

Facilitating Policy Implementation using ICT in a
Development Context: A South African Ubuntu Approach

by

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Declaration

I declare that the thesis which I hereby submit for the degree PhD (Information Technology) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

Acknowledgments

I thank my wife Anita foremost. Surely, we are one. Thanks for being so loving, you complete me and I am completed in you.

To our sons, Shallom and Migisha: You bring joy into our lives – like the fresh and sweet scent of a rose in the morning.

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List of Acronyms and Abbreviations

CA	Amartya Sen's Capabilities Approach
CDW	Community Development Workers
CE	Collaboration Engineering
GSS	Group Support System
ICT	Information and Communication Technology
ICT4D	ICT for development
ICT4E	ICT for Entrepreneurship
IS	Information Systems
PAJA	Promotion of Administrative Justice Act 3 of 2000
PAJA Project	The research project in which research was immersed
SEDA	State Enterprise Development Agency
SEIDET	Siyabuswa Educational Improvement and Development Trust
TCA	Jürgen Habermas' Theory of Communication Action
TSC	Thusong Service Centre
UDF	Ubuntu Development Framework
UN	United Nations

Abstract

The road of development through e-government is covered with deep potholes and dead ends. This is because Information and Communication Technologies (ICT) are adopted and e-government policies are developed with a blind focus on the ICT tools and with little reflection on the contribution of ICT to development (Heeks and Bailur, 2007, p. 243, Avgerou, 2009, p. 14). To assist with this reflection Information Systems (IS) researchers are increasingly calling for the development of local contextual theory or a framework in ICT for Development (ICT4D) (Avgerou, 2009, p. 14, Madon et al., 2007, Walsham, 2003, Walsham, 1997).

This thesis responds to that call by investigating the role of e-government towards development within the South African context. The means of inquiry was a three year ethnographic immersion in a longitudinal research project. The aim of the longitudinal research project was to investigate how a specialised type of ICT (Group Support Systems) can enable interaction between government and citizens in attaining specific human rights.

The research project centred on creating an awareness among the public in South Africa of a newly enacted Act, the Promotion of Administrative Justice Act No 3 of 2000 (PAJA). The rich data collected was analysed using Grounded Theory, resulting in a substantive theory that suggests that within the South African context e-government could contribute to development if it is used to facilitate policy implementation within the spirit of Ubuntu.

The thesis delineates the journey up to the emergence of the substantive theory. The substantive theory has important implications for IS theory and IS practice. For IS theory, the substantive theory demonstrates that research on ICT4D in Africa could usefully be undertaken by following an action research strategy within a critical-interpretive paradigm. The substantive theory also suggests the importance of taking into account the contextual collaborative nature of African culture in the spirit of Ubuntu when conducting such research. For practice, the substantive theory proposes a potential framework where ICT could provide the collaborative environment or shared space in the spirit of Ubuntu for policy implementation towards development. Checked against implementation requirements on the

South African policy on entrepreneurship, the substantive theory framework proves to be equally valuable.

Keywords:

ICT for Development, e-Government, Ethnography, Grounded Theory, Theory of Communicative Action, Diffusion of Innovations, Actor Network Theory, Capabilities Approach.

Chapter 1. Introduction

1.1. Introduction

South Africa is a developing country with one of the highest socio-economic income inequalities in the world (UNDP, 2007b) with more than 43% living below the poverty line (The Presidency, 2007) and 23.6% unemployed (Statistics South Africa, 2009). Social and economic development consequently underlies most of the government initiatives. Among the principal avenues identified towards achieving emancipation and development is the use of Information and Communication Technology (ICT) in government, i.e. through e-government (PNC on ISAD, 2008, Republic of South Africa, 2001a).

South Africa has been bold enough to admit that despite the open and active sponsorship and support for e-government, the expected benefits and development outcomes are far from being realised (Harris, 2006, Republic of South Africa, 2006b, South Africa, 2006).

Information Systems (IS) researchers argue that the failure of most ICT initiatives designed to achieve development is because they do not take into account the important contextual aspects of the implementation environment, and in many instances adopt overly deterministic business models (Avgerou, 2009, p. 14, Madon et al., 2007, Walsham, 2003, Walsham, 1997).

South Africa's policy for e-government identifies three business criteria for success: interoperability (cross-functionality across different departments); ICT security (dealing with the security of government electronic systems and information); economies of scale (achieving this includes investments in research and development to developing local skills with the ability to produce internally), and the elimination of duplication (abolish unnecessary duplication of similar IT functions, projects and resources) (Republic of South Africa, 2001a).

This thesis proposes that the success criteria of e-government along the ICT technical metrics of interoperability, security, economies of scale and duplication are overly deterministic. These criteria do not take into account any of the development inclinations of the South African government and hence contribute difficulties in realising the expected benefits.

1.2. The Development Inclination of the South African Government

The development inclination of the South African government, its high unemployment, and poverty are often attributed to the recently ended apartheid era. Apartheid, which literally means *separateness*, was a system of governance between 1948 and 1994 in which the government consciously enacted and actively implemented repressive and discriminatory policies of legalised and forced segregation between races. Segregation spanned all levels of society and governance, from where a person was allowed to walk to the type of education he received. As a result, by the time South Africa became a democracy in 1994, the public service, which is the institution responsible for the implementation of government policy, was grossly inefficient, mismanaged and corrupt (Askvik and Bak, 2005). The apartheid era created significant divisions and mistrust between society and public institutions (Askvik and

Bak, 2005) resulting in profound demands on the new democratic government of 1994 as well as on the citizens for a radical transformation to an inclusive relationship (Rakate, 2006).

With the fall of apartheid, South Africa enacted a new Constitution as the supreme law in 1996. The founding provisions of the new Constitution are grounded in the values of “human dignity, the achievement of equality and the advancement of human rights and freedoms, non-racialism and non-sexism, supremacy of the constitution and the rule of law and in universal adult suffrage” (Republic of South Africa, 2008b). The new Constitution called for a radical transformation in government from the previous apartheid style where government administrators made decisions without consultation to a more democratic style where decisions must be made participatively. Towards transformation, the government through the new Constitution of 1996 has brought into effect a number of policy reforms in an effort to “heal the divisions of the past and establish a society based on democratic values, social justice and fundamental human rights” (Republic of South Africa, 2008b).

1.2.1 Batho Pele

The transformation of government formally began in 1995 with the White Paper on the Transformation of Public Service (Republic of South Africa, 1995), hereafter abbreviated to WPTPS. The WPTPS established the institutional framework that would guide the introduction of new policies and the implementation of the new constitutional mandates.

It was shortly followed in 1997 by the White Paper on Transforming Public Service Delivery, labelled as the Batho Pele White Paper (Republic of South Africa, 1997). The Batho Pele White Paper specifically aimed at creating a participative model of governance.

The Batho Pele White Paper was adopted into policy in 2002 and branded *Batho Pele*. The adage ‘*We belong, we care, we serve*’ became the belief set to guide government when delivering services. Batho Pele, which literally means “People First”, has a developmental and emancipatory perspective, similar to the United Nations Development Program (UNDP) human development philosophy. The similarity is reflected in the title of UNDP’s reports “People First: The Human Development Reports” (UNDP, 2008).

Batho Pele is grounded on eight principles and has three defining themes (Table 1.1) all directed at emancipating citizens to participate with government in decision making. The eight principles of Batho Pele are consulting users of service, setting service standards, increasing access to information, ensuring courtesy, providing more and better information, increasing openness and transparency, remedying mistakes and failures and getting the best possible value for money (Republic of South Africa, 2008a).

Table 1.1: The Themes of Batho Pele (Republic of South Africa, 2008a)

Theme	The Corresponding Policies and Acts
Overarching/transversal legislative frameworks	The Constitution of the Republic of South Africa of 1996 (as amended). The White Paper on the Transformation of the Public Service of 1995 (WPTPS) Public Service Regulations of 1999 and 2001
Access to information	Open Democracy Act of 2000 Promotion of Access to Information Act of 2000 Electronic Communications and Transactions Bill of 2002 E-Government Strategy of 2001
Transforming public service delivery	White Paper on Transforming Public Service Delivery of 1997 Promotion of Administration Justice Act (AJA) of 2000 Public Finance Management Act of 1999

The two policy papers, the WPTPS and Batho Pele, formally set the stage for a radical transformation of government to a development and emancipatory model which corresponded more to the harmonious South African philosophy of Ubuntu.

1.2.2 Ubuntu

Ubuntu is an indigenous South African philosophy that comprehends individual existence as being inseparable from the collective through warm and filial relationships. Ubuntu is short for the Nguni proverb *Umuntu ngumuntu ngabantu* which literally translated means “a person is a person through their relationship to others” (Swanson, 2007, p. 55). The notion of Ubuntu subsumes an individual’s personality, place and provision as having everything to do with the collective – we are who we are because we come from and belong to a certain collective. Any attempt to define Ubuntu in an English sentence reduces its deep indigenous

meaning (Swanson, 2007, Mbigi, 1997, Hanks, 2008). Ubuntu is an African awareness of being. The philosophy of Ubuntu is clearly an African collectivist philosophy which lies in sharp contrast to the more individualistic and self-centred Western philosophies (Olinger et al., 2007, Hanks, 2008). The core values of Ubuntu are communalism, interdependence, humanness, sharing and compassion (Broodryk, 2002). Ubuntu does not imply that individual choice is lost and resigned to traditional leaders, but means that traditional leaders carry the burden to express the choice of the individuals as a collective interest.

The notion of Ubuntu is growing in popularity and has been applied as an African solution to African problems such as poverty, political strife and trade (Olinger et al., 2007, p. 33). In the South African public sphere, Ubuntu has been applied to politics, business, corporate governance, restorative justice, and conflict resolution and reconciliation (Olinger et al., 2007, Van Binsbergen, 2002, Mbigi, 1997).

Batho Pele is an embodiment of the values of Ubuntu. The adage Batho Pele itself expresses the Ubuntu philosophy in prioritising the interests of the citizen according to the quality of life, rather than on the neo-liberal basis of “fiscal discipline, reduction of public expenditure and the quantity of outputs with the number of services delivered” (Maserumule, 2007, p. 90). The evident misalignment between the deterministic South African approach to e-government (Section 1.1) and the living reality of a government inclined towards development triggered in the researcher the question about how e-government in South Africa could be contextualised within the spirit of Ubuntu for human development.

1.3. Research Background

The research reported here emerges from the researcher’s involvement in a longitudinal research project entitled ‘*Enabling access to human rights through thought processes and web-based Group Support Systems (GSS) tools*’ which centred on creating an awareness of the Promotion of Administration Justice Act 3 of 2000 (PAJA) through the use of Group Support Systems. A Group Support System (GSS) is a type of ICT system which is specially designed to facilitate people working together towards a goal (Dennis et al., 2001a). The longitudinal research project is henceforth termed the *PAJA Project*.

The PAJA is one of the important Acts that supports South Africa's Batho Pele approach to government (Table 1.1). The PAJA seeks to overcome the historical apartheid injustices by empowering the public to expect from government a reasonable opportunity to make representations before receiving a negative decision (an administrative action), to ask for written reasons and/or challenge the government.

In the PAJA Act, an administrator is any person who has the empowering provision to make decisions on behalf of government, which such decision (or the failure to make a decision) can negatively affect an individual or the public. The PAJA promulgates the constitutional right to lawful, reasonable and procedurally fair administrative action. By lawful, the PAJA Act stipulates that a government administrator should have the empowering provision to make decisions on behalf of the government. By reasonable, the administrator should give potentially affected individuals or the public an opportunity to make representations before the negative decision is made. By procedurally fair, the negative decision should be free from any real or apparent bias by following a set of procedures.

The PAJA Project realised that most people in South Africa, both in government and the public, are not aware of the PAJA and how it empowers them (Republic of South Africa, 2006a, Wooding and Phahlamohlaka, 2005, Alexander and Phahlamohlaka, 2005, Reed, 2005, Republic of South Africa, 2007b). The newness of the policies and acts, and the historically segregated education system where the African majority were prevented from learning certain educational subjects such as mathematics and science, means that most people in South Africa are not only unaware of the policies which are meant to empower them but also need to learn how to implement the policies.

During the PAJA Project the researcher became increasingly interested in whether he could develop a theory or framework to explain the divergent situations he came across about how e-government could lead to the emancipation of people from different forms of deprivation such as poverty, disease and oppression.

1.3.1 Role of the Researcher

The researcher is an active member in the PAJA Project where he has been ethnographically immersed participating overtly and covertly since 2004. In March 2004, when searching for a research topic for his Masters in Information Technology dissertation, Dr. Jackie Phahlamohlaka had just completed his PhD in Information Technology on a decision-justification framework and its implications for Group Support Systems usage and design (Phahlamohlaka, 2003, Phahlamohlaka and Roode, 2001). Dr. Jackie Phahlamohlaka was submitting a revised application entitled '*Enabling access to human rights through thought processes and web-based Group Support Systems (GSS) tools*' to the National Research Foundation (NRF) of South Africa for six years' funding. The funding was awarded and research formally began in 2005. The aims of the PAJA project are:

- To explore innovative ways in which web-based GSS could enable access to human rights by ordinary South African citizens and;
- To explore, as part of this access seeking process, efficient forms of engagement between ordinary citizens, administrators and managers.

The PAJA project was guided by the primary research questions:

- How best can the ordinary South African public be enabled and empowered to exercise their constitutional rights espoused by the Administrative Justice Act?
- Can thought processes and web-based technologies be used to support this enablement?
- To what extent would web-based technologies be considered relevant in this process?
- Are these technologies considered potentially valuable in enhancing a better understanding and implementation of the Act?

From the PAJA Project aims, the researcher inferred that ICT could be used to emancipate people and he ascertained that development was a topic of great personal interest. He became a member of the PAJA Project in April 2004 but without the accompanying student funding

since the NRF was at that time not able to make funds available for a non-South African citizen (the researcher is Ugandan). The financial implications were not significant as he was already a self-funded student. Though not formally assigned a role within the PAJA Project he became actively involved in establishing contact with research participants, research members, research sites, and in coordinating all the administrative functions of the PAJA Project. He completed the Masters in May 2005 just when NRF was approving his funding as a student affiliated to the PAJA Project. His Masters topic “*Enhancing procedural fairness in administrative action of the Administrative Justice Act of South Africa using web-based Group Support Systems*” (Twinomurinzi and Phahlamohlaka, 2005) was presented at a conference on online deliberation.

Having completed the Masters, but with a deeper and broadened interest on how e-government could contribute to development, in September 2005 he decided to enrol for the PhD in Information Technology. He identified that he would be able to use the research, social and economic resources of the PAJA Project to conduct the investigation. Particularly, he inferred from the first two primary research questions, when juxtaposed, that the PAJA Project was also seeking to understand how e-government could contribute to development.

In 2006 the PAJA Project expanded to add a third aim:

- To identify and harness opportunities for sustained collaboration and interaction by communities who would use web-based GSS tools within e-government contexts in South Africa.

The third aim was added because IS researchers were increasingly critical of the inconsistent results from GSS research (Nunamaker Jr et al., 1997, Briggs et al., 2001b). A new approach was beginning to emerge in which the process of interaction and the influence of facilitation were considered an important aspect of GSS research. This new approach is called Collaboration Engineering (Briggs *et al.*, 2003). Collaboration Engineering posits that it is better to train practitioners in the relevant facilitation skills and group dynamics so that they can use ICT tools such as GSS technology to create a repeatable collaborative process (Section 5.5.2).

1.4. Problem Statement & Research Questions

As the researcher progressed through the PAJA Project and reviewed literature on Development, ICT4D and e-government, four issues stood out:

Development is dependent upon the perspective which is adopted, e.g. traditional economists consider development as an indicator of Gross Domestic Product while others consider it as the freedom to make choices (Byrne and Jolliffe, 2007, Avgerou, 2009)

There is a rapidly growing demand for ICT4D theory and inquiry, as evidenced by the rise in academic and practitioner conferences and/or journals with either a special track or entire publication dedicated to ICT4D (Avgerou, 2008).

Consistent with ICT4D, there are dangers and problems that have resulted from developing countries blindly adopting IS approaches which have worked in developed countries (Alexander and Phahlamohlaka, 2007, Avgerou, 2003, Kanungo, 2004, Odedra-Straub, 2003, Wade, 2002, Young and Ridley, 2003, Walsham, 2001).

African developing contexts are characterised by the collectivist nature of society (Eaton and Louw, 2000, Triandis et al., 1990, Mbigi, 1997). The collectivist culture is largely ignored when researching African environments yet is critical to understanding the contextual process of ICT implementations towards human development (Eaton and Louw, 2000, Hofstede, 1980). The collectivist nature, called Ubuntu (Section 1.2.2), surfaces strongly in South Africa's approach to government Batho Pele (Section 1.2.1).

The thoughts culminated into seeking to develop an explanatory theory or framework that could account for how e-government could be harnessed contextually in the spirit of Ubuntu to lead to improvements in human development. Ethnographers refer to such thoughts as the 'grand' research question because it is deliberately wide and not hedged in with firm hypotheses, research designs, sub-questions and instruments (Atkinson *et al.*, 2001a). As the PAJA Project progressed the researcher clarified the grand research question delimiting its scope and internal structure (Hammersley and Atkinson, 1995) into the finer primary research

question: **How could ICT be used to facilitate policy implementation in a human development context?**

The thesis delineates the journey in the transition of the research question and the findings of the investigation. The rich ethnographic data from the observations, electronic logs, videos, questionnaires, interviews and field visits during the PAJA Project were analysed using Grounded Theory to develop a substantive theory that could explain how ICT could be used to facilitate policy implementation in the spirit of Ubuntu. The substantive theory is the primary contribution of the thesis.

1.5. Contributions to Knowledge

The extent to which the substantive theory that emerges from the research contributes to knowledge was judged using the seven questions proposed by Whetten (1989, p. 494-495) on what makes a contribution: *Who cares? What's new? Why now? Why so? Well done? Done well? So What?*

1.5.1 Theoretical Contribution

The thesis addresses the two growing IS Research areas of ICT for Development (ICT4D) and e-Government. The substantive theory proposes an explanatory framework on how ICT can be used to facilitate policy implementation within a development context in the spirit of Ubuntu. The substantive theory partially contributes as a first step in addressing the need for theory in ICT4D to guide and evaluate research while taking into account the context within which the development must occur (Heeks and Bailur, 2007, p. 243, Avgerou, 2009, p. 14, Madon et al., 2007, Walsham, 2003). As a guide, the substantive theory lends itself to a critical-interpretive approach and an action research strategy. As a lens, the substantive theory infuses the contextual collaborative nature of society in Africa in the spirit of Ubuntu pointing to the role of ICT.

The research develops qualitative generalisations against theory, rather than against populations as seen in statistical generalisations (Barrett and Walsham, 2004, Walsham, 1995, Lee and Baskerville, 2003, Ruddin, 2006). Generalisation in Grounded Theory, as

used in the research for data analysis, is achieved by engaging the substantive theory with formal theories (Eisenhardt, 1989, p. 545, Urquhart et al., 2009, p. 17, Strauss, 1987b, p. 282). The internal validity and generalisable value of the substantive theory was demonstrated through the theoretical lenses of Actor Network Theory and Habermas' Theory of Communicative Action.

1.5.2 Practical Contributions

The main practical contribution has been the actual evidence of human development. The research has shown that ICT can be adopted within a government setting while at the same time retaining the values of the collectives in which the government hopes to make a positive impact. Problems such as unemployment and poverty can then be tackled collectively with government in the African spirit of Ubuntu and reach solutions which are socially and practically acceptable.

The substantive theory further suggests how e-government can be contextualised within the spirit of Ubuntu and raises the plausibility of creating an e-government strategy that is inclined to development, similar to government.

1.6. Structure of the Thesis

The thesis is organized into eight chapters. Chapter 1 substantiates the motivations and background for the thesis. Chapter 2 considers the method of inquiry for the research, ethnography, and the Grounded Theory analysis approach used to make sense of the rich ethnographic data. The Grounded Theory method is applied across Chapters 3-5.

Chapter 3 provides an account of the research setting in which the researcher was immersed, as well as the broader background of South Africa with its important historical, political and contextual factors that affect it today. Chapter 4 is dedicated to the rich data that were collected. Chapter 5 reviews the literature on Development, ICT4D and e-Government from a global perspective relating it to the South African context. The analytic memos derived in Chapters 3-5 then feed into creating the substantive theory derived in Chapter 6.

As required in Grounded Theory, Chapter 7 engages the substantive theory with the two formal theories typically used by IS researchers in similar studies that seek to innovate ICT for the purpose of development within the local contexts: Actor Network Theory and Habermas’ Theory of Communicative Action (Avgerou, 2009). Chapter 8 provides a discussion on the usefulness of the substantive theory for research and for practice, ending with the thesis conclusions, contributions to knowledge, limitations and areas for further research.

The thesis makes a clear distinction between the terms Information System (IS) and Information and Communication Technology (ICT) since they are actively used to convey different meanings. ICT focuses on the physical tools used to perform specific tasks, while IS goes beyond the specific tasks to include the context within which ICT is used. The thesis adopts the view of an Information System (IS) as a socio-technical system consisting of people, data, processes, hardware and software interacting together to provide the required information (Bentley *et al.*, 2007). Information and Communication Technology (ICT), on the other hand, refers strictly to the technological tools, hardware and/or software of the Information System.

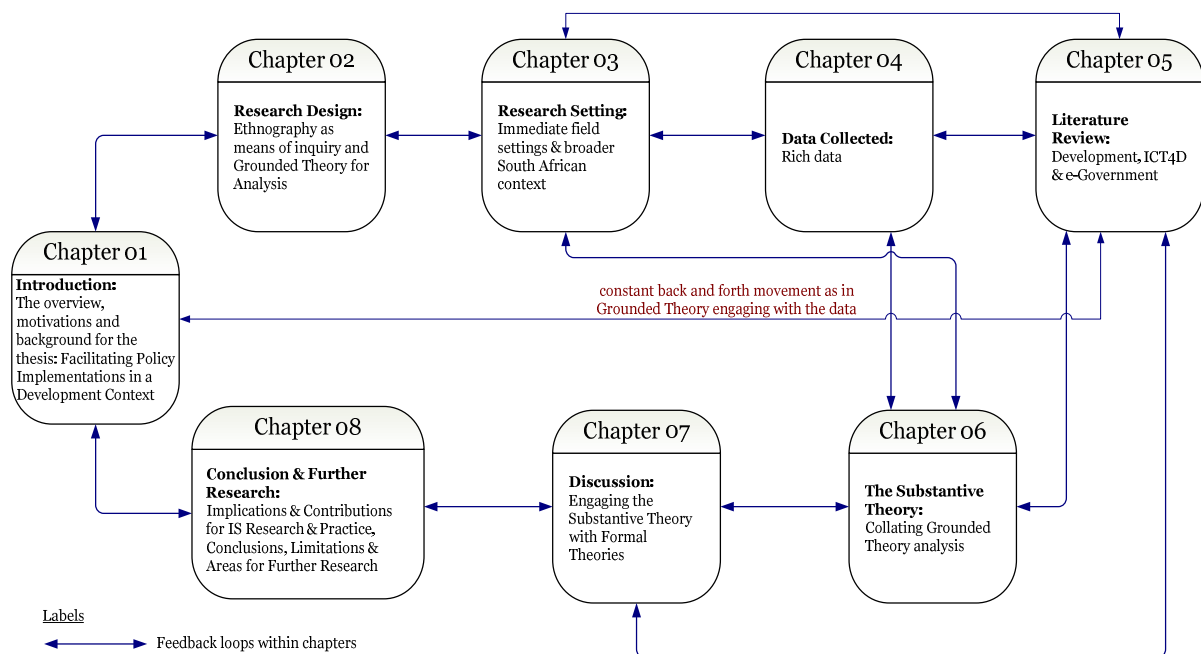


Figure 1.1.1: Thesis Structure

Chapter 2. Research Design

2.1. Introduction

Chapter 1 introduced the thesis aims and its initial motivations in investigating how e-government can contribute to human development, citing the collectivist nature of society in South Africa. Chapter 2 describes the means of inquiry which was used to carry out the investigation, i.e. the research design and the approach used to analyse the rich data using Grounded Theory Analysis.

Chapter 2 is organised into four sections: Section 2.2 justifies the selection of ethnography from the different competing research designs. Section 2.3 defines ethnography and the different scholarly and methodological approaches to ethnography. Section 2.4 describes the qualitative analysis approach, i.e. Grounded Theory, and how the methodological choices affect the remainder of the thesis. Section 2.5 summarises the chapter showing the influences of the ethnographic immersion on the research question.

Research design connects the researcher in the empirical world to the material to be investigated and addresses how the researcher will answer the two critical questions of representation and legitimacy (Denzin and Lincoln, 2005, p. 25). Research design is the “glue that holds the research project together” (Trochim, 2006, p. 1) or is the manner in which to structure the research in such a way that all the parts work together to address the central research question, from providing the guidelines that connect the research to the strategies of enquiry, and then to the methods of collecting data. There are two approaches to research design; the qualitative approach and the quantitative approach.

In quantitative research designs there are two primary elements that are measured; the characteristics of the subjects and the variables (independent and dependent) defining the research question (Hopkins, 2000, Creswell, 2009). Hence quantitative research designs are either descriptive or experimental. In descriptive studies, the phenomenon under investigation is usually measured once, while in experimental studies the phenomenon is measured before and after the experiment (Hopkins, 2000).

Qualitative research designs are often not as explicitly clear as in quantitative designs. Rather, qualitative research designs focus on the primary research question, the purposes of the study, the information that can appropriately answer specific research questions, and which strategies are most effective in obtaining this (LeCompte and Preissle, 1993, p. 30, Denzin and Lincoln, 2005, p. 25). Five basic questions must be answered in the qualitative research design:

- How will the design connect to the paradigm or perspective being used? That is, how will empirical materials be informed by and interact with the paradigm in question?
- How will these materials allow the researcher to speak to the problems of praxis and change?
- Who or what will be studied?
- What strategies of enquiry will be used?
- What methods of research tools for collecting and analysing empirical data will be utilised? (Denzin and Lincoln, 2005p. 376).

Qualitative research designs are commonly classified as one of five means of inquiry; ethnography, grounded theory, case studies, phenomenology and narrative research (Creswell, 2009, p. 12). In ethnography, the researcher studies a phenomenon within its cultural settings over a prolonged period of time. In grounded theory, the researcher develops a general theory based on a constant comparison between categories that emerge from collected data. Case studies explore in depth a phenomenon within a specific time frame. Phenomenological research makes inferences based on the lived experiences of the individuals or groups under investigation usually over a prolonged period of time. In narrative research, the researcher describes phenomenon based on views of participants in collaboration with the researchers own views (Creswell, 2009, p. 12).

The thesis identified with ethnography as the ‘glue’ that could connect the pieces of the investigation into how e-government could lead to development. This is not to say that some of the characteristics from the other classifications such as grounded theory, case study and

narratives were not borrowed to enhance the approach adopted, but ethnography was the predominant means of inquiry.

2.2 Ethnography

Ethnography is a qualitative research design where the researcher is involved by “participating, overtly or covertly, in people’s daily lives for an extended period of time, watching what happens, listening to what is said, asking questions – in fact, collecting whatever data are available to throw light on the issues that are the focus of the research” (Hammersley and Atkinson, 1995, p. 1). Ethnographers unearth the basis of human social actions before they assign meaning to behaviours and beliefs (Schensul et al., 1999, p. 1) and rather than hide from situations that arise in the contextual situations, ethnographers create “window(s) of opportunity” (Zuboff, 1988).

Ethnography as a research tradition has its roots in anthropology and sociology. It was first proposed by Bronislaw Malinowski in his study of native enterprise in Melanesian New Guinea published in 1922 (Atkinson *et al.*, 2001a). For Malinowski, insight can only be understood from within a context.

Since 1922 a divergent number of ethnographic schools each with its own epistemology of ethnography have arisen (Atkinson et al., 2001a, Sanday, 1979, Charmaz and Mitchell, 2001). The diversity has led to little agreement on an absolute definition of ethnography. Sanday (1979) distils three distinct schools; the holistic, semiotic and behaviouristic schools. The holistic school believes that the researcher must be able to empathise with the people living in the research context. In the holistic school, living just like the local people is necessary. The semiotic school, with the greatest adherent Geertz (1988, , 1983, , 1973), does not believe that empathy is a necessary condition for the researcher; they believe that it is enough for the researcher to be able to make sense of the lifestyle of the people within the context to search out and analyse meanings. The behaviouristic school focuses on creating deductive propositions based on pre-selected functional and relevant categories.

Despite the differences, there remains an underlying point of agreement between all the schools; ethnographic research involves having first-hand experience and exploration of a

particular social setting, predominantly on the basis of observation and participation (Atkinson et al., 2001a, p. 4, Sanday, 1979, p. 527). The ethnographer should be able to become conversant with the norms of the people living within the studied context to the point that the behaviours of the people now make sense (Harvey and Myers, 2002).

The thesis identified with the semiotic school of ethnography. The researcher, as an active member of the PAJA Project (Chapter 1) has had close personal relationships with the people involved in the context for more than three years, to the point of unearthing meaning about the lifestyle of the people within their social contexts.

2.2.1 Ethnographic Epistemology

In practice, ethnographers do not necessarily agree with the positivist notion that valid knowledge resides only in the intellect. Ethnographers argue that it is immensely difficult to “plan, choose and have purposes as they (ethnographers) pick their way among the great mass of events around them, and they must do so in ways that will themselves change as they learn more about them” (Rock, 2001, p. 30). Hence ethnographic research is neither passive nor is it neutral, but rather “interactive and creative, selective and interpretive, illuminating patches of the world around it, giving meaning and suggesting further paths of enquiry” (Rock, 2001, p. 30). Taken as such, ethnographic research does not start from “fixed conditions and a clear vision of what lies ahead but changes with each stage of enquiry so that many important questions only emerge *in situ*” (Rock, 2001, p. 30).

Likewise, Fetterman (1989) remarked that “ethnographic work is not always orderly. It involves serendipity, creativity, being in the right place at the right or wrong time, a lot of hard work, and old-fashioned luck” (1989p. 12). In fact, ethnographers discourage the notion of being hedged in with firm hypotheses, research designs and instruments – these only serve to blind the researcher to the world (Atkinson *et al.*, 2001a). It is only during the process of research, as the researcher develops and transforms the research problem that its scope is clarified and delimited and its internal structure explored. It is during this process of inquiry that the real research problem is actually discovered, and in most cases is different from the overshadowed problem; “in ethnographic research the development of research problems is

rarely completed before fieldwork begins; indeed, the collection of primary data often plays a key role in that process of development” (Hammersley and Atkinson, 1995p. 37).

In this thesis, the original area of interest was exploratory in nature in understanding how e-government could lead to human development. As the PAJA Project progressed and data were collected, it became evident that government chiefly provides for development through its policies. It is the implementation of the policies within a social context that is problematic and in many cases the policies themselves are neither understood by the citizens nor the government administrators who are responsible for implementing them (Republic of South Africa, 2007b). This is how the research problem evolved to become much clearer in creating a framework that could explain how ICT could facilitate policy implementation within a development context.

2.2.2 Theory in Ethnography

Agar (2006) notes that studying humans ethnographically requires an intensive personal involvement and “an improvisational style to meet situations not of the researcher’s making, and an ability to learn from a long series of mistakes” (p. 12). Agar (2006) recommends using attributes of existing theory to guide ethnographic research as *strips* that can serve as observable points for the researcher to test his understanding of the research phenomenon. During the ethnographic immersion into the research phenomenon, the researcher will invariably meet disjunctions between the traditions within the research phenomenon and the theory guided expectations; the disjunction signals a breakdown. That is, when a *strip* of the theory is not understood in relation to tradition, a breakdown has occurred. Once a breakdown is identified, something must be done about it and the process of moving from breakdown to understanding is called resolution. In resolution, the theory is modified or a new theory is constructed before trying again. This process of resolution continues until all breakdowns are resolved, resulting in what is called coherence. A coherent resolution can be known to have been reached when the resolution can “1) show why it is a better resolution than others that can be imagined 2) tie a particular resolution in with the broader knowledge that constitutes a tradition and 3) clarify and enlighten, to elicit an “aha” reaction from the members of the different traditions that make up the ethnographic encounter” (Agar, 1986, p. 22). The process is diagrammatically depicted in Figure 2.1 below.

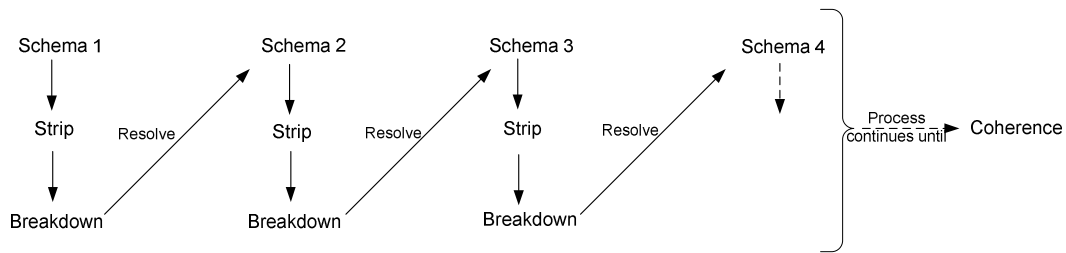


Figure 2.1: The Process of Breakdown, Resolution and Coherence in Creating a Schema

Some of the theories that were explored as part of the ethnographic process are: Amartya Sen’s Capabilities Approach, Social Shaping of Technology (particularly Actor Network Theory), Diffusion of Innovations, Structuration Theory, Manfred Max-Neef’s theories on human development, and Habermas’ Theory of Communicative Action.

2.2.3 Ethnography in the Information Systems Field

Harvey and Myers (2002) hold that the tension between IS researchers and IS practitioners revolves around the process of generating knowledge – between relevance and rigour. IS researchers are more concerned with generating knowledge which can be generalised a-contextually and a-historically, while IS practitioners are interested in generating knowledge which can be used expeditiously within a specific context.

Ethnography has increasingly gained recognition and support in IS research and practice despite the tensions. Ethnography, in its ability to support the process of generating knowledge for both IS groups, provides a design that alleviates the tensions evidenced by the growing number of IS researchers and practitioners adopting ethnography (Denzin and Lincoln, 2005, p. 14-15, Myers, 1999).

2.2.4 Limitations of Ethnography and Thesis Proposed Solutions

Despite its growing popularity ethnography has been shown to be problematic in five ways; methodologically in ‘going native’, in the random data collection, the lack of an entry and exit strategy, the data analysis and write up, and on how to generalise the findings.

2.2.4.1 'Going Native'

'Going native' is when the researcher enters the field without pre-formatted guidelines (Atkinson *et al.*, 2001a). In such instances it is important to give attention to issues of bias and identify ways of ensuring the accuracy of data (Schensul *et al.*, 1999).

To overcome the limitation within the semiotic school, the researcher maintained a level of reflexivity throughout the PAJA Project (Atkinson *et al.*, 2001b, Rock, 2001, Hammersley and Atkinson, 1995) and made explicit his biases, rather than ignoring them (Hammersley and Atkinson, 1995). He made explicit the development-oriented agenda during sessions with the supervisors, at papers presented at international academic conferences (Twinomurinzi, 2007, Twinomurinzi *et al.*, 2009, Twinomurinzi and Phahlamohlaka, 2005, Twinomurinzi and Phahlamohlaka, 2009) emanating from the research as it progressed and in discussions with peers. The explicitness meant that bias was minimised and enabled him to continually examine his interpretations of the data.

2.2.4.2 Lengthy unfocused forays into the field

The 'nativity' mentioned above in turn usually results in lengthy unfocused forays into the field (Atkinson *et al.*, 2001a). The researcher therefore needs to make a choice between depth and breadth – the wider the area of study, the less the depth, and vice versa (Hammersley and Atkinson, 1995).

The researcher opted for depth for one main reason; as a non-South African who cannot speak any of the indigenous languages, the researcher realised it would be an uphill battle to establish new research sites. The researcher realised that it was better to put to great advantage the existing PAJA Project network. Besides, the PAJA Project was longitudinal and its research sites were going to be maintained for a long period of time – until 2011.

2.2.4.3 Superficial and Random Data Collection

There is often a risk that the researcher will collect useless data (Atkinson *et al.*, 2001a) since the ethnographic data that needs to be collected is not known before hand (Harvey and Myers, 2002, p. 179). It is important therefore to reflect on the significance of data as it is

collected, the data's implications for further data collection (Atkinson et al., 2001b, Rock, 2001, Hammersley and Atkinson, 1995) and then reformulate the research questions as the research advances. In so doing data collection and interpretation are treated as interlaced processes (Atkinson *et al.*, 2001b).

This problem was dealt with in two ways; through peer reviewed papers and through the use of Grounded Theory for analysis. As the research progressed, the peer reviews received from the supervisors and from academic peers in international conferences papers necessitated a critical reflection on the primary research question. Grounded Theory analysis requires an iterative approach to data collection and analysis. As new meanings are inferred from the data, the data to be collected is refined iteratively. As a result, useless data is ignored as the analytical process progresses for data which contributes to the research (Section 2.4).

2.2.4.4 The Moral Realities of Working in the Field

Gaining access to a field can be quite complicated since there is a need to become involved in peoples lives. Once the access is gained another problem emerges; how to disentangle from the relationships (Atkinson *et al.*, 2001a). Ending relationships made in the field is even more complex as the researcher can easily be considered a member of the family. It is important for ethnographic researchers to deliberate on how to gain access to the research setting using available networks and later how to quit honourably (Hammersley and Atkinson, 1995, p. 65).

The researcher gained access to the research settings using the existing social/research network of the PAJA Project. The researcher did not consider quitting the field as an option since the people the researcher interacted with became more than just research participants, but human beings with real needs.

2.2.4.5 Analysing Data from Ethnography

The analysis and the writing up of the text from ethnographic research is problematic, seeing that a rich set of data is collected (Rock, 2001, p. 37). Grounded Theory is identified as helpful to analyse the plethora of data collected in ethnography (Lofland and Lofland, 1984, Glaser and Strauss, 1999, Glaser, 1978). Grounded Theory helps to compare data with data

at the beginning of the research, not after all the data are in, and compare the same data with categories that emerge from the data. Further, it can be used to demonstrate the relationships that exist between the categories.

