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 disincetivising 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.

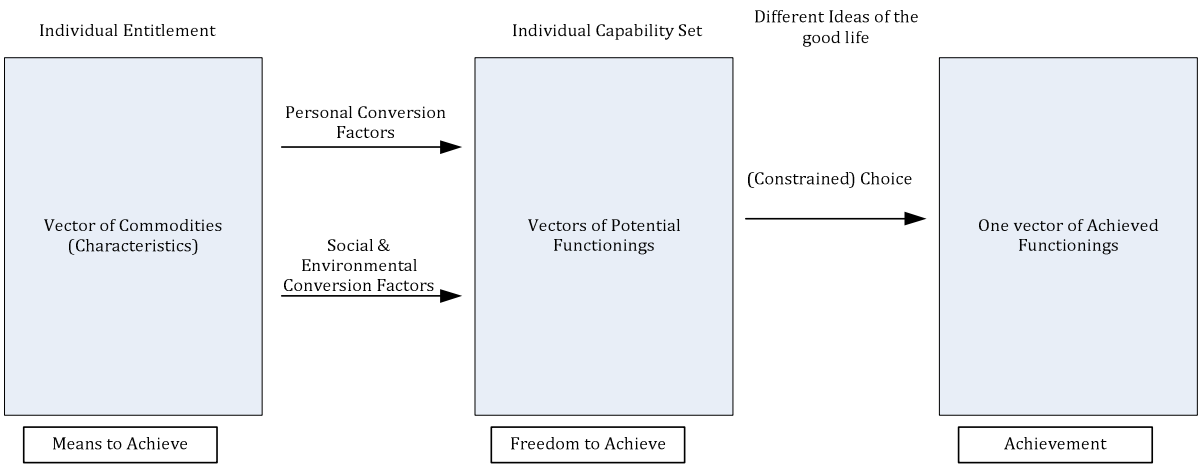

Figure 5.1: Schema of the Capabilities Approach (Robeyns, 2000)

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).

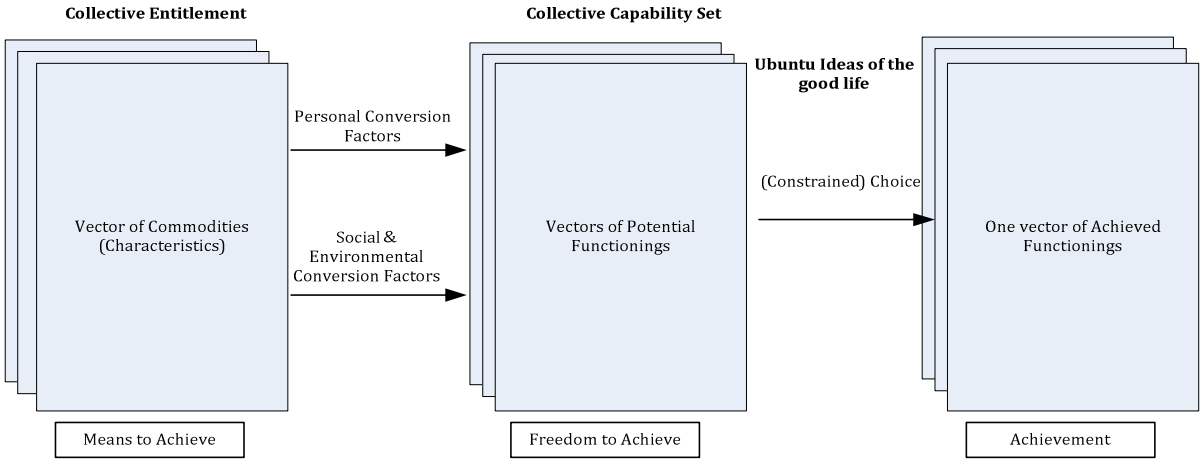

Figure 5.2: Adapted Robeyns' (2000) Schema to allow for Collectives – Ubuntu Development Framework

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).

