

## Research Article

# Using Actor-Network Theory to Trace an ICT (Telecenter) Implementation Trajectory in an African Women's Micro-Enterprise Development Organization

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### **Abstract**

*Arguments abound as to whether information and communication technologies (ICTs) can beneficially shape socioeconomic development and micro-enterprise, whether they are appropriate to local culture, and whether they fit with the development approach in use. This paper uses participative action research to explore the impact of network translations on the actor-network of a South African rural women's development organization. One of the three translations considered is the introduction of ICTs through a government-sponsored telecenter; in this case, inserted into a complex socio-political context among a myriad of actors and actor-networks. The due process model is applied to this translation to show the neglect of institutionalization factors. Using Actor-Network Theory to trace translation trajectories captures the effects of the inescapable "openness" of actor-networks, effects that lead to the inevitabilities of unanticipated consequences, which result in "messes overflowing the frames constructed to contain them."*

### **Introduction**

This interpretivist research study inquired into the local appropriation of information and communication technologies (ICTs) within a rural South African women's development organization. The article's first section provides the research background, a trajectory that emerged through two influences: 1) the growing evidence suggesting that ICTs could be a powerful tool when used appropriately as part of an overall development strategy (World Bank Group, 2003, 2004); and 2) the fact that, in response to South African national priorities, the New Partnership for African Development targeted ICTs as a priority for the achievement of sustainable development through small, medium, and micro-enterprise development. However, in rural South Africa, micro-enterprise is seen as predominantly "survivalist," a mode whereby women search for ways to sustain themselves, rather than as an answer to any identified need in the marketplace; these enterprises rarely offer an opportunity for expansion into viable businesses.

This longitudinal research, which includes a participative action research study, contributes to the limited empirical evidence surrounding the developmental impact of ICTs on rural African women. I conducted the re-

search, along with the Rural Women's Association (RWA) of Sekhukhuneland, a Roman Catholic development initiative with which I have been associated for more than 12 years as a trainer, consultant, volunteer, researcher, and friend. I introduced ICTs into the RWA, first with mobile phones, computers, and educational software, then with a government-sponsored telecenter for which I lobbied, naively believing it to be a powerful tool for micro-enterprise development.

The second section discusses the contextual setting of the case: the RWA and the research methodology. This is followed by the story of the RWA's network formation and translations using actor-network theory (ANT) concepts (Hassard, Law, & Lee, 1999; Callon, 1991, 1999; Latour, 1987). The RWA network trajectory is traced chronologically over a seven-year period, during which time the ICT (a government-sponsored telecenter) was added. The due process model is applied to the telecenter implementation translation, used here retrospectively, to make sense of a technology implementation outcome within an actor-network. The final section discusses the findings and the conclusions drawn from this application of ANT.

### Background

The emergence of new ICTs impacts theoretical and practical assumptions as to the role of technology in socioeconomic development (Morales-Gomez & Melesse, 1998; Marcelle, 2002). South Africa, a lower middle-income developing country, has two major priorities: expanding the economy and eradicating poverty. The integration of ICTs with appropriate business concepts and local knowledge is considered imperative to achieve such outcomes. Coupled with this premise is the challenge of building entrepreneurship to realize the potential benefits of ICTs in rural areas.

However, as this research indicates, positioning ICTs as the panacea for underdevelopment pressures governments and development agencies to introduce them quickly. This pressure to play "catch-up and leapfrog" often results in inadequate and insufficient assessments of the risks posed to sustainable development; punitive timelines; unrealistic demands and deterministic processes driven by donor/government objectives; and unmanageable

complexities for the beneficiary organizations, complexities that are caused by the failure of donor organizations to consider the due process required to institutionalize a new actant into a network.

It is axiomatic that focusing on the technical aspects of ICTs in South African rural development is flawed, as it neglects the multifaceted and multidisciplinary "people" factors. Such factors include, but are not limited to, the complex and highly political context and its historical legacy, the interaction of traditional authority with gender development processes, path dependencies, and local belief systems. While ICTs should be considered from within a socio-technical context, it is accepted that the efforts to understand technologies in their movements, displacements, and partial stabilities will, inevitably, leave big gaps.

Organizational development practice, predominantly translated from the Western business sector, is not often successfully transplanted outside of context. It's vital that the manner of adoption of ICTs provides harmonization with local community values in the rural context. This suggests the need for a deep basis of understanding relations (networks) between people and technology. Using ANT is a way to study the construction of networks, as well as their "taken for granted" concomitant issues, such as the boundaries between the social and the technical and between supplier politics and beneficiary development. ANT considers that the process of building and changing networks is necessarily political in nature, because actors put forward favored solutions while others contest them. By enrolling allies, actors can mobilize the resources to sustain commitment for their preferred network.

This research addresses Walsham's (1997) criticism that many information system studies using ANT are not true to the theory, as they focus on the detailed description of a particular network without paying attention to the broader social structures and processes within which the network is formed. Using the case of a women's development organization, this paper discusses the critical, local, social, and political issues relating to actor-network development, the enrollment of allies, community harmonization, and the institutionalization of ICTs at a local level.

## The Case: The Rural Women's Association (RWA) of Sekhukhuneland

The RWA was a successful, legally incorporated, not-for-profit development organization with a wide portfolio of organizational assets (money, people, skills, equipment, and infrastructure) operating from the village of Apel, Sekhukhuneland, in the province of Limpopo, South Africa. This area (previously known as the Northern Province) was an apartheid bantustan controlled by traditional authority structures (called Amakhosi). Historically the region has been plagued with political complexity, instability, and morbid conflict (Delius, 1996). The chaotic transition from an apartheid state to democracy strained the rural area, which found an outlet for this in witch-hunting, an act that was sometimes used as a gender oppression strategy (Kohnert, 2003). In Apel, the women existed in a space of spiritual insecurity, fearing witchcraft accusations. Since only a Sangoma (a spiritual doctor) acting on tribal authority (via the Amakhosi) can harmonize society once a witchcraft accusation is made, this then provided an opportunistic door for predatory actors to circumnavigate the development organization's legal constitution.

In 1994, the post-apartheid South African constitution abolished the bantustans, simultaneously protecting the existing status of traditional/tribal authorities and enshrining a democratic bill of rights. Although equal rights for women conflicts with traditional authority, both are expected to function alongside each other. Accordingly, the RWA operated within a space of two conflicting models of government (traditional and democratic), each underpinned by different belief systems that coexisted in a state of heightened tension.

## The Development Model

The RWA model focused on poverty alleviation through self-reliance for women and children. This model emerged in response to questions such as, "How could development for women be implemented in a patriarchal African rural environment? What would work best for the women and what would be long-lasting? How can authentic ownership be implemented?" (Interview, RWA Facilitator).

The RWA development model attempted self-reliance in isolation from global structures, with little alignment between activities at the grassroots level and the efforts for national-level economic development. Furthermore, it suffered from the apartheid legacy of governmental neglect, from under-resourcing, and from being embedded in complex relationships with other actors in a traumatic, morbid history of unequal power, oppression, poverty, and economic marginalization.

## The Telecenter

The telecenter program was heralded as one of the most important initiatives to ensure that developing communities made use of modern ICTs. Telecenter is a loose word used to describe a place where public access to computers, training, and the Internet are offered, along with typing, photocopying, telephones, and a number of business services. It was anticipated that telecenters would be the vehicles through which micro-enterprises could find more timely market information and source better and less costly inputs (NTCA, 2000). The RWA telecenter was provided by the USA (Universal Service Agency), an experimental statutory government body responsible for ensuring universal access to all telecommunications services for disadvantaged communities in South Africa.