The researcher adopted Grounded Theory (Section 2.4) to make sense of the rich data collected. Through Grounded Theory, the researcher ensured a demonstration of the relationships between the categories that emerged from the data into a substantive theory.

2.2.4.6 Generalising from Ethnography

Some IS researchers have pointed to the problem of generalising from ethnography (Harvey and Myers, 2002, p. 179, Wes and Dave, 2004). However, it is possible to generalise from ethnography to theory in the same way that case studies are generalised to theory (Yin, 2003, Walsham, 1993, Hammersley and Atkinson, 1995).

By using the Grounded Theory requirement of comparing the substantive theory with existing formal theories (Chapter 7), the thesis increased the generalisable incisiveness of the research (Eisenhardt, 1989, Urquhart et al., 2009).

2.2.5 Defending the Means of Inquiry

In summary, ethnography offered the ideal research design for the thesis and adequately contributed answers to the five criteria presented in Section 2.1 (Denzin and Lincoln, 2005, p. 376) for selecting a research design:

What strategies of enquiry will be used? The research adopted Ethnography for conducting the research and Grounded Theory for evaluating the rich data collected.

How will the design connect to the paradigm or perspective being used? That is, how will empirical materials be informed by and interact with the paradigm in question? Through Ethnography, the research could gather a rich set of data, whereby the data could be analysed using Grounded Theory, resulting in a substantive theory which was contextually based. The substantive theory, emerging in Chapter 6, is informed by and within the qualitative paradigm of the research.

How will these materials allow the researcher to speak to the problems of praxis and change? Through ethnography, the researcher was in direct contact with the research phenomenon and had the ability to observe changes as they occurred.

Who or what will be studied? Chapter 3, 4 and 5 describe the research setting and the individuals, both government administrators and citizens, the cultural settings, the interpretations of the world and the changes that occurred over the three years as a result of interacting with the phenomena.

What methods of research tools for collecting and analysing empirical data will be utilised? Chapter 4 is dedicated to data collection. These methods included electronic and physical logs, observations, structured and unstructured interviews, questionnaires, meetings, video recordings, and research documents. Grounded Theory was adopted as the appropriate qualitative data analysis tool (Section 2.3).

2.3. Data Analysis

Qualitative analysis, particularly Grounded Theory, is increasingly gaining recognition in IS research as a preferred means to generate new insights and knowledge (Trauth and Jessup, 2000, Walsham and Sahay, 1999, Baskerville and Pries-Heje, 1999, Hughes and Jones, 2004, Urquhart, 2007). The human factor is, however, the greatest strength as well as the fundamental weakness of qualitative inquiry and analysis (Patton and Patton, 2001, p. 433). An important requirement in qualitative analysis is therefore to make the procedures as explicit as possible, and to “monitor and report (one’s) own analytical procedures and processes as fully and truthfully as possible” (Patton and Patton, 2001, p. 434, Strauss and Corbin, 1998, p. 266).

2.3.1 Grounded Theory

Grounded Theory (GT) techniques have been shown to be helpful when analysing massive amounts of data collected in ethnographic research (Charmaz and Mitchell, 2001, p. 161) design by:

Comparing data with data from the beginning of the research, not after all the data is in

Comparing the data with emerging categories, and

Demonstrating relations between concepts and categories (Lofland and Lofland, 1984, Glaser and Strauss, 1999, Glaser, 1978).

At the time of the establishment of Grounded Theory by Barney G. Glaser and Anselm L. Strauss (Glaser and Strauss, 1965), qualitative methods were considered inferior, contentious, and contrary to the existing contemporary positivist views about the relationship between data and theory (Kelle, 2005). Glaser & Strauss (1965) proposed Grounded Theory as a four step qualitative technique from which theory emerges from data, rather than data emerging from theory (Willis, 2007). Step one involves coding the data using unique identifiers (codes) which serve as reminders for key points of the data. In step two, the codes are brought together into categories based on similarity of the concepts which the codes possess with each others. Step three requires that relationships between the categories are inferred to create a substantive theory. In step four the substantive theory that has emerged from step three is employed to explain the phenomenon.

The Grounded Theory of 1965 was, however, not prescriptive on the methodology. In an attempt to remedy the non-prescriptive problem of the methodology of Grounded Theory, there arose sharp divisions between the two pioneering authors. The divisions resulted in two well defended yet divergent views on the methodology of grounded theory.

2.3.2 Methodologies of Grounded Theory – Emergence vs. Forcing

According to Strauss and Corbin (1990, Strauss, 1987a) the methodology of Grounded Theory begins with open coding followed by a coding paradigm to generate theory from data, guided by a theoretical perspective. However, Glaser (1992) considered it absurd and untrue to the fundamental spirit of Grounded Theory to begin with a theoretical perspective before conducting research. For Glaser (1992), a theoretical perspective results in the substantive theory being biased – a researcher should have no bias before entering into the field. Glaser's (1992) approach may require expertise in sociology. Kelle (2005, p. 1) refers to these divergent approaches as a conflict between whether categories emerge (Glaser, 1992) or are forced out from empirical data (Strauss, 1987a).

The researcher adopted Strauss and Corbin's (1990) methodology of Grounded Theory because the researcher started out with a theoretical perspective (the theoretical perspective that how ICT could lead to development) prior to entering into the research field.

2.3.3 Grounded Theory Methodology by Strauss and Corbin

Strauss and Corbin's (1998) methodology of Grounded Theory starts with open coding where concepts that fit the data are produced. It is followed by axial coding where the derived concepts are investigated for causal relationships (Borgatti, 2008, Kelle, 2005). The approach ends with selective coding where an assumed core category is selected and related to the other categories systematically into a substantive theory (Borgatti, 2008, Kelle, 2005). The quality of the substantive theory is dependent on the process through which the theory is formulated from the data (Borgatti, 2008). Hence, the next section illustrates the analytical processes of the coding paradigm so that the application of the coding are explicit in Chapter 3 (Research Setting), Chapter 4 (Data Collected), Chapter 5 (Literature Review) and Chapter 6 (The Substantive Theory).

2.3.3.1 Open coding

Open coding is the analytical process where concepts with their properties and dimensions are conceived from the data (Strauss and Corbin, 1998, p. 101). Concepts are an important part of qualitative analysis as they focus the attention of the researcher and provide a platform to discern relationships with other concepts. There are many finer steps in open coding (Figure 2.1) which can be summarised as two fundamental steps (Borgatti, 2008):

Conceptualising - The activity of conceptualising to discover concepts and their accompanying properties and dimensions. Conceptualising is more of an art of abstraction than it is a science. The data are broken down into discrete ideas, events, objects, and acts, and then given a name that represents them as a category.

Digging deeper behind words – Adjectives and adverbs that describe the concepts are identified. A microanalysis "line-by-line" reading is applied to each word, sentence and paragraph (Strauss and Corbin, 1998, p. 57, Coyne, 2009, p. 17).

2.3.3.2 Axial coding

Axial coding is the process of making statements about the relationship between concepts (phenomena), conditions and actions/interactions (Table 2.1). These relational statements are the sub-categories and are referred to as theoretical memos. This stage of Grounded Theory is termed ‘axial’ because coding occurs around the axis of the category, linking categories at the level of properties and dimensions (Strauss, 1987b). During axial coding, the data that were fractured during open coding are re-constructed. In this process, categories are related to the sub-categories using a combination of deductive and inductive thinking (Borgatti, 2008) following the causal relationships paradigm of structure and process (Strauss and Corbin, 1998). Chapter 6 presents Table 6.1 which summarises the theoretical memos made during the axial coding.

Table 2.1: The Causal Relationship Framework (Borgatti, 2008; Kelle, 2005:5)

Element	Description
Phenomenon	This is what in schema theory might be called the name of the schema or frame. It is the concept that holds the bits together. In Grounded Theory it is sometimes the outcome of interest, or it can be the subject.
Causal conditions	These are the events or variables that lead to the occurrence or development of the phenomenon. It is a set of causes and their properties.
Context	Hard to distinguish from the causal conditions. It is the specific locations (values) of background variables. A set of conditions influencing the action/strategy. Researchers often make a quaint distinction between active variables (causes) and background variables (context). It has more to do with what the researcher finds interesting (causes) and less interesting (context) than with distinctions out in nature.
Intervening conditions	Similar to context. If one likes, one can identify context with <i>moderating</i> variables and intervening conditions with <i>mediating</i> variables. But it is not clear that Grounded Theorists cleanly distinguish between these two.
Action strategies	The purposeful, goal-oriented activities that agents perform in response to the phenomenon and intervening conditions.
Consequences	These are the consequences of the action strategies, intended and unintended. Note that Grounded Theorists don't show much interest in the consequences of the phenomenon itself.

The memos created from axial coding were rigorously developed as the data were collected and formed the basis of the substantive theory derived in Chapter 6. The memos are the researcher’s record of analysis and perceptions for further data collection.

Stages in the analysis process

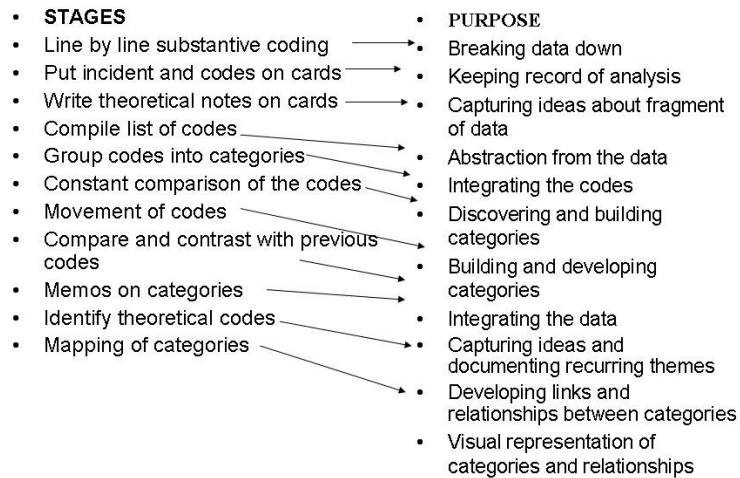


Figure 2.2: Stages in the Analysis Process (Coyne, 2009:17)

The process of open and axial coding is performed in Chapters 3-5.

2.3.3.3 Selective Coding

Selective coding is the systematic process of integrating, refining and relating the sub-categories around core categories, resulting in the substantive theory (Figure 2.2).

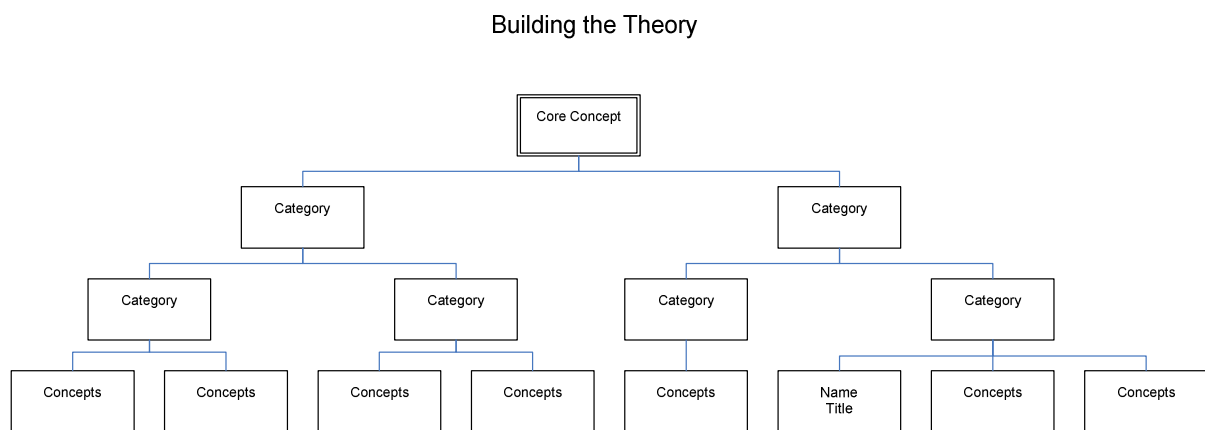


Figure 2.3: Building the Theory (Coyne, 2009:18)

The Strauss and Corbin (1990, Strauss, 1987a) approach adopted in the research advocates for the use of an existing formal theory to serve as a theoretical lens in selecting the core concepts. For example, Orlikowski (1993) drew from structuration theory while Adam and Urquhart (2009) drew from social capital theories. The capabilities approach to development emerged as the ideal formal theory to inform the core categories in this thesis (Chapter 5).

Chapter 4 on the data collected and Chapter 5 on the literature review are infused with Grounded Theory's comparison and coding paradigm while making as explicit as possible the analytical processes and the relations that emerged between concepts and categories. Chapter 6 presents the culmination of the analysis by presenting the substantive theory on how ICT can facilitate policy implementation in a development context. The obligation of Grounded Theory to engage the substantive theory that finally emerges with pre-existing theory (Strauss, 1987a) is done in Chapter 7.

2.4. Summary of Research Design

In summary, ethnography provided an appropriate means of inquiry by immersion into a research setting through which the researcher was able to explore how e-government could lead to human development and later to refine the grand research question to focus on how ICT could facilitate policy implementation in a development context.

Grounded Theory offered the ideal analytical approach to make sense of the rich ethnographic data and to derive a theory that could explain what the researcher came across in the field. Chapter 3 turns to the research setting in which the researcher was ethnographically immersed.

Chapter 3. Research Setting

3.1. Introduction

Chapter 1 and 2 importantly brought to bear the initial grand purpose of the thesis in understanding how e-government can lead to human development, the means of inquiry being ethnography and analysis using Grounded Theory. It was illustrated at a very high level how that initial purpose evolved to focus on how ICT can facilitate policy implementation in a development context as a result of the ethnographic immersion in the research setting. This chapter delineates the research setting.

Chapter 3 is structured as follows: Section 3.1 briefly presents the wider socio-economic, political and historical context of the research setting before expounding on the particular research setting, Section 3.2. The iterative process of analysis is presented as part of each sub-section.

3.2. South Africa

3.2.1 Socio-economic Context of South Africa

South Africa is located at the southern coast of Africa (Figure 2.1) and has one of the highest rates of income inequality in the world (Table 2.1). The UNDP indicators of development are in sharp contrast to the more familiar development indicators of the World Bank based on the Gross National Income (GNI) per capita. The World Bank considers South Africa as an upper-middle income economy with a GNI per capita of US \$5,390.00 (World Bank, 2008).



Figure 3.1 Map of South Africa (Republic of South Africa, 1999)

Table 3.1 South Africa Socio-Economic Indicators

Measure	Estimate	Year / Source
Population	49.32 million people	(Statistics South Africa, 2009)
Administrative provinces	9: Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, North-West and Western Cape.	(Republic of South Africa, 2009)
Poverty	43.2% of population live below poverty line of R3,000 or US \$425 per capita per annum	(The Presidency, 2007)
Unemployment	23.6% of the population	(Statistics South Africa, 2009)
Life expectancy	50.0 years (48.4% males and 51.6% females)	United Nations (UNDP, 2007b)
Adult literary rate	74.2% men and 72.1% women	United Nations (UNDP, 2007b)
Combined primary, secondary & tertiary gross enrolment ratio	76.6%	United Nations (UNDP, 2007b)
Developing country rank - Poverty	53rd among 102	United Nations (UNDP, 2007b)

South Africa has the second highest economic and social disparities in the world (CIA, 2009) with a semblance of two economies; a highly developed economy where middle and high income individuals live in environments with excellent infrastructure, and a highly undeveloped economy where 43.2% live under the poverty line in despicable conditions (Statistics South Africa, 2009). These disparities are manifestations of the important history that shapes South Africa, as discussed next.

3.2.2 A Brief Historical Context of South Africa

The earliest modern inhabitants of the present day Republic of South Africa are historically said to be the San people, whose descendants still live in the more remote parts of the Kalahari. The San believed that all people were equal and could use the land as a free resource. The migrant Bantu and Khoi Khoi populations, however, believed in land ownership. The indigenous tribes of South Africa are predominantly a result of these three populations or the proceeding intermarriages. The system of governance at the time was through chiefs assisted by an assembly of elders (Were, 1974, Ross, 1999).

The first non-African settlers to South Africa arrived from Holland in 1652 with slaves from Java, Madagascar and West Africa to set up a calling station (Were, 1974, p. 20). Over time the slaves intermingled with the European settlers resulting in a mixed race community of the Cape presently referred to as the Coloureds.

The Dutch settlers relegated menial tasks to the Coloured and the ‘indigenous’ populations. By the end of the 17th century the Dutch attitude began to evolve into a policy of racial distinction and racial superiority (Were, 1974, p. 23). The racial distinctions were exacerbated towards the end of the 18th century with the British occupation of the Cape resulting in two dominant European groups; the English speaking whites who owned most of the commerce, and the Dutch speaking farmers called Boers.

Tensions between the European groups became evident with the abolition of slave trade in 1833, a move which was detested by the Boers. The Boers eventually decided to venture inland for new areas in what is regarded as the Great Trek. The Boers established various Boer republics as they settled. The other reason given for the Great Trek, apart from a desired independence from the British, was the preservation of what the Boers regarded as “‘the chosen race’, God’s own people” (Were, 1974, p. 52). The Boer trekkers believed that God had particularly given to them the non-whites, the ‘indigenous’ Africans and Coloured populations, as their eternal slaves. This latter Boer ideology had a deteriorating effect on the relations between whites and Africans.

The discovery of gold and diamonds near Kimberley and in the Witwatersrand area increased the influx of different European groups with their slave labour into the Boer republics. During the influx there was an intermingling of races which was still not approved of by the Boers. The disapprovals were followed by a period of wars between 1880 and 1902 called the Anglo-Boer wars which culminated in a superficial peace treaty. The Boers, however, remained bitter about three things; losing out on the mineral wealth, the efforts by the British to force English upon them, and the British attempt to create federated states of Africans. The continuing tensions between the British and the Boers left the Coloured and Africans marginalised. The Union of South Africa was soon formed in 1909 whereby provisions were made for home-rule by the Boers (now called Afrikaners) and the remainder as British protectorates with Africans.

With the exception of the vestiges of slave labour in Boer areas, it was only when the Native Land Act of 1913 was promulgated that there emerged a legal precedent of institutionalised segregation. The Native Land Act of 1913 severely restricted land ownership by Africans. The Act was later followed by another racially discriminatory policy, the Native Urban Areas Act of 1923, which required black African men to carry passes when in cities or in white areas. These two acts marked the beginning of institutionalised segregation in South Africa.

Apartheid formally began as official policy in 1948 after the National Party (NP) dominated by Afrikaners was elected into office using the slogan 'apartheid'. Though it was in the minority, the NP managed to swing support from the Boer farmers and business owners by assuring them of a disciplined and cheap labour force through this process of apartheid (Ross, 1999). Apartheid, initially disguised as an emphasis on the preservation and appreciation of the racial diversity in South Africa, entailed the recognition and separation of race groups. However, the notion of racial preservation in apartheid was soon enforced with a series of laws that ensured white supremacy and control. For the next 46 years after 1948, apartheid was the official system of governance in South Africa.

In apartheid the government consciously enacted and actively implemented repressive and discriminatory policies of legalised and forced segregation between races. Segregation spanned all levels of society and governance; from where a person was allowed to walk to the type of education he received. Segregation meant that areas which were meant for whites

only were developed significantly while those meant for Africans, called Bantustans, received very little attention. Apartheid also forcibly resettled many Africans from their ancestral homes to Bantustans. It is estimated that 3.5 million people were resettled between the 1960s through the 1980s. In terms of education, apartheid mandated that the African majority were not allowed to choose subjects such as mathematics, chemistry or physics but rather attempted to force Africans to learn Afrikaans in order for them to become better employees.

Apartheid was resisted internally and internationally through armed struggles and international sanctions. Apartheid eventually collapsed after concerted negotiations that resulted in the 1994 democratic elections. It was in 1994 that for the first time Africans gained control of legislative and political power. A new Constitution was adopted in 1996 as the supreme law whereby the governance was transformed from a highly centralised system to a significantly decentralised system with three tiers of government: national, provincial and local.

3.2.3 Analytic Memo: History of South Africa

The new constitution recognises traditional leadership and gives it an important developmental role to play in collaboration with local government. Traditional leaders are today responsible for the preservation and promotion of the culture, language and religion of their communities within the provisions of the Constitution (Republic of South Africa, 2008b). The Ubuntu notion appeared to be held in high regard in all indigenous South African cultures.

The researcher therefore desired to understand the role of tradition as a set of customs, beliefs and practices, and the influence that that tradition has on South Africans. The researcher chose to interview six of the research participants by asking the following questions which are derived from Whitacre's (1982) literature on tradition and customs:

- “How does information pass around in general, i.e. how do people get to know about what is happening?”

- How do people within the community come together to discuss matters affecting the community?
- How often do people within the community come together to discuss matters affecting the communities?
- Where do people come together to discuss matters affecting the communities?
- What is the perception of people about the above community meetings?
- How are beliefs handed down amongst the tribes living in this community?
- How do people regard the beliefs and customs? Please give an example to illustrate your answer.
- Please describe the structure of the traditional leadership here.
- Do people have respect for the above traditional leadership?"

A Grounded Theory analysis of the answers to the questions gave a bird's eye view of the role of tradition in South Africa. The sub-sections below are the analytic memos of the concepts that emerged.

3.2.3.1 Analytic Memo: The Role of Tradition in South Africa

Tradition plays a very important role in all South African cultures. The majority of the people the researcher interacted with during the research, i.e. the research participants, research colleagues in the PAJA Project and peers, expressed great respect and reverence for their traditions and cultures. The comments below typify the sentiment:

"They highly respect their traditional leaders as they remind and help them to practice and respect their tradition."

“They highly honour their culture, for example boys and girls still go to initiation school where they are taught about their culture in both communities (Sotho & Ndebele).”

Children grow up hearing about their traditional cultures and beliefs and how they are played out in daily life. An upbringing in cultural values applies both to the people who live in the urban areas and those who live in rural areas. For example, attendance at initiation schools, though optional, is considered of such great importance that if a person, male or female, has not gone to initiation school, the person will be despised within the community and be seen as a social misfit.

“We grow up seeing these beliefs done and talked about that when we grow up we make it a point that we do the same that was done and then pass them on to other people. Initiation school for example is a strong belief in the Siyabuswa community that when a person has not gone to the school he/she would be discriminated on until he/she goes to the school.”

At initiation school, the youth are ushered into their traditional customs and are taught some of the ‘secret’ things of their culture. Initiation school creates a very strong rite of passage into adulthood. Many youths choose to attend illegal initiation schools where a number lose their lives because of the harsh conditions such as spending days in cold weather or using infected knives for circumcision. The loss of life does not seem to deter them from the illegal initiation schools. It is important to note that although many of the older traditions have been modernised, such as circumcision now more and more carried out medically in the hospital, the importance of such a rite of passage and the ceremonies around it will still be observed at the initiation schools. During the initiation school’s rite of passage one of the most important cultures that is handed down is the spirit of oneness among people in what has been noted as Ubuntu.

Though in the minority, there exists the same tension between traditions handed down over many generations and new modernised culture driven by ICT or different forms of authority as described in the popular African literature *Things Fall Apart* (Achebe, 1962) and *Heart of Redness* (Mda, 2000). For example, some of the research participants noted that they hold dear their allegiance to the traditional leaders and their authority but are more cognisant of the greater government authority.

“...there are also those who do not have respect.”

“They have a little respect to traditional leadership as most of them respect modern or local council.”

3.2.3.2 Analytic Memo: Community Assemblies & the Role of Women

There are many reasons why people choose to come together within communities; ranging from social reasons such as funerals and marriages, traditional reasons such as imbizos, religious reasons, mainly church; community meetings, e.g. concerning rising cases of thefts, unemployment; and political reasons - the African National Congress (ANC) as the biggest party in South Africa holds more regular meetings and draws big crowds. The choice to attend meetings is usually optional or may be on invitation only, such as political or traditional meetings.

Regardless of the nature of meeting, the means of communicating at such an assembly is through loud speakers booming from a car driving through the streets of the community, word of mouth, the use of flyers and posters in streets, community radio stations, phones and through school outlets. More recently the cellphone is increasingly becoming a preferred method of communication.

Community meetings are usually dominated by a few people, such as the elders or leaders, at times leaving the ordinary people feeling that the decisions that are adopted do not reflect their individual and collective preferences. At other times, the ordinary people feel that their leaders to whom they have given the responsibility for carrying out the groups decisions either distort them or are corrupted along the way. Minority groups such as women and youths very rarely have a direct voice in these meetings and if they desire to express themselves usually must resort to using the medium of men they know. In the traditional meetings, women generally only play an advisory role.

“They feel that information is being distorted from them and the service is not delivered.”

“We the sisters will always play an advisory role at the back.”

It is against these important historical and traditional contexts that the next section describes the research settings in which the researcher was immersed.

3.3. Research Setting

Three field locations were co-opted as research sites for the PAJA Project in 2005, and over the three years managed to retain the same research participants (Table 2.2). Lebotloane is in the North West Province and the research was hosted by the Lerethlabetse Multi Purpose Community Centre (now called the Lerethlabetse Thusong Service Centre); Siyabuswa is in the Mpumalanga Province and the research was hosted by the Siyabuswa Education Improvement and Development Trust (SEIDET). The University of Pretoria is in the Gauteng Province and the research was hosted by the Department of Informatics.

Table 3.1: Research Participants at the Research Sites

	Lebotloane	Siyabuswa	University of Pretoria
Province where Research Participants came from	North West	Mpumalanga Limpopo	Gauteng
Number of Research Participants (2005)	29	22	8
Number of Research Participants (2006)	24 (1 new)	12	8 (1 new)
Number of Research Participants (2007/8)	16	18	4

The common denominator in selecting the research sites was a solid institutional base and the availability of computers. Since the PAJA Project was a longitudinal research project, cross-institutional linkages could provide better grounds for long term sustainability and such institutions are usually already established within their communities. Since the limited research funding did not include the provision of computers it meant that the host institutions needed to have an existing computer infrastructure.

3.3.1 Lebotloane

3.3.1.1 Demographic Overview

Lebotloane is a rural town, 120 km (approximately two hours by road), from the University of Pretoria. Lebotloane falls under the Moretele Local Municipality which falls under the Bojanala Platinum District Municipality of the North West Province. The North West Province was previously under the Bophuthatswana Bantustan (literally meaning *for the Tswana people*) during the apartheid era.

The Moretele Local Municipality is sparsely populated and as at 2001 had a population of 181,033 (Statistics South Africa, 2001). The people of Lebotloane are still predominantly Batswana although there is a proliferation of many other linguistic groups often attributed to the forced relocation during apartheid. In the apartheid era, the previous major form of income for adult males was working in the nearby platinum mines. However, since the mine closed in the late 1990s it is not uncommon to see many young, able bodied men and women walking the streets idly during the day. For the few people who do not migrate to the bustling commercial urban cities such as Pretoria or Johannesburg, the main form of income is the R200 (US \$28) per month child support grant (for women who have children under the age of 14 and are not able to support them) and the old age pension (which supports entire households spanning up to the great grandchildren).

There are very few shops in Lebotloane and they provide only basic commodities such as tomatoes, sugar, salt and soap. The closest shopping centre is Hammanskraal which is an hour away by taxi at a cost of R40 (US \$6) and finding transport money is problematic. If one needs more specialised services not found in Hammanskraal, they have to go to Pretoria at a return cost of at least R180 (US \$25).

3.3.1.2 The Lerethlabetse Thusong Service Centre - The Research Site

The research site in Lebotloane is a Government ICT powered Thusong Service Centre (*previously known as a Multi-Purpose Community Centre*). Thusong Service Centres are community service centres designed to provide integrated services and information from the government to local communities. Each TSC has standard government representation for

basic services such as social grants, health, education, passports and identity documents. Any further government representation at a TSC is based on the needs of the local community. The government envisages having at least one TSC in each of its 283 municipalities before the end of 2014 (Republic of South Africa, 2007c).

The Lerethlabetse TSC is busy on two days in the week; Tuesdays and Thursdays. People come from nearby communities to apply for basic government services. Very few of these use the ICT facilities because they do not know how to use them or do not have the money to pay for using them; R6 per hour (just under US \$1). In total, there may be four people at the maximum who will use the ICT centre in a week. The income from the ICT centre is supposed to supplement the people who manage it. The people use the ICT centre for the purpose of typing out their CVs and sending e-mail. The computers are often plagued with viruses and malware rendering many of them unusable. The people who use these services are often in the age group 20 to 30.

3.3.1.3 Establishing the TSC as a Research Site

The PAJA Project did not have any links with Lebotloane prior to 2004. Through leads from the researcher's supervisor, Dr. Jackie Phahlamohlaka, the researcher established contact with Lebotloane through the government body responsible for the Multipurpose Community Centres, the Government Chief of Information Services (GCIS).

The supervisor and the researcher made their first visit to the leader of the Lebotloane TSC at which Dr. Jackie Phahlamohlaka adopted a more social approach at the meeting. For the first hour they discussed issues related to family, traditions, the economy and everything else but research. The last hour was when they discussed the PAJA Project and its research aims.

Initially, with his corporate background, the researcher wondered why this first meeting took a social approach since they had been given legitimate authority by government to conduct the research at this site. On analysis, the traditional intelligence of Dr. Jackie Phahlamohlaka turned out to be a critical factor in being accepted on a long term basis at the Lerethlabetse TSC. Traditionally, people are inclined to listen to leaders within the community and as such it is more important to be introduced by a leader than introducing oneself. When a leader introduces a person, the person is easier received as a friend of the community or else the

person will meet with stiff resistance. The social approach of the meeting was important for them to gain the trust of the TSC leader who would then open doors within the Lebotloane community.

3.3.1.4 The Process of Selecting Research Participants

Having discussed the PAJA Project and its research aims, Dr. Jackie Phahlamohlaka gave the TSC leader guidelines regarding 20 people required to participate in the PAJA Project research. The guidelines for the research participants included people from the local community who were students, government employees, the aged (pensioners), and those who would be willing to participate. There was traditional wisdom in letting the TSC leader choose the 20 participants; this would get buy in from the TSC since they would have been involved, and besides, none of the researchers knew the Lebotloane area. It would have been an uphill task to select the 20 people. This invariably meant that they were forced to trust the selection of the research participants. The invitations to the research participants were drafted and sent out, countersigned by the TSC leader and Dr. Jackie Phahlamohlaka. The importance of countersigning assisted in being identified with the TSC leader, and as such, a friend of the community.

3.3.1.5 Participation of Research Participants

In July 2005 at the first PAJA Project research visit, the researchers had more than the expected 20 research participants – 29 research participants (excluding the PAJA Project students and researchers). The reason given by the TSC leader for the extra people was that it would have been inappropriate to invite some people and then not invite the others. Additionally, some of the invited participants had also taken the liberty to invite their friends. In 2006, from the original 29 there were 24 people and one new research participant. In 2008, the invitations specifically requested the same research participants for the purpose of research design, validation and continuity. The researchers had 16 of the original 24 research participants from 2006.



Figure 3.2 Research participants (Twinomurinzi and Phahlamohlaka, 2006)

3.3.2 Siyabuswa

3.3.2.1 Demographic and Tradition Overview

Siyabuswa is also a rural town, 123 km (about two hours by road) from the University of Pretoria. Siyabuswa falls under the Dr. J.S. Moroka Local Municipality, which in turn falls under the Nkangala District Municipality of Mpumalanga Province.

The Dr. J.S Moroka Local Municipality is also sparsely populated with 243,313 people in 2001 (Statistics South Africa, 2001). Siyabuswa was the capital of the former KwaNdebele Bantustan during the apartheid area and as the name suggests was designated for the Ndebele people. As with many other Bantustans, there is more than one local tribe here because of the forced relocations during apartheid. Two are the Pedi and the Sotho tribes. During apartheid, the main form of income was working on the farms of white owners. In more recent times however, there is a high level of unemployment in Siyabuswa and similar to Lebotloane, it is not uncommon to find many young able bodied men and women idly walking in the streets during the day. Siyabuswa, although being a rural town, has a few more commercial facilities which offer the basic commodities. The next commercial centre is KwaMhlanga which offers most of the services that might be needed in Siyabuswa.

Dr. Jackie Phahlamohlaka is of the Phaahla Royal Family clan of the Pedi tribe; and as a traditional leader, and further as a community leader, he commands a lot of respect in Siyabuswa.

3.3.2.2 Siyabuswa Education Improvement & Development Trust – The Research Site

The research site chosen is a community education centre located in Siyabuswa, the Siyabuswa Education Improvement and Development Trust (SEIDET). SEIDET was established in 1992 with the aim of improving and filling a science skills gap in the local community in the subjects of mathematics and science (Phahlamohlaka, 2008). The special interest in these subjects is because these critical sciences were denied to indigenous Africans during the apartheid era. Since then SEIDET has established a name for itself as a community driven project with a clearly established structure in which the King of the Ndebele tribe has a seat and presence. Students who have passed through this facility have gone on to become important members of the community and in South Africa. Many of the founder members of SEIDET are still active participants in its progress.

3.3.2.3 Establishing SEIDET as a Research Site

Dr. Jackie Phahlamohlaka comes from Siyabuswa and is regarded with a lot of respect within his home community as well as belonging to the Phaahla Royal Family in his tribe (the Pedi). He was instrumental in the starting up of SEIDET and through him, SEIDET has been the centre of a number of research projects by international and local researchers (Phahlamohlaka, 2008). Therefore, establishing SEIDET as a research site was actually not complicated since SEIDET has a history of being involved in research which has benefited the community greatly. One thing the researcher noted with the SEIDET community is that they were all progressive individuals. On his first visit to the site, many of the research participants owned cars, but by the time we left, parking was a problem. The ownership of a car is an indicator of economic progress.

3.3.2.4 The Process of Selecting Research Participants

Dr. Jackie Phahlamohlaka had meetings with the SEIDET Chairman concerning the PAJA Project research. Similar to Lebotloane, Dr. Jackie Phahlamohlaka gave the SEIDET Chairman the same guidelines to select 20 research participants and the invitations that were similarly sent out were countersigned by the Chairman and Dr. Jackie Phahlamohlaka.

3.3.2.5 Participation of Research Participants

In July 2005, at the first PAJA Project research visit, there were 22 in total (excluding the PAJA Project members and researchers). In 2006, there was a drop in the research participants to 12. The reason given by the Chairman was that there had been an impromptu visit by a leading politician to the community where many community members had opted to attend. In 2008, the invitations specifically requested the same research participants for the purpose of research design and validation and continuity. In 2008, there were 18 of the original 22 research participants from 2005.



Figure 3.3 Research participants (Twinomurinzi and Phahlamohlaka, 2006)

3.3.3 University of Pretoria

3.3.3.1 Demographic Overview

The University of Pretoria (UP) is one of the oldest educational institutions of higher learning in South Africa; established in 1908. UP falls under the Pretoria Metropolitan within the Gauteng Province. Though Gauteng (which literally means *the Place of Gold* in SeSotho) is the smallest province in South Africa (1.4% of the land area), it has the highest population of 10,531,300 (21.4% of South African population) according to the recent 2009 community survey estimates (Statistics South Africa, 2009) especially because of the three Metropolitans within it and its extensive economic activity. Gauteng is the economic hub of South Africa and experiences a massive influx of people from all corners of South Africa looking for better opportunities. Gauteng is highly urbanised and has the same infrastructure as would be found in any other megapolis.

During apartheid, what is now Gauteng was part of the Transvaal Province and was called Pretoria-Witwatersrand-Vereeniging (PWV). The Transvaal was a Boer Republic at the time with its capital as Pretoria. The discovery of minerals, particularly of gold in the Witwatersrand and diamonds in Kimberley, was key to making PWV the economic power house that it is today. Being highly urbanised, life in Gauteng can only be described as similar to that in any other megapolis, highly individualised and with people looking out for themselves.

3.3.3.2 The Group Support Systems Lab - the Research Site

The particular research site was at a then newly established (2004) Group Support Systems (GSS) and Human Computing Interface (HCI) computer research laboratory in the Department of Informatics, University of Pretoria. The GSS research lab is designed to facilitate research into group work and human computing interfaces. The University of Pretoria is one of the top five leading universities in South Africa with an international reputation. The PAJA Project was partially funded by the University of Pretoria as part of the agreement with the National Research Foundation (NRF).



Figure 3.1 The Researchers at the University of Pretoria (Twinomurinzi and Phahlamohlaka, 2006)

3.3.3.3 Establishing the Research Site

Dr. Jackie Phahlamohlaka was also instrumental in the establishment of the research lab through his PhD work on group decision support. It was on this account that the research lab was unlimitedly available to the PAJA Project. In 2005, the researcher was a student at the University while Dr. Jackie Phahlamohlaka was a lecturer. In 2006, the researcher became a lecturer at the University and Dr. Jackie Phahlamohlaka moved to another research

institution, the Council for Scientific and Industrial Research (CSIR). After the researcher became a lecturer, the researcher was given responsibility for the GSS research lab.

3.3.3.4 The Process of Selecting Research Participants

With the enactment of the PAJA in 2003, the government delivered formal training on the PAJA and its requirements to a number of NGOs throughout the country. Dr. Jackie Phahlamohlaka had a list of the people in the NGOs who had been trained on the PAJA and from this list Dr. Jackie Phahlamohlaka and the researcher selected all those people from the Gauteng province as it was easier for them to participate in the research at the University of Pretoria. Along with another student researcher, they contacted each of the potential research participants, circa 40 people, via telephone and/or email. Those who accepted were emailed/faxed an invitation letter signed by Dr. Jackie Phahlamohlaka only.

3.3.3.5 Participation of Research Participants

In 2005, of the 16 people who verbally agreed to participate, only eight showed up. The ones who did not attend did not proffer apologies nor did let us know why they could not come. In 2006, we called all the people we had invited in 2005 again, yet we got only seven of the previous eight people with most of them coming from one social development institution, Peace and Justice. There was only one new person. In 2008, only four of the original eight research participants from 2005 came through. For all these invitations, only Dr. Jackie Phahlamohlaka signed. One thing stood out amongst these urban participants, they were sceptical from the beginning of ICT playing any role in policy implementation, preferring to argue that what was needed was not more computers but actual means for development.

