Original Article

Achieving Co-Operation in an Aid-Funded Development Network Organisation (DNO): Lessons for Development Practitioners

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In order to protect the confidentiality of the participants in the research, the names of the organisations involved in the development network and the aid programme have been changed.

Abstract New ‘networked’ organisational forms that are mission-driven and characterised by high levels of interconnectivity and interdependence are becoming popular in the field of development. This article focuses on one type of ‘networked’ organisational form, ‘development network organisations’ (DNOs). It is argued that DNOs could be used to accelerate development, but this depends on the achievement of effective co-operation in the DNO, which is a major challenge in these types of networks. Using mixed-methods social network analysis, the article identifies facilitators and barriers to achieving co-operation in a DNO that consisted of a publicly funded university in Mozambique, an international NGO based in Africa and two Northern European universities working together to develop optometry capacity in Mozambique. Processes essential for achieving co-operation in DNOs are identified – negotiating a common mission and shared meanings and network institutions, and effective social skill – highlighting ways to improve the management of development in practice.

Des nouvelles formes d’organisations ‘en réseau’, qui sont axées sur leur mission et caractérisées par des niveaux élevés d’interconnectivité et d’interdépendance, sont de plus populaires dans le domaine du développement. Cet article se concentre sur un type d’organisations ‘en réseau’, les ‘organisations du réseau de développement» (ORD). Il est soutenu que les ORD pourraient être utilisées pour accélérer le développement, mais cela dépend de la réalisation de la coopération efficace au sein de l’ORD, ce qui est un défi majeur dans ces types de réseaux. En utilisant des méthodes mixtes d’analyse des réseaux sociaux, l’article identifie les facilitateurs et les obstacles à la réalisation de la coopération au sein d’une ORD qui consistait en une université financée par des fonds publics au Mozambique, une ONG internationale basée en Afrique et deux universités d’Europe du Nord qui travaillent ensemble pour développer la capacité de l’optométrie au Mozambique. Des processus essentiels pour réaliser la coopération au sein des ORD sont identifiés – la négociation d’une mission commune et de significations partagées, ainsi que l’établissement du réseau, et une compétence sociale efficace – en soulignant les moyens d’améliorer la gestion de la coopération au développement dans la pratique.

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Introduction

New ‘networked’ organisational forms that are mission-driven and characterised by relatively high levels of interconnectivity and interdependence are becoming popular in the field of development (Chataway *et al.*, 2005). Their emergence has been spurred by the rise in

globalisation, which has changed the field of development, and by advancement in ICTs that make possible the frequency of communication required for interdependent relations to be sustained. The high level of interdependence becomes a currency of power in these types of development networks, reducing the power of actors that traditionally hold greater influence but also increasing the potential for resistance or avoidance behaviour, resulting in delays in achieving development goals (Petersen, 2013).

An understanding of how co-operation is achieved is thus necessary if these types of organisational forms are to be effectively used as mechanisms through which development is produced. Recently, the need for research on how these types of development networks operate has been highlighted (for example, Buse and Walt, 2000a, b). Also highlighted is the dearth of research on how the internal and external institutional contexts of development networks influence co-operation, and how individuals within these networks deal with the related challenges (Zingerli, 2010).

The present research addresses this gap in understanding by investigating how co-operation is achieved in one type of 'networked' organisational form. Since this type of organisational form is similar to the 'network organisations' now ubiquitous in the field of business, I refer to it as a 'development network organisation (DNO)'. Drawing on the definitions of network organisations provided by Borgatti (2001) and Holohan (2005), I define a DNO as a flexible, temporary, *quasi-organisation* consisting of a group of autonomous organisations working together to achieve common development goals. International development networks are only considered to be DNOs if they are (i) formally constituted networks consisting of (ii) a group of autonomous organisations (iii) that depend on each other for the achievement of a specific common goal or goals (that is, are mission-driven).

Through an analysis of the structure and dynamics of relations among actors in a specific DNO, the MozOptom DNO, the article provides an in-depth understanding of the processes necessary for achieving co-operation. The DNO analysed consisted of a publicly funded university in Mozambique, an international NGO based in Africa and two Northern European universities working towards developing optometry capacity in Mozambique. The 'MozOptom' project was funded under a European aid programme.

A network-institutional approach is used to explore the dynamics of relations among actors within the DNO, and the networks and institutional contexts in which the DNO was embedded. The approach allows for systemic, multi-level analysis to identify facilitators and constraints to co-operation. In this way, it provides important insights for development assistance and development practitioners generally.

The term 'network' is used in different ways in different contexts. Hence, the next section defines key terms used in the present research. A more detailed description of DNOs and the DNO analysed in this article is provided in the second section, followed by a discussion of the analytical approach and research methods used. In the fourth and fifth sections, a framework on how co-operation is achieved in DNOs is proposed and the factors that impacted on co-operation among the actors in the MozOptom DNO are discussed.

Development Networks and Development Network Organisations (DNOs)

What are Networks?

