

## **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.

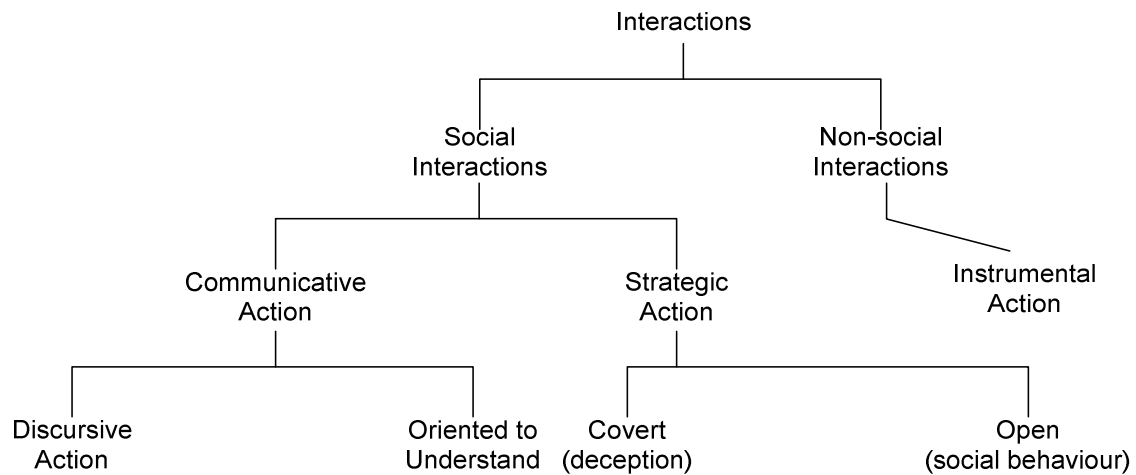
### **7.3.1.2 Overview Comparison with the Substantive Theory**

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 Lytinen 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.

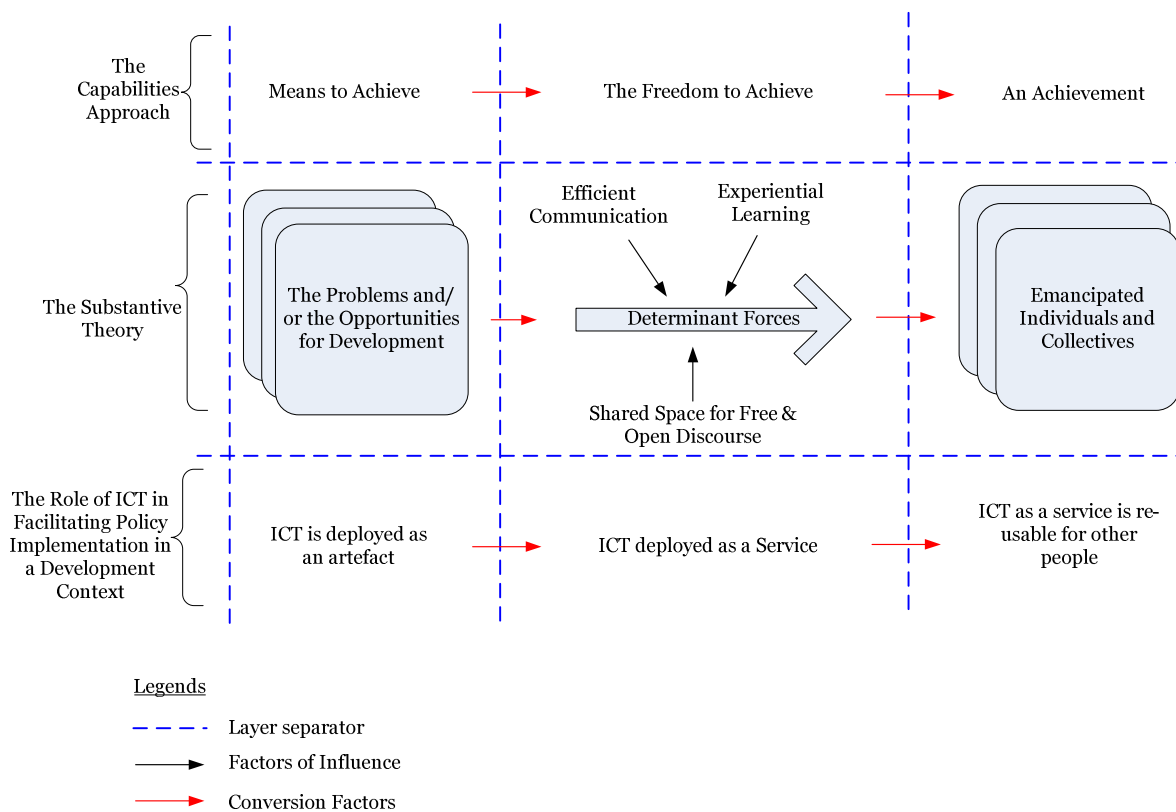
In summary, Chapter 7 engaged the substantive theory with the two formal theories to reveal that the substantive theory offers demonstrative value in suggesting how ICT can be innovated to result in human development through locally situated action. The substantive