## Research Methodology

Participative Action Research (PAR) (Masters, 2000; Wadsworth, 1998; Tandon, 1996; Simonson & Bushaw, 1993), an applied research method that actively and authentically involves members of the community, was the major data collection method. PAR takes into account people's histories, cultures, interactional practices, and emotional lives. Additionally, PAR fits with actor-network theory, as it is a way of explaining a particular social world by working with the people who inhabit it in order to construct, explore, and improve possible theories that can become shared local theory through combining the different frames of reference and expertise of all participants.

A pilot study using observation, interviews, and in-depth group interviews established the RWA baseline understanding of marketing and ICTs. The action research data was collected during a six-week

residential field trip. All data were subject to “re-search cycling” to enhance data validity by moving to and fro between reflection and experience, from experience to ideas, and from ideas to reflection to strip the content of vagueness, ambiguity, illusion, and confusion.

**The Conceptual Framework: Actor-Network Theory**

As this is a contextualist and interpretivist study, it’s appropriate to analyze the case using an interpretivist epistemology. ANT was selected, as “a basic assumption in interpretive research is that of non-determinism, whereby neither human actions nor technologies are assumed to exert direct causal impacts. Rather, consequences are seen to result from the interplay of competing infrastructures, conflicting objectives, the preferences of different social groups, and chance” (Markus & Robey, 1988).

**Actor-Network Theory Concepts**

ANT, developed in the 1980s by Callon, Latour, and Law (Hassard, Law, & Lee, 1999; Callon, 1991, 1999; Latour, 1987), has its roots in French philosophy and semiotics. It describes the dynamics and internal structures of actor worlds and began appearing with increasing frequency in the Information Systems literature during the last decade (Macome, 2002) to track the formation of facts, also referred to as black boxes, within heterogeneous networks of aligned interests.

The methodological cornerstone of the ANT approach is to follow actors to see how they attempt to impose worlds upon one another, and to describe the dynamics and internal structures of actor worlds. It tries to trace and explain the processes whereby stable networks of aligned interests are created and maintained. ANT literally instructs us “to map out the set of elements (the network) that influence, shape, or determine an action. But each of these elements is in turn part of another actor-network and so forth” (Monteiro, 2000, p. 76). It’s considered scalable in that one actor of an actor-network may be expanded into a new complete actor-network, or in that a whole actor-network may be collapsed into a single actor. As there is no a priori distinction between the micro, meso, and macro level, ANT offers a uniform framework, regardless of the unit of anal-

ysis (Monteiro, 2000; Markus & Robey, 1988; Law, 1991).

Facts (also known as black boxes) are socially constructed and established through the production of strong association networks. The stronger and more extensive a network becomes, the more solid the fact becomes. This is an active, critical process through which specific candidates for admission (technical and social) into the network are either accepted or rejected. This perspective presumes that facts are constantly translated (transformed) as the network lengthens across time and space. The following section describes and reviews the concepts and components of actor-network theory (ANT) used in the study:

<i>Actor, Actant</i>
These interchangeable terms are “semiotic, abstract terms, and refer to either human or non-human entities. Actants can be endowed with interests, projects, desires, strategies, reflexes, and afterthoughts, with the ability to enroll other relevant actors. They are a product of a more or less stable relationship between various effects that together form an actor-network” (Fountain, 1999). Connected to power, different actants have different levels of agency, as an entity in an actor world only exists in context and in juxtaposition to other actants. The number of connections that an actant has with different networks determines what the actant is and what he, she, or it can do, as configured by a series of negotiations.
<i>Actor-networks</i>
These are composed of a series of heterogeneous animate and inanimate elements linked to each other over time (Callon, 1991). They rely on people, machines, and codes (narrative, text), they inhabit a particular site, and they are partial in their embrace (Goodman & Watts, 1997). They are a description of the way things are, a set of assumptions about how relations are organized and networked.
<i>Successful networks</i>
These occur where aligned interests are created through the enrollment of a sufficient body of allies and where the network is maintained through the translation of interests that bind all actants. Each modification in the network can be considered a displacement that affects not only other actants, but also the networks of other actants.

*Destabilized networks*

These occur when networks are adapting to a consequent redistribution of power relations precipitated by a change in the beliefs on which they were constructed; or as the result of new information, policy shifts, new technology, or a change in actors; or by certain actors backing out, as they had not been authentically enrolled.

## The Sociology of Translation and Its Concepts

The sociology of translation (Latour, 1987) is an alternative to technological determinism. To spread in time and space and to become long lasting, facts need the actions of others through translation.

“Translating interests means at once offering new interpretations of interests and channelling people in different directions . . . The results of such renderings are a slow movement from one place to another” (Latour, 1987, p. 117).

Translation is the strategy with which the actor-network renders itself indispensable, and it cannot be taken for granted; the strategies used will depend on the particular circumstances in which they develop, which can include negotiation, persuasion, seduction, simple bargaining, and violence. While there are many translation strategies, all involve the entities by drawing them from one context into new roles in the actor-network. The translation process is dynamic, and different groups of actants compete to establish their self-interested problematization. One entity will endeavor to enlist the support of others, and they may either submit or form alliances elsewhere.

Translating involves showing how actors’ non-aligned interests may become aligned. Skills, practices, organizational arrangements, and contracts may all be part of the process, and alignment is established in inscriptions that give particular viewpoints precedence.

The sociology of translation implies the principle of Machiavellianism, and it is a way of re-conceptualizing to explain how an innovation translates, spatially and temporally, from its origins to many other places. The translation of the interests of diverse actors, along with their enrollment into stable networks, requires continual chains of translation. Groups and individuals have different value systems, and translation among these actors is necessary for

the network to succeed. To translate is to obligate an entity to consent to a detour.

By taking up a “fact,” actants will change it and transform it beyond recognition, and the very act of involving other people will make it more difficult to control. Stability and social order are continually negotiated as a social process of aligning interests. Network alignment is achieved through the translation of interests and the enrollment of actors in the network, rendering translation the most important ANT concept.

The concepts of the sociology of translation, as used in this ANT analysis, are described as follows:

*Obligatory passage point (OPP)*

This situation must occur for all the actors to achieve their interests, as defined by the macro-actor, when an innovation or a change in a network is introduced. The new meaning is viewed as the solution to a problem in terms of the resources available to the actant that proposes it as the OPP.

- It affects future alliances.
- It controls the resources needed to achieve the actant’s outcome.

*Translator/macro-actor*

As the network develops, certain actors become especially important as representative spokespersons, sometimes referred to as the macro-actor or the translator spokesperson. These actors create new OPPs and

- become the spokespersons for the entities they constitute, such as land, equipment, people, processes, and technology;
- express the desires, secret thoughts, interests, and mechanisms of the entities;
- provide an initial definition, a definition of roles, and a distribution of roles, as well as delineate a scenario; and
- map out the geography of necessary points of passage for those elements that wish to continue to exist and develop.