A network is generally defined as, '... a collection of objects connected to each other in some fashion' (Watts, 2003, p. 27). From the network organisational literature, we understand that

networks are organic (as opposed to mechanistic or bureaucratic) structures, are more flexible than hierarchies and have more control than markets (see Burns and Stalker, 1961). Network organisations thus emerge in highly unpredictable environments like the field of development, which is characterised by rapid change and complexity (Watts, 2003). However, there is some stratification in a network structure and ‘authority’ is taken by whoever shows him/herself to be most informed and capable (Burns and Stalker, 1961). Hubs within networks (and between networks) tend to control information flows and thus also display greater power (Barabasi, 2002).

How do Development Network Organisations (DNOs) Differ from other Organisational Forms?

Although transnational inter-organisational development networks are not new (Bebbington and Kothari, 2006), what is different about network organisations is the relatively high level of interconnectedness and interdependence among the actors (Watts, 2003; Holohan, 2005). I argue that DNOs are different from other forms of organisation, such as a loose consortium, as they tend to be organised around the production of a ‘development product’, are thus ‘mission driven’ (Chataway *et al*, 2010, p. 1286), and emphasise collaboration among all actors involved in the network. They are temporary organisational forms as there would be no need for the DNO to continue to exist once the common goals have been achieved, unless new common goals are identified (Holohan, 2005). As quasi-organisations, DNOs have dedicated staff, a common (organisational) identity, and institutions. Here, institutions refer to rules or guides for behaviour.

DNOs fit Mitchell-Weaver and Manning’s ‘quasi-public authority model’, which they define as a hybrid organisation including public and private interests, except that DNOs do not necessarily include both public- and private-sector actors (Mitchell-Weaver and Manning, 1990 in Buse and Walt, 2000b, p. 700). An example of development networks fitting this model and the DNO model are the public-private product development partnerships (PDPs) that have emerged in the field of global health recently (Chataway *et al*, 2007, 2010). Chataway and colleagues provide detailed analyses of how PDPs act as hubs brokering relations and integrating activities of different organisations, across several continents, to achieve the goal of vaccine development in developing countries (Chataway *et al*, 2005, 2007, 2010). The blurring of the boundaries between the public and private sector organisations is necessary as no single organisation on its own can achieve the development goal. However, a shortcoming of Mitchell-Weaver and Manning’s categorisation is that it does not account for the range of configurations found in the field (Buse and Walt, 2000b). Research is needed to identify different organisational forms emerging in the field of development, and to understand how they operate (Buse and Walt, 2000a, b).

The DNO discussed in this article represents an example of a capacity-building university-civil society partnership. Such collaborative arrangements can be useful mechanisms for pooling resources, sharing risk, knowledge transfer, social learning, achieving better statuses, responding to uncertain environments and jointly developing skills and new ideas (Powell and Grodal, 2006; Zingerli, 2010). Actors are included in DNOs according to the extent to which they can contribute to the ‘mission’ of the network, and benefit from the complementarity of assets. Collaborating in DNOs is thus one strategy that African universities, NGOs and other types of organisations located in resource-poor contexts use to link into national and international networks, and to access resources that are not easily accessible in their local contexts (see Chataway *et al*, 2005; Leach and Scoones, 2006). Similarly, collaborating with actors in ‘developing’ countries

provides opportunities to access knowledge and social capital in the context in which development projects are implemented. This is becoming increasingly important with the growing emphasis on ownership and accountability, by providers and recipients of development assistance.

As will become evident from the analysis of the MozOptom DNO, the achievement of common development goals, in addition to the goals of the individual organisations, is a driver of activities in a DNO. Thus, the actors are highly dependent on each other for achieving their common goals, necessitating high levels of interaction. Hence, the success of the DNO hinges on the extent to which collective action, and thus effective co-operation, is achieved. Co-operation can be a challenge considering that DNOs often consist of organisations located in different countries, typically higher-income and lower-income countries. Interaction thus takes place across organisational, geographical, language and cultural divides. Hence, the internal and external institutional contexts of the network impact on co-operation towards achieving common development goals, that is, the degree of the presence of shared understandings of rules, trust, effective communication and collaborative problem-solving (Holohan, 2005).

The Case Study: The MozOptom DNO

The MozOptom DNO aimed to develop optometry-related capacity in the Northern region of Mozambique. Since the optometry profession did not exist in Mozambique before this initiative, it presents an interesting case of how an African university, in collaboration with a group of external actors, develops science, technology and innovation capacity in the local context. The MozOptom project is a 5-year project (2009–2013) part of a larger aid programme funded by the official development assistance agency (DevAid) of a small Northern European country. The project was implemented by a DNO, including an African university in Northern Mozambique (UniUS), an international NGO based in Southern Africa (OptomNGO), a Northern European Institute of Technology (NEuroIT) and a Northern European university (NEuroUni). Hence, the DNO included a mixture of ‘North-South’ and ‘South-South’ relations. Figure 1 illustrates the structure of the MozOptomDNO, which is typical of DNOs.

