opportunities for facilitating and maximising use of ICT, I found that the situation demanded responsiveness in terms of a cyclic process of planning, action and review provided by action research. As reported above, the main *action* outcome was contribution to improved SMVO practices in terms of creation and utilisation of the websites which led to changes in the way staff operated: increased use of email as members of staff embrace the technology, staff became more aware of individual and corporate services as they participated in the design and updates of the site, better management of information by providing up-to-date and effective information for clients on the site, regular news update and good news stories and clients accessing the website to prior to requesting for services. The reflections built into action research process enabled the development of the key research outcome, namely a new technology adoption model based on TOP imperatives.

Participatory action research enabled key members of staff affected by the change at each SMVO to be involved in the action research. Dick (2001) and Roberts (1997) report similar participatory action research where the understanding was widely shared and the changes were pursued with commitment. This research set out to and achieved changes within O-Regen and participating SMVOs (action outcomes). Furthermore, it improved the

skills and knowledge of employees of SMVOs. The change champions (most of the CEOs of participating SMVOs) acted as co-researchers and gained knowledge through the inquiry process. Accordingly, they developed skills of reflective practice, culture of inquiry as part of their work life and learning organisations. The outcome of self-reliance has previously been reported by Roberts (1997) when he developed pastoralist self-reliance in complex situations through improving their skills in experiential learning. My action researching with the SMVOs confirmed to me that the managers, staff and Boards are ready to embrace ICT and modernise their organisations. They are therefore willing partners for collaborative participatory action research.

Case Studies: In this research, I carried out an in-depth case study of O-Regen and four SMVOs in order to determine factors that impeded or facilitate ICT adoption with view to develop new framework for ICT adoption and diffusion. Eisenhardt (1989) specifically supports the use of case study methodology by arguing that it is particularly well suited to researching new or inadequately researched areas. ICT implementation within the SMVO sector is an area that is hardly researched. Cousin and Jenkins (2000) suggest that case study research is in fact neutral between qualitative and quantitative methods, and can be appropriately conducted within any paradigm capable of studying an exemplary instance. According to Stake (1988) the case study provides a good way of organising social data so as to preserve the unitary character of the social object being studied.

Seeking 'disconfirming' evidence: Many authors of action research including Roberts (1997), Dick (1987), Habermas (1984) and Argyris and Schon (1996) agree that the concept of dialectic should be used to seek to disconfirm what we think we understand, rather than to confirm it. Roberts (1997) suggests sources of materials to support seeking of disconfirming information including the literature relating to recognition of the influence of frames of reference on our development of perspectives about issues and the literature of action research science. As previously outlined in chapters 3 and 6, a dialectic process was built into research methods by obtaining similar data from different sources. For example, at the testing of the model stage, I decided to

use interviewees from each of the four participating SMVOs (chapter 6). This form of triangulation according to Perry (1998) is very useful. Peel (2006) uses similar method when he selects at least two interviewees from each of the five SMEs studied thereby improving reliability and generalisability of the data collected. This has the advantage of ameliorating the possibility of interviewer bias creeping in to the data collection phase. Another source of triangulation was my use of documents and policies including newsletters. Archived materials were, however, not used as smallest SMVOs like SMEs keep scant documentation (Peel 2006).

Ethnography and dialogue: During the development of intervention model where I used O-Regen as a pilot organisation, I adopted ethnography as a research style. As an employee of O-Regen, I immersed myself in the setting and became part of the organisation and staff under study. This was critical in achieving a deeper understanding of the meanings and significances of stakeholders' actions. This avoided what Agar (1986) referred to as 'breakdowns', a common problem where outsiders new to an organisation encounter things they do not understand.

Ethnographic research is concerned with understanding particular social phenomenon using unstructured and semi-structured data (Volkow 2003). Explicit interpretation of the meaning and functions of human actions are interpreted through rich descriptions through descriptions of what took place and participants; explanations (Atkinson and Hammersley 1998). Pettigrew (1983) suggests that different cultures must be recognised in ethnographic research and that the descriptions of such cases are reconstructions. Volkow (2003) also suggests that participant observation required by ethnographic research implies interaction between and reciprocity of perspective between the observer and observed in shared social and cultural field.

The concept of 'dialogue' has been put forward by many authors including Bohm (1990), Cayer (1997) and Schein (1993) to denote open discussions that promote new understanding and the development of participants. In this research, I have encouraged co-researchers to 'dialogue' through both formal

and informal one-to-one and group discussions. For example, at the O-Regen pilot stage, I often underplayed my role as a senior manager and informally interacted with staff and volunteers. This was a good route of identifying ways of tackling resistance to change and discussing the 'undiscussable' (Roberts 1997). For example, one member of staff indicated to me that she did not feel well supported and that was why she did not embrace the changes. Accordingly, she felt that was why she did not rise to the challenges brought about by the website adoption process. I was able to reassure and support her in a sensitive and professional manner without undermining her superior.

Questionnaire and interviews methods: Questionnaires and interviews are popular methods used in qualitative research. During the case study, smaller SMVOs found the questionnaire too complicated and preferred informal semi-structured interviews. This could in part be due to the fact that the questionnaire needed to cover technical and organisational aspects that senior management of some small voluntary organisations would find rather sophisticated. This was true in one situation. The key advantage of semi-structured interviews in this study is that it allowed for clarity and appropriate information to be discerned from the interviewees.

Since I have situated the action research at O-Regen and the four participating SMVOs, it could be argued that the action research outcomes apply directly to those practices. However, I suggest that the Technology Adoption Model (TAM) can be cautiously extended to other situations if certain limitations are acknowledged as described below.

7.6 Cautious expansion of emergent outcomes

7.6.1 Expansion of Technology Adoption Model (TAM)

In the search for a Technology Adoption Model (TAM) that can be applied more widely to SMVOs and indeed to most Small and Medium sized enterprises (SMEs), I suggest a cautious expansion of the W/TAM model developed. I recognise that action research is perceived as local in nature

(Roberts 1997) with the outcomes having relevance within the context of the particular situation. I believe that conceptual generalisation can be attempted if its limitations are recognised (Lomax 1986). A numbers of authors including Toulmin (1996), Dick (1995) and Newby (1997) have extended emergent outcomes of action research to wider situations. I should point out that authors like Hodgkinson (1957) and Porras and Robertson (1987) have challenged extension of action research outcomes to other situations on the basis that they are localised. I agree with the authors who believe that extension can be achieved if nominated outcomes can be supported by literature that support such generalisation. In the end, SMVOs are also organisations albeit those that disproportionately face the barriers and obstacles identified. A practical application is that the suggested TOP classification can be applied to all organisations, particularly SMEs. The challenge for managers and change makers will then be to facilitate ICT implementation by improving appropriate TOP features following an initial classification as outlined above.

7.6.2 Policy Implications

The research contributes to guidance on policy and practice. Mark (1983) has suggested that the best way to formulate an information system implementation strategy is to diagnose the organisational setting where the system will be used. A structured understanding of the social setting can help to identify problems or specific needs that have to be addressed in implementing information system development (Volkow, 2003). In this research, I used an organisation setup template and TOP framework to diagnose the organisation settings in each of the case studies and develop a strategy of how to move the organisations into the appropriate quadrants of the TOP schematic diagrams (also see below).

Another policy implication is that the role of a change champion is critical to the successful implementation and diffusion of ICT. I acted as a change champion within O-Regen but as a consultant within the four SMVOs case studies. However, I secured the support of a change champion within each

participatory SMVO. Volkow (2003) also reports on the potential contributions and limitations of consultants or 'outsiders'. She indicates that consultants should be conscious that specific institutional values embedded in their professional practices can be in conflict with those of the organisation hosting them.

The research also indicated that a progressive approach is an effective way to implement and increase ICT diffusion. For example, in the case of O-Regen, the website and its content evolved over the years from a simple publishing medium to an interactive and visually attractive site. This progressive adoption correlates well with the development of the organisational goals and services. In the four case studies, the sophistication of the site was largely determined by the complexity and capacity of the organisation.

Increasingly, there are a number of funding organisations who are seeking to provide capital funding to SMVOs to acquire ICT artefacts. This research shows that technology adoption must be accompanied by a structured training programme for the staff and volunteers of the organisation. A clear lesson from the research is that funding organisations must secure not only initial Board and/or CEO approval for the investment programme but also a training programme to build the capacity of the organisation to ensure effective use of the technology. This situation is particularly necessary for SMVOs with low organisational and people imperatives.

Through the 'ChangeUp Agenda', the government is looking for the voluntary and community sector to provide a 'third way' for delivering services to local residents, particularly in deprived communities This research has shown that with the appropriate support and investment, even the smallest voluntary and community organisation can adapt to changes (technology in this case) by improving its capacity and quality of service. This bodes well for the implementation of the 'ChangeUp Agenda' services. Clearly, as demonstrated, different SMVOs will be at different state of preparedness and capacity. Therefore, a one-size-fit-all approach will not work. This should be viewed as a strength rather than a weakness because different SMVOs are specialists

and access points for different categories of the community who face multiple needs.

There have been remarkably few studies focused on technology implementation by SMVOs. This research has shown that even within the five SMVOs studied, there were notable differences in capacities despite universal positive senior management intent. O-Regen and UXL have strong capabilities covering the TOP imperatives such as technology artefacts and skilled staff. The smaller the SMVOs, the greater the barriers and lack of capabilities. This was clearly the case at ACDA and ACWA. Considerable barriers lack of time, lack of funding, and ICT expertise relating to hardware and software. I agree with Pateli and Giaglis (2005) who suggest efforts to enhance the technological absorptive capabilities of small and medium sized enterprises (a category that can include SMVOs) involve a complex series of issues of information, management, training, and financing, and raise questions of structures, relationships, attitudes, policies, and practices at multiple levels. The challenge for technology implementation policy is to classify SMVO according to suggested TOP scheme and to improve the relevant aspects of the organisation in order to achieve the TOP characteristics outlined earlier in this chapter. Government, Regional Development Agencies, Local Authorities, the Learning & Skills Councils and other agencies can therefore support SMVOs to achieve the characteristics associated with high TOP imperatives.

7.7 Further Research

Pettigrew (1983) and Volkow (2003) indicate that the process of change is in a continuous flux and therefore an interpretation at one point in time and from a certain perspective does not mean to represent the ultimate outcome of the change process as a definite result, but as an insight into prevailing trends of the process of dialectic forces that interact in a social setting. Thus the analysis of each case study in this research can be taken as one possible interpretation, constructed from observations and theoretical perspectives. The flexibility and continuing nature of action research (Roberts 1997) means

that further cycles of action research can be added to address one or more of the emergent outcomes of my research (paragraph 7.7.1).

Extension into other areas of ICT to test the Technology Adoption Model (TAM) is a possible area of further research. I developed the TAM following the study of website adoption which led to my proposed Website Adoption Model. I recognise that a website is one of several ICT systems and therefore validation of the TAM model through the adoption of other ICT systems could be beneficial.

This research focused on ICT diffusion in small and medium sized voluntary organisations. Comparative study involving large voluntary organisations could provide helpful insights into some effective ways of successfully managing ICT diffusion within the voluntary sector generally. Lessons learnt could be extrapolated to smaller voluntary organisations. Such a study could also further validate the findings of this research.

Important socio-technical dimensions of ICT systems are best tackled using the qualitative interpretive approach adopted in this research (Pettigrew 1983; Volkow 2003). However, quantitative study of one or more of the TOP variables identified in this research could provide further understanding of the ICT implementation process. Technical dimensions of ICT systems can be ably studied using quantitative methods.

7.8 Conclusion

The UK is encouraging the voluntary sector to improve its infrastructure and deliver public services. In this research, I adopted action research methodology to provide both action and research outcomes with regards to organisational implementation of ICT. Organisation website was selected as the ICT technology for adoption. I undertook the research in three cycles. In cycle 1, I identified the key factors that affect ICT take up. I categorised these as TOP factors. In cycle 2, I carried out an in-depth pilot study at O-Regen and worked with key staff to create, implement and evaluate an organisational

website. In cycle 3, the website adoption model developed was applied to four carefully selected SMVOs to assess its 'generalisability'. The claims to knowledge in this research are two fold: 1) Contribution to new SMVO practices (action outcomes). I have suggested that the key changes highlighted earlier in this chapter and which are universally applicable to all the SMVO case studies provide evidence of recognisable improvements to the SMVO practices. 2) Contribution to a new conceptual ICT adoption model (research outcomes). Key findings based on the Website Adoption Model (WAM) are extended it into a Technology Adoption Model (TAM). The framework presents classification of SMVOs using a two-dimensional classification based on TOP schematic diagrams. For the first time, SMVOs can identify a vision, develop an ICT strategy that addresses identified situational TOP factors and recognise changes arising out of ICT implementation. I suggest that these contributions to knowledge are of interests to SMVOs and other organisations as primary beneficiaries, development agencies such as central and local governments, Regional Development Agencies (RDAs) and Learning and Skills Councils (LSCs) and finally other interested researchers.

Glossary of terms

Accessibility: The fundamental issue regarding Accessibility is that everyone should have access to the services provided by ICT, e.g. computer programs, email and the Web, regardless of any visual, auditory, or other physical impairment they might have. Technology may be employed to increase access to such services.

Action Research: is systematic enquiry designed to yield practical results capable of improving a specific aspect of practice. It is a family of research methodologies which pursue action (or change) and research (or understanding) at the same time.