The translation of an actor or actors into a network is achieved through a series of four “moments of translation” (Callon, 1991). Figure 1 depicts the key translation concepts and their associated notions. It is not intended as a flow diagram, but as a visual representation of ANT, with each concept described as follows:

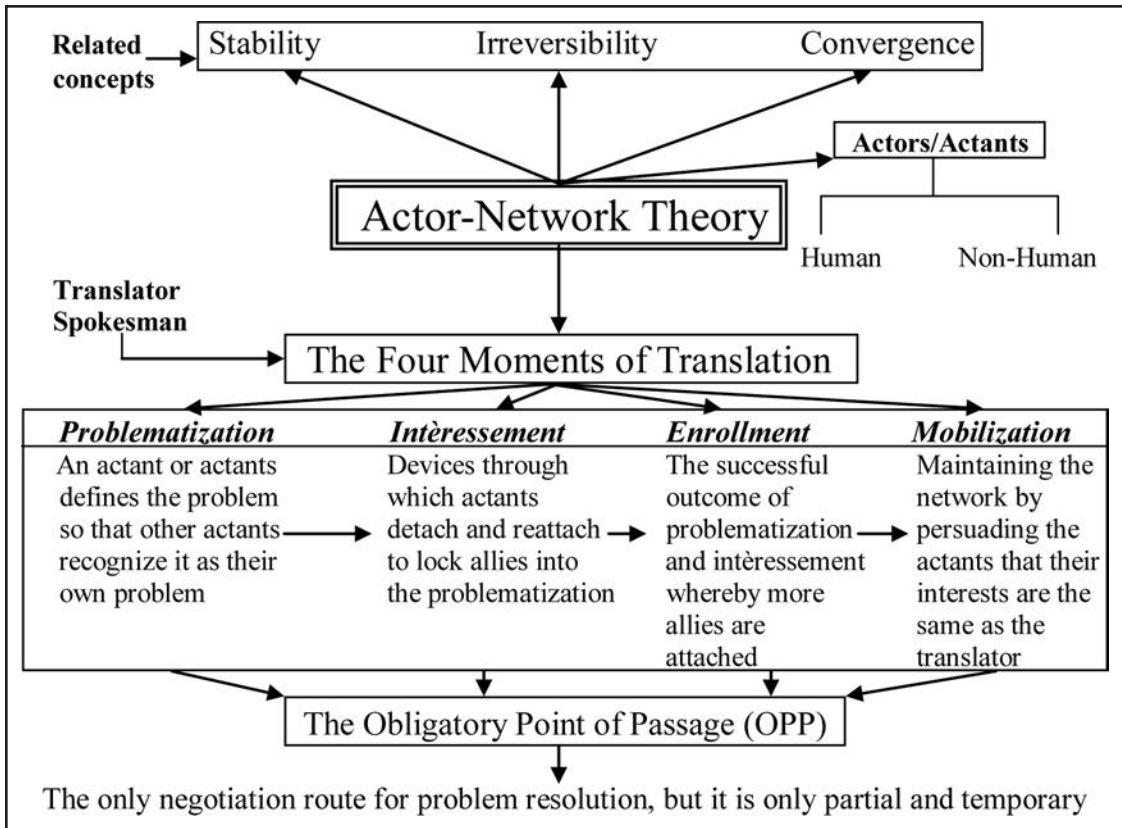


Figure 1. ANT Key Concepts and Translation Moments.

Source: Adapted from Hassard, Law, & Lee, 1999; Callon, 1991, 1999; Latour, 1987.

<p><i>Four Moments of Translation</i></p> <p><i>Problematization</i></p> <p>This is the <i>first</i> moment of translation, during which a macro-actor defines the identities and interests of other actors that are consistent with its own interests. In this way, it establishes an obligatory passage point (OPP) and renders itself indispensable. Other actors are then approached to join in solving the problem through forming an alliance with the macro-actor by persuading, cajoling, and even frightening others into believing that he or she has the solution.</p> <p><i>Intéressement</i></p> <p>The <i>second</i> moment of translation is a process where the actors convene around an issue to strengthen their determination toward moving through the OPP, all while excluding voices of dissonance from without or dissenting voices from within. It is a process of convincing actors to accept the definition of the macro-actor by using</p>	<p>devices to detach actants from elsewhere and attach them to this point of view. It also involves translating, strategic compromise, and persuasion to lock allies into the proposed roles.</p> <p><i>Enrollment</i></p> <p>The <i>third</i> moment of translation is a successful outcome of the problematization and intéressement processes. Actor-networks grow by enrolling other entities through the following steps:</p> <ul style="list-style-type: none"> <li>• translating the purposes of entities and establishing themselves as the spokesperson to those who are being associated;</li> <li>• strengthening connections through political persuasion to influence enrollment strategies;</li> <li>• maintaining stability and alignment through constant attention; and</li> <li>• using humans and machines to enroll actants— Internet technology, fax, telephones, TV, and radio can be just as seductive as actant “enrollers.”</li> </ul>
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<i>Mobilization</i>
The <i>fourth</i> moment of translation maintains commitment to the problematized cause of action and ensures the continued position of the OPP. Of importance in this step is establishing the legitimacy of the spokesperson.
<i>Stabilization</i>
This results from a sequential process where new circumstances or a changing membership leads to successive moments of agreement. To ensure the stability and irreversibility of a network, the human environment (social context) requires constant cultivation and nurturing through a network of alliances. While the process is completed when the network is mobilized in pursuit of collective goals, stability is vulnerable to new perspectives, defectors, and betrayals.
<i>Irreversibility</i>
This is the extent to which it is impossible to go back to a point where that translation was only one among others. <ul style="list-style-type: none"> <li>• It shapes and determines subsequent translations.</li> <li>• It's a relational matter that's never fully resolved.</li> </ul>
<i>Convergence</i>
This is the extent to which the process of translation leads to agreement as measured by the degree of accord resulting from a series of translations.
<i>Black boxes</i>
These are things that are taken for granted and need no explanation; building black boxes means enrolling and controlling others. Often when a controversy is examined, the black boxes start to open up and show the complex chains of actor-networks concealed by the black-box effect. A fact is transformed into a black box under the following circumstances: <ul style="list-style-type: none"> <li>• once the network of many actants has been stabilized through beliefs, policies and practices, actions, and organizations become normative; and</li> <li>• when processes have become invisible, and where the innovation has become a matter of fact.</li> </ul>

<i>Intermediaries</i>
These can be maps, texts, policy documents, legal statuses, and financial resources; they induce stability and facilitate mediation. While these material objects may preserve social order and power, they can also be used to destabilize, and they can be undermined by being ignored.
<i>Inscriptions</i>
These are such things as reports, documents, text, graphics, and videos, and they refer to the way technical artifacts embody patterns of use. <ul style="list-style-type: none"> <li>• They result from the translation of actants' interests into a material form (Callon, 1991), and they are converted by being sent out, received, acted upon, reacted to, and sent back.</li> <li>• Who inscribes them, and how, protects particular interests.</li> <li>• Inscription power (that is, the extent to which the inscriptions will be followed or ignored) is measured by how much effort it takes to oppose the inscription.</li> <li>• The flexibility of inscriptions varies, and the power of each inscription depends on the irreversibility of the network into which it is inscribed.</li> </ul>
<i>Betrayal</i>
This is a situation when actors don't abide by the agreements (translations) achieved by their representatives.

## The Due Process Model

The application of ANT produces such a massive amount of detail that a common problem arising from this is how to select the material and data for inclusion. The due process model (McMaster, Vidgen, & Wastell, 1998) is a practical, valuable analytic device used for overcoming the mammoth complexity involved in investigating both human and non-human-network processes. The four parts of the model illustrated in Figure 2 are discussed here.