3.3.4 Analytic Memo: Comparing the Research Sites

There are two distinctly different types of environments in the research sites that stood out; highly urbanised (Gauteng) and rural (Siyabuswa and Lebotloane). The sub-sections below are the theoretical memos of the concepts that further emerged from comparing the research sites.

3.3.4.1 Analytic Memo: Perceptions of ICT – Scepticism and Enthusiasm

The means of communication in the urban areas is mainly through ICT, whereas in rural areas it is almost always through other means. The implications for the PAJA Project were two fold: the invitations to participate in research for people in urban areas were through ICT methods such as telephone, fax and email, while in the rural areas the invitations were by hand through the leaders at the research sites. In the urban areas the researcher had to find a list of potential participants who might find the research interesting, while in the rural areas this was left to the leaders at the research sites. Attendance in the rural areas was much higher and consistent, while that in the urban area was, to put it mildly, discouraging.

The people in the rural areas who did not even know how to use ICT were more willing and enthusiastic to experiment with it as a new means to facilitate interaction with government.

“It makes life easier for our communities, ... and this freedom at last.”

Those from the urban areas who had experience with ICT were sceptical about the usefulness of ICT in emancipating people when they joined the research and were still sceptical when they finished the research.

“It is not realistic enough as opposed to what is really happening out there.”

“It made things look too easy.”

The enthusiasm of the people in the rural areas may be attributable to the novelty of something they hear of but rarely experienced. The researcher found it surprising to find scepticism from the urban people whom the researcher had imagined would appreciate the power of ICT.

3.3.4.2 Analytic Memo: Ubuntu at Work

The notion of Ubuntu is familiar across the rural and urban areas and we drew on the Ubuntu paradigm of togetherness while discussing the need to form partnerships, particularly with the leaders in the rural areas. In the spirit of Ubuntu it is more important to first make an attempt at having a cordial person-to-person relationship as the foundation on which formal

relationships may be built. For example, the PAJA Project leader spent more time discussing non-research issues with the leaders. The Ubuntu approach to establish and create linkages in the rural areas is synonymous with the referent power base (charisma) as it is known in organisational behaviour.

The invitations that went out to the research participants made visual use of the well recognised brand names, such as the University of Pretoria, and other South African institutions supporting our research objectives. For example, the German Development Cooperation (GTZ), the Justice College of South Africa, the Master of the High Court from the North West Province, and the Siyabuswa Educational and Development Trust (SEIDET). The display of the titles such as ‘Dr’, ‘Prof’ and ‘Master’ and the branded names was, in retrospect, drawing on the expert power base to influence the decision of the potential participants to attend the research workshops.

The PAJA Project drew on two power bases to influence people to participate in the research; the referent power base and the expert power base. The use of the reward power base was limited and was only used in verbal discourse with the community leaders. The referent and expert power base are personal types of power bases, while the reward power base is a positional type of power base. Organisational scientists contend that the general response to a personal power base is commitment, while the general response to a positional type of power base is either compliance or resistance.

Government draws on their legitimacy, reward and coercive power base to get their staff to comply and implement government policies. The use of the positional power bases produces more resistance and compliance than it does commitment.

3.3.4.3 Analytic Memo: Infrastructural Challenges

There was initially the fear in the rural areas that the existing, but already fragile, ICT infrastructure might be disrupted by the research. The researcher find that the computers were always not fully functional, not because of hardware failures but because of viruses and/or malware. The calibre of the computers in Lebotloane was very high – top of the range computers using wireless networking technology. In Siyabuswa the computers were old.

ICT support was not only limited in the rural communities, but those people who managed the infrastructure onsite were not well trained. In Lebotloane, the technological support existed but could take up to three months before it arrived. Even then, the support would be gone the same day it arrived. The researcher committed himself to making two technical visits to the intended research sites to ensure the existing ICT infrastructure was functioning well side by side with the installed PAJA Project software, GroupSystems. Despite installing GroupSystems, on the day of the workshops, the computers were mostly not functional. After the first workshops, the researcher was asked if he could offer ongoing technical support whenever possible.

3.3.4.4 Analytic Memo: Challenges in Accessing ICT

In rural areas, there are government facilities such as multipurpose community centres which allow public access to ICT facilities for a fee – but the fee limits access due to the high cost. Therefore access to ICT is a challenge for financial reasons.

“As Inter Cafes charges hourly fee one has to work quickly and some of us are slow.”

The location of the public ICT facilities in both rural and urban areas is at times not good, being far from most of the people.

“I have a problem because with the four million population of Soweto there are three centres that are situated next to each other. This does not make sense and is not realistic.”

“There are some internet café in neighbouring townships where I have to board a taxi and still pay for services.”

“There are no IT centres in my community – only advice offices. And we use correspondence by letter or telephonically escort people most of the time.”

3.4. Summary and Implications for the Thesis

Chapter 3 illustrated that despite the freedoms which have been brought about by democracy and the new human rights-oriented Constitution, the disparities in living conditions and

infrastructure still stand out significantly in South Africa with semblances of the old apartheid system of separate development. As a result, most people in South Africa, both in government and amongst the citizens, continue in ignorance about their new freedoms and distrust of government and its initiatives.

There remains a strong attachment amongst South Africans to traditional norms and values. It is therefore not surprising that forming partnerships in the spirit of Ubuntu comes more naturally than through the legitimate authority. On the other hand, traditional norms are selective on the participation of women.

There are challenges in the ICT infrastructure in terms of the skills to support the fragile ICT infrastructure, the money to pay for usage, or the distance to the nearest ICT centre. The usefulness, sustainability and relevance of introducing a specialised type of ICT in such developmental environments on a long term basis is questionable. Despite the challenges, there is a higher perceived role for ICT towards human development in rural areas than in urban areas. Although the need in rural areas is for essential things such as jobs, hospitals and basic living conditions, the enthusiasm for ICT is high.

In the next chapter, the data collected are analysed.

Chapter 4. Data

4.1. Introduction

Chapters 1-3 described the thesis motivations, the research design, and the research setting in which the research was carried out, illustrating the undeveloped and highly developed contexts which still exist in South Africa. The thesis emanated out of the researcher's ethnographic immersion in the PAJA Project (Section 1.3.1) whose title '*Enabling access to human rights through thought processes and web-based Group Support Systems (GSS) tools*' expressed the fundamental emancipatory nature of development (Chapter 5). Part of the reflection on the data collected was previously noted in Twinomurinzi and Phahlamohlaka (2006) and thus the presentation of the data is similar to that paper.

Chapter 4 is structured as follows: Section 4.2 presents the PAJA Project background and how the thesis development aims fitted within the aims of the PAJA Project. Section 4.3 describes the approach that the PAJA Project adopted – thinkLet. Section 4.4 describes workings of the PAJA Project and the accompanying data formally collected. Section 4.5 presents the outcomes of the PAJA Project to date and the bearings on the thesis. Section 4.6 brings together the chapter in a summary and connects it with the literature review, Chapter 5.

4.2. Background of the PAJA Project

The PAJA Project is underpinned by Dr. Jackie Phahlamohlaka's doctoral study entitled '*An analysis of group decision justification and its implications for GSS use and design ideals*' (Phahlamohlaka, 2003). The completion of his PhD coincided with the bringing into effect of Section 33 of the South African Constitution which required the government to pass a law setting out the details of the rights of everyone in South Africa to just administrative action. The law was passed as the Promotion of Administrative Justice Act 3 of 2000 (PAJA). The PAJA applies to all organs of state in South Africa.

The steps prescribed by the PAJA were intriguing and attractive to research from a decision theoretic and Information Systems point of view. There were striking similarities between

what Phahlamohlaka (2003) called ‘prerequisites of decision justification’ and the steps prescribed by the PAJA process. Figure 4.1 provides a high level illustration that served as the theoretical basis for the PAJA Project. It was the framework procedures, their close relationship to the logics of decision justification, and how their implementation could best be supported through the use of ICT that were identified as areas of further research.

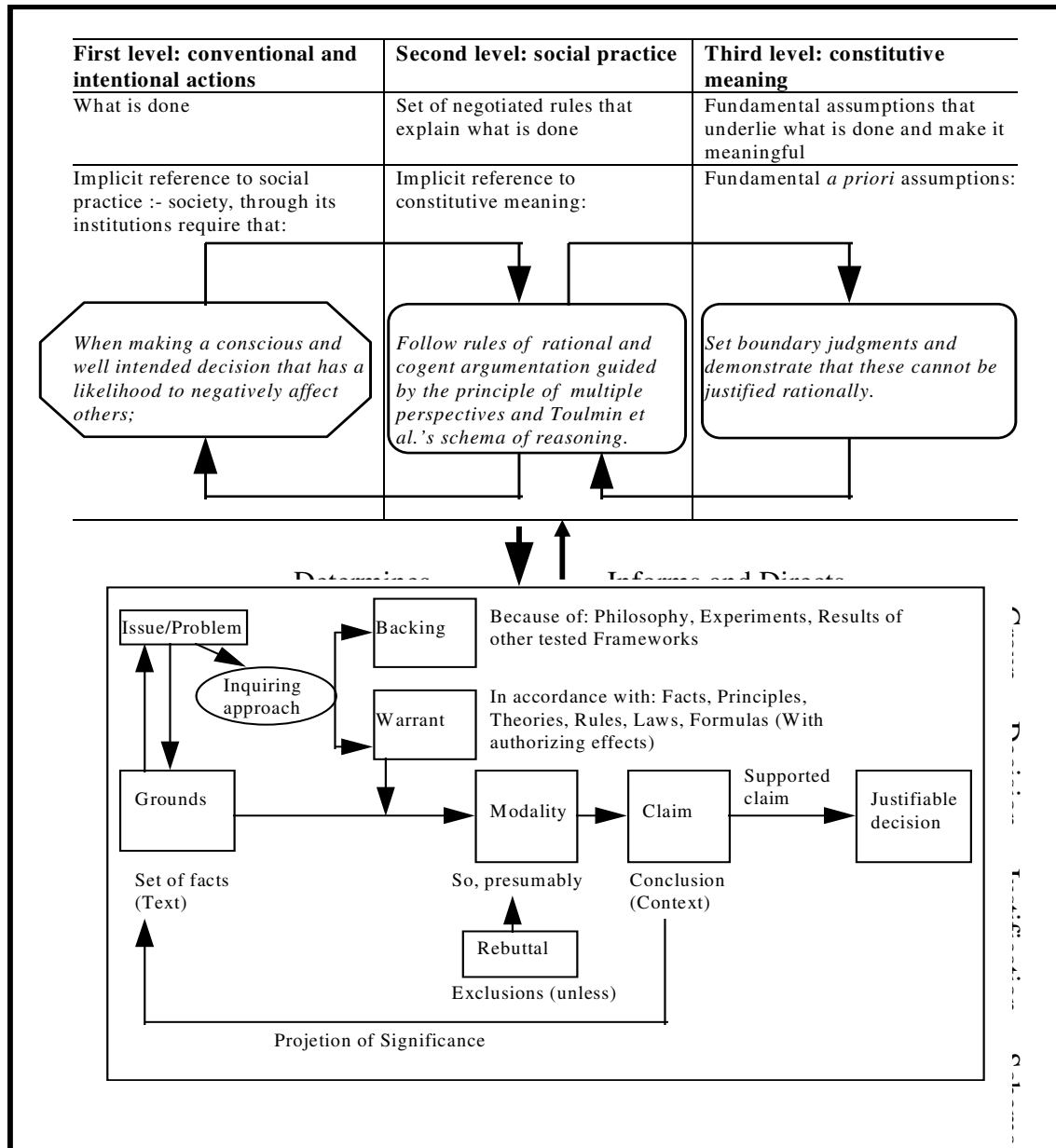


Figure 4.2 Decision Justification Framework (Phahlamohlaka, 2003)

For the purpose of a flow of understanding, a recap of the PAJA Project, as noted in Section 1.3.1 is briefly made. The PAJA Project was initiated in 2003 with the following aims:

- To explore innovative ways in which web-based GSS could enable access to human rights by ordinary South African citizens, and
- To explore, as part of this access seeking process, efficient forms of engagement between ordinary citizens, administrators and managers.

The research questions guiding the aims were:

- How best can the ordinary South African public be enabled and empowered to exercise their constitutional rights espoused by the AJA?
- Can a thought process and web-based technologies be used to support this enablement?
- To what extent would web-based technologies be considered relevant in this process?
- Are these technologies considered as potentially valuable in enhancing a better understanding and implementation of the Act?

The project was expanded in 2006 with one more aim:

- To identify and harness opportunities for sustained collaboration and interaction by communities who would use web-based GSS tools within e-government contexts in South Africa.

For the third aim, collaboration engineering through the notion of a thinkLet (Briggs *et al.*, 2003) and participation in their creation and packaging was adopted. The main research question of the third aim was:

- What features are needed in web-based collaboration tools and how should interfaces be designed to enable citizens to interact effectively with government and public bodies in South Africa?

The introduction of the third aim was influenced by the emerging field of Collaboration Engineering and thinkLets. The notion of a thinkLet was triggered by the inconsistent,

conflicting and ambiguous results in Group Support Systems (GSS) research (Gopal and Prasad, 2000). GSS research was over focusing on a less-than-useful level of abstraction, i.e. the GSS technology itself rather than on using GSS in building collaboration processes as a way to create repeatable patterns of thinking (Briggs *et al.*, 2001b). By focusing research on thinkLets, rather than GSS, research may be more controllable, more replicable, and better able to inform GSS development and use.

4.3. The Approach of the PAJA Project - thinkLets

A thinkLet is defined as a named and packaged facilitation technique captured as a predictable pattern, and which pattern can be repeated by practitioners (Kolfshoten *et al.*, 2006). The thinkLet encapsulates three components of a GSS stimulus; the tool, its configuration, and the script. The tool relates to any object that has the ability to enable people to work together. The tool is ideally GSS technology, since it has the group process advantages of anonymity, parallel communication, and organisational learning (Vreede, 2006). The tool can also be a piece of paper or even a flipchart. The configuration relates to the functionality within the tool which will be engineered to achieve a predictable pattern of collaboration.

Briggs *et al.* (2003) identify five general patterns of collaboration: *diverge* - the group moves from fewer to more concepts; *converge* - from many concepts to focusing on a few worthy of further attention; *organise* - from less understanding to more understanding of the relationships among the concepts; *evaluate* - from less to more understanding of the possible consequences of each concept; and *build consensus* - from having less to having more agreement on courses of action. The script refers to the step by step instructions that are required for the group to achieve their goal.

The notion of a thinkLet was used as a basis for conducting simulation exercises using Group Support Systems as the thinkLet tool in a workshop setting. The thinkLet approach in its requirement for repeatability and transferability is similar to the workings of a workshop whose activities are similarly repeatable and transferable from place to place while maintaining the same values (EvaluateIT, 2009). The purpose of the workshops was to raise awareness about the process involved in the implementation of the PAJA. The workshops

were designed to demonstrate the possibilities for the use of ICT to support the PAJA process simulated using case scenarios.

4.3.1 Workshop Preparation

Before each workshop the research group met at least a month prior to plan out the logistical arrangements such as transport, ensuring the ICT infrastructure was in place, and for the students in the PAJA Project to have an opportunity to collect whatever data need. As seen in Section 3.3.4.3, the researcher offered to ensure the sites were technically adequate to use the GSS technology because of the researcher's ICT technical skills from the industry background as a Customer Support Engineer and a Network Administrator. The researcher made at least two visits to the research sites prior to the workshops, two weeks before and three days before, to ensure that all the computers were working properly and that the Group Support Systems tool of our choice, GroupSystems could be used. At almost all the workshops the majority of the computers would have failed because of viruses and malware forcing the group to make alternative ICT simulation plans at the day of the workshop. The two outstanding decisions were to get the people into smaller groups and to use another thinkLet tool – and this is how Microsoft Office Word 2003 came to be used as an alternative thinkLet tool.

4.3.1.1 Analytic Memo: (Ir) Relevance of ICT Artefact

Because the focus of a thinkLet is not the technology artefact but rather the process, the workshops could continue even if the computers failed to work. The thinkLet approach allowed the researcher the freedom to make use of alternative technology when faced with the infrastructural challenges (Section 3.3.4.3).

4.3.1.2 Analytic Memo: Development Inclinations

The inherent developmental character of the PAJA Project is evidenced in two places; its title states the human rights perspective, and its research questions affirm the essentialness of empowerment.

Despite the contentions about what development actually means for different people (Chapter 5), there is general agreement that development requires empowering people to help themselves (Sen, 2005, Max-Neef et al., 1989, UNDP, 2008). Sen (2005) particularly illustrates the link between Human Rights, empowerment and development, seeing them all as intricately interconnected. The first and the second research questions (Section 4.2) portray the development inclinations of the PAJA Project:

- “How best can the ordinary South African public be enabled and empowered to exercise their constitutional rights espoused by the AJA?”
- ‘Can a thought process and Web-based technologies be used to support this enablement?’

When the above two research questions are combined, they convey the same notion as the initial ethnographic ‘grand’ research aim: *‘How can ICT use in government (e-government) lead to empowerment (development)?’*

Having articulated the development inclination of the PAJA Project, it became clear that the data from the PAJA Project could inform the thesis.

4.4. The PAJA Project Process - Workshops

Over the period 2005 to 2008, one workshop at each site every year was held, making a total of nine workshops over the three years. The workshop activities were maintained across the three sites in each research year (Table 4.1). The workshops each year were always planned so that the three sites within a month were completed - in the rural areas, Siyabuswa and Lebotloane on Saturdays, while at the University of Pretoria during the week. Data were collected at every workshop activity using different data collection instruments (Table 4.1).

Table 4.1: PAJA Project Workshop Stages & Data Collection Instrument

Workshop Activity	Data Collection Instrument
Social interactions	<ul style="list-style-type: none"> • Video Coverage
A description of the PAJA Project and its research objectives	
Explanation of the PAJA Act	
Practical session on PAJA Act	<ul style="list-style-type: none"> • Video Coverage • Electronic logs of the sessions when using the ICT
Formal Research feedback	<ul style="list-style-type: none"> • Questionnaires • Video Coverage (Question and Answer Session) • PAJA Project Questionnaire

The workshop activities 1, 2 and 5 remained constant over the three years while activities 3 and 4 were changed each year. The following sub-sections illustrate the workshop activities 1, 2 and 5 together, while activities 3 and 4 are described separately for each year.

4.4.1 Workshop Activity 1: Social Interactions

Each research member and research participant introduced himself at each workshop. The exceptions were new people who were guests of the PAJA Project or community members with a high social and/or political profile. This latter people were introduced by others. The leaders of the host sites were given the honour of chairing all non-academic formalities which included opening and closing the workshop and the social interactions.

The preparation of meals was delegated to the host institution. A maximum budget assuming R100 per person per day for all meals (approximately \$13) was given for the 20 research participants. On all occasions, the food was considered good by the workshop attendees.

4.4.1.1 Analytic Memo: Indigenous Knowledge and Ubuntu at Work

The decision to allow the leaders of the host institutions to chair the non-academic formalities was a mark of indigenous knowledge. The leaders followed traditional protocols such as opening the workshops with traditional Christian songs and prayer and were able to acknowledge important community members. In Ubuntu guests of honour and those with a high profile do not introduce themselves and it is respectful for them to be acknowledged as

attending such gatherings. It is also important that the high profile people say something. It was fortunate that the high profile people were understanding enough not to speak for more than two minutes when asked to say something and mentioned the importance of the research on using computers in the communities.

“There people are here to help us. This thing of computers is new and we need to learn how it can help us in our community.”

There is great value in having the high profile people from the community say something. It conveys the message to the fellow community members that the researchers are not enemies but friends, and it is okay to work with them; an important Ubuntu social exchange, especially in rural communities.

The decision to let the host institution to prepare the meals was also a mark of indigenous knowledge. They were better positioned to know what to prepare and what not to prepare in accordance with the traditions of the community. In the urban research site, lunches were held in restaurants which were equally considered good.

4.4.2 Workshop Activity 2: PAJA Project Overview & Recap

The PAJA Project leader at each workshop ensured that he explained the aims of the research in creating awareness of the PAJA Act and the desire that the research participants might be empowered to help themselves and others when dealing with government. He made clear at each workshop that this was research and that there would be no remuneration.

The PAJA Project leader illustrated past successes of the PAJA Project such as publications and student graduations from the research and linked the successes with potential opportunities for all stakeholders, researchers and research participants in cost reductions and greater efficiency in dealing with Government. He also gave an opportunity to new researchers accompanying the PAJA Project to share their research interests.

4.4.2.1 Analytic Memo: Managing Expectations and Raising Confidence

It was necessary to re-iterate and re-clarify the research objectives of the PAJA Project at each workshop because the research participants always had expectations that we were there to help them deal with their problems.

Despite the re-iterations, during the social interactions and even during the workshops, the researchers were deluged with requests for assistance on every conceivable problem that the research participants had with government. For example, a research participant went into detail on his divorce case and asked how we can assist him.

“My wife wants to divorce me, how can you help me?”

As much as the researcher was trying to empower the people, a few people at the first workshops however preferred that their problems be resolved by us ‘the experts’ and not them - they lacked confidence in themselves. We remained firm in reiterating our desire to empower and create awareness of the PAJA processes so that people at the local level could help themselves. By the third set of workshops, there were people asking for assistance but also there were those that reported on how they were not only empowered but were able to assist others.

“Yes, on [the] door to door campaign, we had one family that applied for an old age grant and was not the given reasons as to why his application was unsuccessful. The researcher helped him to follow the procedures of requesting reasons for application failure when implementing AJA and at the end he did receive the grant. At one of the workshops for youth camp, people were not aware of the Act (AJA).”

4.4.2.2 Analytic Memo: Ubuntu and Batho Pele

It was noticeable that the terms Batho Pele and Ubuntu were used interchangeably in the entire research and were familiar to all the research participants. The notion of togetherness and helping each other was drawn on as part of the PAJA Project in forming partnerships with the communities.

“In Ubuntu we help one another”

The request for a long-term commitment of six years ending in 2011 did not appear burdensome to the research participants. Participation remained relatively constant through the three years with the exception of the Gauteng group.

4.4.3 Workshop Activity 3: Explanation of the PAJA Act

In the workshops of 2005 and 2006, the background of the PAJA Act was given to help participants understand the purposes of the Act, and the requirements and instances in which the Act can be invoked (Table 4.3).

Table 4.2: Theoretical PAJA Act Training

	Lebotloane	Siyabuswa
2005 Trainers	Professor of Law from the Justice College of South Africa A Master of the High Court from the North West Province	Professor of Law from the Justice College of South Africa A Master of the High Court from the North West Province
2006 Trainers	The PAJA Project leader made a recap and handed out PAJA brochures	The PAJA Project leader made a recap and handed out PAJA brochures

In 2005, the training was conducted in Siyabuswa and Lebotloane by two legal experts who had been previously involved in PAJA training across South Africa and had experience in the application of the Act. The Justice College expert explained the historical roots of the PAJA, the present implementation strategies of the PAJA, and expressed some challenges being experienced. The Master of the High Court illustrated the PAJA using examples that are dealt with at the High Court.

Both experts were flooded with questions revolving around the inefficiency and unfairness of the government. The research participants were visibly angry when expressing their sentiments about government. This was embarrassing for the researchers.

At the University of Pretoria, the experts were not required as the research participants had already received training on the Act. Only a recap of the PAJA was given for the sake of those who might have forgotten what had been explained a year earlier.

In 2007/8, the PAJA Act was not explained.

4.4.3.1 Analytic Memo: Colour Still Runs Deep in South Africa

The angry sentiments were biased. The reaction to the Professor of Law was moderately harsher than that aimed at the Master of the High Court. The researcher later came to understand through his personal interactions with fellow researchers and some research participants that there are still deep seated sentiments of anger between the black and white races in South Africa. It is important to have a neutral intermediary between government and citizens, such as researchers, in order to avoid such embarrassments and also for objectivity. It is at this point that the intermediary role that ICT can play began to become clear.

4.4.3.2 Analytic Memo: Citizen Perceptions of Government Ineptitude

There was an underlying pattern behind the complaints aimed at the government officials which points to how citizens perceive government administrators; i.e. arrogant, inept and uncaring.

“The researcher spent a lot of money to go to the home affairs offices in Pretoria only to be told to come back tomorrow.”

4.4.3.3 Analytic Memo: Policy versus Legislation

There is a significant difference between policy and legislation. Law refers to a system of rules that are enforceable through institutions with the necessary authority to enforce them. Law can compel or prohibit behaviour. Policy, on the other hand, refers to a system of rules to guide decisions and achieve rational outcomes. Policies are not enforceable.

The PAJA is law, while Batho Pele is policy. Most people in South Africa are familiar with Batho Pele but not of the various Acts that empower it (Table 1.1). The PAJA, on the other hand, can be enforced since it is law.

4.4.4 Workshop Activity 4: Practical Session on PAJA Act

In 2005 and 2006, real case scenarios from the researcher's Masters dissertation (Twinomurinzi and Phahlamohlaka, 2005) were used to simulate interaction between a government administrator and a citizen who had been affected by administrative action. The researcher replaced the names of the people with the pseudonyms Grace and Anna. For 2005 the Anna case scenario was used where Anna had been denied the child support grant she had applied for. The reason given to her by the government for rejecting her application was that her child was above the age for child support, i.e. 14. Her child was actually well below the age which the government had on file, i.e. nine. She had not contested the decision and did not know what to do. In 2006 we used the Grace case scenario. Grace had been denied the disability grant. The reason given to her by government for rejecting her application was that she would soon be eligible for a pension grant. Grace claimed she was chronically ill and that her doctor had given her an official letter stating she was the equivalent of being disabled. Grace did not know how to read and she feared to question government in case she unnecessarily caused bad blood.

In 2007 (2008) a pre-formatted example used by the government in training its administrators on how to implement the PAJA was used. This example was available on the government website. In this scenario, Dube makes an application to government for a pension grant.

The practical session followed the same pattern; the researcher would hand out the following materials to the research participants:

- A shortened copy of the PAJA requirements for government administrators.
- A shortened copy of the PAJA requirements for citizens.
- The case scenario and the rejection letter received by Grace and Anna from the government.

The researcher would then read through the case scenario along with the participants to ensure the case was well understood by all the participants. This was done in English as all

the research participants understood English. If there were any questions to clarify the case scenario, the researcher answered them. There were rarely any questions.

The researcher then would ask the research participants to volunteer as either a government administrator or the affected person. This was by way of a show of hands after which they went into their two separate groups. In all the workshops, it was interesting that there were almost always an equal number of volunteers for either group. The researcher then further sub-divided the administrator and affected citizen groups into smaller groups, depending on the number of computers available to be used. The maximum for the subdivided groups was five people. For example, from a group of ten people, the researcher would sub-divide the group into smaller groups of three, three, and four in order that they could use three computers. Each smaller group would then assume a role as either an affected person or the government administrator.

The instructions were that in each of the smaller groups they were to discuss amongst themselves how to respond to the other group. For example, if the smaller group was Anna then the smaller group would have to discuss what to write to the government administrator asking for written reasons as to why the application had been rejected following the PAJA Act requirements. It meant that each smaller affected person group had a corresponding administrator group to interact with.

The smaller groups then proceeded to the computers in the computer lab. When at the computer the researcher would ask if there was anyone who was not able to operate the computer on behalf of the group. In the rare event that there was no person in the smaller group who knew how to use the computer, a student researchers was appointed to assist that group.

The computer simulation would then start with the researcher asking the affected person to discuss in 10 minutes how they should respond to the administrator. After seven minutes the affected person had to type on the computer what the group had decided and then submit it to the administrator. We allowed three minutes for typing and submitting the response. Similarly the administrator was asked to take 10 minutes to consider a response to the affected person, asking the administrator to ensure that they discussed the PAJA Act

guidelines so they could give an appropriate answer to the query they had received from the affected person. After seven minutes the administrator was asked to type their answer and submit it. The process of computer simulation followed the pattern shown in Figure 4.2.

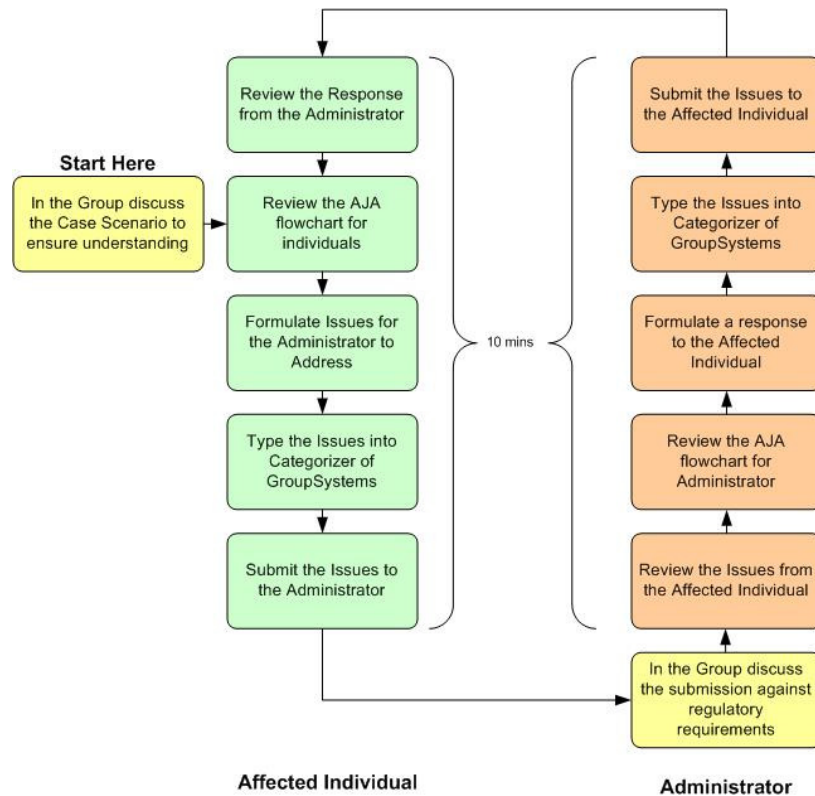


Figure 4.1: The Computer Simulation Model (Twinomurinzi & Phahlamohlaka, 2006)

Three sets of correspondence between the affected person and the administrator were allowed which fitted in the hour allowed for this activity.

4.4.4.1 Analytic Memo: Women

In all the case scenarios, the affected people in need of emancipation are all women. Grace and Anna were looking after their families. In the case of Anna, the husband had abandoned her for another woman, while for Grace, although the husband was alive, he was not able to provide because of his old age. Grace in particular was looking after a household of more than 10 people who included her unemployed children with their children (her grandchildren) all in the same house.

4.4.4.2 Analytic Memo: Planning with Uncertainty

At the very first PAJA workshop, the plan was to have 20 computers working so that each individual could work alone on a computer. However, only six out of the 12 computers the researcher had fixed and made ready for the simulation were working. The PAJA Project leader quickly decided to let the research participants use the computers in groups.

It was the intention to use the anonymity feature of GroupSystems but because people had to work in groups, it was obvious who the administrator was and who the affected person was.

4.4.4.3 Analytic Memo: Active and Enthusiastic Role Playing

At the first workshop, when splitting the people into smaller groups, there was an unspoken tension about what was to be done. However, once the computer simulation started, there was excitement. The excitement was usually exhibited in the form of visible anger on the side of the affected person when they perceived the administrator group as not having an understanding of their plight, and obvious contentment when the administrator gave a favourable response.

The administrator groups appeared to enjoy having the authority to determine the fate of the affected person.

4.4.4.4 Analytic Memo: Perspective Incongruence

The dialogue between the affected person and the administrator showed that the affected person expected the administrator to empathise with their plight and step in and assist.

Grace 02: "It is not fair to live on someone's pension fund, what are the requirements for a disability grant? Medication is expensive,-who should pay for the bills and food? Who should pay food for the family of six? All the children are still at school. Who should pay for their school fund and buy their clothes? Where will I get the money to pay for water and electricity? Who will pay for my transport to go and fetch the medication at hospital?"

Grace 02: "While waiting for the old age grant should we starve? I have waited for 17 years, bills have accumulated and the children will be dismissed from school. These children

might see crime as the only option for them. I am not employed and my husband is also not working. No source of income for the family. I have submitted all the documents required, the problem was just my age. Should we suffer because I am turning 60 in December?"

Citizens believe the government exists to support them in moving towards a better life and to assist them while they are in the transition to the better life. They also believe they are trying their best and are fully cooperating with government.

On the other hand, the administrators look for hard evidence which they needed to support the decision they need to make. Government administrators look at cases from a bureaucratic point of view; applicants are entitled to receive a service only when all the conditions necessary to receive that service are fulfilled, missing information or even the suspicion of deceit will automatically mean a denial of service.

Administrator 02: "These are [the] requirements of the disability grant: You will need a medical report from a doctor of a public hospital. Your annual income should not exceed R33 384, for married people, and R18 024 for single people. You will also need a police affidavit that proves your postal address or residential address or electricity bill, a copy of your ID book that is certified, and your birth certificate."

4.4.4.5 Analytic Memo: (Ir) Relevance of the ICT Artefact

It increasingly became more evident that the usefulness of the specialised GSS technology was that it made collaborative work much easier. Facilitation could have happened with different artefacts – paper being a potential alternative. The usefulness of ICT is primarily in its provision of a faster and more convenient means of interaction; for example, dominance in the small groups was overcome at the point of submitting the responses.

4.4.4.6 Analytic Memo: Experiential Learning

By the third year, the research participants did not use or ask for the script on how to carry out the discourse using the computer; they knew the process. Most of the groups were able to exceed the usual three cycles within the set hour because they knew what process to follow.

4.4.5 Workshop Activity 5: Formal Research Feedback

Before the close of the workshops, there were three research feedback sessions. The first was a discussion where all parties came together, i.e. the researchers and the research participants, and discussed the experiences of the PAJA Act while using the computer. In the second feedback session the research participants recorded their experiences of the workshop individually on a piece of paper. Anonymity was allowed to enable free expressions. The final feedback session requested participants to openly offer their opinions and observations on anything they wished to comment on.

4.4.5.1 Analytic Memo: Seeing Both Sides

Most people said they were beginning to understand why some of the requests by citizens are rejected and why some administrators are not responsive. They said they began to understand government better and some of the government responses which they often had taken for granted. Many expressed that they felt more confident to deal with the government after the workshops.

4.4.5.2 Analytic Memo: Hunger for Knowledge

In the rural areas, there was an evident hunger for knowledge on how to help oneself, as seen in the frequent requests by the research participants for more workshops.

“We need more workshops.”

“Try to increase the research group to more areas.”

4.4.5.3 Analytic Memo: Testimonies of Development

In the subsequent workshops, the general feedback was that many individuals had learnt something about the Act, how it works, and had been able to use it for themselves and for others.

“The workshop helped one participant by giving her the knowledge of the AJA as well as helping her to transfer the knowledge to her citizens/clients (in this case it was a group of

PWAs). *It also helped her realise the potential use of technology for implementing the AJA. Another participant used the knowledge from the workshop to tackle an issue of corruption in her local community.*”

Many participants stated that if such a system could work in reality, it could save on cost, time and effort as the most significant contribution that ICT could assist in was in interacting with government.

One of the participants was able to entrepreneurially start an organisation that assists people implement the PAJA.

“It gave us information about the AJA and made us aware of the AJA. And what we have discovered is that this Act is helping not only in the Justice Department but is a general helping tool all departments in Government. The workshop helped one of the participants formulate his own programme and strategy to implement the AJA. The implementation is user-friendly and simple.”

4.5. The PAJA Project Outputs

The PAJA Project has since graduated three Masters’ students; one Honour’s student and had six publications. The researcher briefly describes each of these outputs.

4.5.1 First and Second Milestones

- The first two milestones of the PAJA Project were the completion of the researcher’s Master’s dissertation and its publication in September 2005 at the Second Conference on Online Deliberation: Design, Research, and Practice / DIAC-2005 in Stanford, California (Twinomurinzi and Phahlamohlaka, 2005). The paper reported how the South African government could potentially use web-based Group Support Systems (GSS) to enhance procedural fairness according to the PAJA. The paper was based on an action research means of enquiry and used hermeneutics to analyse the data. The paper showed that:
- Web based GSS resulted in lower costs and lower time in the appeal process.

- There was an increased awareness of PAJA to the case participants.
- There was faster feedback on the application progress.
- There is a lack of technology infrastructure and where it exists there are no skills to fully utilise it.
- There is a need for training in using the technology.
- There is a fear of challenging those in authority.
- There was general appreciation by the case participants for having been included in the study as they could see the benefits thereof.
- The rejection letter was misinterpreted due to illiteracy.
- The information in the rejection letters as required by the PAJA was incomplete.

The Stanford paper has since been published in a book, *Online Deliberation: Design, Research, and Practice* (Twinomurinzi and Phahlamohlaka, 2009).

4.5.1.1 Analytic Memo: The Trigger for Research into e-Government and Development

The Masters dissertation became the start of the researcher's enquiry into how e-government could contribute to development. The researcher was particularly concerned with the plight of those participants who were living in deprivation and had no clue as to what to do next. The researcher also became more aware of his inability to assist them as an individual capacity, yet could see that government was able to provide for them. Since his area of expertise was ICT, he wondered how ICT use in government, i.e. e-government, could assist such individuals to emancipate themselves. The cases of the individuals which the researcher had used for his Masters were adopted as the case scenarios in the PAJA Project research (Section 4.3.1.4).

4.5.2 Third Milestone

The third PAJA Project milestone was a one year analysis of the PAJA Project presented in September 2006 at the Conference on Information Technology in Tertiary Education in Pretoria, South Africa (Twinomurinzi and Phahlamohlaka, 2006). In this paper the researchers presented the results of the simulation exercises from the six workshops of 2005 and 2006. The paper adopted the unit of analysis as the practical process facilitation described in Section 4.3.1.4.

The critical appraisal guidelines for single case study research proposed by Atkins and Sampson (2002) were used to assess and analyse the results of the simulation exercises. The paper showed that the process of the computer simulation exercises the researchers designed were repeatable and predictable (Figure 4.2) and served as the script requirement for the design of the thinkLet. The researchers were fortunate in that one of the creators of the thinkLet notion, Gert-Jan de Vreede, (Briggs *et al.*, 2001a) was available to verify the criteria for the analysis of the research results and proposed to name the thinkLet, the TurnStormer (Figure 4.3).