ADSL: Asymmetric Digital Subscriber Line. A high-speed digital telephone connection that operates over an existing copper telephone line, allowing the same line to be used for voice calls. ADSL lines offer transmission speeds of at least 512Kbps and are used mainly for Internet access. The term asymmetric is used because the data flows more quickly from the telephone exchange to the user than from the user to the exchange - because most WWW users, for example, are more interested in receiving data quickly from websites rather than transmitting it. The term symmetric is used for connections where the data flows at the same speed in both directions, which is essential for accessing websites where there is a high degree of interactivity. See Broadband, ISDN and Leased Line.

Bandwidth: The amount of data that can be sent from one computer to another through a particular connection in a certain amount of time, e.g. via a computer to the Internet and vice versa. The more bandwidth available, the faster you are able to access information. Bandwidth is usually measured in kilobits per second (Kbps) or megabits per second (Mbps).

Bit: Contraction of binary digit. A bit is the smallest measurement unit of computer memory or data transmission speed.

Blog: Contraction of the term weblog. A blog is essentially a website that contains discrete pieces of information, posted by different users. New items of information are usually entered by contributors via a simple form, following the introduction of each new theme by a person who initiates the blog, and then submitted to the site, where they may be filtered by an administrator before being posted.

Blogger: Normally used to refer to someone who blogs, i.e. who regularly writes blogs.

Broadband: Transfer principle entailing greater bandwidth than that available for traditional transfer of voice. Transfer speeds of 2Mbit/s and higher are generally considered to be broadband.

Browser: Software that enables users to access and to navigate the World Wide Web - to 'surf the Web' in colloquial terms. Internet Explore and Netscape are two browsers that are in widespread use.

Capacity building: A term sometimes used in knowledge management to describe the process of enhancing an organisation's ability to implement knowledge management principles and practices.

Case Study: is the presentation of data about a single setting or event. It is not a method of research as such because the data being offered can have been gathered using a variety of different methods (questionnaire, observation, and so forth). It is predominantly a description, and is usually based on a qualitative data set, though statistics such as survey findings may be incorporated.

Champion: A person who proactively promotes something with the aim of persuading others of its benefits.

Chat Room: A mainly text-based communication facility, offering a web-based environment where people either drop into or arrange to meet and chat at

specific times. You type in your text online, it is seen almost immediately by others online at the same time who respond online in real time.

Construct: (a) Something that exists theoretically but is not directly observable. (b) A concept developed (constructed) for describing relations among phenomena or for other research purposes. (c) A theoretical definition in which concepts are defined in terms of other concepts. For example, intelligence cannot be directly observed or measured; it is a construct.

Cookie: A piece of information stored on a user's computer by a Web Browser when the user visits a website for the first time. Websites use cookies to recognise users who have previously visited them.

Database: A body of data stored in a set format allowing the data to be retrieved, queried, and cross-referenced using software.

Deductive Reasoning: A logical process of developing specific predictions (hypotheses) from general principles. This type of reasoning moves from the general to the particular.

Department for Communities and Local Government (DCLG): Was created in May 2006. DCLG will be the successor department to the Office of the Deputy Prime Minister (ODPM). It is an expanded department with a powerful new remit to promote community cohesion and equality, as well as responsibility for housing, urban regeneration, planning and local government. It unites the communities and civic renewal functions previously undertaken by the Home Office, with responsibility for regeneration, neighbourhood renewal and local government (previously held by the ODPM). It brings together responsibility for equality policy, including policy on race, faith, gender and sexual orientation. These functions were previously split between several government departments.

Determinism: The belief that everything is caused by specified factors (antecedent factors) in a predictable way rather than haphazardly; a key assumption within the positivist paradigm.

Discussion List: An electronic Discussion List - also known as a Forum - is a way of sharing emails with the members of a group of people with a common interest. Members of a discussion list usually have to subscribe to the list by sending a message by email to the list server (the computer which manages the list), and thereafter they receive copies of all other messages sent to the list by other subscribers.

Domain name: is a hostname that provides more easily memorable name to stand in for numeric IP addresses. Domain names always have two or more parts, separated by dots. For example: o-regen.co.uk is a domain name.

E-Commerce: The use of electronic information systems (especially internet technologies) to perform transactions i.e. buy and sell things.

E-Government: The delivery of government services using electronic information systems (especially internet technologies).

Electronic mail: abbreviated **e-mail** or **email**, is a method of composing, sending, storing, and receiving messages over electronic communication systems including the Internet and Intranet.

Epistemology: is the branch of philosophy which studies the nature, origin, and scope of knowledge. The word 'epistemology' originated from the Greek words episteme (knowledge) and logos (word/speech). There are different approaches to the theory of knowledge. Historically, epistemology has been one of the most investigated and debated of all philosophical subjects. Much of this debate has focused on analysing the nature and variety of knowledge and how it relates to similar notions such as truth, and belief. Specifically, epistemologists will analyse the standards of justification for knowledge claims, that is the grounds on which one can claim to know a particular fact. In

a nutshell, it addresses the question, 'How do you know what you know?' Not surprisingly, the way that knowledge claims are justified depends on the general approach to philosophy one supports. Thus, philosophers have developed a range of epistemological theories to accompany their general philosophical positions.

Et al: Latin phrase meaning 'and others.'

Ethnography: is a combination of ethnos = people or race, and graphy = to describe or write about. The primary method used is observation, and the key features are a focus on description, multi-dimensionality and noting processes. It is associated with anthropology and sociology that systematically describes the culture of a group of people. The goal of ethnographic research is to understand the natives'/insiders' view of their own world.

Extranet: Extension of a company's intranet onto the Internet, permitting selected customers, suppliers and colleagues working in the field to obtain exclusive access to information and services through the web.

Firewall: Software and hardware systems that protect an internal network from outside data that could be harmful to the network, such as a virus sent via the Internet.

Focus Groups: are open-ended, discursive, and are used to gain a deeper understanding of respondents' attitudes and opinions. Focus groups typically involve between 6-10 people, and last for 1-2 hours. A key feature is that participants are able to interact with, and react to, each other. In order to facilitate this group dynamic it is important to ensure that participants do not know each other beforehand and that they are broadly 'compatible'.

Globalisation: The sociologist, Anthony Giddens, defines globalisation as a decoupling of space and time, emphasising that with instantaneous communications, knowledge and culture can be shared around the world simultaneously. Ruud Lubbers, a Dutch academic, defines it as a process in

which geographic distance becomes a factor of diminishing importance in the establishment and maintenance of cross border economic, political and socio-cultural relations.

Grounded Theory: usually relates to qualitative research. The researcher starts by collecting evidence on a topic (or phenomenon), and then sees what theoretical propositions the evidence will support. This is described as an inductive process, or one in which the theory that arises is 'grounded' in the evidence.

Hacker: A person who spends their time trying to gain access to information stored on other people's computers all around the world. Some hackers are just harmless browsing types, but other have more invidious aims such as grabbing details of your credit cards or bank account, which may be stored in a file somewhere on your computer.

Hardware: The physical elements of a computer system - the bits you can see, touch, drop, kick or fall over. Contrast with Software.

Hits: any request for a computer file or web page from a web server. It can be used to measure number of visit to a website. See 'unique visitors'.

Homepage: This is the main Web page of a business, organisation or school, or of a personal website. From this page links are made to other pages on the same site and to external sites.

Hostname: The network address of a computer on the Internet (host) written as letters, for example **www.o-regen.co.uk**. A hostname is the human-friendly form of the host's IP address, which is the real Internet address of the computer (e.g. 160.346.164.9).

HTML: Hypertext Markup Language. The coding system used for documents on the World Wide Web, which enables the document author to control how the page appears and to insert hypertext links to other documents on the

Web. Nowadays most Web writers and designers use an authoring tool, such as Front Page or Dreamweaver to create World Wide Web documents.

HTTP: Hypertext Transfer Protocol. The transfer method (protocol) used by the World Wide Web to transfer Web pages between computers on the Internet.

Hyperlink: or simply a **link**, is a reference in a hypertext document to another document or other resource.

Hypothesis: A statement that predicts the relationship between variables (specifically the relationship between the independent and dependent variables). A hypothesis may be directional or non-directional. Directional: A hypothesis that makes a specific prediction about the nature and direction of the relationship between the independent and dependent variables. Non-directional: A hypothesis that does not specify the nature and direction of the relationship between the independent and dependent variables.

Ibid: Latin phrase meaning in the same place

Inductive Reasoning: A logical process of reasoning used to develop more general rules from specific observations; this type of reasoning moves from the specific to the more generalised.

Information communications technology (ICT): Technology that combines computing with high-speed communications links carrying data, sound and video.

Information Management: The management of an organisation's information resources in order to improve the performance of the organisation. Information management underpins knowledge management, as people derive knowledge from information.

Information System (IS): A combination of personnel, efforts, forms, instructions, procedures, data, communication facilities and equipment that provides an organized and interconnected means for displaying, information in support of specific functions

Information Technology (IT): A term that encompasses the physical elements of computing including servers, networks and desktop computing which enable digital information to be created, stored, used and shared.

Internet Protocol (IP): Internet Protocol, protocol that constitutes the basis for all communication on the Internet. Defines how information is transferred between systems. Version 4 (IPv4) is most commonly used at present. The pending version 6 (IPv6) is also called IP next generation (IPng).

Internet Service Provider (ISP): A company that provides a subscription service and related software to enable users to access the Internet.

Internet: or simply the **Net**, is the worldwide network of computers. Although the Internet is in fact a network of networks, it appears to users as a network of individual computers (Hosts). The Internet is the collection of interconnected networks that evolved from the ARPANET of the late 60's and early 70's. It has grown from a handful of interconnected networks into a huge network of millions of computers. See 'world wide web'.

Interview – Semi-Structured: Contains a mix of structured questions, often to get factual data, and more general open-ended questions which allow the respondent to elaborate on particular issues.

Interview – Structured: The interviewer asks the respondents the same questions using an interview schedule - a formal instrument that specifies the precise wording and ordering of all the questions to be asked of each respondent.

Interview – Unstructured: Also sometimes called 'in depth' or 'free story' interviews. The researcher asks open-ended questions which give the respondent considerable freedom to talk freely on the topic and to influence the direction of the interview since there is no predetermined plan about the specific information to be gathered from those being interviewed.

Interview: A method of data collection involving an interviewer asking questions of another person (a respondent) either face-to-face or over the telephone.

Intranet: A private network inside a company or educational organisation and used over its LAN (Local Area Network). A sort of local Internet. See Internet, LAN.

IP Telephony: Technology for transfer of voice calls on the Internet. Also called Voice over IP, VoIP.

ISDN: Integrated Services Digital Network. A type of digital telephone service, used for transferring large chunks of data to and from the Internet without a modem. Gradually falling out of use these days with the introduction of ADSL services. ISDN lines normally operate at 128Kbps, which is faster than a standard 56Kbps modem but slower than an ADSL connection, which runs at a speed of at least 512Kbps. See ADSL, Broadband and Leased Line.

LAN: Local Area Network. A network of computers at one site. A LAN is limited to an immediate area, usually the floor of a building or the same building. See MAN, WAN.

Learning and Skills Council: Responsible for funding and planning education and training for over 16-year-olds in England. http://www.lsc.gov.uk/

Learning organisation: An organisation that views its success in the future as being based on continuous learning and adaptive behaviour. It therefore becomes skilled at creating, acquiring, interpreting and retaining knowledge and then modifying its behaviour to reflect new knowledge and insights.

Leased Line: Also known as a Private Circuit, is a dedicated communications link between two sites. It is separate from the public telephone network and reserved exclusively for the use of the owner, usually at a fixed tariff regardless of usage levels. Leased lines are commonly used where there is high inter-site traffic, where there is a requirement for high bandwidth, or where reliability and availability are critical considerations. See ADSL, ISDN and Broadband.

Link: Is a piece of clickable hypertext identifiable by being underlined and a different colour from the ordinary text around it.

London Development Agency (LDA): Is the Mayor of London's agency for creating sustainable businesses and jobs. www.lda.gov.uk.

Longitudinal Research: May use any method of data gathering (observation, survey, experiment, etc.), but its particular characteristic is that the process is repeated on several occasions over a period of time, as far as possible replicating the chosen methodology each time. It follows that a key aim of such research is to monitor changes over time.

Management: The process of planning, organising, executing, coordinating, monitoring, forecasting and exercising control.

Menu: A list of options from which a computer user makes a selection in order to determine the course of events in a program. This usually involves keying in a single letter or number, or selecting text or an Icon with a Mouse.

Methodology: Different approaches to systematic inquiry developed within a particular paradigm with associated epistemological assumptions (e.g. experimental research, grounded theory, ethnomethodology). The common idea is the collection, the comparative study, and the critique of the individual methods that are used in a given discipline or field of inquiry.

Methods: A reasonably complete set of rules and criteria that establishes a precise and repeatable way of performing a task and arriving at a desired result.

Mission statement: A brief summary, approximately one or two sentences that sums up the background, purposes and benefits of an organisation.

Model: A schematic description of a system, theory or phenomenon that accounts for its known or inferred properties and may be used for further study of its characteristics.

Modem: Short for modulator/demodulator. A device which converts computer data to a signal that can be transmitted over a telephone line. It can also reconvert a signal coming into a computer via a telephone line so that it can be understood by the computer. Modems are used to connect computers with the Internet.

Naturalistic Paradigm: This paradigm assumes that there are multiple interpretations of reality and that the goal of researchers working within this perspective is to understand how individuals construct their own reality within their social context.