### *Phase 1: Perplexity*

Whenever new candidates for existence (actors) are introduced into a network, they increase the existing levels of uncertainty, thereby adding to the perplexity of the network. *Perplexity* revolves around the issues of confusion, grasping meaning

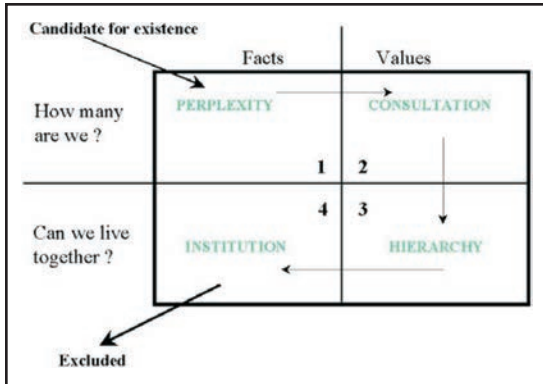


Figure 2. The Due Process Model.  
 Source. Adapted from McMaster, Vidgen, & Wastell, 1998.

Phase 4: Institutionalization  
 This is achieved when the actant is accepted into the network.

The first three phases of the model translate the candidate for admission and imbue it with the values required for it to be accepted into the network. This increases the likelihood of the candidate proceeding into the fourth phase, institutionalization. However, if it's unsuccessful, and the candidate is rejected from the network, this doesn't preclude it from returning at a later stage to attempt a readmission to the network. The process of perplexity, consultation, and hierarchy doesn't happen sequentially and linearly. For example, new hierarchical decisions will require further perplexity settlement and negotiation.

and intent, and thinking clearly and logically. If perplexity is insufficiently addressed, a false sense of understanding predicates the next stage of the model; perplexity settlement is crucial to success in the three remaining components of the model. Where these perplexities are not logically addressed, unrealistic expectations can later create tensions that contribute to conflict.

Phase 2: Consultation

This confers legitimacy on the new candidate for admission through the deliberation between parties where advice and opinion are sought and given. It involves assessing the suitability of the new actor's entry into the network, and different consulting styles and positions will impact significantly in this phase. Questions to be addressed include the following: Who is represented on the negotiation team? Is there sufficient and authentic negotiation happening? Are the concepts adequately understood by all appropriate and necessary parties to ensure authentic negotiations?

Phase 3: Hierarchy

Debate on the relative importance of the candidate for entry in the hierarchy of the network is required; this involves organizing elements into a ranking, with each rank subordinate to the one above it, to understand how the new actor will be positioned. Hierarchy is not solely about ranking (as the name suggests), as despite perplexities being settled and consultation being appropriately conducted, the network might reject the new candidate, having decided that this is not important for them.

### The RWA Actor-Network Translations

This section traces three of the four network translations (interpreted using the concepts of translation as described previously, and depicted schematically in Figure 3) to show how the RWA actor-network grew, contracted, changed, and stabilized. To manage the complexity of the data, the strategic planning translation is excluded from this analysis.

The following translations are examined through consideration of the roles and interests of the key actors, the *problematization* (where one set of actants defines a problem in such a way that other actants recognize it as their own problem), *intéressement* (detaching actants from other networks and locking them into the problematization), *enrollment* (growing the actor-network), and *mobilization* (maintaining commitment). The due process model is applied to the second translation, the telecenter implementation, to make sense of the telecenter's failure to institutionalize.

### The First Translation Strategy: The RWA Actor-Network Formation

The translation begins with the RWA initiator's (the RWA facilitator) problematization, the first moment of translation, which resulted in the RWA entity becoming the OPP. Acquiring this indispensable position enabled the initiator to impose her definition of



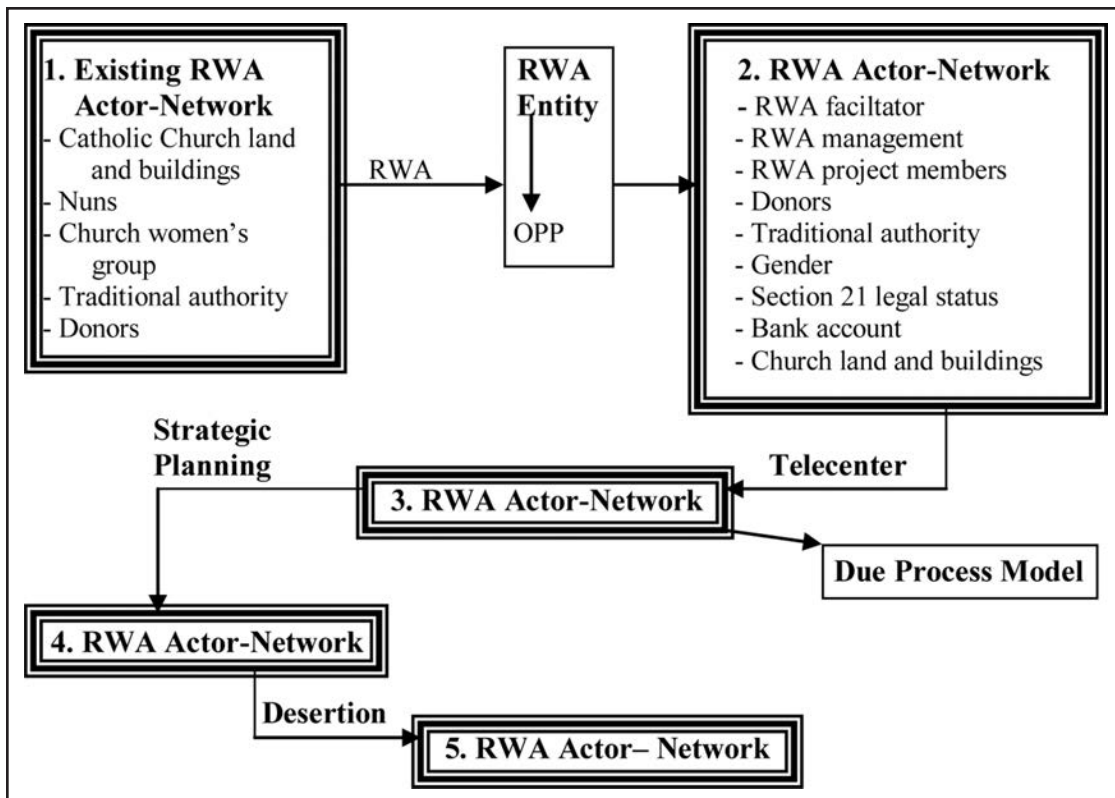


Figure 3. The RWA Actor-Network Translations.

the problem on others and to create the necessary alliances to control the resources as a means to achieve particular outcomes.

**The Roles and Interests of the Key Actants in the RWA Actor-Network**

<i>Human Actants</i>
<i>RWA facilitator</i>
This actant implemented successful, transformational development projects for women and children living in poverty. The actant's interest was served by fulfilling religious commitments to eradicate poverty and to promote social justice.
<i>RWA management/leadership</i>
The RWA facilitator identified a core of four women representing all RWA geographic, tribal, and religious interests. Their role was to provide authentic local leadership and coordinate projects, a role which served their personal interests of community-upliftment, increased self-esteem, and the opportunity to secure an income.