“The formulation of a response by a role (a turn) is a thinkLet in itself. The researcher proposes we call this TurnStormer. Each subgroup (or individual in other situations) is thinking up reasons, bits and pieces of information, and then formulate a response. The data show that the responses are fairly polished in the sense that they consist of complete sentences and paragraphs. No sound bites. So, each role (whether represented by an individual or by a small group of participants) brainstorms elements of a response and then formulates this when it is its turn”

The TurnStormer thinkLet

Tool:

1. GroupSystems Categorizer

Configuration:

1. Create the two groups in Categorizer, the affected individual and the administrator
2. Display the Categorizer tool for both groups

Script:

1. *Say this to the affected individual:*
 - a. “You have read the scenario and the rejection letter, with your knowledge of the AJA, “Grace” how would you respond to the Administrator?”
 - b. Type in your thoughts on the computer. Do not send them as yet. While one person types, let the others engage in discussion.
 - c. You have 10 minutes to complete this task
 - d. Now submit your questions to your corresponding Administrator. “Grace” 1 to Administrator 1, “Grace” 2 to Administrator 2 ... “Grace” *n* to Administrator *n*.”
2. *Say this to the Administrator:*
 - a. “You have read the request from “Grace” as well as the rejection letter you sent to her, with your knowledge of the AJA and from the Administrator point of view, how would you formulate a response to “Grace”?”
 - b. Check that the application from “Grace” complied with the criteria for a Child Support Grant.
 - c. Wherever you find a point to note which might be of importance to “Grace”, make a note of it
 - d. You have 5 minutes for this exercise
 - e. Check that you followed the criteria for procedural fairness according to the AJA
 - f. Wherever you find a point to note which might be of importance to “Grace”, make a note of it
 - g. You have 5 minutes for this exercise
 - h. Discuss the notes you have raised and write a response to “Grace”.
 - i. Type out the response. Do not send it.
 - j. Send the response to “Grace”.”
3. Allow 3 cycles for this exercise.

Figure 4.2: The TurnStormer thinkLet (Twinomurinzi and Phahlamohlaka, 2006)

With regard to the objectives of the research and the research questions, the researchers could confidently claim that the workshops and the simulation exercises were succeeding in raising the required awareness of the PAJA. Three out of four groups in the Siyabuswa environment, and three out of five groups in the Lebotloane environment had someone, who as a result of the workshops, assisted someone or themselves, using the provisions of the PAJA. Two participants from the Siyabuswa research site remarked as follows:

“Yes, one of the participants was personally affected by the AJA and used the principles of the AJA to formulate a program to assist with the implementation of the AJA. Another one of

the participants was involved in helping people who were HIV positive to get grants from the government.”

“Yes, on door to door campaign, we had one family that applied for an old age grant and was not given reasons as to why his application was unsuccessful. The researcher helped him to follow the procedures of requesting reasons for application failure when implementing AJA and at the end he did receive the grant. At one of the workshop for youth camp, people were not aware of the Act (AJA)”.

4.5.2.1 Analytic Memo: The Development Inclinations

When the researcher turned to the literature on development, the researcher realised that as a result of the PAJA Project the research participants were emancipating themselves and the people in their communities. There are two developmental aspects in this; the research participants were becoming self-reliant (Max-Neef *et al.*, 1989) and they were taking advantage of the new skills they had acquired and doing something to benefit themselves in what Sen (1999) calls an ‘achievement’. The role of e-government in contributing to development was in facilitating the implementation of policy. This was the beginning of the clarification of the research question into *‘How can ICT facilitate policy implementation in a development context?’*

4.5.3 Fourth Milestone

In May 2007 the researcher presented the formative ideas of his developmental inclinations based on the data from the PAJA Project at the 9th International Conference on Social Implications of Computers in Developing Countries in São Paulo, Brazil. In this paper the researcher analysed the data using the diffusion of innovations theory as a theoretical lens looking at ICT as a critical success factor in delivering development innovations in the two rural communities. The paper showed that e-government in South Africa would have to incorporate the collaborative element advocated for in Batho Pele using the Collaboration Engineering approach.

4.5.4 Fifth Milestone

In September 2008, the PAJA Project research members jointly presented a paper at the IFIP Workgroup 9.4 Joint Workshop in Pretoria (Phahlamohlaka *et al.*, 2008) which assessed the quality of the TurnStormer thinkLet as a building block for Collaboration Engineering for the implementation of the PAJA Act. The quality was assessed using the Collaboration Engineering design standards which had just been published by Kolfshoten (2007). The paper verified the TurnStormer thinkLet met four of the five dimensions (Table 4.1). The efficaciousness standard requires that the TurnStormer thinkLet be mapped as a UML class conceptualisation.

Table 4.3: Quality dimensions to assess the TurnStormer ThinkLet (Phahlamohlaka et al, 2008)

Dimension	Dimension Description	Applicability to TurnStormer
Efficaciousness	The extent to which the design, when used as prescribed will focus the expense of resources to achieve the group goal.	The TurnStormer appears to us to be the master thinkLet that could guide the creation of smaller thinkLets each addressing specific features of the PAJA. However in comparing the TurnStormer with the master thinkLet conceptualization developed by Kolfshoten, it does not seem to be well conceptualized
Acceptance	The extent to which the design when used as prescribed accommodates individual stakes sufficiently, to motivate stakeholders to commit the required resources for goal achievement.	The TurnStormer thinkLet emerged out of designed collaboration process with active involvement of stakeholders. The taking of turns between the affected individual and Administrator in their engagement as required by the PAJA afforded them sufficient stakes. The fact they are all still participating in the workshops is a good indicator of commitment towards achieving the goal
Reusability	The extent to which the design can be used successfully in different instances of the task.	We claim that the TurnStormer thinkLet is perfectly suited for reusability. Its design is made up very simple turn taking by the intended stakeholders. It captures the process flow that could be used to guide the different features of the PAJA process
Predictability	The extent to which the design, when used as prescribed, creates a process and results as intended by the collaboration engineer.	The processes as well as the results as intended by ourselves as the facilitators were in accordance with expectations.
Transferability:	The 'ease of training' and the 'ease of execution' from the perspective of the practitioner	
Ease of training	The ease of training is determined by the training load: Training load is the amount of cognitive effort required from the practitioner to sufficiently understand the process prescription.	We have enough evidence of practitioners expressing a level of understanding of the process. This has being demonstrated through the three simulation field studies conducted in 2006. This led us to think that the design of the TurnStormer thinkLet has reduced load on participants' cognition.
Ease of execution	The ease of execution is determined by the execution load: Execution load is the amount of cognitive effort required from the practitioner to execute the process prescription	We think that the designed thinkLet will be easily executable by the practitioners without much involvement of the collaboration engineer. This however must still be tested in the next field exercises in 2008.

4.5.5 Sixth Milestone

At the same IFIP Workgroup 9.4 Joint Workshop in Pretoria, South Africa, with his first supervisor the researchers presented a paper that reported on the need for participative interaction between government and citizens (Byrne and Twinomurinzi, 2008). The paper proposed a plausible theoretical framework informed by Toulmin *et al.*'s (1979) schema of reasoning and Courtney's (2001) decision making paradigm as to how citizens could participate with government in the implementation of the PAJA Act.

4.5.6 Seventh Milestone

A member of the research project also completed her Master's degree using data from the PAJA Project. The researcher supervised this student while the PAJA Project leader was the co-supervisor. The Master's was presented at the 12th International Business Information Management Association Conference in June 2009 in Kuala Lumpur, Malaysia (Ojo and Twinomurinzi, 2009). The paper focused on the necessary flow of information between a government administrator and a citizen in aiding the decision making process required by the PAJA Act. The paper used an interpretive paradigm positing the potential usefulness of mobile technology designed as a group support system tool in support the decision making process applying the idea on the pension application life cycle. The results showed that mobile technology designed as GSS is well placed in facilitating the implementation of the PAJA Act.

In terms of this thesis, the paper further lent support to the situated importance of ICT as a critical element in facilitating policy implementation. The most important aspect is the collaborative process in facilitating its implementation and any form of technology can be used. Mobile technology appears well suited seeing its mass proliferation in developing countries.

4.5.7 Eighth Milestone

Another member also completed her B.Com (Honours) degree using data from the PAJA Project. The researcher also supervised this student while the PAJA Project leader was the

co-supervisor. Though this mini-dissertation has not been published yet, the paper showed how the post-apartheid government of South Africa continues to struggle to implement many of its policies. The researchers adopted an interpretive research approach and analysed some of the data from the PAJA Project using grounded theory techniques. The mini-dissertation showed that that Group Support Systems which take into account the social/human contexts can save time, cuts costs, and allow citizens to communicate with the government without being at the same place.

In terms of the thesis, the mini-dissertation showed the ability for the specialised function of collaboration in ICT to add economic value to people in conditions of deprivation.

4.5.8 Ninth Milestone

In May 2009, the researchers presented as a research-in-progress what the researcher would regard as the pre-cursor to the write up of how the researcher believed e-government could contribute to development at the 10th International Conference on Social Implications of Computers in Developing Countries on Dubai, United Arab Emirates (Twinomurinzi *et al.*, 2009).

The paper attempted to bring together the researcher's experiences as part of the PAJA project using the ethnographic breakdown-coherence-resolution approach to the formulation of theory by Agar (1986). The researcher borrowed from four theories which the researcher had reviewed during his literature review; the Capabilities Approach, Actor-Network Theory, the Diffusion of Innovations Theory and Habermas' Theory of Communicative Action.

Agar (1986, p. 22) proposes that during an ethnographic immersion into the research phenomenon, the researcher will invariably meet disjunctions between the traditions within the research phenomenon and the theory guided expectations; the disjunction signals a breakdown. That is, when a strip of the theory is not understood in relation to tradition, a breakdown has occurred. Once a breakdown is identified, something must be done about it and the process of moving from breakdown to understanding is called resolution.

In resolution, the theory is modified or a new theory is constructed before trying again. This process of resolution continues until all breakdowns are resolved, resulting in what is called

coherence. A coherent resolution can be known to have been reached when the resolution can “1) show why it is a better resolution than others that can be imagined 2) tie a particular resolution in with the broader knowledge that constitutes a tradition and 3) clarify and enlighten, to elicit an “aha” reaction from the members of the different traditions that make up the ethnographic encounter” (Agar, 1986:22).

Each of the theories was able to explain a portion of what the researcher had encountered in the field but was not able to explain comprehensively explain how ICT could facilitate policy implementation in a development context. The paper resulted in what the researcher regarded as critical-interpretive guidelines for conducting ICT4D research.

The paper received overwhelming criticism as being theoretically over laden and in losing the spirit advocated for by Agar (1986). The overwhelming response was to rather focus on using Grounded Theory to analyse the development experiences and create a substantive theory which the researcher could then use to compare with the formal theories.

The researcher was fortunate because he was able to re-formulate the paper based on the feedback from the IFIP 9.4 Dubai conference and present it a week later in June 2009 at the doctoral consortium of the 17th European Conference on Information Systems in Verona, Italy. In this presentation, the researcher made a brief re-analysis of the same data using Grounded Theory and presented the rudimentary substantive theory. The rudimentary substantive theory was better received and the researcher was given further pointers on how to perfect the use of Grounded Theory. It is from the two sets of feedback at IFIP 9.4 and ECIS 2009, and the guidance of his supervisors, that the thesis evolved to create the substantive theory using Grounded Theory and comparing the substantive theory with formal theory (Chapter 5).

4.6. Summary and Implications for the Thesis

Chapter 4 described the data from the ethnographic immersion into the PAJA Project and its analysis using Grounded Theory. The theoretical memos revealed that the PAJA Project is in essence development-oriented in its emancipation of people and in assisting them to become self-reliant. It, however, emerged that special attention may have to be given to women and

probably other minority groups who are in greater need of emancipation. Nonetheless, people who are in deprivation are generally more receptive to new knowledge and enthusiastic of any help they can receive, especially concerning ICT. This is an attitude that can be utilised in ICT4D research to mutual advantage in making both citizens and government administrators understand the needs of each other.

The analysis also revealed that in ICT4D research or projects, ICT should not be relied upon entirely. The usefulness of ICT is in its ability to provide a fast and convenient means of communication, rather than as an end in itself. Alternative options should therefore be made for non-ICT means if the need arises. In many instances, many things will go wrong and this therefore requires an ability to be flexible with plans and to plan under pressure.

Ubuntu plays a significant role in rural communities in allowing for traditional norms to be observed and in creating working partnerships. Yet, despite Ubuntu, there is still a deep seated mistrust of government and between races in South Africa. This is coupled with the citizens' perceptions of government ineptitude. Development initiatives by government will probably be more effective if they are centred on legislation rather than on policy. This is because policy cannot be enforced, while the law is enforceable.

The next chapter examines the key literature reviewed concerning the important areas that emerged from the analyses.

Chapter 5. Literature Review

5.1. Introduction

Chapters 1-4 described the ethnographic immersion into the research setting and the Grounded Theory analysis which triggered the thesis to contemplate clarifying the research question from the grand ‘*How could e-government lead to development*’ to ‘*How could ICT facilitate policy implementation within a development context?*’ Chapter 5 presents the literature that was reviewed during the ethnographic immersion and its effect on the research question. The literature was not reviewed prospectively or retrospectively but, consistent with the ethnographic research design, was an iterative activity that developed as the research proceeded (Rock, 2001, p. 30).

Chapter 5 is structured as follows: Section 5.2 reviews the literature on development and the different ways it has been interpreted over the years. Section 5.3 evaluates the discourse on ICT for Development (ICT4D) and the roles that are ascribed to ICT in supporting and driving development. Section 5.4 summarises the literature on development and ICT4D giving direction for the thesis. Section 5.5 surveys e-government and its current perceived role in human development and how the research question was finally clarified as ‘*how can ICT facilitate policy implementation in a development context*’. Section 5.6 summarises the different sets of literature reviewed in the chapter and draws inferences for the thesis.

5.2. Development

The nature of development is a subject of continuing theoretical debate (Avgerou, 2009, p. 3) ranging from something that happens in the third world (Chari and Corbridge, 2008, p. 3) to a structured and linearly staged process of enabling developing countries to catch up with developed countries (Cypher and Dietz, 2009, p. 159). The lack of a succinct definition meant that the literature on development needed to be understood before adopting a meaning that reflects the South African context. Nonetheless, there is one underlying theme in the discourse on development; there is an urgent need to lift people (especially women and children) out of deprivation. Deprivation is more prominent in developing countries where many are dying of preventable illnesses, hunger and the like, not only because of any lack of

knowledge but also because of the lack of means to deal with these problems (Cypher and Dietz, 2009, p. 4).

5.2.1 The Causes of Deprivation

A great deal of effort has been put in trying to understand why certain countries experience development and why others remain mired in poverty, unable to raise the standards of living, despite following the same prescripts. A range of reasons have been offered; colonialism, globalisation, unequal trade agreements, the lack of democracy and religion (Secondi, 2008).

Colonialism, as the legal occupation and political/social control of a territory by people from another territory (Kohn, 2006), is blamed for damaging institutional structures with many colonies failing to flexibly re-create their institutions after attaining freedom (Acemoglu, 2008, p. 67, Rodrick and Subramanian, 2008, p. 79). Consequently development in most previous colonies does start on a clean slate but with a complex of historical dependency effects (Cypher and Dietz, 2009, p. 102). South Africa was not colonised in the strict sense of colonialism but was rather settled into (Chapter 2) using the same colonial practices of political and legal domination, and racial and cultural inequality. The racially discriminatory policies that were adopted by the settlers nonetheless left the indigenous people largely dependent and with broken down institutional structures. In this view, development in South Africa, despite the freedoms of democracy, cannot start on a clean slate but requires intentional efforts if the institutional structures such as the South African Ubuntu notion are to be rebuilt.

Colonialism also created dependent colonies whose susceptibility was further worsened by debt and foreign aid. While foreign aid and debt appears timely in quickly filling a badly needed gap, the money usually ends up doing more harm than good – for example, it ends up in the hands of corrupt government officials or is used for unproductive efforts such as purchasing weapons (Easterly, 2006). Foreign aid and debt arguably only serve to stifle self-reliance (Perkins *et al.*, 2006). The suggestion therefore to eliminate the problem of an unrealistic debt burden for developing countries through debt relief (Sachs, 2008) is countered by others who say it sends the wrong signal; i.e. that it is okay to misappropriate funds, or that it is okay to spend again on the same unproductive things that led to the

deprivation (Easterly, 2008). The suggestion is that, rather than increase foreign aid or increase the debt, the trade imbalance between developing and developed countries should be addressed (Preble and Tupy, 2005). South Africa has good trade relationships and does not suffer from the unbalanced trade agreements that most developing countries are in. Regarding debt, South Africa similarly has a reasonable debt-to-GDP (Gross Domestic Product) ratio compared with other developing countries and hence does not suffer from the crushing effects of an unrealistic debt (Statistics South Africa, 2009).

Globalisation, as a cause of deprivation, reduces the economic, cultural and virtual distance between developed and developing countries, but on the other hand increases the trade imbalances (Castells, 2000). Developing countries have limited access to finance, which in turn limits their ability to diversify trade, access new technology, and reduce poverty (Mavrotas *et al.*, 2007). Particularly, access to credit for people in deprivation is problematic and the few who manage to access it frequently find themselves stuck in usurious credit agreements that doom them to lives of greater deprivation (Yunus, 2008, p. 403).

South Africa presents a unique circumstance of trade relationships which the researcher will factor as internal and external. External trade is what was discussed under colonialism, and for which South Africa has good external trade relationships. However, within South Africa, trade between the developing and developed contexts is still in need of balance. In Section 4.2.4, it was noted how apartheid created two environments: one which is developed and has excellent infrastructure and technology, and another which is underdeveloped with great levels of deprivation. The developing side has limited access to trade, technology or finance with the developed side.

The two environments which were created during apartheid did not disappear but have rather become a feature. Therefore the question the researcher needed to consider was how e-government could spread the development across the country. In this light, the effects of globalisation would have to be considered as more of an internal and domestic issue on how to balance trade and the opportunities for development. It was clear therefore that this can only be done through implementing proactive policies such as affirmative action.

The argument for democracy as a necessity for development is limited. As much as democracy gives greater political and economic freedoms, it does not necessarily allow for the natural evolution of institutions such as Ubuntu as may be required. Democracy may, on the other hand, lead to popular but disincentivising programmes that redistribute wealth from the rich to the poor, such as progressive taxation systems or welfare programs (Barro, 2008).

Economists therefore claim there is also no clear link between development and democracy. For example, while Botswana made huge leaps as a result of democracy, India struggles to see the same progress through democracy (Barro, 2008). There are also authoritarian countries such as China that have succeeded while others such as Zimbabwe have not. With regards to democracy, South Africa has benefited from democratic governance for 15 years but needs to take cognisance of the warning about lessening incentives for self-reliance because of its massive welfare programme to deal with poverty.

Religion and spirituality have also been alluded to as key contributing factors in development, whereby some religions inhibit development while others may promote it (Kuran, 2008). For example, classical Islam is said to inhibit development in the Middle East by restricting the creation of productive partnerships that allow the creation of corporations as separate legal entities from the owners (Kuran, 2008, p. 107). In South Africa, the Dutch Reformed Church used religion to strengthen apartheid (Nelson, 2002) and as such carries some blame for creating under-development. Though the leaders have officially apologised for the role of the church in apartheid the segregative character it played still lingers on (Nelson, 2002, p. 69). Religion and spirituality ought to play a uniting role rather than a divisive role.

5.2.2 Implementing Development

Strategies on how to achieve development became a subject area of interest soon after the end of the Second World War and the subsequent creation of independent states (Thorbecke, 2007). The discourse on development since that time gradually transformed in three significant periods: the 1950s, the 1960s, and the 1980s. Each of the periods suggested quite dissimilar approaches to development. Considering that South Africa was in a state of apartheid before 1994, all its development efforts have been based on the current approaches

to development since the 1980's wave. Hence, only a brief description of the 1950 and 1960 approaches will be given.

During the 1950s aggregative analytical frameworks were created which argued that the things that led to deprivation could be completely eliminated. The frameworks proposed investment in modern activities and an emphasis on good planning, e.g. the *big push* (Rosenstein-Rodan, 1943) and *the take-off sustained growth* (Rostow, 1956). Those approaches did not yield much success.

In the 1960s, the frameworks expanded to become dualistic in recognising both urban and rural contexts. It was then that there were major breakthroughs in defining development using indicators such as employment, population and GDP. The argument was that developing countries needed to emulate the key characteristics and stages of growth that developed countries had passed through to get to where they are. The recommendations were: increase industrialisation, reduce low-productivity agricultural employment for the high-productivity industrialised employment, shift from more traditional primary exports to more complex trade patterns that include technology, and increase the specialised labour force to complement the high technology advancements, continuously make structural changes with the central government playing a role in facilitating development rather than impeding private initiatives (Cypher and Dietz, 2009, p. 21). The driver of development at the time was placed on the private sector, suggesting that the role of government in development ought to be restricted to a facilitative one.

The 1970s saw the rise of the dependency theories which criticised the attempt to engineer even development while neglecting the key external colonial forces that determined the standards of living in poor countries. The dependency theories posited that the majority of the people in developing countries, who in most cases are poor, tend to be exploited by a minority rich who maintain and continue to exploit the poor majority (Ferraro, 2008). The dependency theories, however, did not consider the domestic issues of governance and institutions and neither provided an option of what should be done (Ferraro, 2008).

From the 1980s to date the development discourse has gradually expanded to include a range of approaches that look beyond income to focus more on improving social and individual

livelihoods. For example, in seeing development through the lens of the ‘quality of life’ which emphasises development results using individual and societal indicators such as literacy, health and education (Thorbecke, 2007). Because of the quality of life there has also been a shift of ownership in the defining development from what ‘experts’ used to say it is more to what those in need of development want it to be (Kingsbury, 2008). It has resulted in having to include greater participation of those in need of the development at the individual and community level so as to incorporate local knowledge in the process (Mosse, 2008). The quality of life indicators have been adopted by the United Nations and combined with economic indicators into the Human Development Index (UNDP, 2010).

The most notable and agreed upon approach to development based on the quality of life is the United Nations’ Millennium Development Goals (MDGs). The MDGs, created in 2000, comprise eight broad goals and 15 more specific targets all aimed at reducing poverty and its debilitating effects of child mortality, education and disease by 2015. The United Nations (UN) reports that overall there has been significant progress in attaining the MDGs, citing an increase in average overall incomes, a reduced number of people in extreme poverty, decreased child mortality rates, an increased life expectancy, and more people with access to water and improved sanitation services. However, progress with the MDGs has not been uniform. The disparities across and within countries has rather grown tremendously, particularly in rural areas in sub Saharan Africa (UN, 2009).

5.2.3 Key issues in Development

The issues that stand out in the debates on development generally arise from two areas, how development is defined and for whom development is aimed. These issues include: the measurement of development; the economics of development; the contribution of international aid; political and civil development; the globalization influences on development; gender; development as modernisation; regional variation, underdevelopment; the environment; and community development (Kingsbury, 2008, p. 12, Nederveen Pieterse, 2009).

5.2.4 Analytic Memo: Thesis Thoughts on Development

The current discourse appreciates that development does not occur in a vacuum but requires the government, the private sector and the citizens. Although the linear stages of growth towards development are aptly criticised for overlooking the internal and external barriers to development, they have a role in proposing how higher incomes allow people more room to do whatever they want to do (Secondi, 2008, p. 3).

In light of the discourse on development, the thesis inferred that for e-government to contribute to development in South Africa, it needs to:

- Re-build or support institutional structures such as Ubuntu.
- Play a role in the implementation of proactive policies such as affirmative action.
- Ride on the democratic freedoms currently in place.
- Take caution to increase self-reliance.
- Play a unifying role.

For e-government in South Africa to contribute to development, it needs to adopt a more embracive understanding that includes economics, human, historical and social aspects (Byrne and Jolliffe, 2007). The approach to e-government needs to consider a holistic approach where people become self reliant and attain a subjectively chosen quality of life through their own efforts, rather than through handouts (Cypher and Dietz, 2009, p. 8, ul Haq, 2008, p. 28, Max-Neef et al., 1989).

The thesis therefore identified with Amartya Sen's (1999) views on development which centre on choice and the freedoms for people to make the choices they desire. Sen's (1999) views on development have significantly influenced the United Nations approach to development and closely resemble the Ubuntu approach (Chapter 1).

5.3. Amartya Sen's Capabilities Approach

The Capabilities Approach (CA) is primarily a broad framework that assesses individual well-being and social arrangements based on what individuals are able to do and to be. The basic premise is to enlarge the choices available to individuals so they can live the life they choose (Sen, 1999). Nobel laureate Amartya Sen, the author of CA, contends that the assessment of well-being should be concerned with an individual's capability to function, which he regards as "what a person can do or can be" (Sen, 1999, p. ix), and the real opportunities that the person has especially compared with others.

Sen's (1999) humane way of thinking is a fundamental shift away from the linear and structured development norms which measure well-being based on financial estimates such as Gross Domestic Product and Gross National Product. In CA it is not enough to only remove obstacles that inhibit individuals from living the life they value; individuals should be provided with the means to achieve such a life (Robeyns, 2005a, Sen, 1999).

The thesis recognised that it would not be enough for e-government to remove the obstacles causing 25.5% unemployment and the 43.2% poverty, but should additionally provide the means for self-reliance, prosperity and employment.

The CA further argues that it is also not enough to provide the opportunities for development but must additionally enable those opportunities to be drawn upon. The mere existence of opportunities does not necessarily mean they can be drawn upon and achieved. For example, the South African government is in the process of rolling out ICT facilities in what are known as Thusong Service Centres (TSC) (formerly called multi-purpose community centres) where individuals have the opportunity to participatively interact with the government through channels such as the Internet and e-mail. In reality, these opportunities cannot be drawn upon because both the government administrators and the citizens do not know how to use the Internet or e-mail. As such, the real value of ICT facilities as a development commodity within TSCs does not exist. The thesis therefore noted the requirement for e-government to facilitate opportunities for development to be drawn upon.

Sen (1999) advocates that commodities are desired for their characteristics rather than for their intrinsic value. Using the example of the Internet facilities within the TSCs, the Internet facilities can be used for its different characteristics such as interacting with government, self-help improvement programmes, for business or even as a social communicator. Owning or having a commodity does not necessarily mean that the owner will use the characteristics of the commodity or use them for a certain purpose. For example, as shown above, the internet facilities in the TSCs are not used to interact with government and yet are designed to be “one-stop centres providing integrated services and information from government, to communities close to where they live as part of a comprehensive strategy to better their lives” (Republic of South Africa, 2007c, p. 2).

Accordingly, to get an idea of the well being of a person, the focus has to move to what the individual succeeds in doing with the commodities and the characteristics of the commodities at his command; a notion Sen (1999) terms as functionings. A functioning is defined as “an achievement of a person: what he or she manages to do or be” (Sen, 1999, p. 7). A functioning must be distinguished from owning the good and the characteristics of the good as well or having utility in the form of happiness from that functioning.

Functionings can hence be seen as features of a commodity and not the commodity. On the other hand, research on the lifestyle of people living in deprivation surprisingly shows that they spend half of their income on alcohol, tobacco and other forms of entertainment, e.g. weddings, funerals and religious ceremonies (Banerjee and Duflo, 2008, p. 151). Consequently, for e-government to meaningfully contribute to development by assisting to achieve functionings, it must enable people to take advantage of opportunities based on broader social conceptions of what is good, rather than on individual conceptions.

5.3.1 ICT and the Capabilities Approach

The Capabilities Approach (CA) has not been used exclusively to guide ICT research towards development (ICT4D) but as an interdisciplinary framework (Robeyns, 2005b) to assess different types of development research, ICT included (Fukuda-Parr, 2003, JICA, 2005, Evans, 2002, Sen, 2005, UNDP, 2007a). For example, the CA was used to assess the ability of ICT to disseminate to people the wide range of choices available to them (Evans, 2002)

and to assess the power and communications’ capacity of the Internet in improving the livelihoods of people (Sen, 2005).

The CA has not been adopted as a guide for ICT4D research largely because of the non-prescriptive nature of the CA and its overly individualistic approach (Stewart and Deneulin, 2002, Krishnakumar, 2007).

The CA is weak on prescriptions but strong on values in contrast to the traditional approaches to development that are strong on prescriptions, but weak on values (Fukuda-Parr, 2003). The strength of traditional approaches to assessment of development is in their structured proposition of indicators that can be used to assess development as well as the weightings for those indicators. The prescriptive quality of traditional development approaches makes them favourable to be adopted into government policy (Stewart and Deneulin, 2002) unlike the CA which proposes a contextually dynamic list of capabilities (Uyan-Semerci, 2007) that are needed by every individual for that individual to be considered to be living a satisfactory life (Robeyns, 2005b). Robeyns (2000) proposed a schematic representation of the CA (Figure 5.1) to overcome the prescriptive problem.

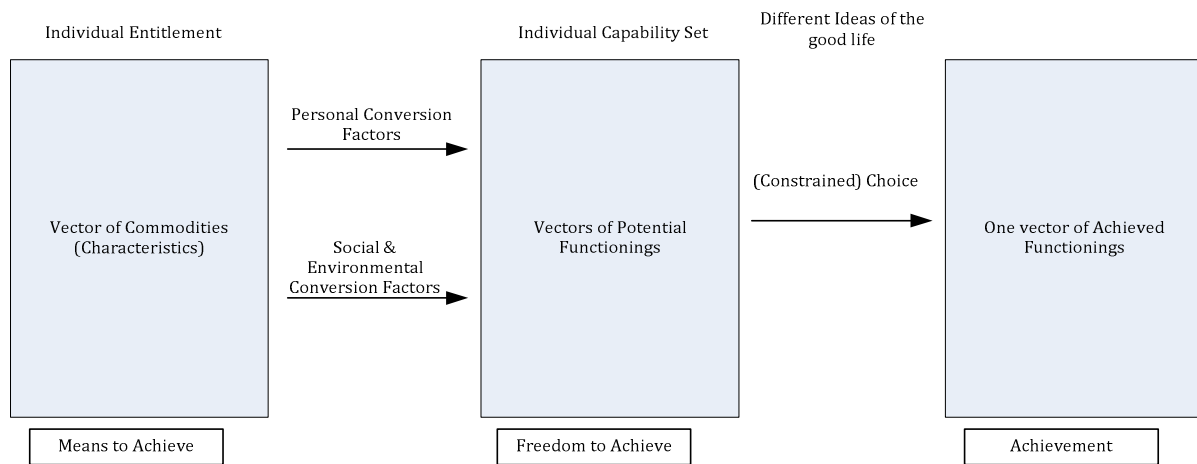


Figure 5.1: Schema of the Capabilities Approach (Robeyns, 2000)

Having dealt with the prescriptive problem of the CA, the thesis identified Robeyns’ (2000) schematic representation as the solid foundation from which to view how e-government could make a contribution to human development. Notwithstanding, as noted in Section 5.2.3, the

thesis needed to find a way to deal with CA’s individualistic nature which is fundamentally inconsistent with the institutional structure of Ubuntu.

5.3.2 The Capabilities Approach and Ubuntu

The CA implicitly assumes that people come together for instrumental reasons alone, thereby ignoring the need for affiliation that is intrinsic to Ubuntu and is a necessary part of institutional structures in South Africa. The same individualism ignores the power of politics in influencing decisions which can only be combated through the collective and not through individual efforts (Stewart and Deneulin, 2002). In Ubuntu, the collective is fundamental to individual life as it provides an arena for shared values. In Ubuntu, membership to a group who share the same interests and values confers benefits such as social relationships and self-respect that go beyond the stated purpose of the collective. One capability of Ubuntu is the ability to improve claims over resources and for empowerment, as is illustrated by the strength of trade unions (Stewart, 2005).

To overcome the individualistic shortcoming of the CA, Ibrahim (2006, p. 404) called for an expansion to collective freedoms which he defines as “the freedom of a group to perform a set of agentially distinct actions in combination”. Collective agency plays a role in individual agency and collective action is more powerful than individual action. Collective agency and action are powerful enough to influence policy and bring about political change (Fukuda-Parr, 2003, p. 309). Consequently, the thesis adapted Robeyns’ (2000) schema to allow for collective capabilities and labelled it the Ubuntu Development framework (Figure 5.2).

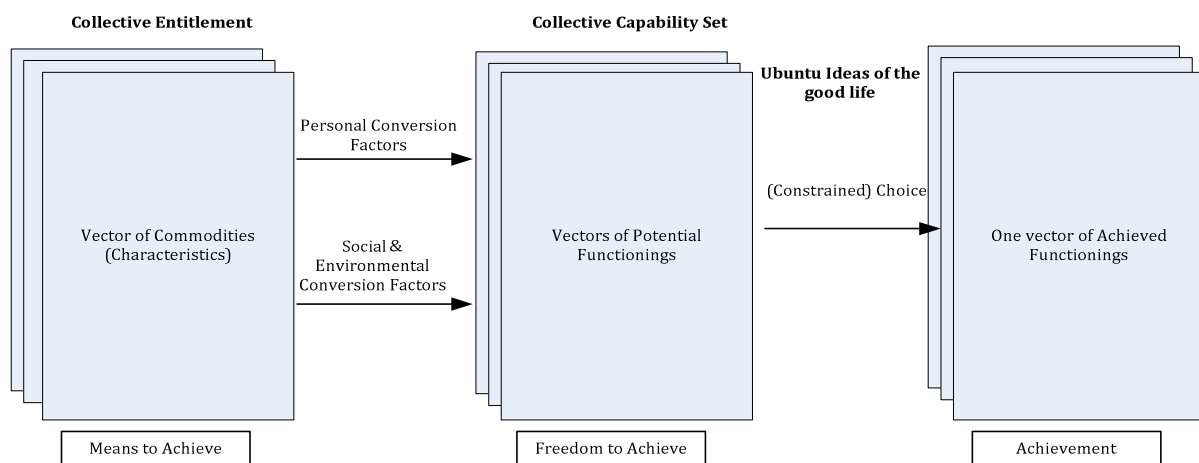


Figure 5.2: Adapted Robeyns' (2000) Schema to allow for Collectives – Ubuntu Development Framework

The researcher had now dealt with the individualistic and non-prescriptive problem of the CA and was now comfortable that it had adopted an approach to development which is consistent with the context of South Africa taking into account the need to re-build or support Ubuntu, implement proactive policies such as affirmative action, ride on the democratic freedoms currently in place, take caution to increase self-reliance and play a unifying role. The researcher next reviewed the discourse of ICT for Development (ICT4D) to review how ICT has been proposed to be adopted towards human development.

5.4. ICT for Development – ICT4D

A formal definition of ICT4D does not exist, but a generally accepted understanding is the use of ICT towards socioeconomic development. The discourse on ICT4D has followed closely behind development in a supporting and enabling role and is traced back to the 1950s where ICT was viewed as something that could automate government administrative functions (Heeks, 2008). The main concern in ICT4D today, similar to development, is how to innovate ICT towards socioeconomic development amongst the billions of underprivileged people in the world (Heeks, 2008, Sahay, 2001, Walsham et al., 2007).

Avgerou (2009) summarised the current discourse on ICT4D which the researcher will use to guide its review of ICT4D literature and the positioning of the thesis. The discourse on ICT4D follows two influences characterised as occurring along continuums; how development occurs, and how ICT when used as a tool is innovated to contribute to the process of development.

On one continuum, development as an influence is seen as happening progressively at one end and disruptively at the other. In the progressive transformation, development is a gradual process affecting different domains of human activity and life towards a better point. Amongst these is the United Nations approach to development as seen in Section 5.2.2. In progressive transformation changes brought by development are often accepted uncritically. Disruptive transformation theory posits that development will bring fundamentally different norms from the existing ones and will require substantial changes in social and individual behaviour (Christensen and Raynor, 2003). Disruptive transformation theory acknowledges

that there may be conflicts in accepting the development in this perspective. Traditional economics, as seen in Section 5.2.2 adopts a corresponding view.

On the second continuum, ICT is innovated to contribute to the process of development where it is transferred and diffused from developed to developing countries on the one hand, and on the other hand, ICT is adapted from within the social context of the developing country. The transfer and diffusion end assumes a universalist outlook where ICT as a tool designed to work in any context. Here, the ICT tool only needs to be marginally customised to fit the different contexts. The typical discourse employed by IS researchers in this regard is the Diffusion of Innovations Theory (Rogers, 1995, Barrett and Walsham, 1995, Gibson, 2008, Lievrouw, 2006, Madon, 2003, Siebeling, 2004, Twinomurinzi, 2007).

The situated perspective theory proposes that ICT needs to be adapted from within the immediate social context, placing great emphasis on the importance of the ICT system to reflect the norms and culture of the local context. The typical discourse employed by IS researchers in this regard is Actor Network Theory (Avgerou et al., 2004, Avgerou and Madon, 2004, Cordella and Shaikh, 2003, Heeks and Bailur, 2007, Postma, 2006, Stanforth, 2006, Walsham, 1997) and Habermas' Theory of Communication Action (Klein and Huynh, 2004, Lyytinen and Klein, 1985, Mingers and Willcocks, 2004).

Avgerou (2009) combined the two influences to result in four quadrants described next (Figure 5.3).