The next section provides a description of the analytical approach and methods used to analyse the case study.

Figure 1: MozOptom development network organisation, highlighting ‘interlocking fields’.

Note: The collaborative space within the ‘dotted’ lines represents the development network organisation (DNOs).

A Network Approach to Analysing Development Network Organisations (DNOs)

Social network analysis (SNA) 'is peculiarly both a theory – a way of looking at the world – and a methodology – a set of techniques for making sense of it' (Wellman, 2008, p. 221). It is a 'relational' perspective – assessing development projects from the structure, type and quality of the relations among the organisations. To explore the role of a DNO in capacity development, a network-institutional approach is applied, using mixed-methods SNA.

A Network-Institutional Approach

From a network perspective, development is rooted in social networks and is thus shaped by the ideas, values and behaviours of individuals (Bebbington and Kothari, 2006). Social network theory is particularly useful for understanding bridging across the different interests and identities in multi-actor situations.

The network-institutional approach used in this article, combines key ideas in the social network analysis and neo-institutionalist literature (particularly Burt's (2005) structural hole theory; Coleman's (1988) social capital theory; Granovetter's (1983) strength of weak ties thesis; White *et al*'s structural theory; and Fligstein and McAdam's (2012) theory of fields). Although conceptual connections between the two literatures have been discussed for some time, the approach was first formally discussed by Owen-Smith and Powell (2008) (see Petersen (2013) for a more detailed description of the network-institutional approach). An advantage of this approach is that it (simultaneously) brings into focus the information and resource flows (network structure) as well as the dynamics of relations and agency of actors in development networks (network institutional culture). The approach thus provides the means for a 'fresh' look at these types of development networks.

Mixed Methods Social Network Analysis

Historically, SNA is rooted in anthropology and, more recently, sociology. SNA is now more popular for its well-developed mathematical and computational models for explaining patterns of interaction (Wellman, 2008), but this is changing to a trend integrating quantitative and qualitative modes of data collection and/or analysis to understand both the structure and dynamics of interaction and what actors actually do in networks (see Edwards and Crossley, 2009; Edwards, 2010). The present research follows this new trend in analysing the MozOptom DNO as an in-depth case study.

The research was conducted in three stages and included quantitative methods of data collection (online survey), and qualitative methods of data collection (semi-structured-depth interviews and ethnography) and analysis (thematic coding). The data was collected during three periods: May to December 2010, May to December 2011 and May to July 2012. The survey received an acceptable response rate from the members of the MozOptom DNO (that is, 24 of 28 members). During the data collection, I visited all of the core organisations and spent 4 months conducting ethnographic research on the DNO's activities in Mozambique. In total, 22 interviews were conducted with 24 participants. All, except two, of the formal interviews were (audio) recorded and transcribed by the author. The average duration of the interviews was approximately 1 hour. Thematic coding was used to analyse the interview transcripts and ethnographic field notes.

With the quantitative and qualitative methods, I was able to analyse the MozOptom DNO at multiple levels: micro- (that is, inside the DNO – individual actions and ties), meso- (that is, the

Figure 2: Multi-level analysis in the present research.

DNO as a whole – structure and dynamics of interaction) and macro-levels (that is, the interaction between the DNO and the institutional contexts within which it was embedded). The multi-level analysis is illustrated in Figure 2. A shortcoming of research on development networks, especially research focussing on social capital, is the focus on closed groups with insufficient attention given to the impact of internal and external institutional contexts (see Zingerli, 2010; Serra, 2011). Hence, linkages with aid agencies are often not included as inter-related or interdependent fields (for example, Lister, 1999).

How co-operation among actors in the MozOptom DNO was achieved is discussed next.

A Framework for Achieving Co-Operation, the Case of the MozOptom DNO

Drawing on the literature on network organisations and the analysis of the MozOptom DNO, I developed a framework identifying processes necessary for achieving co-operation in DNOs (see Figure 3). The processes include:

- developing a common mission and identity
- developing a network including actors who can contribute towards achieving the common development goals, and a network structure designed for efficient information-sharing and information-processing
- negotiating rules for guiding behaviour in the network and
- negotiating shared meanings (see Borgatti, 2001; Holohan, 2005; Powell, 1990).

Supporting these processes are skilled strategic actors, who facilitate co-operation by fashioning shared meanings and identities that resonate with others (Fligstein and McAdam, 2012). Skilled strategic actors have better developed social skills, which refers to skills related to the ability to work in a team, facilitate co-operation and link into useful social networks (Fligstein and McAdam, 2012). The social strategies they use depend on their roles in the network, defined

Figure 3: ‘Inner workings’ of a DNO.

in terms of their official designations and structural positions. As discussed later, the social strategies actors use may be restricted by their roles.

Each process is discussed below. The analysis focuses on the main threads carrying through the stories reported by the actors involved in the DNO in the interviews and through my observations in the field. The quotes presented here were selected specifically because they were the best articulated accounts.