<i>Project members</i>
These actants were the donor beneficiaries; they were important actants and necessary for the RWA to secure project donor funding. The members benefited from the donor resources that provided seed funding for food security gardens, trained members in vocational and business skills, and provided seed funding for starting micro-enterprises.
<i>Donors</i>
The donors provided the resources to the RWA (influenced by the legitimacy, reputation, and track record of the RWA facilitator) for the purposes of developing projects to eradicate hunger and relieve poverty while promoting gender-sensitive micro-enterprise development through self-help projects. The donor recipients served donor interests through the efficient, honest, and successful use of their funds.
<i>Traditional authority</i>
As the rural areas (the old apartheid homelands) in South Africa were in transition from traditional

<p>authority to democracy, the chiefs wielded immense power over land issues. No development could take place unless they had sanctioned the land usage and ownership. In the face of increasing democratic pressure, their interests were to retain some measure of power within their geographic areas, as this is where they generated their personal funding. People who saw the chiefs involved in and supporting successful development would be more amenable to the taxes imposed by them.</p>
<p><i>Non-human Actants</i></p>
<p><i>Gender development</i></p>
<p>In a patriarchal and racist society, the role of gendered development was to address these social inequities as a route to tackling poverty and violence.</p>
<p><i>Section 21 legal status</i></p>
<p>This actant's purpose was to protect gendered development from unscrupulous and unwelcome outside interference, and to ensure the provision of a legal conflict resolution procedure.</p>
<p><i>Bank account</i></p>
<p>The bank account ensured that development funds were channelled through the RWA. This implied accurate and ethical accounting of funds to donors and that the section 21 legal financial responsibility requirements were enacted. Secondly, it secured the RWA entity as the OPP for local poverty alleviation and development.</p>
<p><i>Church land and buildings</i></p>
<p>These entities provided the RWA with space to develop projects. The church petitioned the land from the chief to circumvent the land problem for development projects. Being on church land both protected gendered development from interference from traditional authority, and gave the church power over the RWA operations.</p>

**Problematization**

The RWA initiator, referred to as the RWA facilitator, was the major *problematization* protagonist. She entered an existing poverty alleviation network where the actors were composed of the Catholic Church, Franciscan nuns, the Catholic women's welfare group, traditional tribal authority (the chiefs), Catholic Church land and buildings, and donors. On entering the network, the RWA initiator proceeded to re-problematize poverty alleviation and development,

promoting what, at the time, were heterodox development concepts to the Catholic Church:

Church development is institutional; it is attaching things to church and church management. With the RWA, it is the opposite: The members own the assets; they own the land; and the people show the developers what they want, where they want it and how they want it to happen. Institutional development is slower to respond to changing needs. You have to give the people the steering wheel to shake people out of apathy and skill-build and make them drive, even though they do not know how to. The church development is by the missionaries, and they want to bring poverty relief, but now the community takes on the identity of being poor. For the church, when they have poor people, they have dependent people who need the church. The church gives welfare. For development, we need to tell people they are not poor, they can earn money. Welfare and development, they are deadly enemies; the church wants to give everything for free, and this welfare keeps the mind in poverty. (RWA Facilitator)

Her many years of Catholic Church-based women's development work in Africa influenced her to consider an alternative ownership and self-help model to place control of projects and organizations in the hands of the beneficiaries, the women:

Self-help is more successful, flexible, responsive. It gives full responsibility, includes a maintenance culture, is faster. Volunteers can expand human resources without the need for new budgets, more authentic solutions. Institutional development failure is the institution's failure. Self-help gets far more investment from the members, because the failure is their failure, they feel shame and guilt and sorrow, they cannot just go home and leave the failure to the church. (RWA Facilitator)

The initiator persuaded actants that solving poverty required an RWA development plan that would marshal particular skills and resources, such as donor support, infrastructure, assets, and people development. At this point, the RWA facilitator was indispensable to addressing the development needs of the village, as she raised considerable finances and provided training, equipment, and resources.

Men (the church priests, the chief, and his councillors) dominated the initial actor-network and part of the re-problematization was to gender the devel-

opment process through positioning the RWA as a regional gender development organization, one in opposition to the existing, tribally demarcated, religion-specific, restricted, male-dominated actor-network. This resulted in a widening and extending of participation to women community leaders and others. In the course of this translation, some of the original actants in the network (in particular, the Catholic women's welfare and development program) were displaced. The existing board, which was overseeing the then-development plan, as well as the building plans for the first community resource center, was also displaced by the re-problematization.

*Intéressement* is the process by which actants convene around an issue to strengthen the RWA to become the OPP, all while seeking to exclude dissenting voices. The initiator convinced actants to accept her definition, detach from the old actor-network, and join the new one. The coalescing issues were gender development and empowerment; self-help; and independence from hunger, malnutrition, and illiteracy. The RWA facilitator used the issue of ownership of the projects, assets, and infrastructure as a successful *intéressement* device.

What does it mean to people when they are in development, but all is owned by the church? I saw 36 years of development owned by the church; they were not happy. I saw them criticize the church; they saw the church building a kingdom for itself: It possessed all the things in development, all the buildings, the equipment. So I said I must put development in for people, not for the church, for the people, mostly for the women. It is the women who get rid of the poverty. (RWA Facilitator)

*Enrollment* is a political process, and it requires firstly the use of persuasion and then a maintenance strategy to maintain stability and alignment. The initiator proved adept at maintaining the network to ensure network stability.

The initiator persuaded actors from the existing actor-network to change networks (namely, traditional authority) and to realign their support to the RWA entity as the OPP and form the RWA actor-network. This was secured through becoming indispensable to local development, as without the RWA entity, the chiefs were restricted in the magnitude of projects they could politically leverage within their constituencies. To increase enrollment effectiveness,

the RWA facilitator spent seven months identifying authentic local women leaders and discussing and prioritizing authentic development needs with them:

I did nothing for six months, I started no activities. The first task was to identify where the power and authority of the area was. To analyze the environment where the development is to be. To identify what available resources there are here, like human ability, land, soil, water and climate, raw materials, and what is the possibility to keep animals. I needed to find out what the authentic needs are. I asked myself how development for women could be implemented in a patriarchal African rural environment. What would work the best for the women, and what would be long lasting? All development has been based on the concept of needs. (RWA facilitator)

### **Mobilization**

Of importance in this moment was the establishment of the spokesperson's legitimacy (the initiator took this role); her approach quickly developed her legitimacy:

I was lucky. I told my parish these things, and they gave me a free mandate. But always I know I am a temporary part in all of this, I know always that I will leave, and so always I must first consider, how can I remove myself and make sure the development is sustainable? Before you deliver the baby, you must know: Who is going to look after it? (RWA facilitator)

*Mobilization* is made possible through the emergence of spokespersons, and these agencies considerably strengthened the RWA actor-network by linking other agencies not linked before (for example, government departments, large service NGOs, and national donors). The RWA facilitator mobilized a number of influential spokespersons, such as the provincial premier. International visitors from donor agencies, embassies, and church frequently visited the project sites to witness the track record of project implementation. Traditional authority was given a high profile during these events.

The stability of both the actor-network and the OPP depends on the strength of the relationships between the spokespersons and other actants. In this translation, there were actants from the previous actor-network who had been excluded; this eventually affected network development and weakened the spokesperson/agency dynamic. The network continued to expand and stabilize around the

traditional activities of rural development until six years later, when the telecenter was inserted into the RWA network.