Not-for-profit organisation: is an organisation whose primary objective is to support some issue or matter of private interest or public concern for non-commercial purposes.

Observation – Non Participant: is where the researcher attempts to remove or detach themselves as an actor from the research situation.

Observation: A method of data collection in which data are gathered through visual observations.

Online: A synonym for 'connected'. In Internet terms, it means that you have successfully dialled into your service provider's computers and are connected to the Net. The opposite term is offline

Op. cit: Latin abbreviation meaning 'in the work (previously) quoted'

Organisational culture: In short, 'the way we do things around here'. An organisation's culture is a mixture of its traditions, values, attitudes and behaviours. Different organisations can have very different cultures. In knowledge management, an organisation's culture is extremely important - if it is not based on qualities such as trust and openness, then knowledge management initiatives are unlikely to succeed.

Organisational development: The use of behavioural science, technology, research and theory to change an organisation's culture to meet predetermined objectives involving participation, joint decision-making and team building.

Organisational learning: The ability of an organisation to gain knowledge from experience through experimentation, observation, analysis and a willingness to examine both successes and failures, and to then use that knowledge to do things differently. Organisational learning occurs when an organisation becomes collectively more knowledgeable and skilful in pursuing a set of goals.

Packet switching: The method used to move data around on the Internet. In packet switching, all the data coming out of a machine is broken up into chunks, each chunk has the address of where it came from and where it is going. This enables chunks of data from many different sources to co-mingle on the same lines, and be sorted and directed along different routes by special machines along the way. This way many people can use the same lines at the same time.

Paradigm: A conceptual model underlying the theories and practice of a scientific subject. According to University of Bath, Kuhn defines a paradigm in two ways: first as the entire constellation of beliefs, values and techniques shared by a scientific community; and secondly as the procedures used to solve specific problems and take theories to their logical conclusion. Kuhn also suggests that paradigms function as maps or guides, dictating the kinds of problem/issue which are important to address, the kinds of theories or explanations that are regarded as acceptable, and the kinds of procedure that are used to tackle particular problems. Paradigm denotes a worldview based on a set of values and philosophical assumptions that are shared by a particular academic community and that guide their approach to research.

Participant observation: is a major research strategy which aims to gain a close and intimate familiarity with a given group of individuals and their practices through an intensive involvement with people in their natural environment.

Pentium: A generic name for a faster type of Personal Computer that superseded the earlier 486 range of slower computers. Essential for modern multimedia applications and accessing the Internet.

Personal Computer (PC): The generic term for IBM-compatible microcomputers.

Phenomenology: A research methodology which has its roots in philosophy and which focuses on the lived experience of individuals.

Pilot-Study: A trial, both to examine the effectiveness of various aspects of the proposed research, such as procedures for data gathering, and to aid the completion of detailed project plans.

Portal: A special web page that organises access to all of the online resources about a topic, providing a one-stop shop of sorts.

Positivism: This paradigm assumes that human behaviour is determined by external stimuli and that it is possible to use the principles and methods traditionally employed by the natural scientist to observe and measure social phenomena.

Proxy server: A server that sits between your browser and a web server. The proxy server intercepts all requests by your web server and checks that it does not have the requested web page stored on its hard disk. If it has, the proxy server returns the requested web page from its hard disk. Proxy servers help to speed up the Internet and can be used to filter out requests for unsuitable web pages.

Qualitative data: Information gathered in narrative (nonnumeric) form such as a transcript of an interview.

Qualitative research: The term qualitative research has different meanings in different fields, with the social science usage the most well-known. In the social sciences, qualitative research is often a broad term that describes research that focuses on how individuals and groups view and understand the world and construct meaning out of their experiences. It essentially is narrative-oriented and uses content analysis methods on selected levels of communication content. Other researchers consider it simply to be research whose goal is not to estimate statistical parameters but to generate hypotheses to be tested quantitatively.

Quantitative data: Information gathered in numeric form.

Questionnaire: A questionnaire comprises the questions to be asked of respondents. There are three main types: questionnaires to be used in face to face or telephone interviews; self completion questionnaires, which are read, completed and returned by respondents; and computer administered questionnaires, which allow more complex question patterns than paper questionnaires.

Reflection: The process whereby an action researcher/learner takes time to consider an experience s/he has been involved in, or any new learning experience and reflect on how it has been done.

Reliability: The extent to which the same result will be repeated/achieved by using the same measure.

Research methods: Specific procedures used to gather and analyse research data. There are several main methods that researchers use to gather empirical evidence, which include questionnaires, interviews, participant observation, and statistical research. One of the problems is that many researchers argue that only one theoretical approach is the right one, and it is theirs. In practice, researchers often tend to mix and match different approaches and methods, since each method produces particular types of data.

Router: Packet switch for connecting local networks with traffic control and filtering capabilities when there are several routes for each information packet to be transported between two endpoints.

Sampling: Is the process by which you reduce the total number of possible respondents for a research project (the research population) to a number which is practically feasible and theoretically acceptable (the sample).

Search Engine: A usually web-based system for searching the information available on the Web. For example Google.

Senior Management: Those with responsibility in any organisation for the strategic leadership and management of a whole organisation.

Server: A program that provides services to other computers (clients) in a network and distributes shared resources such as data, programs and communications access. May refer collectively to both computers and programs.

SMEs: Small and Medium sized Enterprises. Commonly defined as companies employing less than 250 people.

SMVOs: I have proposed this abbreviation to refer to Small and Medium sized Voluntary Organisations including community sector organisations employing less than 250 people. See SMEs.

Software: This means the programmes used on a computer. Examples include Word, Excel, Access, PowerPoint and Publisher.

Stakeholders: The various individuals and organisations who are directly and indirectly affected by the implementation and results of a given activity.

SWOT analysis: Stands for Strengths, Weaknesses, Opportunities, and Threats. The SWOT analysis is associated with creating strategies and might be used in a particular organisation or with an individual to improve performance.

Theoretical Framework: The conceptual underpinning of a research study which may be based on theory or a specific conceptual model (in which case it may be referred to as the conceptual framework).

Triangulation: Is a multi-method or pluralistic approach, using different methods in order to focus on the research topic from different viewpoints and to produce a multi-faceted set of data. Also used to check the validity of findings from any one method.

Trustees: NVCO provides the following roles for a trustee of a voluntary and community sector organisation: set and maintain vision, mission and values; develop strategy; establish and monitor policies; set up employment procedures; ensure compliance with governing document; Ensure accountability; ensure compliance with the law; maintain proper fiscal

oversight; select and support the chief executive; respect the role of staff; maintain effective board performance and promote the organisation.

UK Online Centres: A UK government initiative that provides facilities that enable everyone in the UK to have easy access to the Internet and e-mail near to where they live. This could be an Internet Café on the High Street, a public library, a college, a community centre, a village hall or anywhere available to the public.

Unique visitors: A list or count of visitors to a website. A count of unique visitors is the number of visits from different IP addresses. This statistic is considered more relevant in terms of measuring a site's true audience size, and it is often more important because they can measure exactly how many unique individuals view the site, not just how many times it was viewed by the same person repeatedly. See 'hits'.

University for Industry (Ufl): A public-private partnership in England, Wales and Northern Ireland, that aims to help individuals have a better chance of gaining employment, improving their career prospects and boosting business competitiveness. Ufi's learning services are being delivered through 'learndirect'.

URLs: A **Uniform Resource Locator** (URL), commonly called a web address, is a string of characters conforming to a standardised format, which refers to a resource on the Internet (such as a document or an image) by its location. For example: http://www.o-regen.co.uk.

Validity: Concerns the extent to which the research findings can be said to be accurate and reliable, and the extent to which the conclusions are warranted.

Virus: If you surf the Web, use email or floppy disks sent to you by other people, you need to be protected against virus invasions. A virus is a nasty program devised by a clever programmer, usually with malicious intent. Viruses can be highly contagious, finding their way onto your computer's hard

drive without your being aware of it and causing considerable damage to the software and data stored on it. Viruses can be contracted from files attached to email messages.

W3C: World Wide Web Consortium. An international non-profit organisation which acts as a 'resource centre' for the World Wide Web, and is active in setting open technical standards. The W3C can be found at the URL http://www.w3.org.

WAN: Wide Area Network. A network of computers located at geographically separate sites. See LAN, MAN.

Web page or webpage refers to a page on a website. It contains hypertext links to enable navigation from one page or section to another.

Web Server: Software which allows the computer (Host) on which it's installed to serve website files to browsers. One or more websites can be hosted on a computer running a Web server.

Website: or **Web site:** An area on the World Wide Web where an organisation or individual stores a collection of pages of material. The web pages are usually interlinked with one another and with other websites. Every website has a unique web address or URL. For example: www.o-regen.co.uk.

World Wide Web: or the Web is a collection of interconnected documents, linked by hyperlinks and URLs, and is accessible using the Internet. In other words, the Internet is the hardware (the name for the network), and the World Wide Web is part of the software (its content).

Sources:

Specifically with respect to the above glossary of terms, I acknowledge the following sources:

1) Oxford Dictionary. Ask Oxford. Available from. <http://www.askoxford.com/dictionaries/compact_oed/?view=uk> (Accessed 2 August 2006).

2) ICT for Language Teachers. English Glossary. Available from. <http://www.ict4lt.org/en/en_glossary.htm> (Accessed 2 August 2006).

3) Matisse Enzer. Glossary of Internet terms. Available from. <http://www.matisse.net/files/glossary.html> (Accessed 2 August 2006).

4) Research Mindedness Virtual Learning Resource. Glossary of Research Terms. Available from. <http://www.resmind.swap.ac.uk/content/00_other/glossary.htm> (Accessed 4 August 2006).

5) University of Bath. Research Methods Glossary. Available from. <http://www.bath.ac.uk/e-learning/gold/glossary.html#N1918> (Accessed 4 August 2006).

Webliography

http://www.o-regen.co.uk – O-Regen's website, pilot study SMVO

http://www.uxl.org.uk - UXL's website, case study SMVO

http://www.wf-acda.org.uk – ACDA's website, case study SMVO

http://www.nappygang.org.uk – Nappy Gang's website, case study SMVO

http://www.africaribwomen.org.uk - ACWDC's website, case study SMVO

http://www.acevo.org.uk/main/index.php?content=main - acevo is the professional body for the voluntary sector's chief executives, with 2000 members. Their mission is to connect, develop and represent the sector's leaders, in order to increase the sector's impact and efficiency.

http://www.bassac.org.uk/ - bassac is a membership organisation that represents and supports a national network of organisations, who provide services, community development support and host smaller community initiatives.

http://www.the-centre.co.uk/index.html - The centre is a training organisation for managers, communicators and administrators in the public and not-for-profit sector.

http://www.cafonline.org/ - The Charities Aid Foundation aims to encourage more efficient giving to charity. It has achieved much success in assisting the distribution of large sums of money for charitable purposes.

http://www.charity-commission.gov.uk/ - The Charity Commission is established by law as the regulator and registrar for charities in England and Wales.

http://www.citra.org.uk/ - CITRA is the name given to the collaborative technology alliance formed between eight key charity sector bodies to help improve access to relevant and trusted IT information, people and resources.

http://www.thecompact.org.uk/ - The Compact is the agreement between government and the voluntary and community sector in England to improve their relationship for mutual advantage.

http://www.dsc.org.uk/ - The Directory of Social Change, set up in 1975, aims to be an internationally recognised independent source of information and support to voluntary and community sectors worldwide.

http://www.governancehub.org.uk/ - The Governance Hub is a partnership of voluntary and community organisations in England working to improve the levels of good governance in charities.

http://www.ictconsortium.org.uk/index.htm - The ICT Hub is a group of voluntary sector organisations who have come together to plan and deliver a co-ordinated framework of ICT guidance, good practice, advice and support for voluntary and community organisations, accessible at a local level. The Hub was funded by the Home Office in August 2005.

http://www.lasa.org.uk/ - Lasa provides ICT advice to voluntary organisations.

http://www.nacvs.org.uk/ - NACVS (the National Association of Councils for Voluntary Service) is a network of CVS and other Local Voluntary and Community Sector Infrastructure Organisations throughout England.

http://www.volresource.org.uk/ - VolResource aims to provide practical resources for people involved in charities, voluntary or community organisations.

http://www.ncvo-vol.org.uk/ - The National Council for Voluntary Organisations (NCVO) is the umbrella body for the voluntary sector in England.

http://www.abilitynet.org.uk - AbilityNet is a national charity focussing on ICT and disability.

www.it4communities.org.uk - IT4Communities is a national IT volunteering programme launched in November 2002.

http://www.matisse.net/files/glossary.html - Glossary of web related terminologies.

http://www.communities.gov.uk/ - The Department for Communities and Local Government (DCLG) was created in May 2006. DCLG is the successor department to the Office of the Deputy Prime Minister (ODPM).

http://www.net-gain.org.uk/ - net:gain is programme, designed to bring about a step-change in the ICT capability of the voluntary and community sector (VCS). It aims to help Voluntary and Community Organisations (VCOs) to take a practical, appropriate and informed approach to ICT planning and support.

Bibliography

Abram, D. (1996). *The Spell of the Sensuous.* New York: Pantheon

Adler, P. A. & Adler, P. (1987). *Membership roles in field research.* Newbury Park, CA: Sage.

Agar, M. (1996). *The Professional Stranger. An Informal Introduction to Ethnography.* Academic Press.