The Common Mission and Network Structure of the MozOptom DNO

First, a ‘broker’ is needed to come up with a novel idea, identify the group of actors with the resources needed to bring it to life, and then get them to formalise into a formally constituted entity to execute the plan (Holohan, 2005). The idea would then be moulded to the group of actors and a *common goal or mission* for the DNO is identified.

Identification of a common mission involves defining the field or the purpose of the DNO. Although the organisations generally get involved in a DNO because the common mission serves their own interests in some way or another, the common mission has to be reinforced throughout the ‘life’ of the DNO, especially when new actors enter the field.

The impetus for the MozOptom project came from the African organisations. The project was largely the brainchild of the Director of OptomNGO, which was based in Southern Africa. The training programme was not only the first optometry training programme to be developed in Mozambique, it was also a pilot initiative that was part of a larger project of OptomNGO. The aim was to pilot and evaluate the implementation of a multi-level training programme for optometry in Southern Africa to serve different needs of the eye-care system according to different time frames. This was an innovation developed by the Director of OptomNGO, who initiated links with the lead Northern European organisation (NEuroIT) and linked UniUS with NEuroIT and NEuroUni, thus acting as a type of ‘broker’. These links were made through personal contacts.

The mission of the MozOptom DNO was thus shaped by (i) the multi-level training programme developed by OptomNGO, and (ii) the terms of reference of DevAid’s call for funding. Actors at NEuroIT were also instrumental in developing the project proposal, whereas UniUS was more on the periphery at that stage (discussed later).

Negotiating Shared Meaning

In order to co-operate towards achieving the common goal, actors need a personal sense of purpose and belonging. For actors to identify with the mission, the co-construction of meaning is necessary. This is related to the common mission and how it relates to their interests. The *shared set of meaning* is referred to as a *common network identity*. Since social mechanisms of control rather than bureaucracy are important governance mechanisms in DNOs, 'it becomes important to have an internalised cognitive structure of what the organisation stands for and where it intends to go – in short, a clear sense of the organisation's identity' (Albert *et al*, 2000, p. 13). From a network-institutional perspective, identities provide actors with meaning, a sense of belonging, and a guide for how to behave in specific social contexts (Fligstein and McAdam, 2012). Two kinds of identities exist: personal and collective (Tajfel, 1969 in Brickson, 2000). According to Tajfel's social identity theory, which is utilised most in the organisational literature, when individuals' personal identities are salient, they are motivated more by self-interest and think of themselves mainly in terms of their own personal characteristics and traits (Brickson, 2000). Whereas, when their collective identities are more salient they conceive of themselves in relation to others and are motivated by collective goals. Collective identities are thus essential for co-operation and skilled strategic actors play a crucial role in getting actors to co-operate by fashioning identities that resonate (Fligstein and McAdam, 2012).

The general consensus during the first year or so was that the main goal of the MozOptom DNO was to develop optometry capacity in Mozambique, starting with the development of an optometry training programme at UniUS. The actors then pinned their own interests and meanings to this mission, producing commitment to the overall mission. The group of actors did, however, find it difficult to produce the kind of social order that would facilitate co-operation among them.

Negotiating Institutions During the Initial Stages

In the process of negotiating shared meanings and identities, actors develop a commitment to the organisation and sense of trust and loyalty to each other (cf Holohan, 2005). Before the institutions governing the network have been negotiated, the 'collaborative space' of the DNO is unstable, and thus co-operation among the actors may not be achieved. Essentially, the DNO is the 'collaborative space' at the intersection or overlapping areas of the different organisations (see Figure 1). As Fligstein and McAdam (2012, p. 109) state, 'The absence of shared rules and understandings makes this an inherently unstable situation'. Some actors may leave the network or the project may be abandoned altogether.

Two strategies can be utilised to produce social order: (i) the dominant social groups could impose institutions they internalised from interaction in other social networks, or (ii) 'new' institutions could be negotiated amongst the actors in the 'collaborative space' (Fligstein and McAdam, 2012, p. 109). Fligstein and McAdam (2012) indicate that the second option is more appropriate in fields where collective action is of paramount concern as collective action requires a higher level of loyalty and commitment, which depends on the existence of shared meanings and institutions.

Shared meanings and institutions are essential for developing bonding, bridging and linking social capital, which facilitates the development of strong bonds and thus co-operation (Coleman, 1988). Bonding social capital is characterised by strong ties between actors within a social structure, whereas bridging social capital refers to the ability to link across networks. Like bridging social capital, linking social capital connects actors across a divide. Bridging social

capital refers to the links between groups, and linking social capital refers to links across vertical relations (Patulny, 2009).