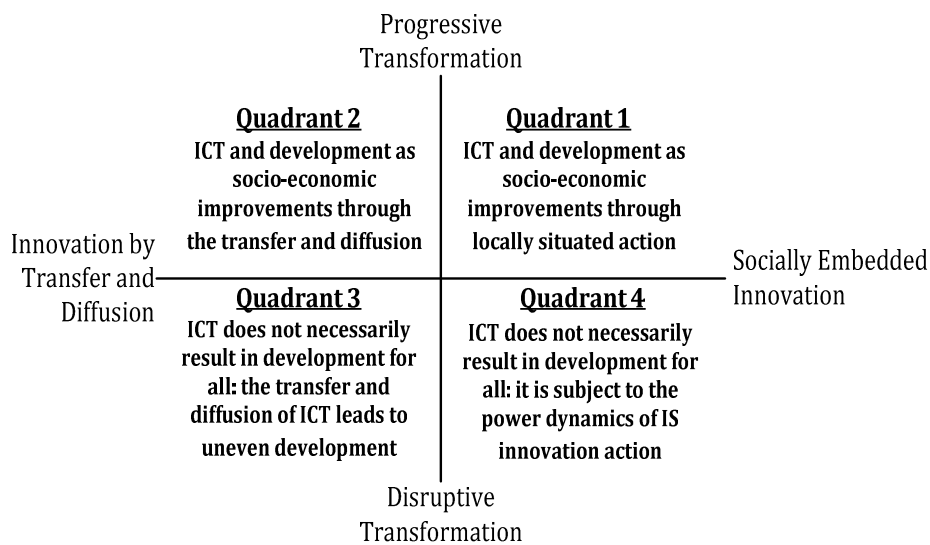


Figure 5.3: Discourse on ICT4D (Avgerou, 2009:21)

5.4.1 Socio-economic improvements through locally situated action

In quadrant 1 (Figure 5.3) ICT is innovated with a view to improve life conditions from within the local context, taking into account the embedded historical, cultural and social meanings. The pragmatic principle is that people within the local context need to participate and be comfortable with the ICT innovations as they occur. By adopting this approach the satisfiers of peoples' needs (Max-Neef *et al.*, 1989) are infused as part of the innovation process of the ICT (Roode *et al.*, 2004). Habermas' theory of communicative action and Actor Network Theory are commonly used by IS researchers who fall in this area of thought (Avgerou, 2009). These two theories will be used as the formal theories against which to compare the substantive theory that emerges from the Grounded Theory analysis.

The thesis in its development orientation seen in Section 5.2.5 to re-build or support institutional structures such as Ubuntu, implement proactive policies such as affirmative action, ride on the democratic freedoms currently in place, and take caution to increase self-reliance and play a unifying role ideally fits in this quadrant.

5.4.2 Socio-economic improvements through transfer and diffusion of ICT

Quadrant 2 shows that it is possible to create an ICT tool modelled using best-practices. Such a model is then able to work across all situations and bring about development as seen in world's best-practice. The model may only require minor customisations for people at the local level. The underlying notion is similar to the 1960's discourse on development in proposing that ICT will bring the same efficiency gains, expand markets, deliver better quality government services, and create more business opportunities (Byrne and Jolliffe, 2007) in the process leap-frogging some development processes (Wade, 2002).

The approach is criticised in IS research noting that it is a techno-centric approach based on reports of intended benefits of pilot projects rather than actual evidence, thereby exposing its supply-side bias (Wade, 2002). The sustainability of such projects seen in the telecentres is doubtful (Avgerou, 2009) as there is a danger of adopting ICT tools which are not designed

for the purpose of development (Byrne and Jolliffe, 2007, Wade, 2002). Developing countries are usually without the basic requirements to participate in the networked world; for example in access to infrastructure, human resources and capital (Young and Ridley, 2003). The researcher found that the approach of the South African Government of e-Government fits in this paradigm (Chapter 1).

5.4.3 ICT does not necessarily result in development for all, it is subject to the power dynamics of IS innovation action

ICT is at times implemented but only benefits a select few. The discourse here questions the power relations that exist in society and how these powers may be carried over when new ICT is implemented. ICT only serves to promote the interests of some as carried over by policies and existing inequalities. IS researchers use this approach to critique existing ICT innovations for development, especially using Critical Theory. For example, Kanungo (2004) notes that despite the potential benefits for the use of IS in rural and underserved settings, the high costs coupled with infrastructure and context-related inhibitors dilute the potential advantages. His arguments were based on Habermas' theory of communicative action.

Wade (2002) states how ICT can cause a form of dependency on donors. Odedra-Straub (2003) questions why Small and Medium Enterprises, which are the economic engines of developing nations, have the least access to ICT opportunities.

The researcher saw evidence of this in telecentres where the people who need access the most are financially not able to access it or do not have the skills to access the ICT services. The researcher consequently needed to find a means to guard against this problem.

5.4.4 ICT does not necessarily result in development for all, the transfer and diffusion of ICT leads to uneven development

ICT is accepted as a force of socio-economic change, but one that brings with it power relations. ICT in this sense in fact leads to greater levels of domination and inequality hence extending the socio-economic and digital divide (Roode et al., 2004, Madon et al., 2007).

Heeks (2008) argues that the world is moving to a more digital provision of services and those without the basic infrastructure for the digital world will be left behind. The discourse on globalisation shows there is an increasing gap between the haves and the have-nots which in certain instances can result in disintegrated communities (Akpan, 2003). Castells (2000) shows how ICT systems can prevent vulnerable people from participating in the rest of the global market in what he refers to as the fourth world.

The researcher found traces of this phenomenon in the urban areas of South Africa and not in the rural areas. In the urban areas, there are those who are fully dependent on ICT and others who do not have a clue how to use it. In the rural areas, usage was universally dismal. The researcher consequently needed to guard against the danger of ICT systems which alienate, rather than include people.

5.4.5 Gaps in ICT4D

The gaps in ICT4D similar to the discourse on development centre around the inability to define the role of ICT for unclear development goals and the lack of theory to guide how ICT will be used to achieve the type of development anticipated. It is a result of this gap that this researcher embarked on investigating the creation of a framework that could describe the role of e-government in development (Chapter 1).

5.5. Concluding thoughts on Development and ICT4D

The main impact of ICT towards development is not only economic but cuts across other areas such as social and psychological. The focus of ICT4D should be on basic livelihoods, group productivity and social change. South Africa's e-government strategy is based on the best-practice experiences from developed countries, whose experiences are not relevant to its local contexts (Belanger and Hiller, 2006). South Africa's local context differs from developed countries in its history and culture, technical staff, infrastructure, citizens and government officers (Chen *et al.*, 2006).

The recent democracy of South Africa, relative to other developing countries, is particularly distinctive. In terms of culture, Western societies are highly individualistic while African and

Eastern societies are more collectivist (Hofstede, 1980, Triandis et al., 1990). South Africa also suffers from an ICT skills shortages, unlike developed countries where most government officials use and may in fact depend on ICT. In developing countries government officers are vaguely familiar with ICT and will in most instances prefer not to dedicate the already few human capital resources to a notion that is vague.

The differences highlight the need to contextually adapt ICT to the development needs of South Africa. They also present an opportunity for a solution that is particular to South Africa and could probably be adapted easier for other similar developing countries, more especially in Africa. In this regard, although South Africa shares similar cultures with many of the developing nations in Africa and is itself regarded as a developing country, it is more developed in terms of infrastructure, stability and economic development.

5.6. ICT in government: E-government

E-government is a popular field of research within IS, yet is without a commonly agreed upon definition (Bhatnagar, 2004). This thesis adopts the commonly used definition of e-government as “the use of information technology to enable and improve the efficiency with which government services are provided to citizens, employees, businesses and agencies” (Carter and Belanger, 2005, p. 5).

The primary offering of government is its policies (Barrett and Fudge, 1981, Van Meter and Van Horn, 1975). The annual government reports which benchmark South Africa’s progress with policy implementation bring to the surface the fundamental problem of government; the policies are excellent but the implementation is significantly problematic (Republic of South Africa, 2006b, Republic of South Africa, 2007b, Republic of South Africa, 2001b, Republic of South Africa, 2002, Republic of South Africa, 2003, Republic of South Africa, 2004, Republic of South Africa, 2005). For example, the Batho Pele policy has excellent ideals but it is the implementation of the ideals which is problematic. The same applies to the PAJA. The researcher therefore firmly established that to investigate how e-government could lead to development, the research question needed to be refined and fixed as: *‘How can ICT facilitate policy implementation in a development context?’*

The attractiveness of e-government has almost all governments around the world enthusiastically embracing it, or having it pressed upon them, citing the perceived benefits. High on the list of these perceived benefits are the promises of better governance, cost reduction and improved efficiency of government services (UNCTAD, 2006). E-government literature suggests that the transition from government to e-government exposes governments to opportunities to improve their practices through process redesigns (Davison *et al.*, 2005).

Many governments, in adopting the utopian view, have overlooked the fact that the strategies used in the private sector for customer satisfaction, retention and adoption cannot be directly applied to citizens. They quickly fall into the trap that many governments fall into, treating citizens as business clients. The business client concept borrowed from the private sector may be a misnomer but it is one that carries with it suggestive meaning. Citizens have rights from government and duties to government while business clients have a choice (Belanger and Hiller, 2006). Governments have a legal and moral responsibility to serve all the citizens and the different constituents within the country (Davison *et al.*, 2005).

South Africa is not excluded from this e-government ‘business frenzy’ and has invested enormous amounts of financial and human capital in striving for the online utopia following business models (Chapter 1) rather than adopting a collaborative model of e-government which better reflects Ubuntu.

To recap from Chapter 1, South Africa measures the success of e-government along four indicators: interoperability (cross-functionality across different departments); ICT security (dealing with the security of government electronic systems and information); economies of scale (achieving this includes investments in research and development to developing local skills with the ability to produce internally), and: elimination of duplication (abolishing unnecessary duplication of similar IT functions, projects and resources) (Republic of South Africa, 2001a). The success criteria of e-government do not in the least reflect the development inclination of the South African government or the spirit of Ubuntu.

5.6.1 Measuring E-government

Government has three constituents that ICT is targeted at improving as part of the e-government strategies; within government itself - how ICT can improve the government to government relationship (G2G), the business sector with the ICT contribution better known as government to business (G2B) and citizens and society with the ICT improvement commonly referred to as government to citizen (G2C). The three constituents all place high demands to employ ICT in increasing participation, and the effectiveness and efficiency with which government interacts with them.

The traditional approach that has been adopted by most governments, practitioners and academics to measure e-government is through the use of maturity models. Maturity models are conceptual reference models that are used as benchmarks within a given discipline to measure the maturity of an organisation as well as to provide for the evolution of the organisation towards increased maturity (Becker et al., 2010). The history of maturity models is traced back to Richard L Nolan who created a theoretical model for growth of ICT in business (Nolan, 1976, Nolan, 1973). Maturity models have since then evolved normatively in different disciplines each creating its model.

5.6.2 E-government Maturity Models

In e-government, there are a number of maturity models that offer the stages of development to maturity through which government can be measured (Lee, 2010). Many of the e-government maturity models are however not congruent with each other especially since each of them are based on different perspectives (Nour et al., 2008).

Lee (2010, p. 5) compared and contrasted the 12 most distinctive e-government maturity models which have been developed and employed over the period 2000-2010 using a qualitative meta-synthesis analysis (different from a quantitative meta-analysis). The meta-synthesis resulted in a common frame of reference model which distinguished five metaphors and two themes (Table 5.1 and Figure 5.4).

Table 5.1: Metaphors, their definitions, related stages, and themes (Lee, 2010, p. 5)



Metaphors	Descriptions	Stages/concepts	
		Citizen and service	Operation and technology
Presenting	Present information in the information space	Information	
Assimilating	Assimilates (or replicates) processes and services in the information space with the ones in the real world	Interaction	Integration
Reforming	Reform the processes and services in the real world to match the information space requirements, fitting for efficiency	Transaction	Streamlining
Morphing	Change the shape and scope of processes and services in the information space as well as the ones in the real world, fitting for effectiveness	Participation	Transformation
e-Governance	Processes and service in both worlds are synchronously managed, reflecting citizen involved changes with reconfigurable processes and services	Involvement	Process management

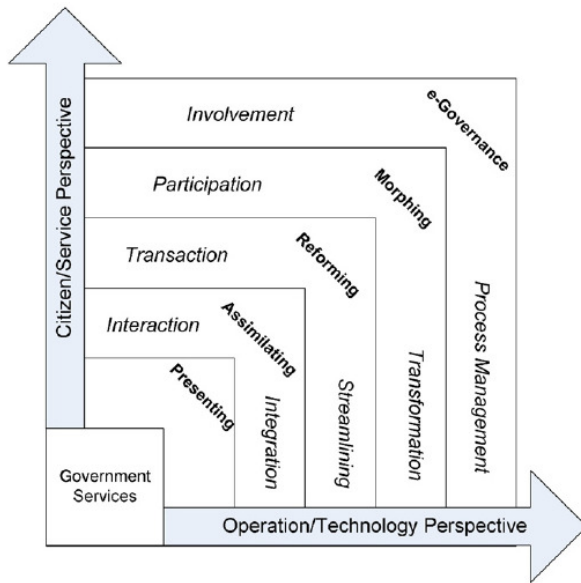


Figure 5.4: A common frame of reference for e-government stage models (Lee, 2010, p. 10)

The metaphors are described in Table 5.1. For the themes, citizen and service relates to the services of government towards its constituencies (information, transaction, interaction, participation and involvement), and the operations/technology theme relates to the technology and/or operational characteristics of government (integration, streamlining, transformation and process management). Lee (2010) is quick to caution against the critique levelled at maturity-models not to assume that governments can mature progressively from one stage to the next stage. He warns that whilst certain technology/operations stages can be skipped over without much consequence, there are likely negative repercussions from skipping over some progressive stages in terms of the constituent services.

5.6.3 E-government in South Africa

In South Africa, there are a number of e-government initiatives such as the Cape Gateway Project and the electronic filing of tax returns which are rated as being at the top-end of e-government maturity (Mukabeta Maumbe et al., 2008, Sibanda Sr, 2009) whilst there are others at the bottom-end that struggle to keep their sites updated (Mphidi, 2009). However, in South Africa there is high level of ICT illiteracy and the success of such e-government initiatives have faced the ethical dilemma of progressing at the expense of more important development priorities such as poverty and unemployment (Mukabeta Maumbe et al., 2008).

5.6.4 Gaps in E-government

There is one central problem in e-government – the technological determinism in its over focus on the technical artefact and with a dismal attention given to the human and social side of ICT (Fedorowicz and Dias, 2010, p. 1, Vassilios, 2009). For example, the United Nations focuses on the technological product rather than the citizen by measuring the readiness of national e-government.

“The aims to which these technologies are put to use vary, but include: better access and delivery of services to citizens, improved interaction with citizens and business, and the empowerment of citizens through access to information. Overall, they result in a more effective and efficient government in general. This evaluation of e-government readiness places citizens at the forefront, by focusing on the governmental services and products that primarily affect them.” (United Nations, 2008, p. 12)

The technological determinism manifests itself in the maturity models in suggesting an evolutionary transition from one stage to the next in a linear manner without noting how this evolution occurs.

The researcher hence realised that e-government in South Africa would have to have a different measure of success which is inclusive of the developmental aims and the spirit of Ubuntu in Batho Pele. The researcher hence turned to ICT which deals with collaboration to see how it could fit with the collaborative nature of Ubuntu and how this can be integrated in e-government.

5.6.5 Collaboration

Collaboration is often touted as the ultimate solution to any deadlock where there is more than one person involved, yet the theories that describe it are in most cases context specific (Yin, 2003) without any of them rigorously explaining the concept of collaboration (Wood and Gray, 1991). This has resulted in the concept of collaboration being ambiguous and in many instances used to convey the same meaning as cooperation or coordination. For example, collaborate is defined as “to work together, especially in a joint intellectual effort”,

“to work, one with another; *cooperate*, as on a literary work” (Elliott, 2007), “to work jointly with others or together especially in an intellectual endeavour” (Dictionary.com, 2007), “to work in conjunction with another or others, to co-operate; especially in a literary or artistic production, or the like” (Merriam-Webster's Online Dictionary, 2007); “joint effort towards a goal” (Kolfshoten, 2007).

Wood and Gray (1991, p. 56) in an attempt towards a comprehensive theory of collaboration define collaboration as the phenomenon that “occurs when a group of autonomous stakeholders of a problem domain engage in an interactive process, using shared rules, norms, and structures, to act or decide on issues related to that domain.” Wood & Gray (1991) also argue that research in collaboration has been narrow in its primary focus on organisational issues with little or no attention given to studying it from a more comprehensive perspective, for example by considering collaboration with the social sciences discipline.

Ditkoff *et al.* (1991) extended the work of Wood and Gray (1991) to clearly distinguish collaboration from the closely related concepts of coordination and cooperation (Table 5.1). It is from the comprehension of collaboration that the thesis realised the striking similarity between collaboration and the Ubuntu philosophy in Batho Pele (Table 5.1). The next section accordingly develops the notion of collaboration and collaborative ICT.

Table 5.2: Distinguishing Collaboration, Cooperation and Coordination (Ditkoff *et al.*, 2005)

	Coordination	Cooperation	Collaboration	Ubuntu/Batho Pele
Purpose	Avoid gaps & overlap in individuals' assigned work	Obtain mutual benefit by sharing or partitioning work	Achieve collective results that the participants would be incapable of accomplishing alone	"A way of delivering services by putting citizens at the centre of public service planning and operations... to include <i>all</i> citizens for the achievement of a better-life-for-all" (Republic of South Africa, 2008a)
Desired Outcome	Efficiently-achieved results meeting objectives	Same as for Coordination, plus savings in time and cost	Same as for Cooperation, plus innovative, extraordinary, breakthrough results, and collective 'we did that' accomplishment	"To continually improve the lives of the People of South Africa by a transformed public service, which is representative, coherent, transparent, efficient, effective, accountable and responsive to the needs of all" (Republic of South Africa, 2008a)
Optimal Application	Harmonizing tasks, roles and schedules in <i>simple</i> situations	Solving problems in <i>complicated</i> situations	Enabling the emergence of understanding and realization of shared visions in <i>complex</i> situations	"... a people-centred and a people-driven public service that is characterised by equity, quality, timeousness and a strong code of ethics." (Republic of South Africa, 2008a)
Examples	Project to implement off-the-shelf IT application; Traffic flow regulation	Marriage; Operating a local community-owned utility or grain elevator; Coping with an epidemic or catastrophe	Brainstorming to discover a dramatically better way to do something; Jazz or theatrical improvisation; Co-creation	Imbizos - a forum for enhancing dialogue and collaborative interaction between government and the people in South Africa (Ditkoff <i>et al.</i> , 2005)
Appropriate Tools	Project management tools, schedules, roles, critical path (CPM), PERT and GANTT charts; "who will do what by when" action lists	Systems thinking; Analytical tools (root cause analysis etc.)	Appreciative inquiry; Open Space meeting protocols; Four Practices; Conversations; Stories	The Batho Pele Handbook & Flagship programmes (Republic of South Africa, 2008a) both only offer guidelines & recommendations
Degree of interdependence in designing the effort's work-products (and need for physical co-location of participants)	Minimal	Considerable	Substantial	Substantial – the focus is on being people-centred and people-driven
Degree of individual latitude in carrying out the agreed-upon design (degree of autonomy)	Minimal	Considerable	Substantial	Substantial – as demonstrated in stable democratic dispensations as it is South Africa

5.6.6

5.6.7 E-Collaboration

E-collaboration as a field of research on its own is relatively new (Vreede, 2006) and similar to the concept of collaboration, has been investigated in quite an unfocused manner (Kock and Nosek, 2005, Kock, 2005). For consistency, this thesis adopts a definition of e-collaboration as “collaboration using electronic technologies among different individuals to accomplish a common task” (Kock, 2005, p. i). The underlying nature of e-collaboration is the electronic exchange of information with the stakeholders playing a role in the outcome of the collaborative process.

Most e-collaboration research has unfortunately blindly focused exclusively on the technology and much less on the process or the necessary human interaction (Gopal and Prasad, 2000). IS researchers attribute this blind focus on the technology aspect as the main reason for the inconsistent results from e-collaboration research (Gopal and Prasad, 2000, Kock, 2005, Briggs et al., 2003, Dennis et al., 2001b, Vreede, 2006). E-collaboration, when carried within a broader socio-technical manner offers inherent capabilities such as reducing the time to achieve collective results and increasing collective satisfaction (Kolfshoten, 2007).

Research in e-collaboration is now gradually refocusing to take into account the process and the human interaction. One such process and human sensitive research stream is Collaboration Engineering (CE) as it was used in the PAJA Project. The essence of the CE approach (Section 4.3) is in creating computer-based facilitation packages for practitioners in their local context by developing transferable, repeatable and predictable collaborative processes which can easily be adopted and used (Briggs *et al.*, 2003).

5.6.8 Collaboration Engineering using thinkLets

Briggs *et al.* (2003) reckon that the fundamental role of Collaboration Engineering (CE) is in training practitioners in the relevant facilitation skills on e-collaboration technology and group dynamics necessary for them to use the e-collaboration technology to create a

repeatable collaborative process. For successful CE efforts, there are three critical requirements; a low technology related skills conceptual load (easy computer steps to follow); the technology related facilitation skills need to be packaged such that different practitioners using the same packaging will get similar predictable results from their groups; and the technology facilitation skills must be packaged in blocks that can be reused easily to create a new collaborative process by re-organising the package blocks to achieve the group goal.

Briggs *et al.* (2003) identify thinkLets as the most appropriate CE building blocks. ThinkLets are “the smallest unit of intellectual capital required to create one repeatable, predictable pattern of collaboration among people working toward a goal” (Briggs et al., 2003, p. 46). The thinkLet consists of a collaboration tool, the tool configuration, and a script with step by step instructions on how to run it. The collaboration tool is any artefact that supports collaboration and can range from a piece of paper to a technology that enables people to engage with each other collaboratively such as the popular chat programs.

When considered in this manner, it can be seen that Collaboration Engineering is not bound to prescriptive technology tools. Collaboration tools though, such as Group Support Systems, enhance collaboration efforts better (Kock, 2005). The tool configuration describes the way in which the tool is setup to allow the group to achieve its group goal. In creating a thinkLet, there is a need to know the required outcome of the collaboration so as to develop an appropriate process.

Briggs *et al.* (2003) adopt and define five general outcomes of collaboration which they term as ‘collaboration patterns’. The collaboration patterns are; diverge - the group moves from fewer to more concepts; converge - from many concepts to focusing on a few worthy of further attention; organise - from less understanding to more understanding of the relationships among the concepts; evaluate - from less to more understanding of the possible consequences of each concept; and build consensus - from having less to having more agreement on courses of action.

One such thinkLet is the PAJA Project TurnStormer (Section 4.5.2). The thesis builds on the emergence of this thinkLet whose purpose was to create an awareness of government policy

in South Africa in both public servants and citizens (Twinomurinzi and Phahlamohlaka, 2006). TurnStormer simulates the process of a government administrator (represented as a group of people) interacting with a group of citizens in apprenticeship-like training, exchanging opinions and requests. The exchanges are in an attempt to resolve a negative government decision in accordance with the principles of administrative law as stipulated in the Promotion of Administrative Justice Act of 2000 (PAJA). The simulation process of the PAJA enabled the individuals in each group to gain a new understanding of the policy and acquire the skills necessary to implement the policy.

Collaboration through the CE approach offers a useful means on how South Africa can adopt an e-government approach consistent with the spirit of Ubuntu.

5.7. Concluding Thoughts from the Literature Review

As the literature was reviewed, the Ubuntu Development Framework stood out as the foundation for the thesis and that the thesis fell in the 1st quadrant of Avgerou's (2009) framework. The implications of these findings mean that the substantive theory that would emerge ought to be compared with formal theories that are often borrowed in the 1st quadrants, i.e. Habermas' Theory of Communicative Action and Actor Network Theory.

Finally, the literature pointed to the fact that Collaboration Engineering using thinkLets has appeal to enable an e-government strategy that allows for collaborative engagement between government and the public in the spirit of Ubuntu. A collaborative approach to e-government is better able to re-build local institutional structures such as Ubuntu, engage democratic freedoms, increase self-reliance amongst citizens and play a unifying role.

With the analysis of data and the literature review completed, the researcher proceeded to bring together the analytic memos into a substantive theory (Chapter 6).

Chapter 6. The Substantive Theory

6.1. Introduction

Chapters 3-5 described the ethnographic experiences of the researcher and the data that the researcher came across in the field while at the same time attempting to make sense of the experiences and data. During the ethnographic immersion there was a constant comparison of the data with the emerging concepts and categories according to the analytical procedures of the Grounded Theory stages of open and axial coding. The analyses were expressed in what were labelled Analytic Memos. Having assembled the memos, the thesis needed to systematically integrate, refine and relate the sub-categories and their memos around the core categories of the Ubuntu Development Framework (UDF) derived from the literature (Section 5.3.2) to derive the substantive theory. Chapter 6 illustrates that selective coding stage of Grounded Theory which results in a substantive theory.

Chapter 6 is structured as follows: Section 6.2 recaps the Ubuntu Development Framework (UDF) from Section 5.3.2 presenting it as a Grounded Theory guide and lens to perform the selective coding. Section 6.3 performs the selective coding by relating the Analytic Memos slice by slice around the three core categories of the UDF. Section 6.4 summarises the chapter describing the substantive theory that emerges.

6.1.1 The Ubuntu Development Framework

Theories are based on underlying assumptions about the nature of a phenomenon and as such are a way of viewing and not viewing phenomenon (Reed, 2005, Walsham, 2001). The Ubuntu Development Framework (UDF) was derived from the literature after reviewing the relative insights and fruitfulness (Klein and Huynh, 2004, p. 196) of competing theories on development in relation to the thesis. The UDF was adopted as the theoretical anchor to perform the selective coding in Grounded Theory (Figure 6.1).

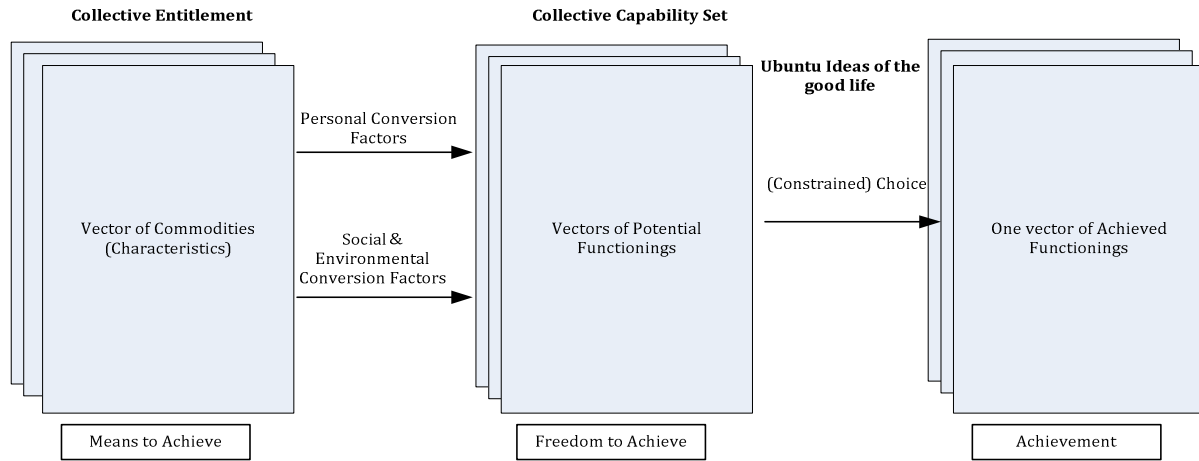


Figure 6.1: The Ubuntu Development Framework

The UDF can be summarised as follows, beginning from the left. A collective may have the means to achieve which means equate to having access to a vector of development commodities such as multi-purpose community centres. The vector of commodities is expected to assist the collective to emancipate themselves from conditions of deprivation. However, the collective psyche needs to be transformed in order to exercise control of the available commodities for their benefit.

The transformation of the collective will involve social and environmental factors, for example acquiring new computer skills. The collective will then have obtained the freedom to achieve. Then, based on the collective Ubuntu perspective of what is considered good, the freedom to achieve is drawn upon to actually do something which emancipates the collective. For example, a collective can register an agricultural cooperative which may have better ability to receive business funding. By doing this, the collective will have made an achievement based on what they desire.

6.2. Deriving the Substantive Theory

The three pillars of the UDF, the means to achieve, the freedom to achieve and achievement were adopted as the core concepts around which the categories from the Analytic Memos were systematically integrated, refined and related. Figures 6.2-6.4 illustrate that selective coding process. Selective coding as an art of abstraction required complex judgement of the

relative insight and fruitfulness of each categories to the core UDF concept (Klein and Huynh, 2004, p. 196).



Figure 6.2: Selective Coding for Means to Achieve



Figure 6.3: Selective Coding for Freedom to Achieve

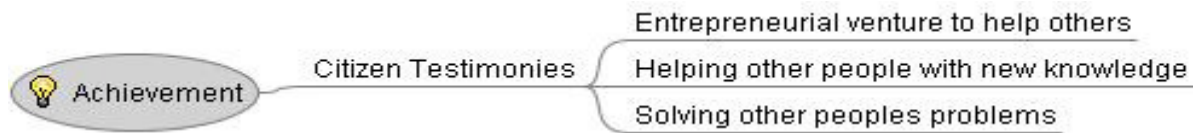


Figure 6.4: Selective Coding for Achievement

During the selective coding process, it increasingly became evident that the core concepts from the UDF would have to be broadened to accommodate the range of experiences described in the Analytic Memos. Agar (1986) describes this phenomenon when the researcher meets disjunctions between ethnographic data and formal theory as calling for “an improvisational style to meet situations not of the researcher’s making, and an ability to learn”.

Without losing the essence of the UDF, the thesis improvised by changing the names of the UDF core concepts to better describe the cornerstones of the substantive theory: The ‘*Means to Achieve*’ to the ‘*Problems and/or Opportunities for Development*’, the ‘*Freedom to Achieve*’ to ‘*Determinant Forces of Development*’, and ‘*Achievement*’ to ‘*Evidence of Development*’. The next section describes the considerations that were made when making the name changes to the UDF core concepts before presenting the substantive theory as a whole.

6.3. The Substantive Theory

6.3.1 The Problems and/or Opportunities for Development

Beginning from the left side of Figure 6.1, the Capabilities Approach (CA) makes the assumption in describing the means to achieve that the vector of commodities is made available. The data, however, revealed something different; that the real vector of commodities that government makes available to citizens are legislation and policies. For example, the government sponsored ICT powered facilities called Thusong Service Centres (TSCs) are part of government's development policy to integrate government services in rural communities (Republic of South Africa, 2007c). The PAJA is part of the legislation that gives citizens the ability to emancipate themselves through correctly seeking redress from government.

Therefore, in realising that government policy is the real means to achieve, the question then arose about the issues that need to go through conversion before the vectors of commodities can be drawn upon in what the CA refers to as personal, social and conversion factors. These issues to be converted stood out as either opportunities presented in government policy or problems being experienced and prevented policy from being implemented. Taking such a perspective, the biggest opportunity for development is government policy. ICT is a secondary opportunity which can be drawn upon to play a role in facilitating the implementation of policy.

For ICT to facilitate the implementation of policy in the spirit of Ubuntu, it has to mitigate the following contiguous problems to development:

- The marginalized role of women in society.
- The different means of communication in rural and urban areas.
- The lack of a clear development agenda.

- The ICT infrastructural and accessibility problems affecting both government and citizens.
- The poor citizen perceptions of government.
- The lack of a clear development agenda for each community.
- The continuing race concerns.

From the findings, ICT is able to create a shared space in the spirit of Ubuntu within which collectives can enthusiastically engage in free and open discourse in community assemblies about how to mitigate problems and take advantage of opportunities provided in government policy.

“The researcher didn’t know about AJA until I attended the workshops. It has got good implications for the survival of the citizens.”

“For a person in the street, it is very difficult and this means that people can get to know the procedures and the requirements of the AJA.”

“Simple way of solving problems.”

“This program has been a life changing experience.”

6.3.2 Determinant Forces of Development

The CA refers to the freedom to achieve as having the ability to draw on the means to achieve. For ICT to facilitate policy implementation, it must be implemented as a service rather than as an artefact in itself. As a service, when ICT is implemented as creating the ideal shared space for open discourse, it can be drawn upon by the collective and acts as a platform from which the collective can experiment with different scenarios for contextual development.

Additionally, government and citizen perceptions can be managed within the prescripts of relevant policy while at the same time allowing the collective to understand the government perspective and vice versa. In the process of open discourse, it would then be possible to define a clear development agenda that is relevant and acceptable for both the collective and government, rather than a development agenda imposed by government or an external agency.

Collaboration Engineering (CE) using thinkLets offers the ideal approach of ICT implemented as a service. CE enables a participative engagement when implementing policy and in so doing collectively changes the perspectives of both the collective and the individuals in the collective in the spirit of Ubuntu. Unless ICT is deployed in such a fashion, it has no relevance to development as it cannot be drawn upon. The implication of the relevance of ICT illustrates that the simple provision of ICT as an artefact is not enough – ICT needs to be implemented as a service in the spirit of Ubuntu.

“It made things look too easy.”

“It makes life easier for our communities, and this freedom at last.”

6.3.3 Evidence of Development

The CA refers to an achievement as taking advantage of opportunities based on the new freedom to achieve and doing something which is locally regarded as good. It is interesting to note that the achievements, i.e. evidence of development given in form of testimonies, were usually related to assisting others to attain their goals, a typical indication of Ubuntu. Hence, the ICT deployed as a service here becomes re-usable to other individuals within the influence of the collective. The re-usability highlights the importance of packaging the ICT as a service to make it repeatable and transferable so the individuals within the collectives can easily teach other individuals how to work it.

“...making all South African computer literate.”

“Interact with the MPCC and give computer literacy to the community in order for them to become empowered with information that they can use for their advantage.”

“By encouraging municipalities to avail technology to their communities so that people can assess technology and technology can serve its purpose.”

“Inform more people and I believe that ICT could work for the benefit of the society.”

“Yes, on [our] door to door campaign, we had one family that applied for an old age grant and was not given the reasons as to why his application was unsuccessful. The researcher helped him to follow the procedures of requesting reasons for application failure when implementing AJA and at the end he did receive the grant.”

“The workshop helped one participant by giving her the knowledge of the AJA as well as helping her to transfer the knowledge to her citizens/clients (in this case it was a group of PWAs). It also helped her realise the potential use of technology for implementing the AJA. Another participant used the knowledge from the workshop to tackle an issue of corruption in her local community.”

6.3.4 Visual Presentation of the Substantive Theory

Figure 6.5 illustrates the process that has emerged from the grounded theory analysis in the South African context as to how ICT in government can facilitate policy implementation in a development context. The figure relates the categories and the concepts that emerged as prominent from the data analysis guided by the UDF derived from the Capabilities. The figure does not suggest that the concepts and interactions are exhaustive, nor are they linear, but proposes an initial substantive theory that depicts how ICT can facilitate policy implementation in a development context. Further refinement through research should further add to or modify the ideas presented in the substantive theory (Orlikowski, 1993).

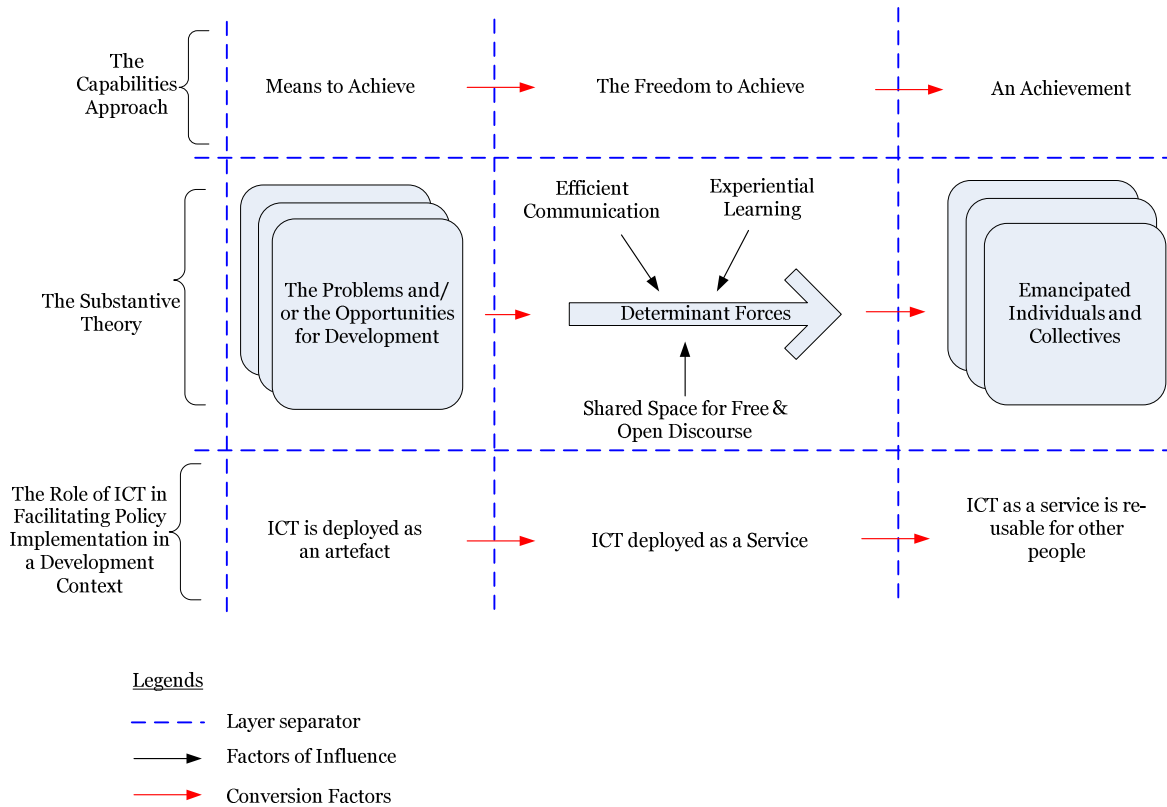


Figure 6.5: How ICT can Facilitate Policy Implementation in a Development Context

A brief note to explain the legends in Figure 5.1: The blue lines delineate layers for the purpose of narrative explanation rather than characterising distinct layers; the black arrows indicate the significant influences within the determinant forces; and the red lines illustrate conversion factors which indicate the process involved in moving from one layer to the next.

In summary, the substantive theory suggests that e-government can lead to development when ICT is deployed as service to facilitate government policy implementation in the spirit of Ubuntu. The process begins with ICT being deployed initially as an artefact. The ICT artefact should be deployable with the ability to create a shared space which enables free and open discourse for the collaborative interaction of individuals in collectives amongst themselves and with government in line with relevant government policies. Finally, the ICT service can be re-used by other individuals in the same way.

The methodological approach of Grounded Theory requires that the substantive theory is compared with pre-existing theories (Strauss, 1987b) to increase the incisiveness of the theory building effort (Adam and Urquhart, 2009). The next chapter engages the substantive

theory to the two formal theories often used in the same quadrant as the thesis (Section 5.4.1) where ICT is innovated for socio-economic improvements through locally situated action Actor Network Theory and Habermas' Theory of Communicative Action (Avgerou, 2009).