## The Second Translation Strategy: The Telecenter Implementation

### *Roles and Interests*

<p><i>Universal Service Agency (USA)</i></p> <p>A new actant, the USA, entered the actor-network. This South African statutory body was responsible for ensuring universal access to all telecommunication services through providing remote rural telecenters and socioeconomic information services for disadvantaged communities in South Africa. Its interests were political, as it both reported to the Department of Communications and had specific performance targets and objectives to meet.</p>
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### *Problematization*

The legitimacy of the RWA candidature, as the telecenter owner, was not examined in relation to other possible contenders; nor were the potential vulnerabilities relating to gender-owned ICT initiatives in the local traditional authority hierarchy debated. The USA was unclear as to how ICTs in disadvantaged areas could be used for development purposes, and so it did not promote a shared aim beyond the rhetoric of universal access to ICTs.

### *Intéressement*

The choice of the RWA as the telecenter beneficiary seemed, superficially, a simple and workable option for the USA because of its impressive track record of development successes, and because it offered a building to physically and securely house the telecenter. The USA, in its race to achieve the objectives of its own actor-network, neglected to adequately consider the particular RWA contextual socio-political factors. The pervasive poverty suffered by rural communities led them to welcome anything that was free; consequently, minimal effort was required to insert the new candidate for admission into the RWA actor-network; the USA traversed the OPP effortlessly.

### *Mobilization*

The USA had little need for mobilization strategies; it had a pre-determined plan dictating how the

telecenter program would function and how the actants would relate to the telecenter program (Benjamin & Stavrou, 2001). Latour (2004) argues that politics prefers to see only scientific facts and would rather not see the detailed work associated with technology controversies. In this view, experts are seen to provide politicians with only the “facts” that they need to implement policy; thus, they *short-circuit* “any and all questioning as to the nature of the complexities involved.” In response, Latour proposed a due process model as a mechanism for consideration of the “perplexities” and complexities involved.

## The Telecenter Institutionalization Failure

The telecenter translation, as viewed through the due process model, showed its failed trajectory. Perplexity, the first phase of institutionalization, revolves around the issues of confusion and grasping meaning and intent. The telecenter, as a candidate for admission into the RWA actor-network, introduced many new perplexities. Firstly, the conceptual confusion of spanning development and micro-enterprise left the RWA managers bewildered. If it’s a development initiative, how will it enhance development, and do we really need it?

In the RWA, we have some projects where we are not asking the people if they need the project; it is just that Jo comes and asks us, can she give help here (providing the telecenter)? And we say yes; we do not ask if this can solve the problem, sometimes it is creating a problem because we did not know how to maintain it and secure it (the telecenter). We can’t keep it, and we start to feel ashamed we can’t take care, then we spend all our time sorting out the problems. We must start with the needs of the community so we can have a good result of solving the problem. In development, we are dealing with social problems, and if we make the market research and if we don’t make the market research, people need it, like water and sanitation. (RWA Manager A)

If the telecenter is an aid to both development and business, how will this happen? “We are in development and now we know there is no money in the development and something we must look at now is a business, how the business operates and how we are losing customers all the time.” (RWA Manager A)

The RWA development model was a supply-side, self-help model that was hurled into demand-side thinking. The expectation of the telecenter as a vehicle for moving from donor-led, supply-side models to market-based demand models was unmet.

The mission of the telecenter was stated as "helping with timely market information, and to source better and less costly inputs," but this quest continued to baffle the RWA managers. They asked, "*Who will show us how to use it?*"

Is it possible for us to use it, can we have the skills to use it, we had things before and it lay there. We did not use it because we could not understand it. How can we use it now; why now will it be a solution to our problems? (RWA Manager G)

We talk to people at workshops, and they say it is easy [the Internet], it makes our work easier, it improves our work, makes us go forward. I think we are going to use it and we know we need it, we want to know why we are not getting it, understanding it and others are. Are we stupid? We know the Internet is cheaper at night, and we spent some nights looking, but we found nothing. People say there are places where you can find people who want to buy some tonnes of potatoes in the area, and they find this on the Internet. (RWA Manager A)

As to how the telecenter could provide timely market information, the RWA managers had unrealistic expectations and no guidance on how to realize or adjust them. They asked,

Which customer is going to buy our things, who are the target customers, where is the proof of the need? Who are the buyers? How much can people pay, all these things, how can we know them, how do we find this? We look on the Internet, but we do not find these things. (RWA Manager A)

Who are the competitors, who provide the same thing as us, at what price, and at what quality, now we know these are things we must find them, but how? (RWA Manager B)

I remember you telling us about the Internet and computers; it can help people with market research. You can use the Internet to find out information about suppliers and customers. We went back to our place when we left you and we used the Internet, we asked the University of the North to help us; they sent a student to help us for a

morning, he showed us how to use e-mail. When he left, we could not make it work, we spent many nights working all night to help ourselves know e-mail, but we could not; we felt stupid, we stopped. (RWA Manager B)

The telecenter was touted as a vehicle to source better and less costly inputs, but the RWA was unable to meet this expectation using the telecenter. "We do not know how to cost our things. I went to town and found the price of school tunics was R65 in a shop, and we are selling it in the village for R85, we cannot sell for R65 because the cost of our material is so high." (RWA Manager C)

The telecenter, contrary to their expectations, did not help the women improve their business understanding:

On the costing and pricing the management team has not been working. I do not know why I call this price is R50, I do not ask myself why I have not done pricing in anything, just selling chickens at R20 because I think that is a price. I do not know the income, the budget; maybe we have been working for nothing up to now. I never know what the profit is, I just know I have good quality chickens. (RWA Manager B)

These unrealized expectations de-motivated the RWA managers:

We tried, and everywhere we went, at meetings and conferences people told us how good the Internet is, how we can find customers, we felt very stupid because we know people are using the Internet to help them with business, but we could not do it. We know we can do market research with the Internet, but how can we do this, we cannot understand how. (RWA Manager B)

A condition imposed by the USA was that the telecenter should operate as an autonomous, self-sustaining business; it imposed a preset plan dictating the telecenter function, which then generated a new set of perplexities. Even though there was little understanding of how it would support and improve their developmental and micro-enterprise work, the RWA was required to make it self-sustaining in a community that had little income other than the remittances from relatives in the city. The managers asked:

How will we use, how will we price it? We tell them [the women operating the telecenter] they must make a living, and then they decide how

they cost the service for people. All the telecenter managers, they have training but they have problems. They charge too much for the services and people are too poor to pay, we know many people will still go to Pietersburg [a one-hour trip] to send their fax because it is cheaper, the typing is cheaper in Pietersburg . . . It is a problem. The people, they take a taxi and send the fax in Pietersburg, we tell the telecentre managers, but they say they need to make the money and must charge this price. (RWA Manager B)

Minimal debate around these latter perplexities occurred, and little attempt to integrate and align the telecenter with the RWA development and business objectives was visible. Consequently, insignificant guidance was given on such issues as pricing, the provision of services, customer care, opening hours, etc.

Perplexity settlement is crucial to achieving all three remaining components of the model, and as the perplexity issues here were insufficiently addressed, a false sense of understanding was predicated going into the next stage of the model.