All of the core organisations in the MozOptom DNO were included in the proposal-writing process in the sense that the proposal was shared among them and each were invited to participate. However, in practice, active engagement was skewed in that there was more active involvement from OptomNGO and NEuroIT. At that time, discussions took place via telephonic, face-to-face and e-mail communication, mainly between OptomNGO and NEuroIT. This situation provided opportunities for repeated interaction among actors at OptomNGO and NEuroIT, and thus opportunities to develop norms for interaction, which facilitated the development of stronger ties and thus trust (Coleman, 1988; Uzzi, 1996; Fligstein and McAdam, 2012). As Berger and Luckmann (1967) explain, institutions arise through the repetition of certain behaviours to which actors attach meaning. Frequent interaction is thus important for institution-building. Face-to-face interaction, in particular, is essential for institution-building as it makes available the widest range of information about the actors with whom we are interacting, which informs our strategies for interaction with those actors (Berger and Luckmann, 1967; Coleman, 1988).

After the MozOptom project proposal was approved, project launch events were held in Mozambique and NEuro. Initial discussion meetings were held and a Memorandum of Understanding (MoU) that stipulated how work was to be divided and co-ordinated was signed.

By the third year of the project, the ties between key DNO members based at OptomNGO and NEuroIT were among the strongest within the network. This is shown by the high frequency of communication (from daily to weekly) reported by these actors in the interviews and the survey (see Petersen, 2013). Key DNO members within these organisations indicated that the relationship between them was characterised by 'total trust' (Interview, DNO Executive Management 1). OptomNGO was considered a co-funder of the DNO and the idea originated from them. Furthermore, OptomNGO was not dependent on the DNO for carrying out its core activities as it was a self-sustaining organisation – through its social entrepreneurship activities and royalties from a patent.

According to Barabasi (2002), those who enter networks first and hubs within networks tend to have greater influence on the functioning of the network, and thus greater power. Also, hubs tend to be more resilient to endogenous and exogenous challenges (Watts, 2004). On the basis of stronger ties and shared meanings, greater participation from actors at OptomNGO and NEuroIT opened up opportunities to form alliances and thus wield greater influence on the organisational design and activities of the DNO. The actors at UniUS also recognised the alliance (Interview, UniUS Management 6).

The actors who were more actively involved in the initial process of forming the DNO had greater say in determining the common mission. This was perhaps a missed opportunity for the actors at UniUS to influence the process as they were still more on the periphery at that stage, as reported in the interviews with key actors:

UniUS haven't been, um, involved constructively there as much as they should be. Um, but I'm not sure that we know really how to fix that. So, other than just basically making sure that they're aware of what we (OptomNGO and NEuroIT) are discussing and want to do. (DNO Executive Management 3)

According to five of the seven members of the core teams at OptomNGO and NEuroIT, getting UniUS actively engaged in the DNO was challenging. As Lawrence (2008) points out, control is difficult when direct surveillance is not possible and this situation increases the possibility of avoidance behaviour. Hence, the interdependence of the actors in the DNO can be a benefit in that they share resources and they benefit from the complementarity of assets. It also means that avoidance behaviour or delays from one side impacts on the DNO as a whole.

The recognition of interdependence and the value placed on openness and commitment to the mission (what I refer to as ‘network consciousness’) was most explicitly communicated by one key decision-maker at OptomNGO:

... I think some of the time delays may have cost us from his (the Rector of UniUS’s) side..So, I’m not saying that we all didn’t make mistakes, you know. Those happen in networks. I mean, and he’s building a university, he can’t be (laughs) on top of everything ...

Owing to the lack of bureaucratic and direct lines of governance in a DNO, network institutions become even more important for guiding behaviour. As Berger and Luckmann (1967) indicate, social mechanisms for control cannot be constantly employed to regulate behaviour and thus, internalised institutions are important. However, the actors in the MozOptom DNO were not successful in negotiating shared institutions between UniUS and the other core organisations (NEuroIT and UniUS) during the initial stages of the project.

Once OptomNGO and NEuroIT formed an alliance, they utilised an alternative approach to producing social order in the ‘collaborative space’: they imposed the institutions negotiated among themselves to the other actors in the network. It is apparent that this was the only alternative as their attempts to get UniUS to actively participate in the ‘collaborative space’ did not work. This approach was not, however, effective in receiving the kind of co-operation they required from UniUS to ensure collective action, which I refer to as ‘thick’ co-operation (co-operation characterised by ‘complete trust’). Instead, UniUS showed ‘thin’ co-operation (co-operation due to the perception of trustworthiness) as they worked independently towards fulfilling their duties as set out in the MoU without actively engaging with the other actors. I base the distinction between ‘thick’ and ‘thin’ co-operation on Uzzi’s (1996) distinction between ‘thick’ and ‘thin’ exchange, with the degree of exchange depending on the degree of trust established.

Hence, a ‘disconnect’ existed between actors at UniUS and those at OptomNGO and NEuroIT. Each of the organisations plugged away in carrying out their responsibilities stipulated in the MoU, without much understanding of each other’s expectations and the challenges they each faced (except for the relations between OptomNGO and NEuroIT). The next section discusses how the ‘disconnect’ came about and how the actors overcame the challenges that resulted.