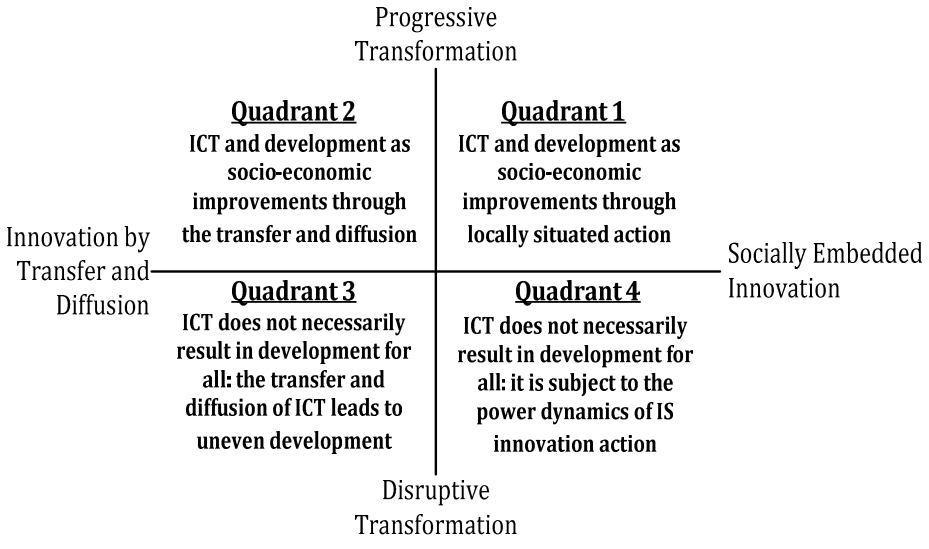

Figure 5.3: Discourse on ICT4D (Avgerou, 2009:21)

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 doubtable (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

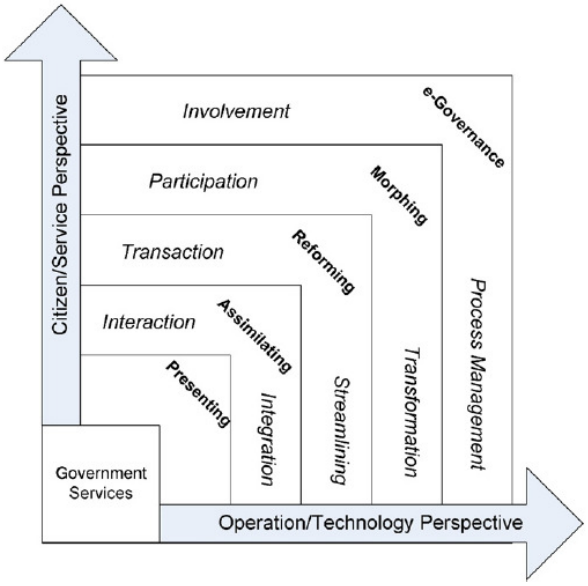

Figure 5.4: A common frame of reference for e-government stage models (Lee, 2010, p. 10)

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" (Kolfschoten, 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 *all* 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 *simple* situations	Solving problems in *complicated* situations	Enabling the emergence of understanding and realization of shared visions in *complex* 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 *et al.*, 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 (Kolfschoten, 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 finding 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).