Agar, M. H. (1986). *Speaking of Ethnography.* Beverley Hills: Sage.

Aimers J. (1999). Using Participatory Action Research in a Local Authority Setting. In Hughes, I. ed. *Action Research Electronic Reader* [online] The University of Sydney. Available from. <http.//www.behs.cchs.usyd.edu.au/arow/reader/aimers.htm> [Accessed 16 June 2003].

Akrich, M. (1992). Beyond social construction of technology. In Dierkes and Hoffmann eds. *The shaping of people and things in the innovation process,* Chapter 9, pp. 173 -190.

Aktouf, O. (1992). Management and Theories of Organizations in the 1990s: Towards a Critical Radical Humanism? *Academy of Management Review*, 17 (3), pp. 407-431.

Allaire, Y. and Firsirotu, M. (1984). Theories of Organisational Culture. *Organisation Studies*, **5** (3), pp. 193-226.

Anderson, H. W. (1988). Technological trajectories, cultural values and the labour process. *Social Studies of Science*, **3** (1), pp. 465-82.

Anderson, R. & Ross, V. (2001). *Questions of Communication. A Practical Introduction to Theory* . 3rd ed. New York: Bedford/St. Martin's Press.

Arthur, W. B. (1989). Competing Technologies, Increasing Returns and Lock-in by Historical Events, *The Economics Journal*, **99** (March), pp. 116-131.

Argyris, C. (1964). *Integrating the Individual and the Organisation.* New York, NY: Wiley.

Argyris , C. (1977). Double Loop Learning in Organisations. *Harvard Business Review*, (Sept-Oct), pp. 115-124.

Argyris , C. and Schon, D. A. (1996). *Organisational learning II: theory, method and practice.* Reading, Mass: Addison-Wesley.

Argyris, C. & Schon, D. A. (1989). Participative action research and action science compared: a commentary. *American Behavioural Scientist*, **32**, pp. 612-623.

Argyris, C. (1990). *Overcoming Organisational Defences. Facilitating Organisational Learning.* Massachusetts: Allyn and Bacon.

Argyris, C. and Schon, D. (1974). *Theory in Practice: increasing professional effectiveness.* San Francisco: Jossey Bass.

Argyris, C., Putnam, R. and Smith, M. C. (1985). *Action Science. Concepts, Methods, and Skills for Research and Intervention.* San Francisco: Jossey Bass.

Arnott, J. (2002). Cause and Ethics. *Chartered Secretary*, (December), pp. 22-24.

Avgerou, C. (2000). IT and Organisational Change. An institutional perspective. *Information Technology and People*, **13** (4), pp. 234-262.

Avgerou, C. (2002). *Information Systems and Global Diversity.* Oxford: University Press.

Avison, D. and Myers, M. (1995). Information Sytems and anthropology. an anthropological perspective on IT and organisational culture. *Information Technology and People,* **8** (3), pp. 43-56.

Bachrach, P. and Botwinick, A. (1992). *Power and Empowerment: a radical theory of participatory democracy.* Philadelphia: Temple University Press.

Bagshaw, G. (1999). *The technologies available.* Building Community Information Networks. Library Association Publishing. pp. 49-60.

Bailey, K. D. (1982). *Methods of Social Research.* New York: Free Press.

Bartlett, C. A. and Ghoshal, S. (1994). Changing the Role of Top Management: beyond strategy to purpose. *Harvard Business Review* (Nov-Dec). pp. 79-88.

Bateson, G. (1972). *Steps to an Ecology of Mind.* San Francisco: Chandler.

Baumann, G. ed. (1986). *The Written Word. Literacy in Transition.* Oxford: Oxford University Press

Beath, C. and Orlikowski, W. (1994). The contradictory structures of systems development methodologies: deconstructing the IS-user relationship in Information Engineering. *Information Systems Research,* **5**, pp. 350-377.

Becker, C. S. (1992). *Living and Relating an introduction to phenomenology.* Sage.

Becker, H. S. (1996). The epistemology of qualitative research. In Jessor, R., Colby, A and Shweder, R. A eds. *Ethnography and human development: context and meaning in social inquiry.* University of Chicago Press, pp. 53-71.

Beer, M. & Walton, A. E. (1987). Organisation change and development. *Annual Review of Psychology*, **38**, pp. 339-367.

Benthall, J. (1976). *The Body Electric. Patterns of Western Industrial Culture.* London: Thames & Hudson

Berger, P. L. (1996). T*he Social Construction of Reality: A Treatise in the Sociology of Knowledge.* Anchor Books

Berman, M. (1981). *The Reenchantment of the World.* Ithaca. Cornell University Press.

Bertalanffy, L. von. (1951). Problems of General Systems Theory: A New Approach to the Unity of Science. *Human Biology*, **23** (4), pp. 302-312.

Bigwood, C. (1993). *Earth Muse, feminism, nature and art.* Philadelphia: Temple University Press.

Bijker, W. (1993). Do Not Despair. There Is Life after Constructivism. *Science, Technology and Human Values*, **18** (4), pp. 113-138.

Bijker, W, H. T. & Pinch, T. eds. (1987). *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology.* Cambridge MA/London: MIT Press.

Bijker, W. & Law, J. eds. (1992). *Shaping Technology/Building Society. studies in socio-technical change*. Cambridge/MA, London: MIT Press.

Bijker, W. (1995). Sociohistorical Technology Studies. In Jasanoff et al. eds. Chapter 11, pp. 229 - 256.

Black, R. J. (2003). *Organisational Culture: Creating the Influence Needed for Strategic Success*, London UK

Blackburn, S. (1996). *Dictionary of Philosophy*, Oxford: Oxford University Press.

Boje, D. M., Gephart, R. P. and Thatchenkerry, T. J., ed. (1996). *Postmodern Management and Organisational Theory*. Thousand Oaks: CA.Sage.

Boog, B. et al. (1996). *Theory and Practice of Action Research - With Special Reference to the Netherlands.* Tilburg, The Netherlands: Tilbury University Press.

Bookchin, M. (1991). *The Ecology of Freedom. The Emergence and Dissolution of Hierarchy* (revised edition). Montreal and New York: Black Rose Books.

Bouchikhi, H. and Kimberley, J. R. (2000). The customised Workplace. In Chowdhury, S, ed. *Management 21C,* Financial Times Prentice Hall, pp. 207-219

Boulding, K. (1956). General Systems Theory – The Skeleton of Science. *Management Science*, **2** (3), pp. 197-208.

Boynton, A. C, Jacobs, G. C, Zmud R. W. (1992). Whose Responsibility is IT Management? *Sloan Management Review*, **33** (Summer), pp. 32-38.

Boynton, A.C., Zmud, R.W. and Jacobs, G.C. (1994). The Influence of Information Technology Management Practice on Information Technology Use in Large Organizations. *MIS Quarterly*, **18** (Sept). pp 299-316.

Brech, E. F. L. (1965). *Organisation: The Framework of Management.* 2nd ed. Longman.

Brockman, J. ed. (1977). *About Bateson.* New York: E P Dutton.

Brown, J. S. and Duguid, P. (1991). Organizational Learning and Communities of Practice. *Organization Science* (2), pp. 40-57.

Brynjolfsson, E. (1993). The Productivity Paradox of Information Technology. *Communications of the ACM*, **36** (12), pp. 67-77.

Burnes, B. (1988). New Technology and Job Design: the case of CNC. *New Technology, Work and Employment*, **3** (2), pp. 100-11.

Burnes, B. (1996). *Managing Change*. London: Pitman.

Burnes, B. (2000). *Managing Change. A Strategic Approach to Organisational Dynamics.* 3rd ed. Financial Times Prentice Hall.

Burrell, G. and Morgan, G. (1979). *Sociological Paradigms and Organisational Analysis*. Portsmouth, N. Hampshire: Heinemann.

Burrell, G. and Morgan, G. (1994). *Sociological Paradigms and Organisational Analysis*. British Library Cataloguing in Publication Data.

Burt, E. & Taylor, J. A. (2000). *Information & Communication Technologies. Reshaping Voluntary Organisations.* In Non Profit Management and Leadership. Jossey Bass.

Callon, M & Law, J. (1982). On Interests and their Transformation. Enrolment and Counter-Enrolment. *Social Studies of Science*, **12** (4) pp. 615-25.

Callon, M, Law, J. and Rip, A. eds. (1986). *Mapping the Dynamics of Science and Technology in the Real World.* MacMillian.

Callon, M. (1980). The State and Technical Innovation: a case-study of the electric vehicle in France. *Research Policy*, **9**, pp. 358-76.

Campbell, H. (1996). A Social Interactinionist Perspective on Computer Implementation. *Journal of the American Planning association*, **62** (1), pp 99-107.

Capra, F. (1997). *The web of life*. HarperCollins, London.

Carr, W. and Kemmis, S. (1986) *Becoming Critical. Education, Knowledge and Action Research*. Basingstoke: Falmer Press.

Chandler, D. (1995). *Technological or Media Determinism.* Avalibale from : <http.//www.aber.ac.uk/media/Documents/tecdet/tecdet.html>. Accessed [1 June 2006]

Charles C. R. (1994). *Constructing Social Research. The Unity and Diversity of Method*. Pine Forge Press.

Checkland, P. and Holwell, S. (1998). *Information, Systems and Information Systems. Making sense of the field*. Chichester, UK: J. Wiley

Checkland, P. B. (1981). *Systems Thinking, Systems Practice*. Chichester; Wiley.

Checkland, P. B. (1989). OR and Social Sciences. Fundamental Thoughts. In Jackson, M. C, Key, P. and Cropper, S. A. eds. *Operational Research and the Social Sciences*. New York: Plenum press.

Checkland, P. B. and Scholes, J. (1990). *Soft Systems Methodology In Action*. Chichester: J Wiley and Sons.

Child, J. (1988). *Organization: A Guide to Problems and Practice*. 2nd ed. Paul Chapman.

Chisholm, R, and Max E. (1993). Features of Emerging Action Research. *Human Relations*, **46** (2) 275-298.

Chowdhury, S. (2000). *Management 2IC*. Financial Times Prentice Hall, p. 205.

Christensen, C. M. and Overdorf, M. (2000). Meeting the Challenge of Disruptive Change. *Harvard Business Review,* **78** (2) pp. 67-76.

Ciborra, C. U. (1994). The Grassroots of IT and Strategy, in C. Ciborra; T. Jelassi ed. *Strategic Information Systems* . Chichester, UK: J. Wiley.

Ciborra, C. U. and Lanzara, G. (1989). Change and Formative Contexts. In Klien, H. and Kumar, K. eds. *Systems Development for Human Progress.* Amsterdam: North-Holland.

Ciborra, C.U. (1997). De Profundis? Deconstructing the Concept of Strategic Alignment. *Scandinavian Journal of Information Systems*, **9** (1), pp 67-82.

Ciborra, C.U. and Patriotta, G. and Erlicher, L. (1996). *Disassembling Frames on the Assembly Line: the theory and practice of the new division of learning in advanced Manufacturing.* Paper presented at the Information Technology and Changes in Organizational Work, Cambridge, UK.

Clark, J. et al. (1988). *The Process of Technological Change: new technology and social choice in the workplace.* Cambridge: Cambridge University Press.

Clark, P & Staunton, N. (1989). *Innovation in Technology and Organization* London. Routledge.

Clark, T. D. (1994). Corporate Systems Management. In Galliers, R. D, Baker, B. ed. *Strategic Information Management.* Oxford: Butterworth-Heinemann.

Cloke, K. and Goldsmith, J. (2002). *The End of Management and the Rise of Organizational Democracy.* Jossey-Bass.

Cohen, M. D. and Sproull, L. S. eds. (1996). Organizational Learning. Competitive advantage? Thousand Oaks, CA: Sage

Collinson, S. (1993). Managing product innovation at Sony. the development of the Data Discman. *Technology Analysis and Strategic Management*, **5** (3), pp. 285-306.

Coombs, R, Saviotti, P. & Walsh, V. (1987). *Economics and Technological Change*. Basingstoke: Macmillan.

Coombs, R, Saviotti, P. & Walsh, V. eds. (1992). *Technical Change and Company Strategies. economic and sociological perspectives.* London/NY: Academic Press.

Cooper, R. and Zmud, R. W. (1990). Information Technology Implementation Research. a technology diffusion approach. *Management* Science, **34** (2), pp. 23-139.

Cooperrider, D. L. and Srivastva, S. (1987). Appreciative inquiry in organizational life. In R. Woodman and W. Pasmore eds. *Research in Organizational Change and Development*, **1**, Greenwich: JAI Press.

Corder, C. (1989). *Taming Your Company computer.* McGraw-Hill, London.

Cornman, J. *et al* (1992). *Philosophical Problems and Arguments - An Introduction*, 4th ed., Indianapolis: Hackett.

Covington, J. and Chase, M. L. (2002). Eight steps to sustainable change. *Industrial Management*, **14** (6), pp. 8-11.

Cragan, J. F. & Shields, D. C. (1997). *Understanding Communication Theory. The Communicative Forces for Human Action*. Boston, MA: Allyn & Bacon.

Creswell, J. W. (1994). *Research Design. Qualitative and Quantitative Approaches.* Thousand Oaks, CA: Sage.

Cronberg, T. (1992). *Technology in Social Sciences: the Seamless Theory.* Mimeo, Technical University of Denmark, Lyngby, pp. 20.