How Internal and External Institutional Contexts of Development Network Organisations (DNOs) Influence Co-Operation

The ‘Disconnect’ Between UniUS and the other Core Organisations

Key strategic decision-makers in the DNO based at NEuroIT and OptomNGO reported that, during the first year or so of the project, they expected that the members of the DNO at UniUS would get the course up and running according to the time-frame agreed in the MoU. However, on travelling to Mozambique, they found that there were some setbacks and due to some of the difficulties UniUS experienced, they were not able to fulfil their duties as members of the DNO. The major setbacks were: UniUS lacked the funds to build the optometry clinic that was intended for use as a teaching clinic; the high levels of bureaucracy in Mozambique hindered the achievement of objectives; and a change in education law that prohibited universities in Mozambique from producing graduates below degree level. Thus, UniUS would not produce optometry technicians in addition to degree-level graduates, as promised in the project proposal.

From the perspective of UniUS, all of the key actors described the first year of the DNO as very difficult as they had faced numerous challenges as a new and under-resourced university located in an ‘under-developed’, relatively isolated region of Mozambique, including: getting the course approved, recruiting students, implementing the curriculum, assisting in recruiting lecturers and a course co-ordinator, and providing the premises for the teaching and practical training. Not having local expertise in optometry presented a further challenge.

A divide thus existed between the actors at NEuroIT and OptomNGO and the actors at UniUS. What was baffling was that this problem existed despite the fact that each of the core actors at NEuroIT, OptomNGO and UniUS emphasised open communication and transparency among themselves and expected the same from each other. They also had an open attitude to learning from their mistakes and recognised that each organisation in the DNO depended on each of the other organisations (that is, ‘network consciousness’). It would thus be expected that these institutions would be shared in the DNO as a whole. However, this was not the case.

Threats to Co-Operation and Network Resilience

I identified four major threats to the network, which resulted in tensions between actors at UniUS on the one side, and actors at NEuroIT and OptomNGO on the other. The avoidance behaviour and resistance by actors at UniUS can be considered a threat to co-operation, which is important to investigate considering that establishing ownership and accountability by ‘aid recipients’ is often a challenge.

From network theory we learn that threats to network functioning can be endogenous or exogenous. Instability in networks is because of endogenous and exogenous failure (see Watts, 2003). Since DNOs tend to be embedded in contexts characterised by conditions of high levels of uncertainty, rapid change and ambiguity, DNOs generally face a host of exogenous threats (such as changes in law, sickness or accidents). Network failure occurs when actors in the network cannot effectively manage the threat. Endogenous failure occurs when an actor’s capacity for processing information does not meet demand and thus channels of information/resource flows become congested (Watts, 2003). In network organisations, greater emphasis is placed on specialised knowledge and the capability of *individuals* to deal with ambiguity effectively (Nohria *et al*, 1992). Effective skill for handling both endogenous and exogenous threats is essential for network resilience.

In the MozOptom DNO, two exogenous threats arose due to occurrences in the inter-related fields in which it was embedded, and endogenous threats arose because of the ineffectiveness of a central actor in the DNO, and incompatible management styles.

The First Exogenous Threat: DevAid’s Funding Model

Key decision-makers in the DNO reported that tension arose in the early stages due to DevAid’s funding model. Reports on this issue were consistent across the reports from the interviewees based at the European and African organisations. This issue was reported by a key member of the DNO:

And I must say that DevAid model does create some tensions, not between OptomNGO and UniUS, but between NEuroIT and UniUS because there is definitely a sense that developed in some of the early stages ... that ... it’s like we have to ask for money to our boss ... And [the Principal Investigator], I must admit, was trying to be as flexible as possible within that, but he’s got to report to Dev Aid ... (DNO Executive Management 1)

The network structure of the DNO was embedded within the hierarchical structure of the larger DevAid programme. DevAid stipulated in the funding call that the lead institution had to

be an institution in the European country. DevAid's M&E strategy required NEuroIT to report back on progress and thus held it accountable for the co-ordination and M&E in the network. The actual work of the DNO was carried out through the network structure, but accountability (to DevAid) was channelled through the hierarchical structure. As Burt (2005) indicates, this is a norm for organisations.

From a network-institutional perspective, we understand that institutions can be transferred between interdependent fields and are also transformed in the process. Furthermore, institutions are historical and are embedded in the roles of actors (Berger and Luckmann, 1967; Giddens, 1979; Padgett and Powell, 2012). Actors thus 'carry' institutions into the networks in which they interact (Owen-Smith and Powell, 2008; Padgett and Powell, 2012). The institutions associated with traditional 'donor-recipient' relations were 'carried' into the network structure of the DNO from the hierarchical structure of the larger aid programme. This hierarchical structure was produced and reproduced by DevAid.