Chapter 7. Engaging the Substantive Theory with Formal Theory

7.1. Introduction

Chapter 7 completes the Grounded Theory requirement to engage the substantive theory from Chapter 6 with formal theory (Strauss, 1987b). The substantive theory is engaged with the two formal theories that are usually employed in ICT studies that, similar to the thesis, seek to improve life conditions through innovating ICT from within local contexts (Section 5.4.1): Actor Network Theory and Habermas' Theory of Communicative Action.

Chapter 7 is structured as followed: Section 7.2 describes how Grounded Theory has been used to compare substantive theory with formal theory. Section 7.3 compares the substantive theory with Habermas' Theory of Communicative Action and Section 7.4 compares the substantive theory with Actor Network Theory. Section 7.5 brings together the insights from the comparative engagement into the broader context of the substantive theory about how ICT can facilitate policy implementation in a development context.

7.2. Grounded Theory Comparison of Theories

Urquhart (2009, p. 17) refers to the Grounded Theory requirement to compare substantive theory with formal theory as theoretical integration. During comparison, the substantive theory is viewed through the lens of the formal theory. The principle behind comparing theories is to enhance “the internal validity, generalizability and theoretical level of theory building” (Eisenhardt, 1989, p. 545). Other authors in Information Systems who have used Grounded Theory have similarly compared the substantive theories with formal theories. For example, Orlikowski (1993) compared her substantive theory on the adoption and use of CASE tools with theories of incremental and radical types of innovation by Dewar and Dutton (1986). Adam and Urquhart (2009) compared their substantive theory of knowledge creation and transfer in IT capacity building with social capital theories as outlined by Nahapiet and Ghoshal (2002). Lehmann and Gallupe (2005) compared their substantive theory on the use of Information Systems in multinational companies across international locations with the global strategy by Lewin (1952).

Glaser (1978) suggests that comparisons with formal theory may be done along the process and structure of the theories. The thesis engages each formal theory by first presenting the formal theory in its underlying purpose and structure and relating it to the purpose and structure of the substantive theory. Secondly, the process of the formal theory is related to the substantive theory.

7.3. Comparing the Substantive Theory with Habermas' Theory of Communicative Action

7.3.1.1 The Basis of Habermas' Theory of Communicative Action

Jürgen Habermas (1972) idealised a better world where outside interventions, whether from a single person or from a group of people, do not create a better society. Habermas believes that such interventions are oppressive. His argument is that social changes need to occur from within the social system in an evolutionary process whereby all those affected by the intended and unintended consequences will accept them.

Habermas (1972) believes that a society should be able to facilitate public discourse that can help to surface repressed collective memory in order to deal with it and lead to collective consciousness that will in turn lead to political action. Habermas (1972) idealises a well functioning public sphere which is free of domination, particularly political interests and groupthink, and can allow public discourse.

His underlying notion is that societies should be oscillating towards a shared and common understanding and functioning of 'the good life'. Habermas (1972) generally views humans as creators of their living circumstances who are able to emancipate themselves from "unwarranted constraints by influencing societal self-formation so that it is steered towards the most desirable outcomes" (Klein and Huynh, 2004, p. 160). Habermas (1972) focuses on understanding the historical influences on societal self-formation in order to appreciate the influence required on future courses of societal development.

7.3.1.2 Overview Comparison with the Substantive Theory

The substantive theory suggests that e-government can lead to development when ICT is deployed as a service that facilitates collaborative interaction in the spirit of Ubuntu between citizens and government in the implementation of policy. When ICT is deployed as a means that provides a space in the cyber world using the familiar atmosphere of Ubuntu for free and open discourse between individuals in their collectives and with government, the collectives are able to oscillate to a shared understanding of what is good.

Such free and open discourse, facilitated by such an ICT implementation, may also help to deal with some of the repressed collective memories of South Africa's apartheid history. Seen from this perspective, the essence of the substantive theory is similar to the essence in Habermas' (1972) thinking in enabling collectives to formulate for themselves a conception of good which is acceptable and not imposed by external agents.

7.3.2 Habermas' Structure of Social Interactions

Habermas (1972) observed that societal interactions are driven by the tendency to strive for success based on a command of resources and power and the need to understand ordinary life. It is from this complex of human interactions, or more often known as social action (Weber, 1947) that Habermas (1972) concluded three reasons why people seek and apply knowledge in general; to achieve control of nature and people (both outer and inner domination respectively), improve human understanding, and to overcome unwarranted internal and external compulsions. Habermas (1972) proposed ideal types of social interactions in a typology of action (Figure 7.1). Figure 7.1 is taken from Lyytinen and Klein (1985).

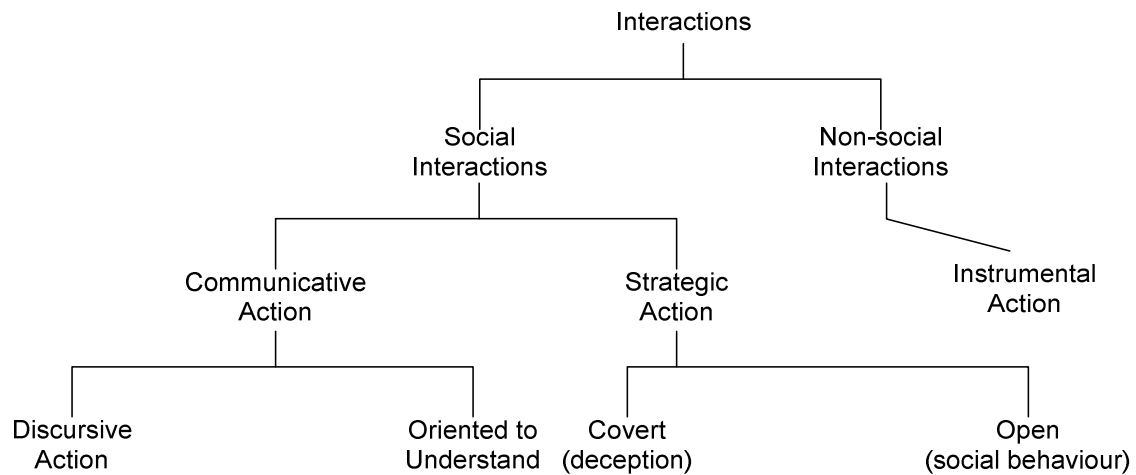


Figure 7.1: Typology of Social Interactions adapted from (Lyytinen & Klein, 1985)

The typology of action is an attempt to simplify complex social behaviours to essential interpretations and to highlight their principal meanings. Habermas (1972) characterises actions that are oriented towards success as having a powerful means-ends relationship and are based on technical knowledge (McCarthy, 1978) as is evident in individualistic cultures.

Actions oriented towards agreement are concerned with agreed norms of behaviour, reciprocal expectations, and mutual understanding and values as is evident in collectivist cultures such as Ubuntu in most African cultures. All actions that are directed towards achieving success and taking into account only the interests of the acting agent are “purposive rational actions” – this is regardless of whether they are oriented towards people (or opponents) or matter (a non-social domain). The success of purposive rational actions is measured by a means test to determine how closely they achieve the desired objectives. If it occurs in the physical world and proceeds by applying technical rules – then it is instrumental action.

The success of instrumental action is measured using engineering type mean tests. Purpose rational actions are regarded as strategic if they are understood as following rules of rational choice and can be appraised from the standpoint of efficiency of influencing decisions of rational opponents. The difference between strategic action and instrumental action is that with instrumental action, one only needs to know and understand how to apply the technical rules. With strategic action, one needs to also understand the human behaviours necessary to predict the outcome of an action. Instrumental action is passive, strategic action is not

passive – it is associated with the knowledge of social situations and social values. Communicative action, on the other hand, takes place through language and aims to achieve mutual understanding. Its focus is on agreement, a common understanding of norms, meanings and values and on maintaining social relationships (Habermas, 1979).

7.3.3 The Theory of Communicative Action

In communicative action, people reach understanding through having a common pool of values, norms, standards – they may be implicit or even taken for granted. At times it is hard to explicitly espouse the implicit and taken for granted background assumptions. If the consensus breaks down, then the cooperation can be broken or a fight can begin to achieve each one's own ends – at this point communicative action ends and strategic action begins. Before that, the assumption is that the people try to argue their point to convince the other or to reach another shared understanding. This dialogue and interaction is called discourse.

The assumption of discourse in communicative action is that it is an open debate and not an attempt to embarrass the opponent. Without such open ended debate, it is impossible to discover a new shared understanding or reach compromises in good faith. If one party has already decided on the end, then it really is only covert strategic action – Habermas (1979) refers to this as *systematically distorted communication*. It becomes *manipulation* if one side is intentionally misleading the other side. Without systematically distorted communication or manipulation, a new shared understanding can be reached. *Discourse* was also introduced as a separate action type by Lyytinen (1986) to maintain agreement within communicative actions; as such it is still part of communicative action. Discursive action depends on problems of understanding and acceptability, and as such similar to communicative action as it depends on language.

7.3.3.1 Comparing with the Processes of Communicative Action

Communicative action explores bases for compromise and agreement, interpretations of shared norms and values, and the meaning of observations and experiences. In the event that there is no shared base, people fall back to a common background of assumptions about the world. If there are different backgrounds, discourse can fail. The substantive theory, similar to communicative action, attempts to look for areas for compromise by allowing the back and

forth interaction of ideas within the collectives and with government. The substantive theory posits that the backgrounds of the collectives can be better understood by the government while at the same time, the government is able to offer alternatives on how to assist based on the lifeworld of the collectives. The data in the thesis revealed that discourse can fail when the government insists on a set of requirements which the collectives do not identify with as seen from this interaction between the collectives and government.

“Anna 02: 1. Why should I wait until December to qualify for the old age grant - you have to be 60 years and older, you are turning 60 in December and then will qualify for the grant. That is why you have to wait.

2. It is not fair to live on someone’s pension fund. What are the requirements for a disability grant? Medication is expensive-who should pay for the bills and food. Who should pay food for the family of six? All the children are still at school. Who should pay for their school fund and buy their clothes? Where will I get the money to pay for water and electricity? Who will pay for my transport to go and fetch the medication at hospital?

Administrator 02: These are requirements of the disability grant: You will need a medical report from a doctor of a public hospital. Your annual income should not exceed R33 384 for married people, and R18024 for single people. You will also need a police affidavit that proves your postal address or residential address or electricity bill. Copy of your ID book that is certified [and] your birth certificate.

Anna 02: 1. While waiting for the old age grant should we starve? I have waited for 17 years, bills have accumulated and the children will be dismissed from school. These children might see crime as the only option for them. I am not employed and my husband is also not working. No source of income for the family. I have submitted all the documents required, the problem was just my age. Should we suffer because I am turning 60 in December.

Administrator 02: You can appeal against the outcome of the old age grant, but you don't have good grounds because you are not 60 yet. However you can apply for children grant and the disability grant, you have better grounds to qualify for these grants. If you need details concerning these grants we can give it to you.

Anna 02: You guys are ignorant because I was applying for the disability grant and you give me information on old age grant; next time a customer comes along please understand his/her needs before giving out information. Always remember that as a South African I have a right to information and grants if I cannot make it. Thank you and always be aware of the way you treat your customers.”

Habermas (1979) calls the background of assumptions a lifeworld – the worldviews of a person that is generally taken for granted and cannot be fully articulated. The lifeworld is similar to the notion of Ubuntu around which the substantive theory is built. Ubuntu is an important resource for discourse in communicative action. To understand the notion of the Ubuntu lifeworld, one needs to appreciate the two aspects in communicative action that make the achievement of agreement possible; the implied ontology and the discourse.

Habermas (1979) argues that the ontology of subjective and social worlds exists and can be referred to in discourse. These ontologies have an effect on the behaviour of agents engaged in discourse. The stock of the general culture and the history of a society, however biased these may be at a subjective level, are generally taken for granted within that society. The Ubuntu lifeworld comes from the plethora of these things; the history and the general culture. It is drawn upon and assumed in discourse. It is implicit and assumed in all discourse. The double role of the Ubuntu lifeworld is in shaping the person; the attitudes, preferences and even meanings as was illustrated in the traditional initiation ceremonies. The other is to convey meaning to those who share the same lifeworld; to communicate.

Yet this does not mean that after communication that the lifeworld is cast in stone, once the lifeworld is implied through communication, it can be questioned, it can be shifted. As can be seen, some of the previous notions in tradition such as circumcision have over time become accepted to be done medically while maintaining the values of the ceremonies.

In this respect, in Ubuntu it is important that community leaders are allowed to speak, and such speech may affect the open and public discourse. Habermas (1979) worries about such an overpowering of communicative action by instrumental action (and strategic actions) and how agreement can be restored if it is disturbed by misunderstandings or even deceptive manoeuvres.

Discourse occurs when one party begins to feel “not on the same wavelength” as the speaker – the listener wants to stop and check some of the claims made by stopping and beginning to question the claims (assumptions of the speaker). Discourse is potentially powerful for initiating social learning as it unearths taken-for-granted assumptions or beliefs which may not be realised by the speaker either. It is these issues that have to be discerned that prevent understanding being reached. Depending on the social norms, discourse may have to be constantly engaged in to reach agreement. On the other hand, the power of discourse rests on the force of the better argument to overcome misunderstandings, self-delusion and social conflict. The substantive theory in proposing the collaborative ICT suggested in Collaboration Engineering as a facilitator of discourse is able to allow for discourse where certain disagreements may be discussed until consensus is reached.

Habermas (1979) argues that consensus achieved through communicative action can claim “generalizability” if it is validated by informed and voluntary debate that satisfies the conditions of a rational discourse. These conditions ensure that all voices are given an equal opportunity to share on the issues for discussion, i.e. an informed, democratic and publicly open debate – in such a discourse, no force should influence the outcome. The substantive theory recommends ICT as a service which allows all participants in the discussion, the collectives and government, an equal opportunity to begin discourse at any time, continue to make speeches and rebuttals, and equal opportunity to interpret, recommend, critique, justify or otherwise, the claims of a discourse. All discourse can be subjected to debate and all participants are able to express their attitudes, feelings and intentions, to give and refuse orders, and to equally reciprocate actions from others.

In relation to the Theory of Communicative Action, the substantive theory appears to have an appeal because the Ubuntu lifeworld, as shared in different cultures, may be expressed to government for a more contextually applicable development agenda rather than being imposed upon an unacceptable development. E-government systems are traditionally representations of institutionalised instrumental action of administrative and economic powers. They exert manipulative influences on lifeworld meanings thereby distorting and even colonizing the lifeworlds. In so doing, the public sphere is no longer able to fulfil its discursive or communicative function – particularly in the bureaucracies of public administration (Klein and Huynh, 2004, p. 209).

The substantive theory proposes for an e-government system implemented as a facilitative service that enables discourse using language.

7.4. Comparing the Substantive Theory with Actor Network Theory

7.4.1 The Basis of Actor Network Theory

The fundamental and underlying basis of Actor Network Theory (ANT) is the relationship between society and technology in exploring the unique social processes and contexts that tone technological innovations (Howcraft et al., 2004, p. 239). The classical advocates of ANT (Latour and Woolgar, 1979, Collins and Pinch, 1993) theorise that in technological innovations, it is not possible to make a clear cut distinction between the technology and the social elements citing a blur between the elements at the point of interaction.

ANT is a conceptual social constructivist tool that attempts to avoid the linear causality and technology determinism problems that meta-narratives make in providing general or even universal theories on the nature of human society. Technology determinism makes the assumption that technology has inherent and autonomous capabilities that shape society and organisations by advancing that technology in itself can lead to greater productivity, efficiency and accountability (Howcraft *et al.*, 2004). ANT researchers reject the simplistic notion that an increase in the quantity of technology will lead to a different quality of society. ANT emphasises the influence of society on technology and not the reverse linear explanation typical of the Diffusion of Innovation theory which emphasises the influence of technology on society (MacKenzie and Wajcman, 1999).

The leading contributors to ANT are Michel Callon, Bruno Latour and John Law (Law, 1999, Law, 1991, Callon, 1986, Callon, 1991, Callon and Latour, 1981, Latour, 1999, Latour, 1992, Latour and Woolgar, 1979). ANT attempts to describe the relationship between society and technology as comprising several groups of networks. ANT posits that technological innovation does not exist in a distinction between social and technical objects, but that the process of innovation is in the hybrid middle where actors negotiate in a progression towards building a stable network.

7.4.1.1 Overview Comparison with the Substantive Theory

The substantive theory, similar to the essence of ANT, realises that ICT in itself does not have any inherent capabilities and as an artefact has a situated relevance in facilitating policy implementation. ICT, when used to facilitate policy implementation, only has relevance when it is deployed as a service that allows for the unique societal relationships in Ubuntu to influence how the ICT is innovated. The substantive theory hence advocates for ICT to be implemented rather as a service and not an artefact. Collaboration Engineering proposes such an ICT implementation as a service which is dynamically influenced by the context to suit the Ubuntu societal interactions. By facilitating discourse the substantive theory similarly allows collectives to use ICT to interact and oscillate with government towards a development agenda which is acceptable to both the government and the collective.

7.4.2 The Structure of ANT

The central premise of ANT is the notion of translation in which actors are persuaded that a stable heterogeneous network of action composed of both technical and social objects, which network in turn influences the actors' behaviours, is worth being a member of. Translation is regarded as evolving through four 'moments'; problematisation, interessement, enrolment and mobilisation of allies.

7.4.2.1 Comparing the Substantive Theory with Problematisation

Problematisation is the process where actors are convinced that the network provides the only solution to a common identified problem (or opportunity) to a point where the network is essential to the actor's survival. Thus the actors consider other members of the network as allies. It should be noted that the original problem can be re-negotiated or translated as new allies becomes actors in this network. The substantive theory is based on a set of three actors in a network of action; the government, the collectives and the ICT implemented as a service that enhances interaction between the government and the collectives. The individuals in the collectives, especially those in the rural expressed their being convinced that such a network of action where they interact with government to resolve problems and learn how to implement policy is essential to their livelihoods.

“For the first time I did AJA it was alien but as I did the workshops with the GSS group it has become better and easier to understand. It is also easy to use or relate to AJA.”

“It also makes the administrator aware that we as the public have the right information and that they have to account to that information.”

“Now I am able to help my fellow citizens with regard to their rights in PAJA.”

However, the people in the urban areas were not fully convinced about the usefulness of such a network or even the possibility that it can work.

“For a person in the street, it is very difficult and this means that people can get to know the procedures and the requirements of the AJA.”

“It is not realistic enough as opposed to what is really happening out there.”

“Yes and no. It might work in certain instances where the community is fully conversant with technology and have access to electricity. This cannot be said about other rural areas that are still behind in the information society. But technology in the in-thing and here to stay.”

7.4.2.2 Comparing the Substantive Theory with Interessement

Interessement is the moment where the primary actors attempt to persuade potential actors of the existence of the problem and the relevance of the network to solve the problem and further, to willingly accept a role in the network. As the thesis progressed, many of the research participants continually requested that their peers be allowed to join the research group as participants because they wanted their peers to experience the same learning that they had experienced. Because it was a longitudinal research, it was necessary to prevent new people from joining, hence the specific wording in the invitation letters to the 2007 and 2008 workshops.

“For quality, validation of our research design and continuity purposes, we would be pleased to have the same people that previously attended the workshops in 2005 and 2006.”

“As last year, we would be pleased to have the same people that previously attended the workshops. We thus request you to confirm your availability...”

The substantive theory does not clearly demonstrate how the collectives might attempt to persuade others to join the network of action but assumes, based on the essentiality of individuality as being part of the collective in the spirit of Ubuntu, that individuals will naturally be inclined to pass on information about how to deal with similar problems to others in their peer network of action. Since the substantive theory is based on the notion of Ubuntu, it is within scope to make such an assumption. The substantive theory should expand how the process of interessement might work in Ubuntu rather than make the assumption.

7.4.2.3 Comparing the Substantive Theory with Enrolment

Interessement leads to the moment of enrolment where the actors are convinced that the network is indispensable to them and can solve their problems, and thereby accept the roles that have been defined for them in the network. For potential actors to become enrolled in the network, they must go through an obligatory passage point. A successful entry into the network through the obligatory passage point is a condition for the stability of the network. The substantive theory can again only make an assumption since the substantive theory is based on simulations and not actual interactions between government and collectives using ICT. Notwithstanding, based on the principle of simulation as a controlled representation of reality, the substantive theory suggests that the collectives and the government administrators accepted their roles in the network, as vividly depicted above in Section 7.3.3.1, in accepting to use the ICT as the primary means of interaction. The assent to use ICT makes the usage of ICT to act as the obligatory passage point.

7.4.2.4 Comparing the Substantive Theory with Mobilisation of Allies

The final moment, mobilisation of allies, occurs when the actors in the network can no longer withdraw from it (irreversibility) either for cost reasons or it becomes unlikely to do so (Howcroft *et al.*, 2004), and rather become active supporters of the network. The substantive theory noticed that interaction between the government and the administrators attempted to overflow the one hour allocated for it except in the interactions where there was a quick

positive outcome, thereby not requiring much further interaction. The involved indulgence during interaction as showed on the video suggests that the collectives as well as the government were absorbed in the interaction. The feedback about the usefulness of such a network of (inter)action is illustrated in the feedback:

“It will reduce long queues and inconvenience for the sick and aged. These people will get quick responses and will know beforehand what is expected of them for making applications to government for services.”

“It can save time, travelling, - user friendly interaction.”

“The use of ICT is cost effective, saves tension and stress related to the waiting period experiences by citizens awaiting responses from the government or officials, though there is a challenge regarding ICT literacy in the majority of our citizens.”

“It is very useful and can really assist in short circuiting the process of application and reduce queues at Social Grants offices. However, it might also reduce jobs and render staff unemployed.”

7.5. Discussion after Engagement with the ANT and TCA

From the viewpoint of the TCA, the substantive theory is based on using ICT to create a shared space in which collectives and government can iteratively search for areas of compromise, freely and openly exchanging values, standards and requirements and until a new lifeworld emerges. The ability to reach a new lifeworld and re-orient potentially strategic or even instrumental action (Section 7.3.2) back to communicative action is a good thing but with a question on how this might affect the tradition of Ubuntu with regards the role of the community leaders. Good, because the community leaders can not sway opinion for self-serving ends. Questionable with regards the potential effect for the Ubuntu tradition if the voice of the community leader is now drowned. The creation of shared space leading to a new lifeworld will certainly have unintended effects in transforming Ubuntu from how it is traditionally understood and practiced.

For the TCA, a development agenda that emerges from such a new lifeworld with shared norms, customs, and requirements is more acceptable to both government and the individuals in the collective. The substantive theory therefore fulfils the requirements of the TCA.

From the viewpoint of ANT, the substantive theory suggests the role of community leaders as part of a network of action involving the collectives, Ubuntu, the ICT and the government. Ubuntu provides an ideal environment for the collectives to re-negotiate existing problems with government using ICT as a means. The substantive theory, however, does caution that the acceptance of ICT into the network might be met with difficulty from some members who see it as threat and not an ally.

In Ubuntu traditional leaders play a role as primary actors. According the ANT, the danger is if the traditional leaders do not recognise that a problem exists or that there is an opportunity worth having discourse about (Woodroffe, 2007). It is important for traditional leaders to be enrolled as actors of such a network if it is to work. Enrolment would, however, also have an effect the traditional means of interaction between collectives and government in South Africa called '*imbizo*'.

An imbizo is a participatory process of dialogue and interaction that takes place between government and communities to unearth issues, concerns and opportunities from which the government can measure the success of its efforts and identify areas for development that may exist in the community (Republic of South Africa, 2008c). The government is represented at the imbizo by senior government officials such as the President, Deputy President, Cabinet Ministers and mayors. The imbizo concept is criticised for three things; the limited number of people who attend are often not the people who have problems in the community, for example women; the time for discussion of issues is limited, and; the issues that are discussed are limited to the area of expertise of the government official (Woodroffe, 2007). Based on this, the substantive theory may propose the addition of the ICT as a service in imbizos.

In summary, Chapter 7 engaged the substantive theory with the two formal theories to reveal that the substantive theory offers demonstrative value in suggesting how ICT can be innovated to result in human development through locally situated action. The substantive

theory that emerged from the Grounded Theory suggests that ICT ought to be used to facilitate policy implementation in a development context in the spirit of Ubuntu. The next chapter draws the conclusions and reviews the theoretical and the practical contributions of this research.

Chapter 8. Conclusions and Contributions to Knowledge

8.1. Introduction

The thesis investigated how ICT in government can lead to human development through an ethnographic research design in a South African context. The data collected were analysed using Grounded Theory emerging with a substantive theory that suggests that ICT in government can lead to human development if ICT is used to collaboratively facilitate policy implementation in the spirit of Ubuntu (Figure 8.1).

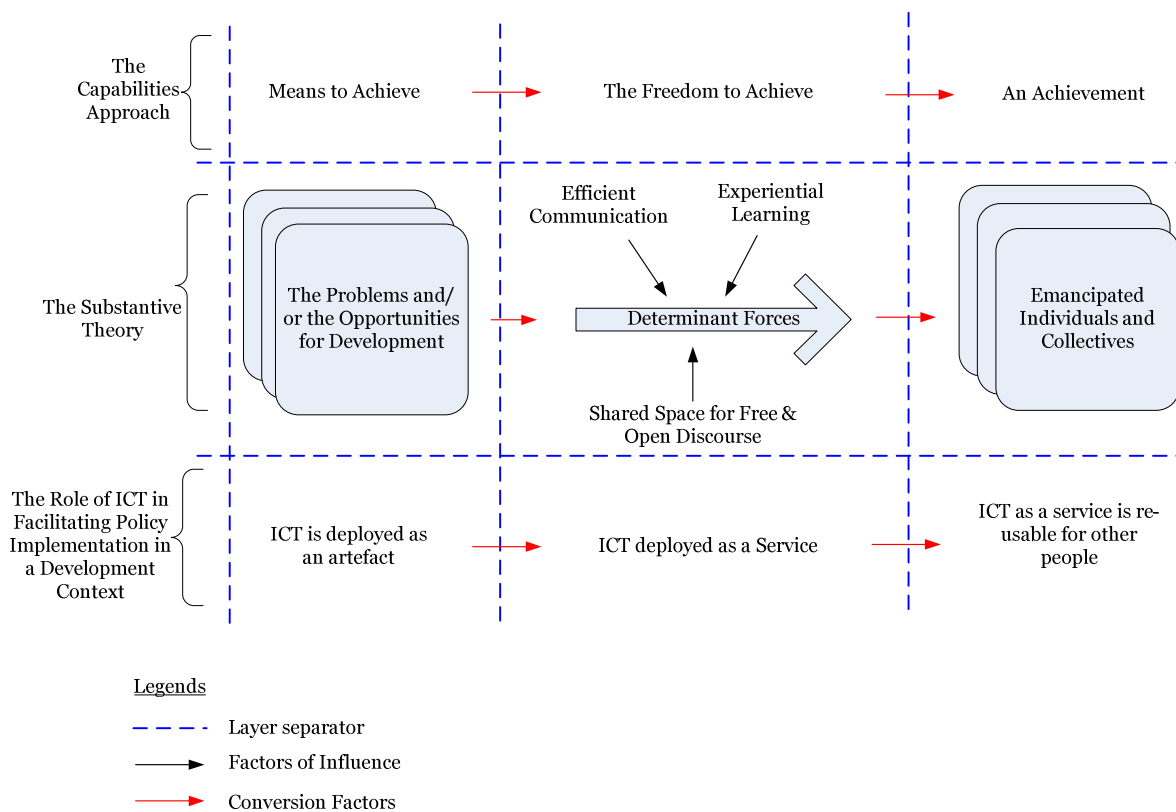


Figure 8.1: How ICT can Facilitate Policy Implementation in a Development Context

Figure 8.1 illustrates that e-government can lead to development when ICT is deployed as a service to facilitate government policy implementation in the spirit of Ubuntu. The process begins with ICT being deployed initially as an artefact but designed in such a way that the ICT will enable the creation of a shared space. The shared space enables free and open

discourse for the collaborative interaction of individuals in collectives amongst themselves and with government in line with relevant government policies. Once the ICT has been captured as a service offering based on the local context, the process can be packaged and re-used by other individuals from the same community in the same way.

Chapter 8 importantly draws the inferences from the research and its contributions to knowledge and practice. Chapter 8 is structured as follows: Section 8.2 appraises the theoretical contributions to Information Systems (IS) Research in the fields of ICT for Development (ICT4D) and of E-government, and expresses areas for further research. The section further outlines how the substantive theory can be used as a guide and lens to guide similar research. Section 8.3 presents the practical contributions for government and ICT practitioners drawing from the empirical experiences of the South African context. The section delineates how the substantive theory could be used in practice. Section 8.4 conveys the limitations and areas for further research. Section 8.5 comprises the final remarks and critical reflections on what the thesis has revealed.

8.2. Theoretical Contributions

Since the thesis resulted in a substantive theory, the extent to which the theory contributes to knowledge is judged using the seven questions proposed by Whetten (1989, p. 494-495) on what makes a theoretical contribution:

8.2.1 Who cares? and What's new?

The two questions respectively measure the academic interest in the research topic and whether the research contribution is significant and adds value to current thinking.

8.2.1.1 ICT for Development

The research topic was in the growing IS Research area of ICT for Development (ICT4D). Chapters 1 and 5, particularly Section 5.4.5, highlighted the lack of theory in ICT4D to guide and to evaluate research, and the call for theory that is able to take into account the context within which the development must occur (Heeks and Bailur, 2007, p. 243, Avgerou, 2009, p. 14, Madon et al., 2007, Walsham, 2003). The thesis proceeded through an ethnographic

research design to uncover the local context of development in South Africa particularising it from a government frame of reference, Batho Pele. The Grounded Theory data analysis brought forth a substantive theory which posits that e-government could lead to human development if the ICT is used to collaboratively facilitate policy implementation in the African philosophy of Ubuntu (Figure 5.1).

8.2.1.2 E-government

The substantive theory delineates that -government can lead to human development along three non-linear constructs; the problems and/or opportunities for development, the determinant forces, and the evidence of human development. The problems and/or opportunities for development describe the range of tangible and intangible opportunities which government makes available to citizens and the problems experienced by the citizens. The tangible opportunities include physical artefacts such as the ICT powered facilities called Thusong Service Centres (TSCs). The intangible developmental opportunities include legislation and government policies such as the PAJA which gives citizens the ability to emancipate themselves through correctly seeking redress from government and the Small Business Act which mandates government to stimulate an entrepreneurial culture in South Africa.

The citizens, on the other hand, are in most instances not aware of the opportunities that are available to them, and despite their hunger for knowledge are oblivious on how to deal with the urgent problems such as unemployment and poverty. The substantive theory suggests that in order for citizens to use ICT to implement the policies and overcome their problems, the ICT artefacts need to be innovated as part of the process that influences the lifestyle of the citizens. This lifestyle is Ubuntu. Ubuntu, described in Chapter 1, is the African philosophy that comprehends individual existence as being inseparable from the collective through warm and filial relationships.

8.2.1.3 Development

The role of ICT as an enabling feature of Ubuntu would be in its ability to create a shared space in which government can effectively have an open and collaborative discourse with collectives in the implementation of government policy. In such a role, ICT would enable a

shared understanding of the values of the collectives by the government and the citizens would appreciate the policy requirements of government. The government can then guide the collectives and help them understand how to apply the available policies within their local contexts rather than impressing upon them generic and probably unacceptable values. The result of applying the policies would be that the collectives can attain accomplishments which they regard as valuable – this is the hallmark evidence of human development (Sen, 1999). This approach to the use of e-government is new and is not technologically deterministic in its consideration of the human and social aspects of its context.

8.2.1.4 IS Theory and Research

There are three generally over-arching means of inquiry to establish what constitutes relevant research; positivism, interpretivism and critical theory (Denzin and Lincoln, 1994, Denzin and Lincoln, 2005). Each of these paradigms is based on some underlying ontological and epistemological assumptions about what constitutes relevant research (Myers, 1997). The choice of research paradigm has considerable implications on the findings, the interpretation and the analysis of the findings, and the resultant inferences. The choice of paradigm amplifies the significance of reflectively and diligently selecting an appropriate means of enquiry to conduct research beginning with the research design.

The underlying epistemological, ontological and methodological groundings of positivism, interpretivism and critical theory suggest the positioning of the substantive theory as falling between interpretivism and critical research. Positivism is unable to cope with the bias and the involvement of researcher in the context; much less the ‘interference’ or lack of control which accompanies the emancipatory essence of the substantive theory. The focus of the substantive theory on subjective consciousness and on creating understanding using language and action also makes it interpretive in nature (Klein and Myers, 2001).

Pozzebon (2003) points out a compatibility between interpretivism and being critical when constructivist studies are sensitive to power while at the same time have a concern for the processes of social construction that underlie a phenomena of interest. The substantive theory lends itself to a critical-interpretive paradigm (Table 8.1).

Table 8.1: Pozzebon's (2003, p. 13) Criteria for Critical-Interpretive Research in IS

Criteria	The Levels of Interpretation	Substantive Theory
Authenticity & Plausibility	Interaction with empirical material & Interpretation	<ul style="list-style-type: none"> The need to understand the social context and the process through which the stakeholders assign meaning to phenomena
Criticality	Critical interpretation	<p>The emancipatory nature in its desire to move people towards development</p> <p>The need to train individuals and collectives through collaborative interactions to challenge the status quo (decisions of government administrators) using ICT as the means</p>
Reflexivity	Reflection on text production and language use	Showing personal and community motivations and biases in the process

8.2.2 Why now?

This concerns whether the topic is of contemporary interest to the scholars in the area.

The growing call in IS Research for theory on ICT4D manifests itself in the increasing scholarly outlets and IS special interest groups dedicated to the emergent topic. Examples include IS journals such as Information Technology for Development, Information Technologies and International Development, and the Electronic Journal of Information Systems in Developing Countries. The international conferences by IS special interest groups on ICT4D include the International Federation of Information Processing (IFIP) Workgroup 9.4 and the Association for Information Systems Special Interest Group on ICT and Global Development.

8.2.3 Why so? and Well done?

These respectively corroborate the generalisability of the research and the thoroughness in developing the propositions of emergent theory.

The research develops qualitative generalisations against theory, rather than against populations as seen in statistical generalisations (Barrett and Walsham, 2004, Walsham, 1995, Lee and Baskerville, 2003, Ruddin, 2006). Generalisations in Grounded Theory, as used in the research for data analysis, are achieved by engaging emergent substantive theory

with formal theories (Eisenhardt, 1989, p. 545, Urquhart et al., 2009, p. 17, Strauss, 1987b, p. 282).

The internal validity and generalisable value of the substantive theory was demonstrated through the two theories which, similar to the research, are often employed in ICT studies that seek to innovate ICT within the local context (Avgerou, 2009): Actor Network Theory and Habermas' Theory of Communicative Action. Chapter 7 describes the meticulous engagement with the formal theories in the process verifying the role of ICT for development in its characteristic feature to facilitate open collaborative discourse in the spirit of Ubuntu.

8.2.4 Done well?

This ensures the readability of the research so that the central ideas are brought out well and are easy to understand while still following good writing techniques.

In the course of writing this thesis, eight peer reviewed papers (Appendix G) related to the research were published in seven international IS conference proceedings and one international IS journal (Twinomurinzi et al., 2009, Ojo and Twinomurinzi, 2009, Visser and Twinomurinzi, 2008, Phahlamohlaka et al., 2008, Byrne and Twinomurinzi, 2008, Twinomurinzi, 2007, Twinomurinzi and Phahlamohlaka, 2006, Visser and Twinomurinzi, 2009). The peer reviews before acceptance of the publications and the critique at such international conferences significantly shaped the writing of the thesis in conformance with accepted standards in the field of Information Systems.

8.2.5 So what?

This question checks whether the theory practically advances the topic area going beyond cosmetics and is discussed in the next section on the practical contribution towards e-government.

8.3. Practical Contributions

The current e-government strategy of South Africa is highly technologically deterministic in its performance metrics of interoperability, security, economies of scale and duplication.

The strategy focuses on ICT technical implementation and noticeably does not take into account the Ubuntu-steeped and developmental inclination of the government. The thesis, by contextualising e-government within the Ubuntu context and empirically arguing the plausibility of adopting e-government towards development, has practical implications for the current e-government strategy extension.

The e-government strategy can measure its success based on the three cornerstones of whether the ICT deployed as a service is able to:

- Create a shared space in which people can have open discourse.
- Elicit the real problems facing the people in the community.
- Allow for the collaborative engagement between people and government.

The researcher suggests the following guidelines for e-government based on the substantive theory. These guidelines, however, need to be empirically tested before being adopted.

Table 8.2: Suggested Schedule for ICT facilitating Policy Implementation in a Development Context

Step	Level Descriptor	Descriptor Explanation
1	Problem Identification	<ul style="list-style-type: none"> • Identify the problems in the community • Identify a government policy which, when implemented, can address the problem
2	Innovate ICT	<ul style="list-style-type: none"> • Assign a government administrator who is knowledgeable on the policy and on its implementation • The administrator through traditional leaders persuades affected individuals in the community to join a collective expressing the following requirements and benefits of belonging to the collective: • The collective is composed of ICT and other people • Each person will participate in open debate about the problem using ICT as a means of discourse • If a person does not know how to use ICT someone will be assigned to assist with it • Specific examples where other problems have been dealt with using the same approach and have resulted in the problem being resolved • Request permission to use the results of this collective as an example for other collectives • Enrol persuaded individuals into the collective by signing a consent form
3	Evidence of Development	<ul style="list-style-type: none"> • Monitor and evaluate the discourse and identify opportunities for improvement • Include the collective results as one of the success stories

An example of how the guidelines could be researched further is demonstrated taking the conspicuous problem of unemployment in South Africa (Table 8.2). This example is a research-in-progress that the researcher proposes to pursue.