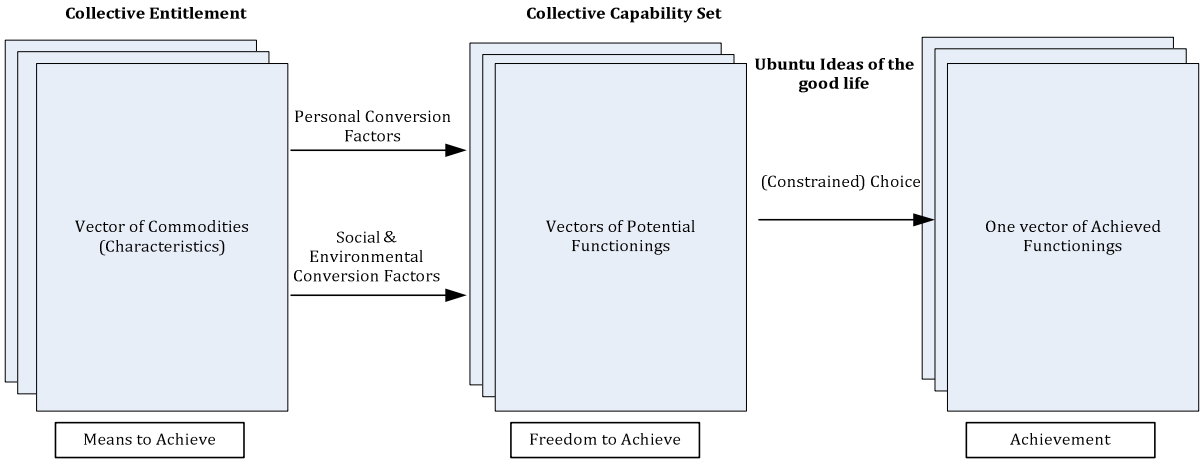

Figure 6.1: The Ubuntu Development Framework

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

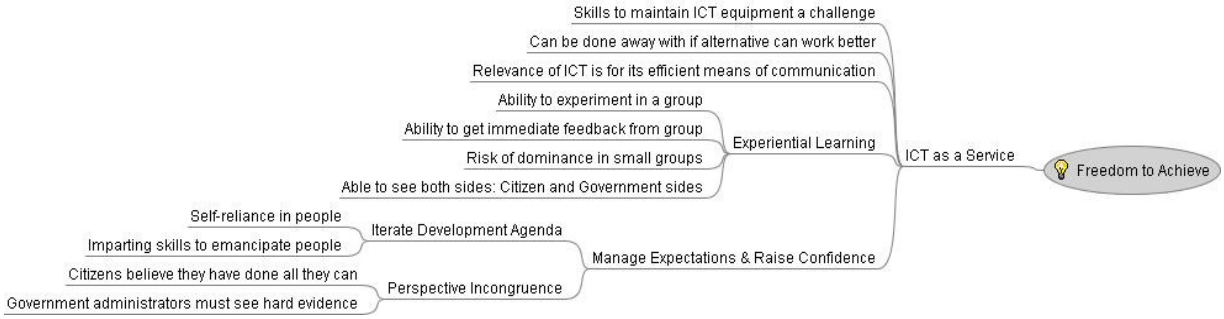

Figure 6.3: Selective Coding for Freedom to Achieve

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 there 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 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."

"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).

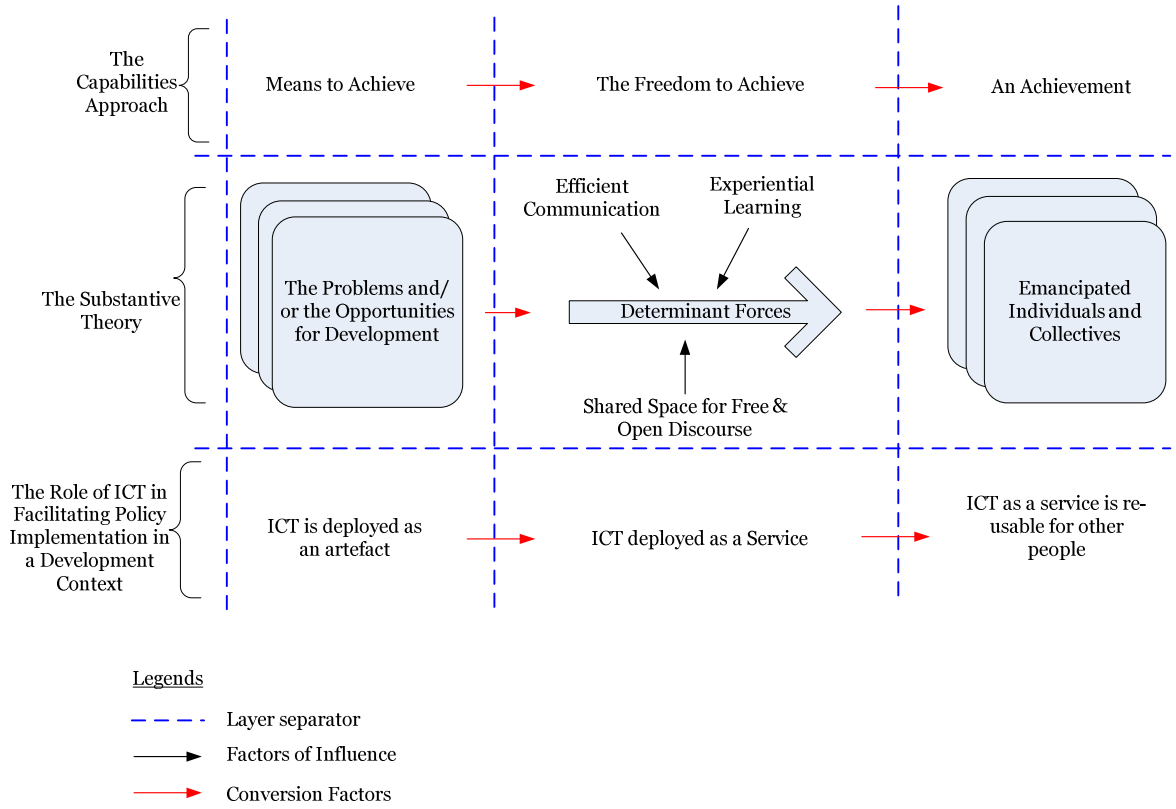

Figure 6.5: How ICT can Facilitate Policy Implementation in a Development Context

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).