The ramification is perpetuation of the legacy of unequal donor-recipient relations within the DNO. One of the strategic decision-makers at UniUS stated: '... it's very hard to discuss that because, er, they are donors of the project' (Interview, UniUS Management 6). This resulted in UniUS treating challenges they experienced (such as obtaining a suitable curriculum and recruiting students) as their (organisational) problems and not that of the DNO, even though these challenges hindered the achievement of the common goals of the DNO. Four of the five strategic decision makers at high-level management at UniUS reported that they viewed OptomNGO and NEuroIT as the 'donors' of the project. They complained about their lack of control over the decision making on how the budget was spent and how the project was implemented. This perception persisted even during the third year.

The role of the Principal Investigator, as the 'project lead', was produced in the hierarchical structure, and the historical institutions associated with unequal donor relations were embedded in this role. Long (2001) indicates that, in development projects, local actors' perceptions of development workers are often informed by their previous experiences, and the perceptions persist despite efforts of development actors to change it. The Principal Investigator was able to overcome the negative impact of this perception, to an extent, by utilising a range of social strategies in order to present himself as a 'network member'.

The Second Exogenous Threat: Restrictions in the Education Law in Mozambique

The second major threat to the DNO was the fact that UniUS could not produce optometry technicians because of major changes in education law. All of the strategic decision-makers at OptomNGO and NEuroIT reported being disgruntled by this situation as it meant that NEuroIT would not deliver on one of the key deliverables of the project and OptomNGO would not be able to pilot their multi-level training model. They were particularly disgruntled by the fact that the university had not flagged the issue earlier and had not engaged with them to put forward alternatives for achieving the objectives of the project. This quote indicates their perceptions:

... I think our big problem before then, we just weren't informed because we had no one to deal with. Um, so, we were, you know, plugging away with things that we saw were needed to be done, and UniUS either didn't, you know, didn't understand where we were coming from or didn't see the importance of it or whatever it happened to be. Um, but that's why things broke a little bit. (DNO Executive Management 3)

This highlights the problem that the necessary shared institutions to guide behaviour and facilitate co-operation among all of the key actors in the DNO had not been developed. One reason is the absence of an effective bridging actor.

The First Endogenous Threat: An Ineffective Bridging Actor

Effective linkages across the organisational divides had to be developed. The disconnect between the actors at UniUS and actors at the other organisations existed in the beginning, despite the fact that interaction between them took place. Besides e-mail communication, the two strategic decision-makers at NEuroIT reported relatively frequent face-to-face meetings with actors based at OptomNGO and UniUS. The Principal Investigator travelled to Africa as often as once every 6 weeks during the first year of the project, and later reduced the frequency to two to four times a year. Hence, the existence of ties does not automatically mean that useful information and resources are shared along those ties.

This scenario highlights the problem of an ineffective bridging actor. Eighty per cent of the key members of the DNO across the three core organisations raised the challenge of not having an effective link or bridge between UniUS and actors at NEuroIT and OptomNGO in the beginning. A key actor in the DNO stated:

... our initial (Network Manager) was [a Mozambican], had a close relationship already with UniUS. Um, that created difficulties for us because, er, it was difficult for him to approach UniUS with problems.... (DNO Executive Management 3)

The first Network Manager was a local person who had a good relationship with the actors at UniUS. The actors at NEuroIT and OptomNGO thus expected that he would have been able to co-ordinate DNO activities in Mozambique effectively, and facilitate co-operation from actors at UniUS. The bonding social capital that he possessed actually hindered his ability to act as a key channel of communication and resource flows. This is an important finding considering the tendency, in the mainstream social capital literature, to emphasise the role of bonding social capital, which has been fiercely criticised recently (for example, Serra, 2011). The structural position that the Network Manager held in the network required him to process information he received, and direct and transmit information to the appropriate actors. Another part of the job was to facilitate the sense-making process in the network. The first Network Manager was not able to effectively communicate the expectations, needs and challenges of the external partners to the actors at UniUS, and vice versa – which was necessary for developing shared meanings and institutions among them.

When the first Network Manager resigned during the first year of the project, the key members of the DNO based at NEuroIT took the strategic decision to recruit a new Network Manager who they thought would be better able to bridge the divide. They recruited an individual from Europe who had project management experience. Some of the key actors at the NGO and UniUS disagreed with this decision as it was perceived as a practice of spending development funds for the benefit of ‘donor’ countries, and hiring a local person familiar with the culture and language was thought to be more appropriate. It would also be an opportunity to empower local persons. It is important to note that this perception was not held by all of the key actors at UniUS.

However, the fact that the second Network Manager was from Europe, was affiliated with OptomNGO, but was based in Mozambique, allowed him the opportunity to understand the realities in which the different organisations were located, that is, develop the necessary tacit knowledge. He drew on these multiple identities to frame issues that arose. This was a big part of the social skill he utilised in facilitating co-operation within the network. His role was tied more to the collective identity of the DNO. He thus contributed to the formation of a ‘project identity’, which is essential for effective co-ordination of communication and action.