Table 8.3: Schedule for ICT to facilitate Entrepreneurship

Step	Step Description	Step Implementation
1	Identify the problems in the community (<i>1 month</i>)	Unemployment
2	Identify a government policy which, when implemented, can address the problem (<i>1 month</i>)	<ul style="list-style-type: none"> • The National Small Business Act of 1996 and the amendments thereof • The Cooperatives Act 14 of 2005 • Community Development Workers Policy
3	Assign a government administrator who is knowledgeable on the policy and on its implementation (<i>1 month</i>)	<ul style="list-style-type: none"> • The Small Enterprise Development Agency (SEDA) • Community Development Workers in local municipalities (CDWs)
4	<ul style="list-style-type: none"> • The administrator through traditional leaders persuades affected individuals in the community to join a collective expressing the following requirements and benefits of belonging to the collective (<i>3 months</i>): • The collective is composed of ICT and other people. • Each person will participate in open debate about the problem using ICT as a means of discourse. • If a person does not know how to use ICT someone will be assigned to assist with it. • Specific examples where other problems have been dealt with using the same approach and have resulted in the problem being resolved • Request permission to use the results of this collective as an example for other collectives 	<ul style="list-style-type: none"> • SEDA facilitators in collaboration with CDWs approach traditional leaders and through him recruit participants into a collective • SEDA draws on its numerous success stories concerning Cooperative ventures it has assisted
5	Enrol persuaded individuals into the collective by signing a consent form (<i>1 day</i>)	A cooperative is established and persuaded individuals sign up
6	Monitor and evaluate the discourse and identify opportunities for improvement (<i>continuous</i>)	<ul style="list-style-type: none"> • Progress of collaboration is monitored • SEDA official assists established cooperative in its choices of entrepreneurial ventures pointing them in the correct direction
7	Include the collective results as one of the success stories (<i>continuous</i>)	Cooperative successes are celebrated and recorded

8.4. Limitations and Areas for Further Research

The essence of ethnography implies an observer who watches and is able to comprehend the context in which he is immersed. It is therefore difficult to declare limitations. The two areas which would have presented likely limitations, being a non-South African and being a

privately sponsored student, were respectively overcome when the researcher joined the PAJA Project and when the researcher joined the University of Pretoria as a lecturer.

Time is a limitation for any researcher. It would have been ideal to test the guidelines adopted in Table 8.1 on other policies of government.

The thesis addresses an important thorn for South Africa: policy implementation. The thesis identifies the possibility of extending the research by practically attempting to follow the suggested guidelines in Table 8.3 particularly to address the glaring problem of unemployment in South Africa. Despite the eloquent policies and the efforts on stirring up an entrepreneurial culture in South Africa, the successful implementation is elusive. In the progress of the research the South African government proved to be above standard and many of the government administrators went beyond the call of duty to assist the researcher.

Another important area for further research is the skills shortage that affects South Africa, not only in ICT but across most sectors (Republic of South Africa, 2007b). The skills shortage manifests itself in the ability to recruit sufficient government facilitators to assist collectives (cooperatives in the case of the ICT4E) to move towards attaining valuable outcomes. On the other hand, ICT alleviates skills shortages through enabling the ubiquitous spread of the available skills. By adopting the thesis approach, ICT may be able to enable the spread of the available scarce government skills.

In terms IS theory, an area for research would be to use Glaser's (1992) methodology of Grounded Theory to elicit a substantive theory without being guided by a theoretical perspective.

8.5. Concluding Remarks

In conclusion, attention is drawn to the aim of the research; how can e-government contribute to human development? The choice of ethnographic research design, coupled with Grounded Theory for data analysis, proved to be an invaluable choice. The insights about how e-government can play a role in development while taking into account the African philosophy of Ubuntu could not have been attained except through the ethnographic immersion. Neither

would the theory have emerged without the incisiveness of Grounded Theory in comparing data with data and with theory. The discovery that e-government can contribute to development if ICT is used to collaboratively facilitate policy implementations in the spirit of Ubuntu offers a new approach to tangible and value-driven human development.

On a theoretical level, the main contribution has been in the emergence of a substantive theory on how ICT can facilitate policy implementation in a development context in the spirit of Ubuntu. The schedule presented in Table 8.1 can be extended to guide IS research in ICT4D and as a lens to measure ICT4D research. As a guide, the theory lends itself to a critical-interpretive approach and an action research strategy (Table 8.3).

Table 8.4: The Schedule as a Guide for IS Research in e-Government and ICT4D

Step	Step Description	Critical-Interpretivism	Action Research Step
1	Identify the problems in the community	Criticality (Critical interpretation)	Diagnosing
2	Identify a government policy which, when implemented, can address the problem		
3	Assign a government administrator who is knowledgeable on the policy and on its implementation	Authenticity & Plausibility (Interaction with empirical material & Interpretation)	Action Planning
4	<ul style="list-style-type: none"> The administrator through traditional leaders persuades affected individuals in the community to join a collective expressing the following requirements and benefits of belonging to the collective: The collective is composed of ICT and other people Each person will participate in open debate about the problem using ICT as a means of discourse If a person does not know how to use ICT someone will be assigned to assist with it Specific examples where other problems have been dealt with using the same approach and have resulted in the problem being resolved Request permission to use the results of this collective as an example for other collectives 		Action Taking
5	Enrol persuaded individuals into the collective by signing a consent form		
6	Monitor and evaluate the discourse and identify opportunities for improvement	Reflexivity (Reflection on text production and language use)	Evaluating
7	Include the collective results as one of the success stories		Specifying Learning

Critical-Interpretivism assumes a critical and reflective approach to the role that ICT plays in maintaining social order and relations in organisations and society (Pozzebon, 2003, p. 7).

Action research stands out as the most appropriate research methodology, seeing the dual

social and technology focus of the substantive theory in understanding social processes and purposively trying to improve them over time (Kock, 2003, Walsham, 2003).

On a practical level, the main contribution has been the actual evidence of human development. The research has shown that ICT can be adopted within a government setting while at the same time retaining the values of the collectives in which the government hopes to make a positive impact. Problems such as unemployment, poverty and skills shortages can then be tackled collectively with government in the African philosophy of Ubuntu and reach solutions which are socially and practically acceptable.

The research further shows how decentralisation and accountability are incremental processes that involve various intermediaries rather than something that can be achieved using legislation. Human development depends on non-technical factors and not ICT. ICT plays a role but is not the end in itself of human development.

8.5.1 Critical Reflection

Having reached the thesis conclusions, the researcher turned his attention to personal insights as a result of the thesis, particularly from adopting an ethnographic perspective. The hardest part was in structuring the thesis. Patton and Patton (2001) correctly iterate that in ethnography it is hard to know where data collection begins and where the analysis takes off or ends. The research setting, the data collection, and the data analysis are all interconnected and besides, the research question evolves as an ethnography progresses. The challenge was therefore in selecting from the plethora of data what was useful for the thesis and what data was not useful.

The problem of the lack of access to basic ICT in most of rural South Africa because of the access fee would need to be addressed if such an ICT innovation is to be successfully employed. The fee and the poor infrastructure would have to be addressed by the government. It is a realistic expectation for government to address the fee and infrastructure problems since they are the owners and instigators of the ICT infrastructure of the Thusong Service Centres, which centres are planned to be rolled out in every local municipality through the country (Republic of South Africa, 2007c).

Computer illiteracy is not identified as a problem since the research observed and experienced that there will always be someone who is knowledgeable at using computers at government computer centres who can act as an agent in using the computers. Further, the government does actively train and deploy multi-skilled public servants known as Community Development Workers (CDWs) to every local municipality across the country (Republic of South Africa, 2007a) to assist people to interface with government. CDWs are potential technology intermediaries for those who are not computer literate.

As the research progressed through the literature, it became more evident the extent of adhococracy there is in the field of Information Systems (IS). Each of the key areas which the researcher engaged with do not have a commonly agreed upon definition: e-government, ICT4D, e-collaboration and development. Therefore navigating emerging fields is in itself an absorbing endeavour. The beauty, however, is in knowing that the substantive theory is contextually relevant and has been derived from the empirical data.

In concluding, the citizens on the ground are willing, ICT as an artefact is increasingly being made available in communities across South Africa; will African governments come to the table in the spirit of Ubuntu?

Bibliography

ACEMOGLU, D. (2008) *Root Causes: A Historical Approach to Assessing the Role of Institutions in Economic Development*. IN SECONDI, G. (Ed.) *The Development Economics Reader*. London ; New York, Routledge.

ACHEBE, C. (1962) *Things fall apart*, London, Heinemann.

ADAM, M. S. & URQUHART, C. (2009) No man is an island: Social and human capital in IT capacity building in the Maldives. *Information and Organization*, 19, 1-21.

AGAR, M. (1986) *Speaking of ethnography*, Beverly Hills, Sage Publications.

AKPAN, P. I. (2003) Basic-needs to globalization: Are ICTs the missing link? *Information Technology for Development*, 10, 14.

ALEXANDER, P. M. & PHAHLAMOHLAKA, L. J. (2005) Information flows for meaningful implementation of the promotion of administrative justice act of South Africa. *The South African Institute of Computer Scientists and Information Technologists on IT research in developing countries*. White River, South Africa, South African Institute for Computer Scientists and Information Technologists (SAICSIT).

ALEXANDER, P. M. & PHAHLAMOHLAKA, L. J. (2007) Amartya Sen's Capability Approach applied to Information Systems Research. *The South African Computer Journal*, 37, 1-11.

ASKVIK, S. & BAK, N. (2005) *Trust in public institutions in South Africa*, Aldershot, Hants, England ; Burlington, VT, USA, Ashgate.

ATKINS, C. & SAMPSON, J. (2002) Critical Appraisal Guidelines for Single Case Study Research. IN WRYCZA, S. (Ed.) *Proceedings of the Tenth European Conference on Information Systems*. Gdansk, Poland.

ATKINSON, P., COFFEY, A., DELAMONT, S., LOFLAND, J. & LOFLAND, L. (2001a) Editorial Introduction. IN ATKINSON, P., COFFEY, A., DELAMONT, S., LOFLAND, J. & LOFLAND, L. (Eds.) *Handbook of Ethnography*. London, SAGE.

ATKINSON, P., COFFEY, A., DELAMONT, S., LOFLAND, J. & LOFLAND, L. (2001b) *Handbook of Ethnography*, London, SAGE.

AVGEROU, C. (2003) The link between ICT and Economic Growth in the Discourse of Development. IN KORPELA, M., MONTEALEGRE, R. & POULYMENAKOU, A. (Eds.) *Organizational Information Systems in the Context of Globalisation*. London, UK, Kluwer Academic Publishers.

AVGEROU, C. (2008) Information systems in Developing Countries: a Critical Research Review. *Journal of Information Technology*, 23, 133-146.

AVGEROU, C. (2009) Discourses on Innovation and Development in Information Systems in Developing Countries' Research. IN BYRNE, E., NICHOLSON, B. & SALEM, F. (Eds.) *Proceedings of the 10th International Conference on Social Implications of Computers in Developing Countries*. Dubai, United Arab Emirates, Dubai School of Government, International Federation for Information Processing.

AVGEROU, C., CIBORRA, C. & LAND, F. (2004) The social study of information and communication technology : innovation, actors and contexts, Oxford ; New York, Oxford University Press.

AVGEROU, C. & MADON, S. (2004) Framing IS Studies: Understanding the Social Context of IS Innovation. IN AVGEROU, C., CIBORRA, C. & LAND, F. (Eds.) *The Social Study of Information and Communication Technology: Innovation, Actors & Contexts*. Oxford, Oxford University Press.

BANERJEE, A. V. & DUFLO, E. (2008) The Economic Lives of the Poor. IN SECONDI, G. (Ed.) *The Development Economics Reader*. London ; New York, Routledge.

BARRETT, M. & WALSHAM, G. (1995) Managing IT for business innovation: issues of culture, learning, and leadership in a Jamaican insurance company. *Journal of Global Information Management*, 3, 25-33.

BARRETT, M. & WALSHAM, G. (2004) Making contributions from interpretive case studies: examining processes of construction and use. *Relevant theory and informed practice: looking forward from a 20-year perspective on IS research: IFIP TC8 WG8.2 20th Year Retrospective*. Manchester, England. Dordrecht: , Kluwer, pp.

BARRETT, S. & FUDGE, C. (1981) Policy and Action Essays on the Implementation of Public Policy, London and New York, Mathuen.

BARRO, R. J. (2008) Democracy and Growth. IN SECONDI, G. (Ed.) *The Development Economics Reader*. London ; New York, Routledge.

BASKERVILLE, R. & PRIES-HEJE, J. (1999) Grounded action research: a method for understanding IT in practice. *Accounting Management and Information Technologies*, 9, 1-23.

BECKER, J., NIEHAVES, B., POEPELBUSS, J. & SIMONS, A. (2010) Maturity Models in IS Research. *18th European Conference on Information Systems*. Pretoria, Department of Informatics.

BELANGER, F. & HILLER, J. S. (2006) A framework for e-government: privacy implications. *Business Process Management Journal*, 12, 48-60.

BENTLEY, L. D., WHITTEN, J. L. & RANDOLPH, G. (2007) *Systems analysis and design for the global enterprise*, New York, McGraw-Hill Irwin.

BHATNAGAR, S. C. (2004) E-Government: From Vision to Implementation - a practical guide with case studies, New Delhi, Sage Publications Inc.

BORGATTI, S. (2008) Introduction to Grounded Theory 2008
<http://www.analytictech.com/mb870/introtoGT.htm>

BRIGGS, R. O., DE VREEDE, G. J., NUNAMAKER, J. F., JR. & TOBEY, D. (2001a) ThinkLets: achieving predictable, repeatable patterns of group interaction with group support systems (GSS). *System Sciences, 2001. Proceedings of the 34th Annual Hawaii International Conference on.*

BRIGGS, R. O., NUNAMAKER, J. F., JR. & TOBEY, D. (2001b) The technology transition model: a key to self-sustaining and growing communities of GSS users. *Proceedings of the 34th Annual Hawaii International Conference on System Sciences.* Hawaii.

BRIGGS, R. O., VREEDE, G. J., DE & NUNAMAKER, J. F., JR. (2003) Collaboration Engineering with ThinkLets to Pursue Sustained Success with Group Support Systems. *Journal of Management Information Systems*, 19, 31-64.

BROODRYK, J. (2002) *Ubuntu : life lessons from Africa*, Pretoria, Ubuntu School of Philosophy.

BYRNE, E. & JOLLIFFE, B. (2007) Free and Open Source Software - Development as Freedom? IN SILVA, L., WESTRUP, C. & REINHARD, N. (Eds.) *Proceedings of the 9th International Conference on Social Implications of Computers in Developing Countries.* Sao Paulo, Brazil, IFIP TC 9 - WG 9.4.

BYRNE, E. & TWINOMURINZI, H. (2008) Towards an inclusive approach to e-Governance: A Case for Administrative Law in South Africa. *IFIP Workgroup 9.4-University of Pretoria Joint Workshop.* Pretoria, South Africa, IFIP WG 9.4.

CALLON, M. (1986) Some Elements of a Sociology of Translation. IN LAW, J. (Ed.) *Power, Action and Belief. Sociological Review Monograph 34.* London, Routledge and Kegan Paul.

CALLON, M. (1991) Techno-economic networks and irreversibility. IN LAW, J. (Ed.) *A Sociology of Monsters: Essays on Power, Technology and Domination.* London, Routledge.

CALLON, M. & LATOUR, B. (1981) Unscrewing the Big Leviathan. IN CETINA, K. K. & CICOUREL, A. (Eds.) *Advances in Social Theory and Methodology: Toward an Integration of Micro and Macro Sociology*. London, Routledge.

CARTER, L. & BELANGER, F. (2005) The utilization of e-government services: citizen trust, innovation and acceptance factors. *Information Systems Journal*, 2005, 5-25.

CASTELLS, M. (2000) *The rise of the network society*, Oxford ; Malden, MA, Blackwell Publishers.

CHARI, S. & CORBRIDGE, S. (2008) *The development reader*, London, Routledge.

CHARMAZ, K. & MITCHELL, R. G. (2001) Grounded Theory in Ethnography. IN ATKINSON, P., COFFEY, A., DELAMONT, S., LOFLAND, J. & LOFLAND, L. (Eds.) *Handbook of Ethnography*. London, SAGE.

CHEN, Y. N., CHEN, H. M., HUANG, W. & CHING, R. K. H. (2006) E-Government Strategies in Developed and Developing Countries: An Implementation Framework and Case Study. *Journal of Global Information Management*, 14, 23-46.

CHRISTENSEN, C. M. & RAYNOR, M. E. (2003) *The Innovator's Solution*. Harvard Business School Press.

CIA (2009) *The World Factbook - South Africa 2009*

COLLINS, H. & PINCH, T. (1993) *The Golem: What Everyone Should Know about Science*, Cambridge, Cambridge University Press.

CORDELLA, A. & SHAIKH, M. (2003) Actor Network Theory and After: What's new for IS Research? IN CIBORRA, C. U., MERCURIO, R., DE MARCO, M., MARTINEZ, M. & CARIGNANI, A. (Eds.) *Proceedings of the Eleventh European Conference on Information Systems*. Naples, Italy.

COURTNEY, J. F. (2001) Decision making and knowledge management in inquiring organizations: toward a new decision-making paradigm for DSS. *Decision Support Systems* 31, 17-38.

COYNE, I. (2009) Grounded Theory. Dublin, Ireland, School of Nursing & Midwifery, Trinity College Dublin.

CRESWELL, J. W. (2009) Research Design: Qualitative, Quantitative, and mixed method approaches, London, United Kingdom, SAGE Publications.

CYPHER, J. M. & DIETZ, J. L. (2009) *The process of economic development*, London, Routledge.

DAVISON, R. M., WAGNER, C. & MA, L. C. K. (2005) From government to e-government: a transition model. *Information Technology & People*, 18, 280-299.

DENNIS, A. R., WIXOM, B. H. & VANDENBERG, R. J. (2001a) Understanding Fit and Appropriation Effects in Group Support Systems via Meta-Analysis. *MIS Quarterly*, 25, 167-193.

DENNIS, A. R., WIXOM, B. H. & VANDENBERG, R. J. (2001b) Understanding fit and appropriation effects in Group Support Systems via Meta-Analysis. *MIS Quarterly*, 5, 167-193.

DENZIN, N. K. & LINCOLN, Y. S. (1994) *Handbook of Qualitative Research*, California, Sage Publications.

DENZIN, N. K. & LINCOLN, Y. S. (2005) *The SAGE handbook of qualitative research*, Thousand Oaks, Sage.

DEWAR, R. D. & DUTTON, J. E. (1986) The Adoption of Radical and Incremental Changes: An Empirical Analysis. *Management Science*, 32, 1422-1433.

DICTIONARY.COM (2007) Collaborate 2007

<http://dictionary.reference.com/browse/collaborate>

DITKOFF, M., ALLEN, C., MOORE, T. & POLLARD, D. (2005) The Ideal Collaborative Team AND A Conversation on the Collaborative Process 2007

<http://blogs.salon.com/0002007/stories/2005/11/18/theIdealCollaborativeTeamAndAConversationOnTheCollaborativeProcess.html>

EASTERLY, W. (2006) *The White Man's Burden: Why the West's Effort to Aid the Rest Have Done So Much Ill and So Little Good*, New York, United States of America, Penguin Press.

EASTERLY, W. (2008) Debt Relief. IN SECONDI, G. (Ed.) *The Development Economics Reader*. London ; New York, Routledge.

EATON, L. & LOUW, J. (2000) Culture and Self in South Africa: Individualism-Collectivism Predictions. *The Journal of Social Psychology*, 140, 210-217.

EISENHARDT, K. M. (1989) Building Theories from Case Study Research. *Academy of Management Review*, 14, 19.

ELLIOTT, M. (2007) Collaboration Theory. *Wikipedia*.

EVALUATEIT (2009) Glossary: Workshop 2009

<http://www.evaluateit.org/glossary/index.html>

EVANS, P. (2002) Collective Capabilities, Culture, and Amartya Sen's Development as Freedom. *Studies in Comparative International Development*, 37, 61-70.

FEDOROWICZ, J. & DIAS, M. A. (2010) A decade of design in digital government research. *Government Information Quarterly*, 27, 1-8.

FERRARO, V. (2008) Dependency Theory: An Introduction. IN SECONDI, G. (Ed.) *The Development Economics Reader*. London ; New York, Routledge.

FETTERMAN, D. M. (1989) *Ethnography : step by step*, Newbury Park, Calif, Sage Publications.

FUKUDA-PARR, S. (2003) The Human Development Paradigm: Operationalizing Sen's Ideas on Capabilities. *Feminist Economics*, 9, 301-317.

GEERTZ, C. (1973) *The Interpretation of Cultures*

New York, Basic Books.

GEERTZ, C. (1983) *Local Knowledge: Further Essays in Interpretive Anthropology*, New York, Basic Books.

GEERTZ, C. (1988) *Works and Lives: The Anthropologist as Author*, Stanford, California, Stanford University Press.

GIBSON, R. (2008) Rethinking innovation : pointers for South Africa. *Management Today*, 24, 10-11.

GLASER, B. G. (1978) *Theoretical Sensitivity: Advances in the Methodology of Grounded Theory*, Mill Valley, California, The Sociology Press.

GLASER, B. G. (1992) *Emergence versus Forcing: Basics of Grounded Theory Analysis*, Mill Valley, California, Sociology Press

GLASER, B. G. & STRAUSS, A. L. (1965) *Awareness of Dying*, Chicago, Aldine.

GLASER, B. G. & STRAUSS, A. L. (1999) *The discovery of grounded theory : strategies for qualitative research*, Chicago, Aldine.

GOPAL, A. & PRASAD, P. (2000) Understanding GDSS in Symbolic Context: Shifting the focus from Technology to Interaction. *MIS Quarterly*, 24, 509-546.

HABERMAS, J. (1979) *Communication and the evolution of society*, London, Heinemann.

HAMMERSLEY, M. & ATKINSON, P. (1995) *Ethnography : principles in practice*, London, Routledge.

HANKS, T. L. (2008) The Ubuntu Paradigm: Psychology's Next Force?

HARRIS, L. (2006) SITA calls on private sector for help. *Computing SA*.

HARVEY, L. J. & MYERS, M. D. (2002) Scholarship and Practice: The Contribution of Ethnographic Research Methods to Bridging the Gap. IN MYERS, M. D. & AVISON, D. E. (Eds.) *Qualitative Research in Information Systems: A Reader*. SAGE.

HEEKS, R. (2008) ICT4D 2.0: The Next Phase of Applying ICT for International Development. *Computer*.

HEEKS, R. & BAILUR, S. (2007) Analyzing e-government research: Perspectives, philosophies, theories, methods, and practice. *Government Information Quarterly*, 24, 243-265.

HOFSTEDE, G. (1980) *Culture's Consequences*, Beverly Hills, CA., Sage.

HOPKINS, W. G. (2000) Quantitative Research Design. *Sportscience*, 4.

HOWCRAFT, D., MITEV, N. & WILSON, M. (2004) What we may Learn from the Social Shaping of Technology Approach. IN MINGERS, J. & WILLCOCKS, L. (Eds.) *Social Theory and Philosophy for Information Systems*. Chichester, England, John Wiley & Sons Ltd.

HOWCROFT, D., MITEV, N. & WILSON, M. (2004) What we may Learn from the Social Shaping of Technology Approach. IN MINGERS, J. & WILLCOCKS, L. (Eds.) *Social Theory and Philosophy for Information Systems*. Chichester, England, John Wiley & Sons Ltd.

HUGHES, J. & JONES, S. (2004) Reflections on the use of Grounded Theory in Interpretive Information Systems Research. *Electronic Journal of Business Research Methods*, 7.

IBRAHIM, S. S. (2006) From Individual to Collective Capabilities: The Capability Approach as a Conceptual Framework for Self-help. *Journal of Human Development*, 7, 397 - 416.

JICA (2005) Aid to Africa and the UK's '2005' Agenda: Perspectives of European Donors and Implications for Japan. IN COURT, J. (Ed.), Overseas Development Institute.

KANUNGO, S. (2004) On the emancipatory role of rural information systems. *Information Technology & People*, 17, 407-422.

KELLE, U. (2005) "Emergence" vs. "Forcing" of Empirical Data? A Crucial Problem of "Grounded Theory" Reconsidered. *Forum: Qualitative Social Research*, 6.

KINGSBURY, D. (2008) Introduction. IN KINGSBURY, D., MCKAY, J., HUNT, J., MCGILLIVRAY, M. & CLARKE, M. (Eds.) *International development : issues and challenges*. Basingstoke [England], Palgrave Macmillan.

KLEIN, H. K. & HUYNH, M. Q. (2004) The Critical Social Theory of Jürgen Habermas and its Implications for IS Research. IN MINGERS, J. & WILLCOCKS, L. (Eds.) *Social Theory and Philosophy for Information Systems*. Chichester, John Wiley & Sons Ltd.

KLEIN, H. K. & MYERS, M. D. (2001) A classification scheme for interpretive research in information systems. IN TRAUTH, E. M. (Ed.) *Qualitative Research in IS: Issues and Trends*. Philadelphia, Idea Group Publishing.

KOCK, N. (2003) Action Research: Lessons Learned From a Multi-Iteration Study of Computer-Mediated Communication in Groups. *IEEE Transactions on Professional Communication*, 46, 105-128.

KOCK, N. (2005) What is E-Collaboration? *The International Journal of E-Collaboration*, 1, i-vii.

KOCK, N. & NOSEK, J. (2005) Expanding the Boundaries of E-Collaboration. *IEEE Transactions on Professional Communication*, 48, 1-9.

KOHN, M. (2006) Colonialism 2009 <http://plato.stanford.edu/entries/colonialism/>

KOLFSCHOTEN, G. L. (2007) Theoretical Foundations for Collaboration Engineering. *Department of Systems Engineering*. Delft, Delft University of Technology.

KOLFSCHOTEN, G. L., BRIGGS, R. O., DE VREEDE, G.-J., JACOBS, P. H. M. & APPELMAN, J. H. (2006) A conceptual foundation of the thinkLet concept for Collaboration Engineering. *International Journal of Human-Computer Studies*, 64, 611-621.

KRISHNAKUMAR, J. (2007) Going Beyond Functionings to Capabilities: An Econometric Model to Explain and Estimate Capabilities. *Journal of Human Development*, 8, 39-63.

KURAN, T. (2008) Why the Middle East is Economically Underdeveloped: Historical Mechanisms of Institutional Stagnations. IN SECONDI, G. (Ed.) *The Development Economics Reader*. London ; New York, Routledge.

LATOUR, B. (1992) Where are the missing masses? The sociology of a few mundane artefacts. IN LAW, J. (Ed.) *Shaping Technology/Building Society: Studies in Sociotechnical Change*. Cambridge, MA, MIT Press.

LATOUR, B. (1999) On recalling ANT. IN LAW, J. & HASSARD, J. (Eds.) *Actor Network Theory and After*. Oxford, UK, Blackwell Publishers.

LATOUR, B. & WOOLGAR, S. (1979) *Laboratory Life: The Construction of Scientific Facts*, Princeton, New Jersey, Princeton University Press.

LAW, J. (1991) *A Sociology of Monsters: Essays on Power, Technology and Domination*, London, Routledge.

LAW, J. (1999) After ANT: complexity, naming and topology. IN LAW, J. & HASSARD, J. (Eds.) *Actor Network Theory and After*. First ed. Oxford, UK, Blackwell Publishers.

LECOMPTE, M. D. & PREISSLE, J. (1993) *Ethnography and Qualitative Design in Educational Research*, New York, Academic Press.

LEE, A. S. & BASKERVILLE, R. L. (2003) Generalizing Generalizability in Information Systems Research. *Information Systems Research*, 14, 221-243.

LEE, J. (2010) 10 year retrospect on stage models of e-Government: A qualitative meta-synthesis. *Government Information Quarterly*, In Press, Corrected Proof.

LEHMANN, H. P. & GALLUPE, B. (2005) Information systems for multinational enterprises - some factors at work in their design and implementation. *Journal of International Management*, 11, 28-49.

LEWIN, K. (1952) *Field Theory in Social Science*, London, UK, Tavistock.

LIEVROUW, L. A. (2006) New Media Design and Development: Diffusion of Innovations v Social Shaping of Technology. IN LIEVROUW, L. A. & LIVINGSTONE, S. (Eds.) *The Handbook of New Media*. Student Edition ed. London, Sage Publications Ltd.

LOFLAND, J. & LOFLAND, L. H. (1984) *Analyzing social settings*, Belmont, Calif, Wadsworth Pub. Co.

LYYTINEN, K. (1986) Information systems development as social action: Framework and critical implications. *Department of Computer Science*. University of Jyväskylä.

LYYTINEN, K. J. & KLEIN, H. K. (1985) The Critical Theory of Jurgen Habermas as a Basis for a Theory of Information Systems. IN MUMFORD, E. (Ed.) *Research Methods in Information Systems*. North-Holland, Elsevier Science Publishers.

MACKENZIE, D. & WAJCMAN, J. (1999) *The Social Shaping of Technology*, Philadelphia, Open University Press.

MADON, S. (2003) IT Diffusion for Public Service Delivery: Looking for Plausible Theoretical Approaches. IN AVGEROU, C. & LA ROVERE, R. L. (Eds.) *Information Systems and the Economics of Innovation*. Cheltenham, Edward Elgar Publishing Ltd.

MADON, S., REINHARD, N., ROODE, D. & WALSHAM, G. (2007) Digital Inclusion Projects in Developing Countries: Processes of Institutionalisation. IN WESTRUP, C., SILVA, L. & REINHARD, N. (Eds.) *Proceedings of the 9th International Conference on Social Implications of Computers in Developing Countries*. São Paulo, Brazil.

MASERUMULE, M. H. (2007) Pedigree Nexus of Batho Pele Principles – Where is the tie? *Service Delivery Report*, 6, 89-91.

MAVROTAS, G., SHORROCKS, A. F. & WORLD INSTITUTE FOR DEVELOPMENT ECONOMICS RESEARCH. (2007) *Advancing development : core themes in global economics*, Basingstoke [England] ; New York, Palgrave Macmillan in association with the United Nations University World Institute for Development Economics Research.

MAX-NEEF, M. A., HOPENHAYN, M. & ELIZALDE, A. (1989) Human scale development : conception, application and further reflections, New York, Apex.

MBIGI, L. (1997) *Ubuntu. The African Dream in Management*, Knowledge Resources (Pty) Ltd.

MCCARTHY, T. (1978) *The Critical Theory of Jürgen Habermas*, Cambridge, MIT Press.

MDA, Z. (2000) *The heart of redness*, Oxford, Oxford University Press.

MERRIAM-WEBSTER'S ONLINE DICTIONARY (2007) Collaborate 2007 <http://www.webster.com/cgi-bin/dictionary?sourceid=Mozilla-search&va=collaborate>

MINGERS, J. & WILLCOCKS, L. (2004) *Social theory and philosophy for information systems*, Chichester, West Sussex, Wiley.

MOSSE, D. (2008) "People's Knowledge", Participation and Patronage: Operations and Development in Rural Development. IN CHARI, S. & CORBRIDGE, S. (Eds.) *The development reader*. London, Routledge.

MPHIDI, H. (2009) Digital divide and e-governance in South Africa. IN PIENAAR, D. H. & OLADIRAN, P. T. (Eds.) *African Digital Scholarship & Curation 2009*. CSIR Conference Centre, Pretoria, South Africa, Centre for Scientific and Industrial Research.

MUKABETA MAUMBE, B., OWEI, V. & ALEXANDER, H. (2008) Questioning the pace and pathway of e-government development in Africa: A case study of South Africa's Cape Gateway project. *Government Information Quarterly*, 25, 757-777.

MYERS, M. D. (1997) Qualitative Research in Information Systems. *MIS Quarterly*, 21, 241-242.

MYERS, M. D. (1999) Investigation Information Systems with Ethnographic Research. *Communications of the ACM*, 2.

NAHAPIET, J. & GHOSHAL, S. (2002) Social Capital, intellectual capital, and the organizational advantage. IN CHOO, C. W. & BONTIS, N. (Eds.) *The strategic management of intellectual capital and organizational knowledge*. New York, Oxford University Press.

NEDERVEEN PIETERSE, J. (2009) Development theory : deconstructions/reconstructions, London, SAGE.

NELSON, J. (2002) The Role of Dutch Reformed Church Played in the Rise and Fall of Apartheid. *Journal of Hate Studies*, 2, 63-71.

NOLAN, R. (1973) Managing The Computer Resource: A Stage Hypothesis. *Harvard Business Review*, 16, 399-405.

NOLAN, R. (1976) Managing The Crisis In Data Processing. *Harvard Business Review*, 57, 115-126.

NOUR, M. A., ABDELRAHMAN, A. A. & FADLALLA, A. (2008) A context-based integrative framework for e-government initiatives. *Government Information Quarterly*, 25, 448-461.

NUNAMAKER JR, J. F., BRIGGS, R. O., MITTLEMAN, D. D., VOGEL, D. R. & BALTHAZARD., P. A. (1997) Lessons from a dozen years of group support systems research: A discussion of lab and field findings. *Journal of Management Information Systems*, 13, 163-207.

ODEDRA-STRAUB, M. (2003) "E-Commerce and Development": Whose development? *The Electronic Journal on Information Systems in Developing Countries*, 11, 1-5.

OJO, R. B. & TWINOMURINZI, H. (2009) Using Mobile Technology to Support Government Service Delivery: A Case Study on the Pension System in South Africa. IN SOLIMAN, K. S. (Ed.) *Proceedings of the 12th International Business Information Management Association Conference*. Kuala Lumpur, Malaysia.

OLINGER, H. N., BRITZ, J. J. & OLIVIER, M. S. (2007) Western privacy and/or Ubuntu? Some critical comments on the influences in the forthcoming data privacy bill in South Africa. *The International Information & Library Review*, 39, 31-43.

ORLIKOWSKI, W. J. (1993) CASE tools as organizational change: investigating incremental and radical changes in systems development. *MIS Quarterly*, 17, 32.

PATTON, M. Q. & PATTON, M. Q. (2001) *Qualitative research and evaluation methods*, Thousand Oaks, Calif., Sage Publications.

PERKINS, D. H., RADELET, S. & LINDAUER, D. (2006) *Economics of Development*, New York, United States of America, W W Norton.

PHAHLAMOHLAKA, J. (2008) *Community-driven Projects: Reflections on a Success Story - A Case Study of Science Education and Information Technology in South Africa*, Pretoria, South Africa, Van Schaik Publishers.

PHAHLAMOHLAKA, J., TWINOMURINZI, H., OJO, R., MAHLANGU, Z. & MASANABO, L. (2008) Assessing the quality of the 'TurnStormer' thinkLet as a Collaboration Engineering building block for the Implementation of the Promotion of

Administrative Justice Act of South Africa. *IFIP Workgroup 9.4-University of Pretoria Joint Workshop*. Pretoria, South Africa, IFIP WG 9.4.

PHAHLAMOHLAKA, L. J. (2003) An analysis of group decision justification and its implications for GSS use and design ideals. *Department of Informatics, Faculty of Engineering, Built Environment and Information Technology*. Pretoria, University of Pretoria.

PHAHLAMOHLAKA, L. J. & ROODE, D. (2001) Justification of Group Decisions: A Case Study of User Training in Group Support Systems Applications. *Proceedings of the Ninth European Conference on Information Systems*. Bled, Slovenia.

PNC ON ISAD (2008) e-Government 2008

POSTMA, D. (2006) A critical investigation of the contribution of Actor-Network Theory towards a critical conception of technology. Pretoria, University of Pretoria.

POZZEBON, M. (2003) Criteria for Conducting and Evaluating Critical Interpretive Research in the IS Field. *Cahier du GReSI*, 3.

PREBLE, C. & TUPY, M. (2005) Trade, Not Aid: Farm protectionism threatens farms in Africa, wallets in America, and lives everywhere. *Reason.com*.

RAKATE, N. F. (2006) Transformation in the South African Public Service: The Case of Service Delivery in the Department of Health. *Faculty of Economic & Management Science*. Pretoria, University of Pretoria.

REED, B. G. (2005) Theorizing in Community Practice: Essential Tools for Building Community, Promoting Social Justice, and Implementing Social Change. IN WEIL, M. (Ed.) *The Handbook of Community Practice*. Thousand Oaks, California, Sage Publications Inc.

REPUBLIC OF SOUTH AFRICA (1995) White Paper on the Transformation of Public Service. IN SOUTH AFRICAN GOVERNMENT INFORMATION (Ed.), Government Printers.

REPUBLIC OF SOUTH AFRICA (1997) White Paper on Transforming Public Service Delivery (Batho Pele White Paper). IN ADMINISTRATION, D. O. P. S. A. (Ed.), South African Government Gazette.

REPUBLIC OF SOUTH AFRICA (2001a) Electronic Government: The Digital Future - A Public Service IT Policy Framework. IN ADMINISTRATION, D. O. P. S. A. (Ed.), Department of Public Service and Administration.

REPUBLIC OF SOUTH AFRICA (2001b) Report on the State of the Public Service - 2001. IN COMMISSION, P. S. (Ed.), South African Government Information.

REPUBLIC OF SOUTH AFRICA (2002) State of the Public Service Report - 2002. IN COMMISSION, P. S. (Ed.), South African Government Information.

REPUBLIC OF SOUTH AFRICA (2003) Public Service Monitoring and Evaluation System: Assessment Framework. IN COMMISSION, P. S. (Ed.), South African Government Information.

REPUBLIC OF SOUTH AFRICA (2004) State of the Public Service Report - 2004. IN COMMISSION, P. S. (Ed.), South African Government Information.

REPUBLIC OF SOUTH AFRICA (2005) State of the Public Service Report - 2005. IN COMMISSION, P. S. (Ed.), South African Government Information.

REPUBLIC OF SOUTH AFRICA (2006a) PAJA e-newsletter: Edition 1/2006. IN DEVELOPMENT, D. O. J. A. C. (Ed.) *PAJA: The Promotion of Administrative Justice Act, 2000 (Act No 3 of 2000)*. 1 ed., Department of Justice and Constitutional Development (DoJ&CD) & the German Technical Cooperation (GTZ).

REPUBLIC OF SOUTH AFRICA (2006b) State of Public Service Report 2006: Assessing the Capacity of the State to Deliver. IN PUBLIC SERVICE COMMISSION (Ed.), South African Government Online.

REPUBLIC OF SOUTH AFRICA (2007a) About CDW's 2009
<http://www.dpsa.gov.za/cdw/about.asp>

REPUBLIC OF SOUTH AFRICA (2007b) State of Public Service Report 2007: Promoting Growth and Development through an Effective Public Service. IN COMMISSION, P. S. (Ed.), South African Government Online.