Cross, J, Earl, M. J. and Sampler, J. L. (1997). Transformations of the IT Function at British Petroleum. *MIS Quarterly* (December), pp. 401-423.

Culler, J. (1982). *On Deconstruction*. Ithaca. New York: University Press

Cummings, T. G. and Huse, E. (1989). *Organisation development and change*. 4th ed. St Paul: West.

Curley, K. F. and Pyburn, P. J. (1982). Intellectual Technologies: the key to improving white collar productivity. *Sloan Management Review* (Fall), pp. 31-39.

Daft, R. L. and Wiginton, C. (1979). Language and Organization. *Academy of Management Review,* (4), pp. 179-192.

Davenport, T. H. and Short, J. E. (Summer 1990). The New Industrial Engineering; Information Technology and Business Process Redesign. *Sloan Management Review*, **31**, pp. 11-27.

Davey, S. N. (2005). The Importance of ICT in the Voluntary and Community Sector. Available from. <http://www.egovmonitor.com/node/2404>. *[Accessed: 28 April 2006].*

Davies, G. B. and Olson, M. H. (1985). *Management Information Systems. Conceptual foundations, structure and development.* New York: McGraw-Hill.

Dawson, S. (1979). Organisational Analysis and the Study of Policy Formulation and Implementation. *Public Administration Bulletin*, **31** (December), pp. 52-68.

De Lone, W. H. and McLean, E. R. (1992). Information systems success. the quest for the independent variable. *Information Systems Research*, **3** (1), pp. 60-95.

De Sanctis, G. and Poole, M. S. (1994). Capturing the Complexity of Advance Technology Use. *Organization Science*, **5** (2), pp. 121-147.

Deal T. E. and Kennedy, A. A. (1982). *Corporate Cultures. The Rites and Rituals of Corporate Life*. Harmondsworth: Penguin Books.

Delbecq, A. L., Van de Ven, A. H. and Gustafason, D. H. (1986). *Group techniques for program planning*. Middleton: Wis. Greenbriar.

Denison, D. R. (1996). What is the Difference between Organizational Culture and Organizational Climate? A Native's Point of View on a Decade of Paradigm Wars. *Academy of Management Review*, **21** (3), pp. 619-654.

Denzin, N. K. (1989). *The Research Act* (3rd. ed). Englewood Cliffs: Prentice Hall.

Denzin, N.K. & Lincoln Y.S eds. (1994). *Handbook of Qualitative Research.*Thousand Oaks: Sage.

Derrida, J. (1976). *Of Grammatology*. Baltimore: Johns Hopkins.

Derrida, J. (1981). *Positions*. Chicago: University of Chicago Press.

Despres, C. J. N. (1996). IT and Culture: an ethnography of IT and modernist business organization. *Technovation*, **16** (1), pp. 1-20.

Dick, B. (1991). *Helping groups to be effective: skills, processes and concepts for group facilitation*. 2nd ed. Chapel Hill. Qld: Interchange.

Dick, B. (1993). *You want to do an action research thesis?* Available from. <http.//www.scu.edu.au/schools/gcm/ar/art/arthesis.html> [Accessed 21 August 2003].

Dick, B. (1997). *A Beginners Guide to Action Research.* Available from. <http.//www.scu.edu.au/schools/sawd/arr/guide.html> (Accessed 16 June 2003).

Dick, B. (2002). *Action research. action and research.* Available from. <http.//www.scu.edu.au/schools/gcm/ar/arp/aandr.html> [Accessed 21 August 2003].

Dierkes, M. and Hoffmann, U. eds. (1992). *New Technology and the Outset. Social Forces in the Shaping of Technological Innovations.* Frankfurt/NY: Campus/Westview.

Dosi, G. (1982). Technological Paradigms and Technological Trajectories. a suggested interpretation of the determinants of technological change. *Research Policy*, **11**, pp. 147-62.

Douglas, M. (1985). Introduction. in Jonathan L. Gross & Steve Rayner, *Measuring Culture: A Paradigm for the Analysis of Social Organization.* New York: Columbia University Press.

Drucker, P. (1988). The Coming of the New Organization. *Harvard Business Review,* (Jan-Feb), pp. 3-15.

Dulles, A. (1992). *Models of Revelation*, Dublin: Gill and Macmillan.

Dutta, S. (1996). Linking IT and Business Strategy: the role and responsibility of senior management. *European Management Journal,* **14** (3), pp 55-266.

Dutta, S. and Doz, Y. (1995). Linking Information Technology to Business strategy at Banco Commercial Portuguese. *Journal of Strategic information Systems*, **4** (1), pp. 89-110.

Earl, M. (1989). *Management Strategies for Information Technology*. Hemel Hempstead, England: Prentice-Hall.

Earl, M. (1996). Integrating IS and the organization. a framework of organizational fit. In Earl, M. J. ed. *Information Management: the organizational dimension*. Oxford: Oxford University Press.

Edwards, P. N. (1995). *From Impact to Social Process. Computers in Society and Culture*. In Jasanoff, S. et al. eds. Chapter 12, pp. 257–285.

Eisenhardt, K. M. (1989). Building theories from case studies, *Academy of Management Review,* **14** (4), pp. 532-550.

El Sawy, O. A. (1985). Implementation by Cultural Infusion. *MIS Quarterly*, **9** (92), pp. 131-140.

Elam, J. J., Ginzberg, M. J., Keen, P. G. W. and Zmud, R. W., ed. (1988). *Transforming the IS Organization*. Washington, DC. International Centre for Information Technologies.

Ellul, J. (1964). *The Technological Society*. New York. Vintage

Ellul, J. (1990). *The Technological Bluff*. Grand Rapids, MI. Eerdmans

Erickson, Ken C. and Donald D. Stull (1997). *Doing Team Ethnography. Warnings and Advice*. Sage, Beverly Hills.

Erlandson, D.A., Harris, E.L., Skipper, B.L. and Allen, S.D. (1993). *Doing Naturalistic Inquiry. A Guide to Methods*. Newbury Park, CA: Sage.

Etzioni, A. (1964). *Modern Organizations*. Prentice-Hall, p.41.

Falcione, R. L., Sussman, L. and Herden, R. P. (1987). Communication Climate in Organizations. In F.M. Jablin, L.L., Putnam, K.H. and Porter ed. *Handbook of Organizational Communication.* Newbury Park, CA: Sage.

Fals-Borda, O. & Rahman, M. A. (1991). *Action and Knowledge: breaking the monopoly with Participatory action research.* New York: Intermediate Technology Pubs/Apex Press.

Fals-Borda, O. (1992). Evolution and Convergence in Participatory Action-Research. A World of Communities. In Frideres, J. ed. *Participatory Research Perspectives.* Toronto: Captus University Publications, pp. 14-19.

Fals-Borda. O. (1996). Remarks on Participatory Research at the Conference Quality in Human Inquiry. *Collaborative inquiry,* **19,** pp. 2. Centre for Action Research in Professional Practice, University of Bath

Farnham, D. and Horton, S. (1996). *Managing the New Public Services.* 2nd ed. Basingstoke: MacMillan.

Fayol, H. (1949).*General and Industrial Management.* London: Pitman.

Feeny, D, Edwards, B. and Simpson, K. (1992). *Understanding the CEO/CIO Relationship.* Oxford, UK: Oxford Institute of Information Management.

Fincham, R. ad Rhodes, P. S. (1992). *The Individual Work and Organization.* 2nd ed. Weidenfeld and Nicolson.

Finnegan, R. (1975). Communication and Technology, Unit 8 of the Open University Correspondence Course, *Making Sense of Society,* Block 3, *Communication.* Milton Keynes. Open University Press.

Finnegan, R. (1988). *Literacy and Orality. Studies in the Technology of Communication.* Oxford. Basil Blackwell

Finnegan, R., Salaman, G & Thompson, K. eds. (1987). *Information Technology. Social Issues.* London: Hodder & Stoughton/Open University

Fiol, M.C. and Lyles, M.A. (1985). Organizational Learning. *Academy of Management Review*, **10** (4), pp. 803-813.

Fisher, W. R. (1984). Narration as Human Communication Paradigm. The Case of Public Moral Argument. *Communication Monographs,* **51**, pp. 1-22.

Fisher, W. R. (1985). The Narrative Paradigm: In the Beginning. *Journal of Communication*, **35** (Autumn), pp. 74-89.

Fisher, W. R. (1985a). The Narrative Paradigm: An Elaboration. In *Communication Monographs,* **52** (December), pp. 347-367.

Fisher, W. R. (1988). The Narrative Paradigm and the Assessment of Historical Texts. *Argumentation and Advocacy,* **25** (Fall), pp. 49-53.

Fisher, W. R. (1994). Narrative Rationality and the Logic of Scientific Discourse. *Argumentation*, **8**. pp. 21-32.

Fleck, J, Webster, J. & Williams, R. (1990). The Dynamics of IT implementation. a reassessment of paradigms and trajectories of development. *Futures*, **22**, pp. 618-40.

Fleck, J. (1993). Configurations . crystallizing contingency. *International Journal of Human Factors in Manufacturing*, **3** (1), pp.15-36.

Fleck, J. (1994). Learning by trying: the implementation of configurational technology', *Research Policy*, **23**, pp. 637 -652.

Flick, U. (1992). Triangulation Revisited – Strategy of or Alternative to Validation of Qualitative Data. *Journal for the Theory of Social Behaviour*, **2**, pp. 175-197.

Flick, U. (1997). The episodic interview. small scale narratives as approach to relevant experiences. Papers in Social Research Methods. *Qualitative Series* **9**, London School of Economics.

Foster, M. (1972). An Introduction to the Theory and Practice of Action Research in Work Organisations. *Human Relations*, **25** (6), pp. 529-556.

Freeman, C. (1987). *The Case for Technological Determinism.* In Finnegan, R, Salaman, G. and Thompson, K. eds. *Information Technology. Social Issues*, Chapter 1, pp. 5-18. Sevenoaks: Hodder & Stoughton

Fryer, D. and Feather, N.T. (1994). Intervention techniques. In Cassell, C. and Symon, G. eds. *Qualitative Methods in Organizational Research.* London: Sage

Galbraith, J. R. (1977). *Organization Design.* Reading, MA: Addison- Wesley.

Galliers, R. (1991). Strategic Information Systems. myths, realities and guidelines for successful implementation. *European Journal of Information Systems*, **1** (1), pp. 55-64.

Galliers, R. D. and Baker, B. S., ed. (1994). *Strategic Information Management.* Oxford: Butterworth Heinemann.

Gebser, J. (1985). *The Ever Present Origin*. Athens: Ohio University Press.

Gergen, K. J. (1986). Correspondence versus autonomy in the language of understanding human action. In Fiske D. W. and Shweder R. A. eds. *Metatheory in Social Science*. Chicago: University of Chicago Press.

Ghoshal, S, Hahn, M. and Morgan, P. (1997). *An Integrative Theory of Firm Growth: implications for corporate organization and management.* London: London Business School.

Ghoshal, S. and Bartlett, C.A. (1994). Linking Organizational Context and Managerial Action: the dimensions of quality management. *Strategic Management Journal*, **15**, pp. 91-112.

Ghoshal, S. and Morgan, P. (1996). Theories of Economic Organization. the case for realism and balance. *Academy of Management Review*, **20** (1), pp. 58-71.

Ghoshal, S. and Bartlett, C. A. (1998). *The Individualized Corporation: a fundamentally new approach to management.* London: Heinemann

Giddens, A. (1979). *Central Problems in social theory.* London: Macmillan.

Giddens, A. (1984). *The Constitution of society: outline of the theory of structuration.* Cambridge, UK: Polity Press.

Giorgi, A. (1995). Phenomenological psychology. In J. Smith, R. Harré & L. Van Langenhove eds. *Rethinking Psychology.* Sage.

Grant, D, Keenoy, T. and Oswick, C. eds. (1998). *Discourse and Organisation.* London. Sage.

Grant, R. M. (1991). The Resource-Based Theory of Competitive Advantage. implications for Strategy formulation. *California Management Review*, **33** (Spring), pp. 114-135.

Gratton, L. (2000). *Putting People at the Heart of Corporate Purpose.* Financial Times Prentice Hall.

Gray, J. L and Starke, E. A. (1988). *Organizational Behaviour: Concepts and Applications.* 4th ed. Charles E. Merrill.

Greater London Enterprise. (1999*). Competitiveness and Social Inclusion. investing in the third sector skills development.*

Griffin, D. R. (1989). Introduction to SUNY series in Constructive Postmodern Thought. In D. R. Griffin, W. A. Beardslee and J. Holland eds. *Varieties of Postmodern Theology*. Albany: Suny.

Grindley, K. (1991). *Managing IT at Board Level. the hidden agenda exposed.* London: Pitman.

Grindley, K. (1992). Information Systems Issues Facing Senior Executives: the culture gap. *Journal of Strategic Information Systems*, **1** (2), pp. 57-62.

Grundy, S. (1986). *Action Research and Human Interests*. In Emery, M. & Long , P. eds. *Symposium,* 22-23 May 1986. Research Network of the Australian Association of Adult Education.

Guba, E. G. and Lincoln, Y. S. (1989). *Fourth generation evaluation.* Newbury Park: Sage.

Guba, E. G. and Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin and Y. S. Lincoln eds. *Handbook of Qualitative Research*, Thousand Oaks, Ca: Sage.

Gutek, B.A., Bikson, T.K. and Mankin, D. (1984). Individual and Organizational Consequences of Computer-Based Information Technology. In Oskamp, S. ed. *Applied Social Psychology Annual: applications in organizational settings*. Beverly Hills, Calif: Sage.