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"> <li>The need to understand the social context and the process through which the stakeholders assign meaning to phenomena</li> </ul>
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"> <li>• Identify the problems in the community</li> <li>• Identify a government policy which, when implemented, can address the problem</li> </ul>
2	Innovate ICT	<ul style="list-style-type: none"> <li>• Assign a government administrator who is knowledgeable on the policy and on its implementation</li> <li>• 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:</li> <li>• The collective is composed of ICT and other people</li> <li>• Each person will participate in open debate about the problem using ICT as a means of discourse</li> <li>• If a person does not know how to use ICT someone will be assigned to assist with it</li> <li>• Specific examples where other problems have been dealt with using the same approach and have resulted in the problem being resolved</li> <li>• Request permission to use the results of this collective as an example for other collectives</li> <li>• Enrol persuaded individuals into the collective by signing a consent form</li> </ul>
3	Evidence of Development	<ul style="list-style-type: none"> <li>• Monitor and evaluate the discourse and identify opportunities for improvement</li> <li>• Include the collective results as one of the success stories</li> </ul>

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"> <li>• The National Small Business Act of 1996 and the amendments thereof</li> <li>• The Cooperatives Act 14 of 2005</li> <li>• Community Development Workers Policy</li> </ul>
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"> <li>• The Small Enterprise Development Agency (SEDA)</li> <li>• Community Development Workers in local municipalities (CDWs)</li> </ul>
4	<ul style="list-style-type: none"> <li>• 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>):</li> <li>• The collective is composed of ICT and other people.</li> <li>• Each person will participate in open debate about the problem using ICT as a means of discourse.</li> <li>• If a person does not know how to use ICT someone will be assigned to assist with it.</li> <li>• Specific examples where other problems have been dealt with using the same approach and have resulted in the problem being resolved</li> <li>• Request permission to use the results of this collective as an example for other collectives</li> </ul>	<ul style="list-style-type: none"> <li>• SEDA facilitators in collaboration with CDWs approach traditional leaders and through him recruit participants into a collective</li> <li>• SEDA draws on its numerous success stories concerning Cooperative ventures it has assisted</li> </ul>
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"> <li>• Progress of collaboration is monitored</li> <li>• SEDA official assists established cooperative in its choices of entrepreneurial ventures pointing them in the correct direction</li> </ul>
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"> <li>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:</li> <li>The collective is composed of ICT and other people</li> <li>Each person will participate in open debate about the problem using ICT as a means of discourse</li> <li>If a person does not know how to use ICT someone will be assigned to assist with it</li> <li>Specific examples where other problems have been dealt with using the same approach and have resulted in the problem being resolved</li> <li>Request permission to use the results of this collective as an example for other collectives</li> </ul>		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?