REPUBLIC OF SOUTH AFRICA (2007c) Thusong Service Centre: Business Plan 2006 - 2014 2007 http://www.thusong.gov.za/documents/establish_rollout/index.jsp

REPUBLIC OF SOUTH AFRICA (2008a) Batho Pele 2008 <http://www.dpsa.gov.za/batho-pele/index.asp>

REPUBLIC OF SOUTH AFRICA (2008b) Constitution of the Republic of South Africa, 1996 2008 <http://www.info.gov.za/documents/constitution/1996/index.htm>

REPUBLIC OF SOUTH AFRICA (2008c) Imbizo 2008

ROBEYNS, I. (2000) An unworkable idea or a promising alternative? Sen's capability approach reexamined 2004 http://www.ingridrobyns.nl/Ac_publ_list.html

ROBEYNS, I. (2005a) The capability approach and welfare policies. *Coonference on Gender Auditing and Gender Budgeting*. Bologna, Italy.

ROBEYNS, I. (2005b) The Capability Approach: a theoretical survey. *Journal of Human Development*, 6, 93-114.

ROCK, P. (2001) Symbolic Interactionism and Ethnography. IN ATKINSON, P., COFFEY, A., DELAMONT, S., LOFLAND, J. & LOFLAND, L. (Eds.) *Handbook of Ethnography*. London, SAGE.

RODRICK, D. & SUBRAMANIAN, A. (2008) The Primacy of Institutions (and what this does and does not mean). IN SECONDI, G. (Ed.) *The Development Economics Reader*. London ; New York, Routledge.

ROGERS, E. M. (1995) *Diffusion of Innovations*, New York, Free Press.

ROODE, D., SPEIGHT, H., POLLOCK, M. & WEBBER, R. (2004) It's not the Digital Divide - it's the Socio-Techno Divide! IN LEINO, T., SAARINEN, T. & KLEIN, S. (Eds.) *Proceedings of the Twelfth European Conference on Information Systems*. Turku School of Economics and Business Administration, Turku, Finland, ECIS.

ROSENSTEIN-RODAN, P. (1943) Problems of Industrialization of Eastern and South-Eastern Europe. *Economic Journal*, 53, 202-211.

ROSS, R. (1999) *A Concise History of South Africa*, Cambridge, UK, Cambridge University Press.

ROSTOW, W. W. (1956) The Take-Off Into Sustained Growth. *Economic Journal*, 66, 25-48.

RUDDIN, L. P. (2006) You Can Generalize Stupid! Social Scientists, Bent Flyvberg, and Case Study Methodology. *Qualitative Inquiry*, 12, 797-812.

SACHS, J. D. (2008) Upstairs, Downstairs. IN SECONDI, G. (Ed.) *The Development Economics Reader*. London ; New York, Routledge.

SAHAY, S. (2001) "Introduction to the special issue on "IT and Health Care in Developing Countries". *Electronic Journal on Information Systems in Developing Countries*, 5, 1-6.

SANDAY, P. R. (1979) The Ethnographic Paradigm(s). Johnson Graduate School of Management, Cornell University.

SCHENSUL, S. L., SCHENSUL, J. J. & LECOMPTE, M. D. (1999) *Essential ethnographic methods : observations, interviews, and questionnaires*, Walnut Creek, Alta Mira.

SECONDI, G. (2008) Economic Growth, Economic Development, and Human Development. IN SECONDI, G. (Ed.) *The Development Economics Reader*. London ; New York, Routledge.

SEN, A. (2005) Human Rights and Capabilities. *Journal of Human Development*, 6, 151-166.

SEN, A. K. (1999) *Commodities and capabilities*, Delhi ; New York, Oxford University Press.

SIBANDA SR, O. (2009) e-Government in South Africa: Successes and Challenges in the Quest to Bridge the Digital Divide. IN REMENYI, D. (Ed.) *9th European Conference on e-Government*. London, UK, Westminster Business School, University of Westminster.

SIEBELING, T. (2004) A Novel Approach to Innovation Processes in Community Driven Projects: How an extended Learning Selection model explains the success of SEIDET, an educational community development project in rural South Africa. *Technology and Society, Faculty of Technology Management*. Eindhoven, Eindhoven University of Technology.

SOUTH AFRICA (2006) E-Government Knowledge Exchange (e-Gov KnowEx) 2006

STANFORTH, C. (2006) Using Actor-Network Theory to Analyze E-Government Implementation in Developing Countries. *Information Technologies and International Development*, 3, 35-60.

STATISTICS SOUTH AFRICA (2001) Census 2001 2009

STATISTICS SOUTH AFRICA (2009) Latest Key Indicators 2009

STEWART, F. (2005) Groups and Capabilities. *Journal of Human Development*, 6, 185-204.

STEWART, F. & DENEULIN, S. (2002) Amartya Sen's Contribution to Development Thinking. *Studies in Comparative International Development*, 37, 61-70.

STRAUSS, A. (1987a) *Qualitative Analysis for Social Scientists*, New York, Cambridge University Press.

STRAUSS, A. & CORBIN, J. A. (1990) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, Newbury Park, California, Sage.

STRAUSS, A. L. (1987b) *Qualitative analysis for social scientists*, Cambridge, Cambridge University Press.

STRAUSS, A. L. & CORBIN, J. M. (1998) *Basics of qualitative research : techniques and procedures for developing grounded theory*, Thousand Oaks, Sage Publications.

SWANSON, D. M. (2007) Ubuntu: An African contribution to (re)search for/with a 'humble togetherness'. *Journal of Contemporary Issues in Education*, 2, 53-67.

THE PRESIDENCY (2007) Development Indicators: Mid-Term Review
http://www.info.gov.za/otherdocs/2007/development_indicators.pdf

THORBECKE, E. (2007) The Evolution of the Development Doctrine, 1950-2005. IN MAVROTAS, G., SHORROCKS, A. F. & WORLD INSTITUTE FOR DEVELOPMENT ECONOMICS RESEARCH. (Eds.) *Advancing development : core themes in global economics*. Basingstoke [England] ; New York, Palgrave Macmillan in association with the United Nations University World Institute for Development Economics Research.

TOULMIN, S., RIEKE, R. & JANIK, A. (1979) *An Introduction to reasoning*, New York, Macmillan Publishing Co., Inc.

TRAUTH, E. M. & JESSUP, L. M. (2000) Understanding Computer-Mediated Discussions: Positivist and Interpretivist Analyses of Group Support Systems Use. *MIS Quarterly*, 24, 43-79.

TRIANDIS, H. C., MCCUSKER, C. & HUI, C. H. (1990) Multimethod probes of individualism and collectivism. *Journal of Personality and Social Psychology*, 59, 1006-1020.

TROCHIM, W. M. K. (2006) Design 2008
<http://www.socialresearchmethods.net/kb/design.php>

TWINOMURINZI, H. (2007) An E-Collaboration Approach to Buy-In of Development Innovations in Rural Communities: A South African Experience. IN SILVA, L., WESTRUP,

C. & REINHARD, N. (Eds.) *Proceedings of the 9th International Conference on Social Implications of Computers in Developing Countries*. São Paulo, Brazil, IFIP TC 9 / WG 9.4.,

TWINOMURINZI, H., PHAHLAMOHLAKA, J. & BYRNE, E. (2009) Towards a Critical-Interpretive Analysis Framework for ICT4D in Government. IN BYRNE, E., JARRAR, Y. & NICHOLSON, B. (Eds.) *Proceedings of the 10th International Conference on Social Implications of Computers in Developing Countries*. Dubai, United Arab Emirates, International Federation of Information Processing (IFIP).

TWINOMURINZI, H. & PHAHLAMOHLAKA, L. J. (2005) Enhancing procedural fairness in administrative action of the Administrative Justice Act of South Africa using web-based Group Support Systems. *Second Conference on Online Deliberation: Design, Research, and Practice / DIAC-2005*. California, Stanford University.

TWINOMURINZI, H. & PHAHLAMOHLAKA, L. J. (2006) Simulating the Implementation of the Administrative Justice Act with ThinkLets and GroupSystems: A Comparative Analysis from Three Field Studies. *Conference on Information Technology in Tertiary Education*. Pretoria.

TWINOMURINZI, H. & PHAHLAMOHLAKA, L. J. (2009) Using web-based Group Support Systems to enhance procedural fairness in administrative decision making in South Africa. IN DAVIS, T. & GANGADHARAN, S. P. (Eds.) *Online Deliberation: Design, Research, and Practice*. Stanford University, USA, Center for the Study of Language and Information.

UL HAQ, M. (2008) The Human Development Paradigm. IN SECONDI, G. (Ed.) *The Development Economics Reader*. London ; New York, Routledge.

UN (2009) About MDGs: What They Are (2002-2006) 2009
<http://www.unmillenniumproject.org/goals/index.htm>

UNCTAD (2006) Using ICTs to Achieve Growth and Development. Trade and Development Board: Commission on Enterprise, Business Facilitation and Development. Expert Meeting in

Support of the Implementation and Follow-up of WSIS: Geneva, Switzerland, United Nations.

UNDP (2007a) Human Development Report 2006: HDI Country Fact Sheet - South Africa http://hdr.undp.org/hdr2006/statistics/countries/country_fact_sheets/cty_fs_ZAF.html

UNDP (2007b) What is HD (Human Development)? <http://hdr.undp.org/hd/>

UNDP (2008) The Human Development Concept 2008 <http://hdr.undp.org/en/humandev/>

UNDP (2010) The Human Development Concept 2010 <http://hdr.undp.org/en/humandev/>

UNITED NATIONS (2008) UN e-Government Survey 2008: From e-Government to Connected Governance. New York, Department of Economic and Social Affairs.

URQUHART, C. (2007) The Evolving Nature of Grounded Theory Method: The Case of the Information Systems Discipline. IN BRYANT, A. & CHARMAZ, K. (Eds.) *The SAGE handbook of grounded theory*. London, SAGE.

URQUHART, C., LEHMANN, H. & MYERS, M. D. (2009) Putting the 'theory' back into grounded theory: guidelines for grounded theory studies in information systems. *Information Systems Journal*, xx.

UYAN-SEMERCI, P. (2007) A Relational Account of Nussbaum's List of Capabilities. *Journal of Human Development*, 8, 203 - 221.

VAN BINSBERGEN, W. (2002) Ubuntu and the globalisation of Southern African thought and society. *Philosophical Faculty*. Rotterdam, The Netherlands, Erasmus University.

VAN METER, D. S. & VAN HORN, C. E. (1975) The Policy Implementation Process. A Conceptual Framework. *Administration and Society* 6.

VASSILIOS, P. (2009) Transforming E-government and E-participation through IT. IN GREGORIS, M., KONSTANTINOS, A. T. & ANDREAS, A. (Eds.).

VISSER, W. & TWINOMURINZI, H. (2008) E-Government & Public Service Delivery: Enabling ICT to put “people first” – A Case Study from South Africa. IN OROPEZA, A. (Ed.) *The 6th International Conference on Politics and Information Systems, Technologies and Applications: PISTA 2008*. Orlando, Florida, USA, IMSCI 2008.

VISSER, W. & TWINOMURINZI, H. (2009) E-Government & Public Service Delivery: Enabling ICT to put “people first” – A Case Study from South Africa. *Journal of Systemics, Cybernetics and Informatics*, 6, 36-41.

VREEDE, G. J., DE (2006) Facilitation of Electronic Collaboration with Group Systems. IN INF 821 CLASS LECTURE, D. O. I., UNIVERSITY OF PRETORIA (Ed.) Pretoria.

WADE, R. H. (2002) Bridging the Digital Divide: New Route to Development or New Form of Dependency? *Global Governance*, 8, 443-466.

WALSHAM, G. (1993) *Interpreting Information Systems in Organizations*, Wiley, Chichester, John Wiley & Sons.

WALSHAM, G. (1995) Interpretive Case Studies in IS Research: nature and method. *European Journal of Information Systems*, 1995, 8.

WALSHAM, G. (1997) Actor-network theory and IS research: Current status and future prospects. IN DEGROSS, J. (Ed.) *Information Systems and Qualitative Research: Proceedings of the IFIP WG 8.2 International Conference on Information Systems and Qualitative Research*. London, Chapman & Hall.

WALSHAM, G. (2001) *Making a World of Difference: IT in a Global Context*, West Sussex, John Wiley & Sons Ltd.

WALSHAM, G. (2003) Research Methodologies for Information Systems in the Developing Context: A Tutorial. IN KRISHNA, S. & MADON, S. (Eds.) *The Digital Challenge: Information Technology in the Development Context*. Ashgate, Aldershot.

WALSHAM, G., ROBEY, D. & SAHAY, S. (2007) Foreword: Special issue on Information Systems in Developing Countries. *MIS Quarterly*, 31, 317-326.

WALSHAM, G. & SAHAY, S. (1999) GIS for district-level administration in India: problems and opportunities. *MIS Quarterly*, 23, 39-65.

WEBER, M. (1947) *The Theory of Economic and Social Organization*, New York, Free Press.

WERE, G. S. (1974) *A History of South Africa*, New York, Africana.

WES, W. S. S. & DAVE, D. R. R. (2004) Ethnography, ethnomethodology and the problem of generalisation in design. *European Journal of Information Systems*, 13, 186-194.

WHETTEN, D. A. (1989) What Constitutes a Theoretical Contribution? *The Academy of Management Review*, 14, 490-495.

WHITACRE, R. A. (1982) *Johannine polemic : the role of tradition and theology*, Chico Ca., Scholars Press.

WILLIS, J. (2007) *Foundations of qualitative research : interpretive and critical approaches*, Thousand Oaks, Sage Publications.

WOOD, D. J. & GRAY, B. (1991) Toward a Comprehensive Theory of Collaboration. *Journal of Applied Behavioural Science*, 27, 139-162.

WOODING, A. & PHAHLAMOHLAKA, L. J. (2005) Towards a Collaborative Engineering Framework for the effective implementation of the Administrative Justice Act of South Africa. *Community Informatics Research Network (CIRN2005) International Conference*. Cape Town, South Africa, .

WOODROFFE, R. (2007) Imbizos on speed. *Mail & Guardian*.

WORLD BANK (2008) Data - Country Classification 2008

<http://go.worldbank.org/K2CKM78CC0>

YIN, R. K. (2003) *Case Study Research: design and methods*, Thousand Oaks, California, Sage Publications.

YOUNG, J. & RIDLEY, G. (2003) E-Commerce in Developing Countries. *The Electronic Journal on Information Systems in Developing Countries*, 11, 1-6.

YUNUS, M. (2008) *Banker to the Poor: Micro-lending and the Battle against World Poverty*. IN SECONDI, G. (Ed.) *The Development Economics Reader*. London ; New York, Routledge.

ZUBOFF, S. (1988) *In the age of the smart machine : the future of work and power*, New York, Basic Books.

Appendix A: List of Publications and Abstract Associated with Thesis

List of Peer Reviewed Conference and Journal Publications Related to the Thesis

BYRNE, E., TWINOMURINZI, H. (2008) Towards an inclusive approach to e-Governance: A Case for Administrative Law in South Africa. *IFIP Workgroup 9.4-University of Pretoria Joint Workshop*. Pretoria, South Africa, IFIP WG 9.4.

OJO, R.B., TWINOMURINZI, H. (2009) Using Mobile Technology to Support Government Service Delivery: A Case Study on the Pension System in South Africa. IN SOLIMAN, K. S. (Ed.) *Proceedings of the 12th International Business Information Management Association Conference*. Kuala Lumpur, Malaysia.

PHAHLAMOHLAKA, J., TWINOMURINZI, H., MASANABO, L.G., MAHLANGU, N. (2010) From Simulating Citizen – Government Interaction to Facilitating Service Delivery through ICT use: Experiences from the web-based collaboration and thinkLets project. IN LUBEGA, J., VRIES, W.D., MISCIONE, G. (Eds.) *ICT and Development: Research Voices from Africa*. Makerere University, Kampala, Uganda, IFIP WG9.4.

PHAHLAMOHLAKA, J., TWINOMURINZI, H., OJO, R., MAHLANGU, Z., MASANABO, L. (2008) Assessing the quality of the ‘TurnStorner’ thinkLet as a Collaboration Engineering building block for the Implementation of the Promotion of Administrative Justice Act of South Africa. *IFIP Workgroup 9.4-University of Pretoria Joint Workshop*. Pretoria, South Africa, IFIP WG 9.4.

TWINOMURINZI, H. (2007a) An E-Collaboration Approach to Buy-In of Development Innovations in Rural Communities: A South African Experience. IN SILVA, L., WESTRUP, C., REINHARD, N. (Eds.) *Proceedings of the 9th International Conference on Social Implications of Computers in Developing Countries*. São Paulo, Brazil, IFIP TC 9 / WG 9.4.

TWINOMURINZI, H., PHAHLAMOHLAKA, J., BYRNE, E. (2009) Towards a Critical-Interpretive Analysis Framework for ICT4D in Government. IN BYRNE, E., JARRAR, Y., NICHOLSON, B. (Eds.) *Proceedings of the 10th International Conference on Social*

Implications of Computers in Developing Countries. Dubai, United Arab Emirates, International Federation of Information Processing (IFIP).

TWINOMURINZI, H., PHAHLAMOHLAKA, L.J. (2005) Enhancing procedural fairness in administrative action of the Administrative Justice Act of South Africa using web-based Group Support Systems. *Second Conference on Online Deliberation: Design, Research, and Practice / DIAC-2005.* California: Stanford University.

TWINOMURINZI, H., PHAHLAMOHLAKA, L.J. (2006) Simulating the Implementation of the Administrative Justice Act with ThinkLets and GroupSystems: A Comparative Analysis from Three Field Studies. *Conference on Information Technology in Tertiary Education.* Pretoria.

TWINOMURINZI, H., PHAHLAMOHLAKA, L.J. (2009) Using web-based Group Support Systems to enhance procedural fairness in administrative decision making in South Africa. IN DAVIS, T., GANGADHARAN, S.P. (Eds.) *Online Deliberation: Design, Research, and Practice.* Stanford University, USA, Center for the Study of Language and Information.

VISSER, W., TWINOMURINZI, H. (2008) E-Government & Public Service Delivery: Enabling ICT to put “people first” – A Case Study from South Africa. IN OROPEZA, A. (Ed.) *The 6th International Conference on Politics and Information Systems, Technologies and Applications: PISTA 2008.* Orlando, Florida, USA, IMSCI 2008.

VISSER, W., TWINOMURINZI, H. (2009) E-Government & Public Service Delivery: Enabling ICT to put “people first” – A Case Study from South Africa. *Journal of Systemics, Cybernetics and Informatics*, 6, 36-41.

Towards an inclusive approach to e-Governance: A Case for Administrative Justice in South Africa

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Abstract

Impartial, fair and reasonable decision making by public institutions in South Africa as advocated for in administrative law, still faces significant challenges. In this paper, we propose a different approach to the implementation of the Provision of Administrative Justice Act. Based on previous research and government reports which highlight the lack of capacity within communities to participate in administrative decision making, this paper presents a theoretically informed approach for e-governance as a way of getting feedback and as a way of discussing existing services. Toulmin *et al.*'s schema of reasoning and Courtney's decision making paradigm form the theoretical basis of the framework. The process embedded in the framework can be facilitated by specially designed decision support systems which create a forum in which clarity can be obtained on service delivery problems and different perspectives on solving them can be elicited.

REFERENCE

BYRNE, E., TWINOMURINZI, H. (2008) Towards an inclusive approach to e-Governance: A Case for Administrative Law in South Africa. *IFIP Workgroup 9.4-University of Pretoria Joint Workshop*. Pretoria, South Africa, IFIP WG 9.4.

Using Mobile Technology to Support Government Service Delivery: A Case Study on the Pension System in South Africa

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Abstract

The flow of information between a government administrator and a citizen is critical for the administrator to make a just, fair and reasonable decision. South Africa recognizes that it struggles with non-compliance in this decision making process primarily because of a lack of skilled human resources (Republic of South Africa, 2007b). In this paper, we investigated in the interpretive paradigm the use of mobile technology designed as a group support system (GSS) tool to support the decision making process required by the Promotion of the Administrative Justice Act of South Africa (PAJA) within the context of pension applications. Group Support Systems (GSS), the technological focus of this research, is a suite of software tools which can focus team efforts to converge on a set of key issues. The findings from the research resulted in a government service delivery model based on the pension application cycle with mobile technology serving as a GSS tool. The paper argues that the resultant service delivery model can better deal with the typical government service delivery problems such as citizen frustration, citizen threats, administrative abuse of power and the non-compliance problem of the PAJA. The model also revealed that mobile technology designed as GSS can help to anticipate and preclude the stated problems. The paper makes a contribution to research and practice by proposing a framework for government service delivery using mobile phone technology designed as a GSS tool.

REFERENCE

OJO, R.B., TWINOMURINZI, H. (2009) Using Mobile Technology to Support Government Service Delivery: A Case Study on the Pension System in South Africa. IN SOLIMAN, K.S. (Ed.) *Proceedings of the 12th International Business Information Management Association Conference*. Kuala Lumpur, Malaysia

From Simulating Citizen – Government Interaction to Facilitating Service Delivery through ICT use: Experiences from the web-based collaboration and thinkLets project

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Abstract

The first aim of this short paper is to demonstrate that despite the many constraints facing ICT4D researchers in developing countries, it is possible to conceptualise, design and execute an ICT use study that is well grounded in both theory and practice. This we do by presenting a high level description of the web-based collaboration and thinkLets research project. The main findings of this longitudinal study thus far is a mechanism or an approach that could be used to scale up the study using a repeatable and predictable process that has the potential to be transferred to participating communities and governments departments to run on their own, following the principles of collaboration engineering. The second aim is to show that networks of audiences gets created along research pathways which build research, development and innovation credibility that others seek to leverage in various areas of potential ICT use to facilitate service delivery in South Africa.

REFERENCE

PHAHLAMOHLAKA, J., TWINOMURINZI, H., MASANABO, L.G., MAHLANGU, N. (2010) From Simulating Citizen – Government Interaction to Facilitating Service Delivery through ICT use: Experiences from the web-based collaboration and thinkLets project. IN LUBEGA, J., VRIES, W.D., MISCIONE, G. (Eds.) *ICT and Development: Research Voices from Africa*. Makerere University, Kampala, Uganda, IFIP WG9.4

Assessing the quality of the ‘TurnStormer’ thinkLet as a Collaboration Engineering building block for the Implementation of the Promotion of Administrative Justice Act of South Africa

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ABSTRACT

This paper assesses the quality of the TurnStormer thinkLet as a building block for Collaboration Engineering for the Implementation of the Administrative Justice Act of South Africa. Although a complete research paper on its own, it constitutes a milestone in an ongoing exploratory study that commenced in 2005 and is to end in 2010. An assessment framework of the study as a whole was declared at its outset as being guided by the critical appraisal guidelines developed by Atkins and Sampson. However, the creation of the first thinkLet of the study in 2006, the TurnStormer thinkLet, required that it be assessed following some Collaboration Engineering design standards. Such standards were not available yet in the literature, but a completed doctoral study by Kolfshoten in December 2007 crystallised them and they are used in this paper to assess the quality of the designed TurnStormer ThinkLet as a Collaboration Engineering building block. The analysis shows that the TurnStormer thinkLet meets four of the five dimensions of quality of collaboration process design for Collaboration Engineering.

REFERENCE

PHAHLAMOHLAKA, J., TWINOMURINZI, H., OJO, R., MAHLANGU, Z., MASANABO, L. (2008) Assessing the quality of the ‘TurnStormer’ thinkLet as a Collaboration Engineering building block for the Implementation of the Promotion of

Administrative Justice Act of South Africa. *IFIP Workgroup 9.4-University of Pretoria Joint Workshop*. Pretoria, South Africa, IFIP WG 9.4.

An E-Collaboration Approach to Buy-In of Development Innovations in Rural Communities: A South African Experience

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Abstract

South Africa is attempting to rewrite its history as a national heritage of empowered citizens working in close collaboration with the government. Recognising the inherent capabilities in fast-tracking development, ICT is regarded as a critical success factor in delivering development innovations in rural communities. However, the ICT innovations do not include the collaboration element. This paper reports on the effect of an e-collaboration approach in a simulated environment to raise awareness of an act of government within rural communities. The research followed an interpretive paradigm with the researchers as participant observers. The collected data was analysed using elements of the diffusion of innovations theory as a theoretical lens to reveal that e-collaboration can lead to the buy in of government development innovations.

REFERENCE

TWINOMURINZI, H. (2007) An E-Collaboration Approach to Buy-In of Development Innovations in Rural Communities: A South African Experience. IN SILVA, L., WESTRUP, C., REINHARD, N. (Eds.) *Proceedings of the 9th International Conference on Social Implications of Computers in Developing Countries*. São Paulo, Brazil, IFIP TC 9 / WG 9.4.,

Towards a Critical-Interpretive Analysis Framework for ICT4D in Government

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Abstract

The road of development through Information and Communication technology (ICT4D) is lined with deep potholes and dead ends since little is done to “accumulate either knowledge or practical guidance” (Heeks and Bailur, 2007, p. 243). This paper concerns how ICT can lead to development and, in particular, how ICT can facilitate government policy implementation in a development context; development being the emancipation and/or freedom of people from different forms of domination such as poverty, disease and oppression. Based on a three year ethnographic immersion in an emancipatory oriented longitudinal research project four theories stood out in their ability to offer some answers; the Capabilities Approach, Actor-Network Theory, the Diffusion of Innovations Theory and Habermas’ Theory of Communicative Action. Each of the named theories gave resourceful explanatory insights on how ICT can lead to development but each fell short at some point. By adopting an ethnographic approach where various theories explain different parts of the problem but not the whole of it, a theoretical framework was derived from the four theories. The framework was able to more cohesively explain how ICT can lead to development. This paper reports on the process of deriving the theoretical framework and uses the framework to analyse one research setting as a case study. The practical and theoretical contributions of the framework are respectively in its critical interpretivist explanatory power of ICT4D projects as well as in its provision of guidelines on how to conduct ICT4D research.

REFERENCE

TWINOMURINZI, H., PHAHLAMOHLAKA, J., BYRNE, E. (2009) Towards a Critical-Interpretive Analysis Framework for ICT4D in Government. IN BYRNE, E., JARRAR, Y., NICHOLSON, B. (Eds.) *Proceedings of the 10th International Conference on Social*

Implications of Computers in Developing Countries. Dubai, United Arab Emirates,
International Federation of Information Processing (IFIP).

Simulating the Implementation of the Administrative Justice Act with ThinkLets and GroupSystems: A Comparative Analysis from Three Field Studies

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Abstract

We present in this paper the results of three simulation exercises performed as part of a series of field studies whose object is the implementation of the Promotion of Administrative Justice Act. The unit of analysis of the study is the process facilitation, which in the context of the field studies and the research design, took the form of AJA awareness raising workshops and the use of a Group Support System (GSS) tool. The notion of a thinkLet was used as a basis for conducting the simulation exercises using GroupSystems. Each workshop, which included the GroupSystems simulation exercise, was treated as a single case. These guidelines are effectively used throughout the conduct of this study and to analyse the results of the simulations. The results presented here constitute a one year milestone in a longitudinal project led by the second author.

REFERENCE

TWINOMURINZI, H., PHAHLAMOHLAKA, L.J. (2006) Simulating the Implementation of the Administrative Justice Act with ThinkLets and GroupSystems: A Comparative Analysis from Three Field Studies. *Conference on Information Technology in Tertiary Education*. Pretoria

Enhancing procedural fairness in administrative action of the Administrative Justice Act of South African using web - based Group Support Systems

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Abstract

The Government of the Republic of South Africa is committed to establishing a society grounded on democratic ideals, social fairness and fundamental human rights. For this to happen, any decisions to be taken by the government need to be justified, or that for decisions that have been taken, an explanation is made to the affected people if requested. This fundamental human right, promulgated in the Promotion of the Administrative Justice Act No 3 of 2000 (AJA), is one of the primary policies that the government purposes to apply to achieve greater egalitarian governance with regard to social equality and respect for the people. In this research article, we focus on the potential of using web-based Group Support Systems (GSS) to enhance procedural fairness in administrative action of the AJA. We review the context of the research and important programs by the government, along with its use of information and communication technology to get closer to and empower the people. Considering the social focus of the research, qualitative data was collected over a period of five months using action research, case studies, observations, participant observations, semi-structured interviews and electronic logs. Using hermeneutics, the analysis reveals that web-based GSS have the potential to enhance procedural fairness in administrative action.

REFERENCE

TWINOMURINZI, H., PHAHLAMOHLAKA, L.J. (2005) Enhancing procedural fairness in administrative action of the Administrative Justice Act of South Africa using web-based Group Support Systems. *Second Conference on Online Deliberation: Design, Research, and Practice / DIAC-2005*. California, Stanford University

E-Government & Public Service Delivery: Enabling ICT to put “People First” – A Case Study from South Africa

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ABSTRACT

The literature on the effectiveness of e-government in developing countries towards improving public service delivery is littered with failure stories. Notwithstanding, the failures have not stopped most governments in developing countries from increasingly turning to ICT, most notably internet based models, as the preferred channel for citizen-centered service delivery. This paper investigated e-government within the developing country context of South Africa. We used the interpretive paradigm primarily because we wanted to increase our understanding of the phenomenon of e-government for public service delivery within the local South African context. The investigation focused on one of the governments primary service delivery programmes – social grants. The analysis of findings suggest that e-government in South Africa is not aligned to the service delivery philosophy, Batho Pele, and is hence not effective in delivering on the public service delivery mandate. Batho Pele which literally means “people first” is similar to the UNDP Human Development Indicators for development. The contribution of this research can be extended to both practice and IS theory. The research highlights the need for ICT4D, particularly e-government in developing contexts, to firstly be aligned to the current over-arching government philosophies if they are to have any effective impact on service delivery. The practical contribution of the research is a possible framework that could be used to align e-government in South Africa to the government philosophy of service delivery.

REFERENCES

VISSER, W., TWINOMURINZI, H. (2008) E-Government & Public Service Delivery: Enabling ICT to put “people first” – A Case Study from South Africa. IN OROPEZA, A.

(Ed.) *The 6th International Conference on Politics and Information Systems, Technologies and Applications: PISTA 2008*. Orlando, Florida, USA, IMSCI 2008.

VISSER, W., TWINOMURINZI, H. (Pending) E-Government & Public Service Delivery: Enabling ICT to put “people first” – A Case Study from South Africa. IN OROPEZA, A. (Ed.) *The 6th International Conference on Politics and Information Systems, Technologies and Applications: PISTA 2008*. Orlando, Florida, USA, IMSCI 2008.

Using web based Group Support Systems to enhance procedural fairness in administrative decision making in South Africa

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Abstract

The commitment to establishing a society grounded on democratic ideals, social fairness and fundamental human rights by constitutionally mandating that Government decision making be justified to those negatively affected by administrative decisions has been demonstrated by the RSA government. This undertaking is promulgated in the Promotion of the Administrative Justice Act No 3 of 2000 (PAJA). This commitment and the advent of the World Wide Web present us with opportunities to investigate with the use of computers in unthought-of areas about a few decades ago. The case in point is what we report about in this brief essay. The objective of this study was to investigate whether web based Group Support Systems (GSS) tools could support and enhance procedural fairness in administrative decision making in South Africa. We report here on the work that emanates from a Masters dissertation by the first author. The work formed part of a larger project led by the second author that investigates the use of web based collaboration processes and tools to enable citizens to interact effectively with Government and public bodies in South Africa.

REFERENCE

TWINOMURINZI, H., PHAHLAMOHLAKA, L.J. (2009) Using web-based Group Support Systems to enhance procedural fairness in administrative decision making in South Africa. IN DAVIS, T., GANGADHARAN, S.P. (Eds.) *Online Deliberation: Design, Research, and Practice*. Stanford University, USA, Center for the Study of Language and Information.

Appendix B: PAJA Research Instruments

2005 PAJA Project Research Instruments

Case Rejection letter

Case Scenario

Dr. Jackie Phahlamohlaka research instrument

PhD Students research instrument

Registration document

Administrator workflow diagram

Affected individual steps to follow within AJA

Workshop programme

Disability Grant criteria

AJA Administrator thinkLet

Research Evaluation Forms

Video Coverage

2006 PAJA Project Research Instruments

Case Rejection letter

Case Scenario

Dr. Jackie Phahlamohlaka research instrument



PhD Students research instrument

Registration document

Administrator workflow diagram

Affected individual steps to follow within AJA

Workshop programme

Child Support Grant criteria

AJA Administrator thinkLet

Research Evaluation Forms

Video Coverage

2007 (2008) PAJA Project Research Instruments

Research Consent Form

Registration Form

Programme (LJP)

Simulation Process (TurnStormer script)

TurnStormer ThinkLet

The Case Scenario

PAJA Affected Person Rights

PAJA Administrator Checklist



Case Rejection Letter

Old Age Pension Criteria

Research Evaluation Forms

Video Coverage

2009 Thesis Research Instrument

Questionnaire on Traditions

Appendix C: An Example Illustrating how Categories and Analytic Memos are derived from Data

THE TEXT (DATA)

There appeared to have been a hunger for such kind of emancipation as well as anger towards the Professor and Magistrate for Government inefficiencies [concept]

The anger is directed at Government for its apparent lack of fairness in dealing with people at the grassroots level [concept].

Research participants are visibly angry and shout at the Professor – they however do not shout at the magistrate yet the magistrate is not as eloquent as the professor [concept] there appears to be sympathy for the magistrate

The magistrate deals directly with cases while the professor deals with the conceptual issues around the PAJA – actually, the professor put places more emphasis on how people need to emancipate themselves using the law [concept]

The research participants refer to the professor as those people with anger [concept]

Building the Theory

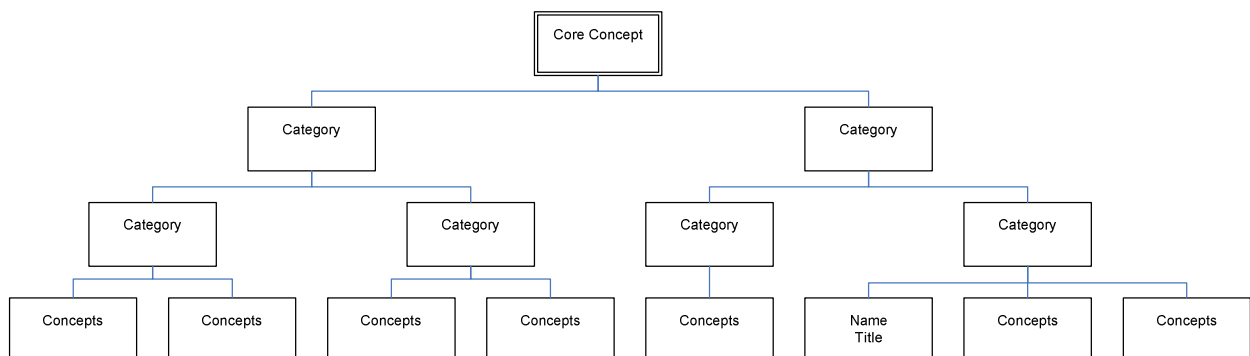


Figure 2.2: Building the Theory (Coyne, 2009, p. 18)

Building the Analytic Memo 4.3.3.1: Colour Still Runs Deep in South Africa

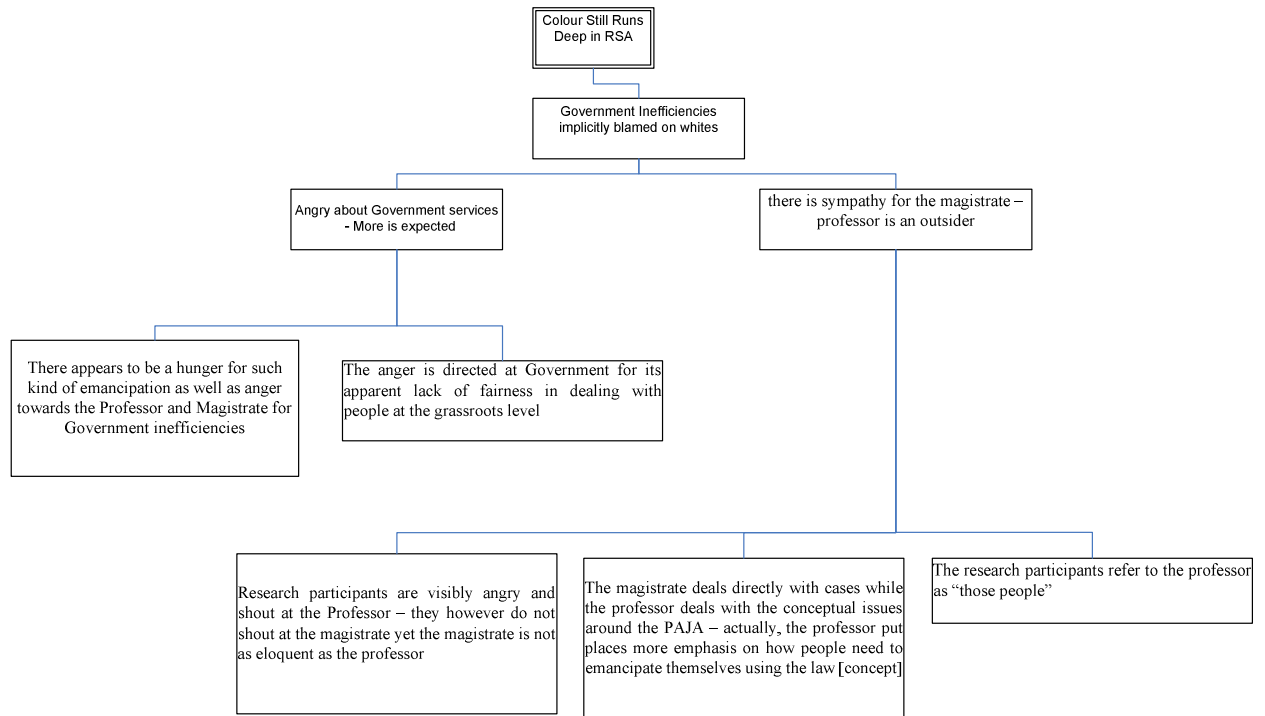


Figure C.1: Illustrating Emergence of Categories from Codes using Grounded Theory