Hamel, G. and Prahalad, C. K. (1989). Strategic Intent. *Harvard Business Review*, **67** (May/Jun), pp. 63-76.

Hammer, M. and Champy, J. (1993). *Reengineering the Corporation.* New York: Harper Business.

Hammond, M., Howarth, J. and Keat, R. (1991). *Understanding Phenomenology*. Oxford: Basil Blackwell.

Handy, C. B. (1985). *Understanding Organizations*, 3rd Edn, Harmondsworth: Penguin Books.

Harris, K. (1999). *The online life of communities – Nurturing community activity in the information society.* Building Community Information Networks. Library Association Publishing. pp 61-63.

Heidegger, M. (1977). *The Question Concerning Technology and Other Essays* (trans. William Lovitt). New York: Harper & Row.

Heller, F. A. (1976). Group feedback analysis as a method of action research. In Clark, A. W. *Experimenting with organisational life.* New York: Plenum.

Henderson, J. C, Thomas, J. B. and Venkatraman, N. (1992). *Making Sense of IT: strategic alignment and organizational context.* C.I.S.R. - Sloan School of Management - MIT.

Heron, J, and Reason, P. (1997). A Participatory Inquiry Paradigm. *Qualitative Inquiry*, **3** (3), pp. 274-294.

Heron, J. (1989). *The Facilitators Handbook.* London: Kogan Page.

Heron, J. (1992). *Feeling and Personhood: psychology in another key.* London: Sage.

Heron, J. (1993). *Group Facilitation. Theories and models of practice.* London. Kogan Page.

Heron, J. (1996). *Co-operative Inquiry: research into the human condition.* London: Sage.

Hersey, P. and Blanchard, K. (1993). *Management of Organizational Behaviour.* 6th ed. Prentice Hall.

Hertz, D. B. and Thomas, H. (1983). *Risk Analysis Of Its Applications*. Chichester: J. Wiley.

Hirscheim, R., Klein, H.K. and Lyytinen, K. (1996). Exploring the Intellectual Structures of Information systems Development: a social action theoretic analysis. *Accounting, Management and information Technology*, **6** (1-2), pp. 1-64.

HM Treasury. (2002). *The role of the Voluntary and Community Sector in Service Delivery – A Cross Cutting Review*.

Hofstede, G. (1980). *Culture's Consequences. International Differences in Work Related Values*. Beverley Hills, CA: Sage Publications

Hofstede, G. (1991). *Cultures and Organization: software of the mind.* Maidenhead, Berkshire: McGraw-Hill.

Holland, M. (2003). *Citing references.* Academic Services. University of Bournemouth. Available from. <http.//www.bournemouth.ac.uk/academic_services/documents/Library/Citing_References.pdf> (Accessed: 23 September 2003).

Hollingsworth, S. ed. (1997). *International Action Research. A Casebook for Educational Reform.* London: The Falmer Press.

Home Office, Active Community Unit. (2003). *Voluntary and Community sector Infrastructure – A Consultation Document.*

Huber, G.P. (1990). A Theory of the Effects of Advanced Information Technologies on organizational design, Intelligence and decision making. *Academy of management Review*, **15** (1), pp. 47 – 71.

Huber, G.P. (1991). Organizational Learning. the contributing process and the literatures. *Organization Science*, **2** (1), pp. 88- 115.

Hult, M. and Lennung, S. (1980). Towards a Definition of Action Research. A Note and Bibliography. *Journal of Management Studies*,**17**, pp. 241-250.

Information Commission, (2000). *Principles of data protection.* Available from. <http.//www.dataprotection.gov.uk/principl.htm> [Accessed 23 September 2003].

Jarvenpaa, S. L. and Ives, B. (1991). Executives Involvement and Participation in the Management of Information Technology. *MIS Quarterly*,**15** (2), pp. 205-227.

Jarvis, C. (2003). What is organisational culture? Available from. <www.brunel.ac.uk/~bustcfj/bola/culture/culture.html> [Accessed 20 March 2005].

Johnson, G. (1988). Rethinking Incrementalism. *Strategic Management Journal,* **9,** pp. 75-91

Johnson, G. (1992). Managing Strategic Change—Strategy, Culture and Action. *Long Range Planning,* **25** (1), pp. 28-36.

Johnson, G. and Scholes, K. (1989). *Exploring Corporate Strategy: Text and Cases*, London: Prentice-Hall.

Jones, B. (1990). *Sleepers, Wake! Technology and the Future of Work.* Melbourne: Oxford University Press

Jones, M. (1995). Organizational Learning: collective mind or cognitivist metaphor? *Accounting, Management and Information Technologies*, **5** (1), pp 61-77.

Jones, S (1986). Choosing Action Research. In Mangham, I. ed. *Organizational Analysis and Development. A Social Construction of Organizational Behaviour.* John Wiley & Sons Ltd, pp 23-45.

Kappeman, L. A. and McLean, E. R. (1994). User Engagement in Information Systems Development. In Levine, L. ed. *Diffusion, Transfer and Implementation of Information Technology.* Amsterdam. North Holland.

Keen, P. G. W. (1981). Information Systems and Organizational Change. *Communications of the ACM*, **24** (10), pp. 24-33.

Keen, P. G. W. (1988). Relationship of Senior Management and the IS Organization. In Elam, J. ed. *Transforming the IS Organization.* Washington, DC: ICIT Press.

Keen, P. G. W. (1991). *Shaping the future. business design through information technology.* Boston: Harvard Business School Press.

Kegan, R. (1994). *In Over our Heads: the mental demands of modern life.* Cambridge, Mass: Harvard University Press.

Kemmis, S. and McTaggart, R. (1988). *The Action Research Planner.* 3rd ed. Geelong. Deakin University.

Kochan, T.A. and Useem, M., ed. (1992). *Transforming Organizations.* New York: Oxford University Press.

Kock, J. and Nere, F. (1997). Myths in Organisational Action Research. Reflections on a Study of Computer-Supported Process Redesign Groups. *Organizations & Society,* **4** (9), pp. 65-91.
Kotter, J. (1992). *Corporate Culture and Performance.* Free Press.

Kotter, J. and Cohen, D. S. (2002). *The Heart of Change.* Harvard Business School Press.

Kranakis, E. (1988). Technology Assessment and the Study of History' Science, *Technology & Human Values*, **3** (3 & 4), pp. 290 - 307.

Kuhn, T. (1962). *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.

Land, F. (1992). The Management of change. guidelines for the successful implementation of Information systems. In Brown, A. ed. *Creating a Business-Based IT Strategy.* London: Chapman–Hall.

Layder, D. (1995). *New Strategies in Social Research.* Cambridge: Polity.

Learning & Skills Council London East (2003). *Workforce Development Strategy – Voluntary and Community Sector.*

Lederer, A. L. and Sethi, V. (1988). The Implementation of Strategic Information Systems Planning Methodologies. *MIS Quarterly,* (Sept.).

Lee, A. (1991). Integrating Positivist and Interpretive Approaches to Organizational research. *Organization Science,* **2** (4), pp. 342-365.

Levitte, B. and March, J. G. (1988). Organizational Learning. *Annual Review of Sociology*, **14,** pp. 319-340.

Lewin, A. Y. and Minton, J. W. (1986). Determining Organizational Effectiveness: another look and an agenda for research. *Management Science*, **32** (5), pp. 514-538.

Lewin, K. (1946). Action Research and Minority Problems. *Journal of Social Issues,* **2**, pp 34-46.

Lincoln, Y.S. (1997) The Sixth (and Seventh) Moments in Qualitative Research. *Collaborative inquiry.* **20 (**March 1997). Centre for Action Research in Professional Practice, University of Bath.

Local Economic Consortium Bulletin. (1997). *Taking the initiative.*

London Skills Forecasting Unit (2002). *London Employers Survey.*

London TEC (2001). *The London Employer's Survey.*

London Voluntary Service Council (LVSC). (1996) *Survey into the Voluntary Sector.*

Lucas H.C. (1975). Performance and the use of an Information System. *Management Science,* **20**, pp. 908-919.

Lucas, H. C, Ginzberg, M. and Schultz, R. (1991*). Implementing Information Systems: testing a structural model.* Norwood, NJ: Ablex.

Luhmann, N. (1996). The Autopoiesis of Social Systems. In Geyer, F. and Van de Zouwen, J. eds. *Sociocybenetics Paradoxes, observation, control and evolution of self-steering systems.* London: Sage.

Luthans, F. (1985). *Organisational Behaviour.* 4th ed. Dryden Press, pp. 338

MacIntyre, A. (2002). *A Short History of Ethics*, Routledge

MacKenzie, D. & Wajcman, J. eds. (1985). *The Social Shaping of Technology. How the Refrigerator Got its Hum.* Milton Keynes: Open University Press

MacKenzie, D. & Wajcman, J. eds. (1999). *The Social Shaping of Technology. 2nd ed. Open University Press.*

MacKenzie, D. (1981). Interests, Positivism and History. *Social Studies of Science*, **11** (4), pp. 498-505.

Macmurray, J. (1957). *The Self as Agent.* London: Faber and Faber.

Magalhaes, R. (1999). *The Organisational Implementation of Information Systems: towards a new theory*. PhD Thesis. London School of Economics.

Margetts, H (1991). Information Technology in the public sector. new risks, new risks, dangers. Paper presented at the ESRC/LSE Seminar series on Hazard Management, *IT Development and Hazard Analysis.* London.

Marshall, C. and Rossman, G. B. (1995) *Designing Qualitative Research*. Thousand Oaks, CA: Sage.

Max, E. and Chisholm, R. (1993). Emerging Varieties of Action Research. Introduction to the Special Issue. *Human Relations*, **46** (2), pp. 121-142.

McCraken, G. (1988). *The Long Interview*. Newbury Park: Sage.

McGrath, K. (2003). *Organisational Culture and Information Systems Implementation: A Critical Perspective.* PhD Thesis. London School of Economics and Political science.

McLoughlin, L. and Harris, M. (1997). Introduction: Understanding Innovation, Organisational Change and Technology. In McLoughlin, L. and Harris, M. eds. *Innovation, Organisational Change and Technology.* International Thomson Business Press, p. 12.

McNamara, C. (2005). *Organisational Culture*. Available from. <http.//www.mapnp.org/library/org_thry/culture/culture.htm>. [Accessed: 20 March 2005].

McNiff, J. & Whitehead, J. (2002). *Action Research. Principles and Practice.* 2nd *ed.* London: RoutledgeFalmer.

McNiff, J. (2000). *Action Research in Organisations.* London. Routledge.

McNiff, J. (2002). *Action research for professional development. Concise advice for new action researchers.* Available from. <http.//www.jeanmcniff.com/booklet1.html#2>. [Accessed: 23 September 2003].

McTaggart, R. (1989). *16 Tenets of Participatory Action Research.* Avaliable in <http.//www.caledonia.org.uk/par.htm>. [Accessed 2 May 2006].

Merleau-Ponty, M. (1962). *Phenomenology of Perception.* London: Routledge and Kegan Paul.

Meyerson, D. and Martin, J. (1987). Cultural Change: an integration of three different views. Journal of *Management Studies,* **24** (6), pp 623-647.
Microsoft Corporation (1998). *Computer User's Dictionary.* Microsoft Press.

Mies, M. (1993). Feminist research; science, violence and responsibility. In Mies, M. & Shiva, V. eds. *Ecofeminism.* London and New Jersey: Zed Books.

Miles, I, Cawson, M, & Haddon, L (1995). *The Shape of Things to Consume* London: Sage Publications.

Miles, I. (1988). The Shaping of Technologies to Come. *Project Appraisal,* **3** (4), pp. 231-33.

Miles, I. (1990). *Home Telematics. Information Technology and the Transformation of Everyday Life.* London: Frances Pinter.

Miller, E. J. and Rice, A. K. (1967). *Systems of Organizations.* Tavistock Publications.

Mingers, J. (1995*). Self- Producing Systems: implications and applications of autopoiesis.* N. York: Plenum Press.

Mintzsberg, H. (1979). *The Structuring of Organisation.* Prentice Hall.

Mintzsberg, H. (1990). The Design School. reconsidering the basic premises of strategic management. *Strategic management Journal*, **11** (3).

Mintzsberg, H. and Westley , F. (1992). Cycles of Organizational Change. *Strategic Management Journal,* **13**, pp 39-59.

Molina, A (1989). Managing Economic and Technological Competitiveness in the US Semiconductor Industry. short- and long-term strategies, *International Journal of Technology Management*, **4** (2) , pp 157-75.

Mooney, J. D. (1947). *The Principles of Organizations*. Harper and Row.

Morgan, D. L. (1988). *Focus groups as qualitative research*. Newbury Park: Sage.

Morgan, G. (1997). *Images of Organization*. Thousand Oaks, CA: Sage.

Morgan, G. and Ramirez, R. (1983). Action Learning. A Holographic Metaphor for Guiding Social Change. Toronto: York University Action Learning Group.

Morley, D. (1991). Resource Analysis as Action Research. In Wilkinson, P. F. and William, C. eds. Found. *Resource Analysis Research in Developing Countries*. Toronto. York University, pp. 1-16.

Mullins, L. J. (1981). The Organisation – A Systems View. *Professional Administration*, **11** (2), pp. 20-22.

Mullins, L. J. (1993). The Hotel and the Open Systems of Model of Organisational Analysis. *The Services Industry Journal,* **13** (1), pp. 1-16.