Consultation, the second phase of the due process model of institutionalization, is a requirement to confer legitimacy on the new candidate for admission into the actor-network, yet the power relations between the telecenter supplier and the community recipient in rural communities was asymmetrical. The USA neglected to adequately consider the particular RWA socio-political factors. There was no negotiation team to discuss issues such as ownership and accountability, and an RWA manager expressed her fears:

I ask myself, are we going to look after it? Who will be accountable if we get the Internet, who will be responsible? If I know this glass is mine, I will know I must put it away, not leave it where it could be broken and stolen, I can blame myself, it must be this way with the Internet. (RWA Manager B)

The fear of accountability, coupled with no authentic control and power over this expensive acquisition, was prevalent:

I am scared I can be sued and I cannot pay, then I will go to jail, sometimes the chief's wives are involved in doing things that are not right, if a person speaks out they can be fined two goats or

two cows because they have spoken out against a queen. This makes it difficult when a queen is on your board. (RWA Manager C)

As it was a requirement from the USA that the telecenter operate as an autonomous, self-sustaining business, under strong USA branding, it was, in reality, detached from the RWA organizational strengths and influences. The USA, using a one-size-fits-all approach, unilaterally decided on equipment needs, on how the telecenter would be managed, and on who would own it. It was painted in the distinctive USA colors and called the USA telecenter. A contract was drawn up with the RWA as the legal owner of the telecenter. This, however, proved to be a false claim, as the USA later unilaterally removed all of the telecenter equipment (after an agricultural equipment theft and telecenter guard murder) in complete contravention of the existing legal contract, effectively destroying the telecenter operation.

Moving through to the hierarchy phase of the model, some of the questions that went unaddressed in this phase included the following: Where will the telecenter be positioned in the organization? What resources will be allocated to it, and will other projects lose resources in the reallocation? Does this require new alliance building? Will the new configuration be supported across the organization? Consequently, no vision of the position of the telecenter in the RWA actor-network hierarchy was formulated. The telecenter failed to institutionalize.

### The Fourth Translation Strategy: The Desertion and Betrayals

Stability and social order, according to ANT, are continually negotiated as a social process of aligning interests. The departure of the major actant (the translator) provided an opportunity for renegotiation of the actor-network alliances and power. Shortly after the RWA facilitator left, the RWA management team began to implement some inscriptions. This, however, resulted in a betrayal from one of the actants (the members of the garden projects). A betrayal is a situation when actants do not abide by the agreements (translations) previously achieved by their representatives through the moments of *problematization*, *intéressement*, *enrollment*, and *mobilization*.

The following incidents are examples of the effects of betrayal during the time that the RWA actor-network interests began to realign.

As the inscriber's power [the RWA facilitator] was weakened by her absence, the church representatives did not accept the inscriptions relating to the RWA property rights on church land, and it requested the RWA to leave. The church also ignored the RWA policy and asset register inscriptions.

The telecenter guard was murdered. At this juncture, the telecenter ownership inscription proved itself to be weak, as the USA removed the telecenter equipment in contravention of the legal and inscribed agreements. This was followed by new, unilaterally imposed conditions for the return of the equipment, namely the installation of a R40,000 alarm system, which was to be wired to the local police station.

The murder of the telecenter guard, coupled with the theft of RWA agricultural equipment, prompted the garden project members to make witchcraft accusations and betray the RWA actor-network by calling on the traditional authority network to intervene. In doing so, it refused to accept the inscriptions relating to the RWA board of directors, and also refused the RWA management powers and conflict resolution procedures. The traditional authority actor-network transcended the power of the RWA inscriptions.

## The Findings: The Impact of the Translations on the RWA Actor-Network

In terms of ANT analysis, these incidents suggest that the actor-network, once considered irreversible, began to destabilize, and that the RWA, once considered a black box, began to leak. While the initial stabilization of the RWA actor-network conferred black-box status on the RWA, rendering its beliefs, practices, and actions normative to the other actants, controversies resulting from the RWA translation strategies, described above, contributed to the betraying and questioning of the RWA black-box status. As power is recursively woven into the intricate and changing interrelationships within the network, its effects are relational. The desertion of the major RWA actor-network actant weakened the links in the network and resulted in a group of devi-

ant network elements (those who had been displaced from the previous and original network). They imposed their world order on the RWA actor-network, using the power they raised from the traditional tribal authority actor-network to destabilize the RWA actor-network black-box status. The following section discusses some of the factors contributing to the RWA actor-network instability.

## Network Domination

The RWA actor-network was a dominated network dependent on one major actant/spokesperson (the RWA facilitator) for the ordering of its power relations with other major actants. As the spokesperson is a translator who maps out the geography of necessary points of passage for those elements that wish to continue and exist, it follows that her departure could radically alter the dynamics of the network. While the RWA facilitator remained in the network, opposition to the implemented changes in RWA management authority and the inclusion of a board of directors was weak and inconsequential.

She was the boss mostly, she was not democratic, but she was mixed as sometimes she would tell you to do what you thought should be done and make your own decisions. When she left, it was dangerous for us, we needed democracy so all the women must take responsibility; we cannot be responsible for all the things, we wanted the women to have accountabilities, but many women saw this [as] freedom to give themselves things. We did not want to blame people, where we could not do anything. The RWA facilitator could be strong and tell the chief and tell the father [priest], we cannot be this. (RWA Manager A)

The RWA facilitator left the network at the time that new actants (the board of directors) were admitted, and when some established actants (RWA project members) were repositioned into more powerful roles in the RWA decision-making process. Durable networks are derived from durability between the actants, and the departure of the RWA facilitator weakened the network cohesion. Each actant can belong to other actor-networks, and changes in the durability of one network ricochet off the existing power relations. Consequently, the durability of other actor-networks detrimentally affected the RWA actor-network. This was evidenced by the ac-

tion of the members of the RWA garden ladies' project in mobilizing the power of traditional authority against the RWA's legitimate authority. The RWA management's inability to operate after these changes highlighted that the RWA actor-network predominantly relied on the action of a single charismatic actant to maintain its durability.

## Transitory Mobilization

A chain is only as strong as its weakest link. Network strength is all about a series of decisions about alliances: whom to collaborate with and whom to write off. Every time an ally is abandoned, a new one needs to be recruited. Alliances are Machiavellian, as illustrated by the following:

The RWA facilitator bulldozed the chief from the start and said anything she did in Apel was not only for the people of Apel, she told him then she would move her resources to another village, maybe Nkwana, and then he changed his mind and said the projects in Apel were for the other villages too . . . (Church official)

Each modification to the network affects both the actants in the network as well as the actants in the actant's networks. An entity, in an actor world, only exists in context and in juxtaposition to other actants. When one of these elements is removed, the whole structure shifts and changes. It is the actor juxtapositions that give the cohesion, consistency, and structure of relations that exist among the network components.

Initially, the events related above (namely, the RWA formation and the introduction of the telecenter) appeared to increase network convergence and network irreversibility. However, subsequent events, particularly the desertion of the major actant, showed that many weaknesses existed, including the existence of key, but weak and ultimately unenforceable inscriptions. The resulting controversies caused the RWA actor-network to leak, providing the opportunity for some of the previously displaced actants (namely, the leader of the previous Catholic welfare and development women's group) to engineer betrayal strategies within the RWA actor-network. As there is never a fully resolved relationship in the network, each actant who takes the project or action further can do so in a different direction than intended by the previous actor.