Mullins, L. J. (2005). *Management and Organisational Behaviour*. 7th ed. Prentice Hall.

Myers, M. (1997). Interpretive Research in Information Systems. In Mingers, J. and Stowell, J. ed. *Information System: an emerging discipline?* London. McGraw-Hill.

Myers, M. (1998). *Qualitative Research in Information Systems.*

NCVO. (2002). *UK Voluntary Sector Almanac.*

NCVO. (2006). The *UK Voluntary Sector Almanac*: *The State of the Sector.* Available from. http://www.ncvo-vol.org.uk/research/index.asp?id=2380&fID=158>. [Accessed: 18 April 2006].

Nelson, D.L. (1990). Individual Adjustments to Information-Driven Technologies. *MIS Quarterly*,**14,** pp. 79-98.

Nicolaou A.I. (1999). Social control in information systems development. *Information Technology & People*, **12** (2), pp. 130-150.

Noble, D. F. (1984). *Forces of Production. A Social History of Industrial Automation*, New York: Oxford University Press.

Nonaka, I. and Takeuchi, H. (1995).*The Knowledge Creating Company: how Japanese companies create the dynamics of innovation.* N. York: Oxford University Press.

O'Brien, R. (2001). Um exame da abordagem metodológica da pesquisa ação [An Overview of the Methodological Approach of Action Research]. In Roberto Richardson (Ed.), *Teoria e Prática da Pesquisa Ação [Theory and Practice of Action Research].* João Pessoa, Brazil: Universidade Federal da Paraíba. (English version) Available from: http://www.web.ca/~robrien/papers/arfinal.html (Accessed 20/1/2002)

Office of the Prime Minister, Strategy Unit (2003). *Private Action, Public Benefit.*

Ogilvy, J. (1986). Contribution to discussion 'Critical Questions about New Paradigm Thinking'. *ReVision*, **9** (1), p 4.

Olesen, V. (1994). Feminisms and models of qualitative research. In Denzin, N. K. and Orlikowski, W. and Robey, D. (1991). Information Technology and the Structuring of Organizations. *Information Systems Research*, **2** (2), pp. 149-169.

Orlikowski, W.J. (1992). The Duality of Technology. rethinking the concept of Technology in organizations. *Organization Science*, **3** (30), pp. 398-427.

Orlikowski, W. J. and Baroudi, J. J. (1991). Studying Information Technology in Organizations: research approaches and assumptions. *Information Systems Research*, **2** (1), pp. 1-28.

Orlikowski, W. J. and Gash, D. C. (1994). Technological Frames. making sense of information technology in organizations. *ACM Transactions on Information Systems*, **12** (2), pp. 174-207.

Pacey, A. (1983). *The Culture of Technology.* Oxford: Basil Blackwell

Pachauri, M. (2002).
http.//www.westburn.co.uk/search.cfm?do=displayresults&article=771.
[Accessed: 24 April 2006]

Pantry, S. ed. (1999). *Introducing Community information networks.* Building Community Information Networks. Library Association Publishing.
Parker, M, Benson, R. and Trainor, E. (1988*). Information Economics. Linking Business Performance to Information Technology*. Prentice-Hall, Engleswood Cliffs: New Jersey.

Parker, M. (2000). *Organizational Culture and Identity*, London: Sage.

Parker, M; Benson, R and Trainor, E. (1988). *Information Economics. Linking Business Performance to Information Technology*. Engleswood Cliffs New Jersey: Prentice-Hall.

Parsons, G.L. (1983). Information Technology: a new competitive weapon. *Sloan Management Journal* (Fall), pp. 3-14.

Pateli, A. G. and Giaglis, G. M. (2005). Technology innovation-induced business model change. a contingency approach. *Journal of Organizational Change Management*, **18** (2), pp.167 – 183.

Patton, M. Q. (1987). *How to Use Qualitative Methods in Evaluation (CSE Program Evaluation Kit)*. New Park, California: Sage Publications

Patton, M. Q. (1990). *Qualitative Evaluation and Research methods*. New Park, California: Sage Publications.

Peel, D. (2006). An analysis of the impact of SME Organisational Culture on Coaching and Mentoring. *International Journal of Evidence Based Coaching and Mentoring*, **4** (1), pp. 9-18.

Pentland, B. (1995). Information System and Organizational Learning. the social epistemology of organizational knowledge systems. *Accounting, Management and Information Technologies*, **5** (1), pp. 1-21.

Perry, C. (1998). Processes of a case study methodology for postgraduate research in marketing. *European Journal of Marketing*, **32** (9/10), pp. 785-802.

Perry, C. (1998). Processes of a case study methodology for postgraduate research in marketing. *European Journal of Marketing*, **32** (9/10), pp 785-802.

Perry, W and Zuber-Skerritt, O. (1993). Action Research in Graduate Management Research Programmes. Higher Education, **23**, pp. 195-208

Pettigrew, A. and Whipp, R. (1991). *Managing Change for Competitive Success.* Oxford, UK: Blackwell.

Pettigrew, A.M. (1979). On Studying Organizational cultures. *Administrative Science Quarterly*, **24** (December), pp. 570-581.

Porter, M. (1991). Towards a Dynamic Theory of Strategy. Strategic *Management Journal*, **12** (Winter), pp. 95-117.

Price Waterhouse (1992). *Price Waterhouse Review 1992/3.* Price Waterhouse.

Quinn, J.B. and Bailey, M. N. (1994). Information Technology. increasing productivity in services. *Academy of Management Executive*, **8** (3), pp28-47.

Radder, H. (1992). Normative Reflexions on Constructivist Approaches to Science and Technology, *Social Studies of Science*, **22** (1), pp 141-73.

Randall, D., Hughes, J. and Shapiro, D. (1993). Systems Development - The Fourth Dimension. In Quintas, P. ed. (1993). *Perspectives on the social organisation of work*, Chapter 10, pp. 197-214.

Randall, R and Southgate, J. (1980). *Co-operative and Community Group Dynamics or your meetings needn't be so appalling.* London: Barefoot Books.

Rapoport, R. N. (1970). Three Dilemmas of Action Research. *Human Relations*, **23**, pp 499-513.

Rauner, F., Rasmussen, L. & Corbett, M. (1988). The Social Shaping of Technology and Work. Human-Centred CIM Systems, *AI and Society*, **2**, pp. 47-61.

Reason, P. (1993). Reflections on Sacred Experience and Sacred Science. *Journal of Management Inquiry*, **2** (3), pp 273-283.

Reason, P. (1994a). Co-operative Inquiry, Participatory Action Research & Action Inquiry: three approaches to participative inquiry. In Denzin, N. K. & Sessions, Y eds. *Handbook of Qualitative Research*, Lincoln, Thousand Oaks: Sage.

Reason, P. (1996). Reflections on the Purposes of Human Inquiry. *Qualitative Inquiry*, **2** (1), pp. 15-28.

Reason, P. and Heron, J. (1995). Co-operative Inquiry. In Harre, R, Smith J, and Van Langenhove, L. eds. *Rethinking in Psychology.*

Reason, P. ed. (1994b). *Participation in Human Inquiry.* London: Sage Publications.

Remenyi, D. and Sherwood-Smith, M. (1997). *Achieving Maximum Value from Information systems.* Chichester , UK: Wiley.

Revans, R. (1982). The *Origins and Growth of Action Learning.* Bromly, England. Chartwell Bratt.

Roberts, E. B. (1987). Management Technology Innovation: a search for generalizations. In Roberts E. B. ed. *Generating Technological Innovation.* N. York: Oxford University Press.

Robey, D. (1995). *Theories that explain Contradiction: accounting for the contradictory organizational consequences of Information Technology.* Paper presented at the International Conference on Information systems, Amsterdam.

Rose, M. & Smith, J. (1986). The Organisational Challenge of New Engineering Systems: some themes for a research agenda. In Voss, C. A. ed.

Managing Advanced Manufacturing Technology Bedford. pp. 393-406. IFS.

Rosen, P. (1993). The Social Construction of Mountain Bikes. Technology and Postmodernity in the Cycle Industry. *Social Studies of Science*, **28**, (3), pp. 479 - 513.

Rosenberg, N. (1994). *Exploring the Black Box. Technology, Economics and History*, Cambridge: Cambridge University Press.

Sahal, D. (1981). *Patterns of Technological Innovation.* Reading MA: Addison-Wesley.

Saviotti, P & Metcalf, S. eds. (1991). *Evolutionary Theories of Economic and Technological Change. Present State and Future Prospects*. London: Harvard.

Schot, J. (1992). Constructive Technology Assessment and Technology Dynamics: the Case of Clean Technologies. *Science, Technology, & Human Values*, **17** (1), pp. 36-56.

Saxton, J. & Game S. (2000). *Virtual Promise: are charities making the most of the Internet revolution?* Third Sector. Available from. <www.virtualpromise.net>. [Accessed: 3 May 2003].

Schein, E.H. (1988). Organizational Psychology, 3rd ed. Prentice-Hall.

Schein, E.H. (1992). *Organizational Culture and Leadership*, 3rd ed. Jossey-Bass.

Schneider, S. C. and Barsoux, J. (2003). Managing Across Cultures, 2nd ed. Financial Times Prentice Hall.

Schon, D. (1983). *The Reflective Practitioner.* New York: Basic Books.

Schwandt, T. A. (1994). Constructivist, interpretivist approaches to human inquiry. In Denzin, N.K. and Lincoln, Y. S. eds. *Handbook of Qualitative Research.* Thousand Oaks, Ca: Sage

Scott, C. (1998). *Harvard style of referencing.* Leeds Metropolitan University. Available from. <http://www.lmu.ac.uk/lss/ls/docs/Harvard/text.htm>. [Accessed: 23 September 2003].

Seel, R. (2000). New Insights on Organisational Change. *Organisations & People,* **7** (2), pp 2-9.

Seymour-Rolls, K. and Hughes, I. (1995). Available from. <http://www.scu.edu.au/schools/gcm/ar/arr/arow/rseymour.html>. [Accessed: 16 June 2003].

Shapira, P. and Rosenfeld, S. (1996). *An Overview of Technology Diffusion Policies and Programs to Enhance the Technological Absorptive Capabilities of Small and Medium Enterprises.* Available from: <http://www.prism.gatech.edu/~jy5/pubs/oecdtech.htm#Notes>. [Accessed: 10 March 2006].

Shearman, C. (1999). *Local connections: Making the Net Work for Neighbourhood Renewal.* Communities Online.

Silverman, D. ((1970). *The Theory of Organizations.* Heinemann.

Simon, H. A. ((1976). *Administrative Behaviour.* 3rd ed. Free Press.

Simon, Herbert A. (1997). *Administrative Behavior. A Study of Decision-Making Processes in Administrative Organizations* 4th ed. The Free Press.

Singer, P. ed. (1993). *A Companion To Ethics.* Massachusetts: Blackwell

Skipton, M. D. (1983). Management and the Organisation. *Management Research News*, **5** (3), pp. 9-15.

Skolimowski, H. (1994). *The Participatory Mind.* London: Arkana

Slappendal, C. (1996). Perspectives on Innovation in Organizations. Organization Studies, **17** (1), pp 107-129.

Smith, H. A. and McKeen, J. D. (1992). Computerization and Management. a study of conflict and change. *Information and Management*, **22**, pp. 53-64.

Spiegelberg, H. (1960). *The Phenomenological Movement.* The Hague: Nijhoff.

Sprague, R.H. and McNurlin, B. C. (1998). *Information Systems Management in practice.* Upper Saddle River: N. J. Prentice -Hall.

Staudenmaier, S. J. and John M. (1985). *The Debate over Technological Determinism, Technology's Storytellers. Reweaving the Human Fabric.* Cambridge: The Society for the History of Technology and the MIT Press.

Stein, E. W. and Zwass, V. (1995). Actualizing Organizational Memory with Information Systems. *Information Systems Research*, **6**.

Stein, E. W. and Vandenbosch, B. (1996). Organisational Learning during Advanced System Development. Opportunities and Obstacles. *Journal of Management Information Systems*. **13** (2), pp. 115-136.

Steven J. T. and Bogdan, R. (1998). *Introduction to Qualitative Research Methods*. J. Wiley & Sons.

Stewart, R. (1999). *The Reality of Management.* 3rd ed. Butterworth Heinemann.

Storm, H, (1994). *Lightningbolt.* New York: Ballantine

Storm, H. (1972). *Seven Arrows.* New York: Harper & Row.

Stowell, F. A. (1991). Towards Client-led development of information systems. *Journal of Information Systems*, **1**, pp.173-189.

Stowell, F. A. and West, D. (1994). Client-Led Design: A systemic approach to Information Systems Definition. *McGraw-Hill Information Systems, Management and Strategy Series.* pp.250.

Sullivan, B. (2006). A Living Theory of a Practice of Social Justice: Realising the Right of Traveller Children to Educational Quality. PhD thesis, University of Limerick. Available at: <http://www.jeanmcniff.com/bernieabstract.html> [Accessed 20 December 2006].

Susman, G. I. (1983). Action Research. In Morgan, G. ed. *A Sociotechnical Systems Perspective*. London: Sage Publications, pp. 95-113.

Susman, G. I. and Evered, R. D. (1978). An Assessment of the Scientific Merits of Action Research. *Administrative Science Quarterly*, **23**, pp.582-603.

Swanson, E.B. (1998). *Information Systems Implementation.* Homewood: III. Irwin.

Swimme, B. (1984). *The Universe is a Green Dragon.* Santa Fe, Bear and Co.

Tagish, (1999). *The Information Society – Meeting the Social and Economic Challenge (1999).* Available from. <http.//www.tagish.co.uk/tagish/pubs/is1/society2.htm> [Accessed 3 November 1999].

Tarnas, R. (1991). *The Passion of the Western Mind.* New York: Ballantine

Taylor, E. W. (1947), *Scientific Management.* Harper and Row.

Taylor, J. A. and Williams, H. (1994). The Transformation Game. Information Systems and process innovation in organizations. *New technology, Work and Employment*, **9** (1), pp. 54-65. Technology Pubs/Apex Press.

Taylor, R. (2002). *Managing Workplace Change.* Economic & Social research Council.

Tesch, R. (1990). *Qualitative Research. Analysis Types and Software Tools.* New York: The Falmer Press.

The Australian Apec Study Centre, (2003). *Globalisation.* Available in. <http.//www.globalisationguide.org/01.html> [Accessed 22 September 2003].

The Voluntary Organisations Internet Server. (1999). *Voluntary and Community Organisations.* Available from. <http.//www.vois.org.uk> [Accessed 5 January 1999].

The Women Connect Network. Available from. <http.//www.womenconnect.org.uk> [Accessed 5 January 1999].

Thong, J. Y. L. (1999). An Integrated Model of Information Systems Adoption in Small Businesses. *Journal of Management Information Systems.* **15** (15), pp.187-214.

Thornhill, A, Lewis, P, Millmore, M. and Saunders, M. N. K. (2000). *Managing Change: A Human Resource Strategy Approach.* Financial Times Prentice Hall.

Ticher, P, Maison, A. & Jones, M. (2002). *Leading the way to ICT success.* Baring Foundation & Worshipful Company of Information Technologists.

Torbert, W. R. (1987). *Managing the Corporate Dream: restructuring for long-term success*. Homewood, Ill. Dow Jones-Irwin.

Torbert, W. R. (1991). *The Power of Balance. transforming Self, Society, and Scientific Inquiry*. Newbury Park, Ca: Sage.

Trist, E. L. et al. (1963). *Organizational Choice*. Tavistock Publications.

Ulrich, D. (2000). Context, Capability and Response. In Chowdhury, S. ed. *Management 2IC*. Financial Times Prentice Hall, p. 240.
University of Bath. Available from. <http.//www.bath.ac.uk/carpp/ppar.htm>. [Accessed: 17 March 2003].

Urwick, L. (1952). *Notes on the Theory of Organisation.* American Management Association.

Van de Ven, A. H. and Ferry, D. L. (1980). *Measuring and Assessing Organizations.* N. York: Wiley.

Vankatraman, N. (1991). IT- Introduced Business Reconfiguration. In Scott M. ed. *The Corporation of the 1990s*. N. York: Oxford University Press.

Varela, F, Thompson, E. and Rosch, E. (1993). *The Embodied Mind.* Cambridge, Mass: MIT Press.

Vickers, G. (1965). *The Art of Judgement. A study of policy Making,* London: Chapman and Hall, pp.36-74.

Voderman, C. & Young, R. (2000). *Carol Vorderman's guide to the Internet.* Prentice Hall.

Volkow, N. (2003). Interaction between Information Systems and Organisational Change: case study of Petróleos Mexicanos. Phd Thesis. London School of Economics.

Voluntary Sector National Training Organisation (VSNTO) (2002). *Voluntary Sector Key Facts*. Available from. <http.//www.voluntarysectorskills.org.uk>. [Accessed: 5 January 2003].

Voluntary Sector Unit, (1997). *Access to the Internet.* London Borough of Camden.

von Glasersfeld, E. (1991). Knowing without metaphysics. Aspects of the radical constructivist position. In F. Steier ed. *Research and Reflexivity.* Newbury Park, CA: Sage.

Von Krogh, G, Roos, J. and Slocum, K. (1994). An Essay on Corporate Epistemology. *Strategic Management Journal*, **15** (Summer), pp. 53-71.

Wadsworth, Y. (1998). What is Participatory Action Research? *Action Research International*, paper 2. Available from: <http://www.scu.edu.au/schools/gcm/ar/ari/p-ywadsworth98.html>. [Accessed 11 January 2004].

Walsham, G and Sahay, S. (1999). GIS for district-level administration in India. problems and opportunities. *MIS Quarterly*, *23* (1), pp. 39-66.

Walsham, G. (1993). *Interpreting Information Systems in Organizations.* Chichester, UK: J. Wiley.

Walton, R. (1988). *Up and Running. integrating information technology and the organization.* Boston, MA: Harvard Business School Press.

Weber, M (1947).*The Theory of Social Economic Organization* . London: Oxford University Press.

Website for Sale (2005). Available from. <http.//ukwebsiteforsale.co.uk/appraisal/definitions-small.htm>. [Accessed: 21 March 2005].

Weick, K.E. (1991). The Non traditional Quality of Organizational Learning." *Organization Science*, **2** (1), pp. 116-124.

Weick, K.E. (1995). *Sensemaking in Organizations.* Beverly Hills: Calif. Sage.

Weick, K. E. (1979). *The Social Psychology of Organizing,* 2nd ed. McGraw Hill.

Weick, K.E. (1979). *The Social Psychology of Organizing.* Reading, Mass: Addison- Wesley.

Weingart, P, (1984). The Structure of Technological Change. In Laudan, R. ed. *The Nature of Technological Knowledge,* pp. 115-42, Dordrecht: Reidel.

Whitehead, J. (2000). How do I improve my practice? Creating and legitimating an epistemology of practice, *Reflective Practice,* **1** (1) pp. 91-104.

Wilcox, D. (1996). *Technology and the Voluntary Sector.* Available from. <http.//www.partnerships.org.uk/itf/volsec.html> [Accessed: 10 December 1999].

Willcocks, L, and Margetts, H. (1994). Risk Assessment and Information Systems, *Engineering Journal of Information systems*, **3** (2), pp.127-138.

Willcocks, L. (1992). The manager as Technologist' In Willcocks, L and Harrow, J. eds. *Rediscovering Public Services Management.* London: McGraw-Hill.

Willcocks, L. (1994). Managing Information Systems in UK Public Administration. issues and prospects. *Public Administration*, **72** (Spring), pp. 3-32.

Willcocks, L. ed. (1993). *Of Capital Importance. Evaluation and Management of Information Systems Investments.* London: Chapman and Hall.

Winograd, T. and Flores, F. (1990). *Understanding Computers and Cognition. A New Foundation for Design.* Addison-Wesley.

Winter, R. (1987). *Action-Research and the Nature of Social Inquiry. Professional Innovation and Educational Work.* Aldershot, England: Gower Publishing Company.

Wolcott, H. F. (1999). *Ethnography. A way of seeing.* Walnut Creek, Ca: AltaMira Press.

Woodward, J. (1980). *Industrial Organization: Theory and Practice.* 2nd ed. Oxford University Press.

Wyatt, T. (2001). *E-enabling the voluntary and community sectors. final report, November 2001.* Available from. <www.e-envoy.gov.uk/publications/reports/e-enabling>. [Accessed: 2 May 2002].

Y.S. Lincoln eds. (n.d). *Handbook of Qualitative Research.* Thousand Oaks, CA: Sage.

Yin, R.K. (1994). Case Study Research. Thousand Oaks, Calif: Sage.

Yin, R.K. (1989). Case study research. Design and Methods. London: Sage.

Yin, R.K. (1993). Application of case study research. *Applied Social Research Methods Series*, **32**, Newbury Park, California: Sage

Zahra, S. and Covin, J. (1993). Business Strategy, Technology Policy and Firm Performance. *Strategic Management Journal*, **14** (6), pp. 451-478.

Zimbalist, A. ed. (1979). *Case Studies on the Labor Process.* NY/London: Monthly Review Press.

Zuber-Skerritt, O. (1996). *New Directions in Action Research.* London: The Falmer Press,

Zuboff, S. (1988). *In the age of the smart machine: the future of work and power.* Oxford: Heinemann.

Appendix 1: Questionnaire to ascertain barriers to ICT adoption by 25 SMVOs

Questionnaire deals with the followings issues:

- Barriers to ICT take up
- Incoming information/information needs
- Outgoing information/information distributed

A. Barriers to take up of ICT by our organisation include:

1. Board and Management appreciation

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

2. Technical knowledge & support

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

3. Funding

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

4. Lack of staff appreciation or staff resistance

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

5. Lack of 'Change Champions' or facilitators

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

6. Please specify others if applicable.

B. Your information needs

7. What method (s) do you feel provide most effective and efficient means of receiving information? (select as many as appropriate)

a) Email b) Letter c) Fax d) Don't know
e) Other: Please specify

8. What method (s) do you feel provide most effective and efficient means of presenting information about your organisation? (select as many as appropriate)

a) Email b) Letter c) Fax d) Don't know e) Other: Please specify

C. Other information

9. What is the size of your organisation? Number of employees is:

a) 1-9 b) 10-24 c) 25-50 d) 50-100 e) Over 100

Appendix 2: Interview guide and questionnaire

2.1 Interview guide with CEOs to ascertain profiles of pilot and 4 case study SMVOs prior to intervention

Could you please tell me about your *organisation*, its mission and business objectives, what kind of organisation is it?

Services
Funders and budget
Size (no of employees)
Organisational staff structure
Style & Culture
Union involvement
Decision making
Communication systems and practices
Performance monitoring
Reward systems
Total Quality Management, Investors in People, other training initiatives
Equal opportunities statement

Can you please tell me about the *people* who work in this organisation?
Full time, part time, paid/voluntary staff
Qualifications
Skills
Commitment to learning and development
Roles, for example, who is responsible for ICT, training etc?

What ICT systems have you got?
Number of PCs
Internet access
Email use
Website, what help do you need to set up a website?

How do you see the website benefiting your organisation?

What problems do you foresee to effectively use the website?

2.2: Interview guide with CEOs to ascertain experience of participating pilot and 4 case study SMVOs post intervention

Questionnaire deals with the followings issues:

- organisational culture
- how to use website to service what the customer want
- change facilitators
- attitudes and relationships
- budgetary and funding issues
- drivers for change (internal and external)
- overcoming resistance to change
- indicators of change

A. Organisational

The followings are important factors that facilitate ICT (Website) adoption and use:

1. Professional organisation culture

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

2. ICT appreciation by CEO and/or Board

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

3. Effective marketing and communication strategy for example using email to alert stakeholders about good news stories and new services

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

4. Organisational learning practices

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

5. ICT Budget including website maintenance costs

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

B. People

6. Presence of ICT-enlightened staff within teams

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

7. Presence of staff who can update website

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

C) Technology

8. ICT strategy
a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

9. In-house web server or access to web server

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

D) What the customers want

What do you think the customers?

10. Easily accessible information

a) Strongly disagree b) Disagree c) Agree d) Strongly agree e) Don't know

11. Efficient and effective service delivery.

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

E) Role of website

12. Website is a great communication tool and important to business needs.

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

13. The website is effective in providing what the customers want in terms of information and in some cases service delivery

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

14. If agree, please give example:

a)

b)

F) Overcoming resistance to change

Resistance to change can best overcome by:

15. Training the individual or group

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

16. Using change champions who are employees and respected within the organisation

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

17. Employing a 'carrot and stick' approach by incorporating the change process into the staff appraisal process

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

18. Other means, please specify:

a)

b)

G) Indicators of change

How would you recognise change (that website has made a difference to your activities)?

19. Increased use of emails

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

20. Staff accessing information via website or staff intra-net linked to the website

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

21. Up-to-date website pages

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

22. Regular good news stories posted by staff on the website

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

23. More effective information accessed by clients on the website

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

24. More client referrals

a) Strongly disagree b) Disagree c) Agree d) Strongly agree
e) Don't know

H) Any relevant other comments

25.

Appendix 3: Website form and update committee terms of reference

3.1 O-Regen website update form

This form is intended to simplify the process of submitted updates to the website. You are welcome to use other formats to submit your update material. Updates are implemented daily. Please email completed update forms to .....

Staff Name:

Department/Team:

Date:

Website age to be updated (if known):

Date for update material to be implemented:

Date for update material to be removed (if applicable):

Text for Update/Comment

Please type the update text below. Any images, photographs, file attachments etc should be electronically attached or manually submitted. (You may use as many pages as necessary).

For Webmaster Use
Date Implemented:
Signed:

3.2 Terms of reference for website update committee (WUC)

O-REGEN
TERMS OF REFERENCE FOR
WEBSITE UPDATE COMMITTEE (WUC)

The main role of the WUC is to review updates, collate and implement staff ideas and to ensure correct marketing of O-Regen. Specific responsibilities are:

1. To develop, maintain and oversee the content and appearance of the website.

2. To liaise with O-Regen's Business Units and projects to obtain update materials and contents of the website are accurate and update.

3. To ensure that O-Regen's corporate identity is taken into account when the Business Units post update materials.

4. To initiate and manage links with other relevant websites.

5. To audit and monitor information that exists on the website and identify out-of -date materials.

6. To review content and identify gaps in the information provided on the website.

7. To liaise with the agency responsible for implementing the updates and hosting the Website.

8. To monitor the frequency and magnitude of updates to ensure that they fall within the budgetary limits set by the Board.

Appendix 4: Copy of O-Regen website

CD copy of O-Regen's website attached