Before, the chief was helping, but he changed, now L (an RWA manager) must stay away from us. Her husband is the chief's brother; why must she stay away; we have not sorted the problem, how can she stay away? The car is in her name, she must come and help solve it. The chief sees L staying home, why does he not ask her? How can the chief let women walk away before the problem is sorted? It is useless; the ones who continue to work will be the ones who will be put in the fire. The municipality, it does not help us; it says it cannot do anything. No one wants to take responsibility. They blame dirty things on us. We are suffering because the RWA facilitator gave us things as a reward. No one is attending to the crime and killing. The board refused to sign our contracts. They will not sign because they say there is no money to pay. We are never paid; we know this, but we need contracts. (RWA Manager B)

Certain actants (traditional authority and church officials) backed out of the RWA actor-network—perhaps because they had not been authentically enrolled. These actants may have falsely agreed to enrollment, hoping that, at a later stage (when significant resources had been secured), they could, in true Machiavellian style, destabilize the network for their own benefit, such as appropriating resources.

One problem is, the chiefs look at their village needs, and they do not work together in a united way to uplift the area. They want to do things for their village only; now, we have a big problem because the RWA is for all women, not just the women in Apel. (RWA Manager B)

Changes in network relationships need to be constantly reviewed and maintained through the devices of *intéressement*. The changes in the relationship between the RWA management and the traditional leaders were not sufficiently reviewed in the light of the RWA facilitator's desertion and the attendant organizational changes. Some project groups, unable to now satisfy their needs as members of the RWA actor-network, switched allegiance back into the traditional authority actor-network.

Disturbances in rural African social life are sometimes interpreted as witchcraft, and the murder of the telecenter guard became the fulcrum for witchcraft accusations, which were then used to exploit



old jealousies, grudges, and grievances. RWA members were living in a world where witchcraft was pervasive and accusations were often an inherently political act.

We have this problem of not confronting people. They use the system of gossiping [witchcraft accusations], and we become targets in the community. You frighten yourself, thinking they can come to your house, and you have the situation where people are killed. People will not say what they have seen: Even when they have seen wrongdoing, they fear what will happen to them from other powerful people. (RWA Manager A)

Witchcraft accusations are often used against older and more successful or powerful women, and the RWA garden ladies (the older, illiterate members who were the most vulnerable members) used this political weapon against the RWA management.

Now the Board wants to resign, no one wants to disobey the chief. We always have the meeting cancelled. People are gossiping, people are scared. We are having a finger pointed at us [witchcraft accusations]; they accuse us of stealing from them. We have asked for two years to have job contracts, to have job descriptions, and still we have none. How can we protect ourselves when we have no documents about our work and what our job is? The garden ladies accuse us. They say, 'We will never trust the management.' (RWA Manager A)

Witchcraft accusations can only be harmonized when the chief instructs a Sangoma to act. These accusations effectively castrated the RWA actor-network. Once the chief was involved, the garden project members disingenuously exploited the situation to make accusations against RWA management of theft and misappropriation of funds and assets in an attempt to wrest the considerable assets away from the RWA and into their hands.

## Asymmetrical Organizational Culture

The RWA organization operated within a particular social culture. Organizational culture is the common perception held by the organization's members as a system of shared meaning. Schein (1985) defines organizational culture as

a pattern of basic assumptions—invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration—that has worked well enough to be considered valuable, and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to these problems. (p. 9)

When a major problem arose, the RWA management and the other members of the actor-network were no longer sharing the same beliefs, nor were they working from the same cultural understanding in terms of solving the problem. "The Apel Catholic Church women consider the RWA (management team) arrogant, aggressive, and autocratic" (Church official). This was further evidenced through one actant consulting the chief and requesting a Sangoma to solve the problems. The RWA management did not accept the role of a Sangoma, as their organization had conflict resolution processes in their constitution. "I do not have the traditional medicine beliefs. Why must I have to accept this and other people's beliefs, but all must believe the same thing?" (RWA Manager A)

## Multiple Actor-Network Membership

The USA belonged to another actor-network that was driving the telecenter implementation process, and as such, was merely an implementer of government strategy. The strategy was formulated outside the recipient actor-network and aligned, primarily, with government strategy (that is, the need to be seen to be alleviating poverty speedily and effectively), and not with consensual, negotiated, community-based development objectives. A consequence of this was that the telecenter suffered from a trajectory failure.

## Conclusions

Although the South African government invested substantial political capital into the remote rural telecenter program, the experimental government body (the USA) charged with implementing the program reduced the RWA role to that of telecenter custodian. The USA operated in a business process mode to implement technology into a development context. Business process modes tend to be linear,

formal, with logical criteria to achieve the optimal outcome. Development, however, is a complex, constrained, informal process with objectives that encompass socio-political and economic factors. This situation provides a vivid example of Western rationalization and linear determinism meeting the chaos of development, where one actor's (generally, the most powerful of the actors) planning objectives are pushed through at the expense of the others. Furthermore, requisite changes in organizational structures and asset ownership, all determinants of ICT acceptance, were not meaningfully explored or resolved, and lacking a purposefully directed trajectory, the telecenter became inoperable and unsupported.

Intentionally or not, the USA telecenter program was deterministic; it failed to recognize the prevalent, pre-existing, socio-political context into which it was inserted; and it contributed to the unravelling and disintegration of a once-stable actor-network.

Tracing the fact-making trajectory of the RWA telecenter during its candidacy for admission into the RWA actor-network shows that it was hurled from the moment of entrance toward the fourth moment, institutionalization, leaping across the processes of perplexity, consultation, and hierarchy. The processes of perplexity, consultation, and hierarchy are important stabilizers, and they are valuable in saturating the candidate for inclusion with the values and norms required for the candidate to institutionalize within the actor-network.

This case, particularly the failure to institutionalize the perplexing notion of ICTs into rural, socio-economic development before submitting them to the due process of perplexity, consultation, and hierarchy, reaffirms that the diffusion of ICTs and the increased emphasis on information activities, sometimes advocated in current development discourse, do not lead to socioeconomic growth.

The legitimacy of the RWA candidacy, as the telecenter owner, was not examined in relation to other possible contenders, nor were the potential vulnerabilities relating to gender-owned ICT initiatives (such as traditional authority and the implications of witchcraft accusations), oversights which were particularly remiss in light of the changes to the political landscape (the new South African post-Apartheid constitution) that legislated for gender equality while expediently maintaining gender-opposed traditional authority in the locality.

The concomitant failed human expectations, loss of self-esteem, and diminished social cohesiveness proved detrimental to the socio-political development process and contributed to the destruction of a hitherto successful women's development organization.

Networks become unreliable and unstable with the entry of new actants and the desertion of existing actants. The success of integrating ICTs as a development tool in a gendered organization seemed to evaporate during the grinding collision with traditional authority and local belief systems. Using ANT to trace translation trajectories in a black box, the case of the RWA captures the effects of the inescapable "openness" of actor-networks that lead to the inevitability of unanticipated consequences, which then result in innumerable ways in which "messes can overflow the frames constructed to contain them."

While causality cannot be ascribed, chains of alliances and de-alliances can be considered instrumental in this story in bringing about the demise of a women's development organization. The unintended consequences of bringing ICTs to a remote, poverty-stricken region included attracting criminals that robbed the telecenter and then murdered the guard. This act then conspired with the local belief systems and old grievances to contribute to the unravelling of a previously stable network—the RWA—and perpetuated the history of development failure (maldevelopment) in the region.

This story encapsulates Escobar's (1995) statement that the failure of development was the failure to acknowledge each society's history and local conditions. It also implores us to take heed of Star (1991), who wrote that understanding technologies in a fluid social context can only be a partial perspective, full of multiple and partial possibilities, with no single answer and no great narrative, only many possible narratives. ■

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