While the (second) Network Manager was effective as a bridging actor, the extent to which he was able to facilitate co-operation was constrained by the management style he (and other key actors) adopted.

The Second Endogenous Threat: Conflicting Management Styles

It is commonly thought that cultural filters or cultural frames help individuals encode and decode messages closely to the way they were intended. Thus, if individuals are not familiar with the cultural frames for decoding the messages, they use their own cultural frames, but in doing so, often interpret the messages incorrectly (see Lauring, 2011). However, miscommunication and lack of communication between individuals of different cultures also occur due to differences in management styles, and differences in the cultural perceptions of structural positions in the network and the responsibilities associated with the different structural positions (Kim and Mattila, 2011; Lauring, 2011). Expatriates thus often come across as ethnocentric.

Another reason for the lack of effective co-operation in the DNO during the initial stages is the mismatch between the results-driven approach of actors at OptomNGO and NEuroIT, and the 'slow' approach of actors at UniUS. In the MozOptom DNO, the external partners at OptomNGO and NEuroIT displayed results-driven management styles and expressed impatience with the bureaucratic processes, which slowed the achievement of the objectives of the project. For example, one of the key actors said that he found it a waste of time to wait around for people to show up for meetings and so, he stopped scheduling meetings with staff at UniUS other than the optometry lecturers, Training Co-ordinator and the Rector with whom it was absolutely necessary to meet. This attitude among foreigners and expatriates from Europe was found by other researchers as well (see for example, Lauring, 2011).

Rather than facilitate co-operation, the management style of those actors actually achieved the opposite: resistance. The management style hindered the building of bridging and bonding social capital. Local actors at UniUS complained about the European actors demanding that things be done a certain way and not being open to negotiation. A quote from an interview with two of the key decision-makers at UniUS shows this perception:

... we all believe that things need to be contextualised and not be copied, like, well, you have to implement like that. You have to contextualise the things because otherwise you will jeopardise the programme and people will not be, they will not be with you. (UniUS Management 4)

When dealing with challenges related to traditional institutions (for example, distrust of western medicine) prevalent in the local communities, management at UniUS employed a strategy of working within the existing hierarchical social structures and institutions in the local communities rather than trying to change existing systems rapidly. They worked within the system to effect change slowly. The Training Co-ordinator and senior lecturers in the optometry department utilised the same approach. They explained that, in this way, they gained access and acceptance and developed trust with others in the local setting. They thus approached each other and the wider social context differently to the way in which the actors at NEuroIT and OptomNGO approached the context.

Fligstein and McAdam (2012) indicate that working within the system and taking what the system gives are social strategies skilled strategic actors utilise to bring about co-operation. Furthermore, skilled strategic actors 'understand the ambiguities and uncertainties of the field and work off them. They have a sense of what is possible and impossible' (Fligstein and McAdam, 2012, p. 51). The local actors at UniUS showed this understanding and thus chose to employ social strategies that they found more appropriate. The Optometry Training Co-ordinator at UniUS, for example, would 'go out of herself' in order to learn the necessary cultural norms in the local context to devise an effective social strategy for facilitating co-operation (Berger and Luckmann, 1967, p. 77).

The 'slow' strategy has also been highlighted by development researchers as a more effective strategy to effect social change than the results-driven approach that focuses on trying to effect

radical change (for example, MacLachlan *et al*, 2010). In the DNO, the European actors were accountable to DevAid. Their roles, stipulated by DevAid, required them to focus on measuring results in order to ensure that the DNO delivered on their promises. Hence, their social strategies, in terms of the possibilities available to them, were also constrained by their roles. This is another example of institutions embodied in the roles of the ‘aid workers’ being ‘carried’ into the network from the field of the larger aid project, which is embedded in the field of development assistance.

The results-driven approach of the skilled strategic actors of the dominant groups (the incumbents) were ineffective in facilitating co-operation, and tensions culminated in a ‘big fight’ that presented a turning point in the lifecycle of the DNO. This issue was resolved in meetings that involved all of the main actors in the DNO, for the first time, where new network institutions were negotiated. The MoU was also revised.

Conclusion

Researchers in the field of development recently considered whether ‘networked’ organisational forms can be used to accelerate capacity development in resource-poor contexts (see Chataway *et al*, 2005; Leach and Scoones, 2006). However, as Buse and Walt (2000b) and Chataway *et al* (2005) indicate, we need a better understanding of the ‘inner workings’ of these new organisational arrangements to understand what makes effective co-operation.

The contribution of this paper is twofold. First, it presents an in-depth analysis of the ‘inner workings’ of one such type, which I refer to as a ‘development network organisation’ (DNO). Through the analysis of a case study, the MozOptom DNO, the article shows that the DNO model has tremendous potential for more democratic and effective development organisation and accountability, but in many ways the development space is still hierarchical and co-operation is a major challenge. Forming the network is easy; it is much more difficult to establish a network institutional culture that optimises goal achievement. The case study shows some of the key qualities necessary and difficulties in realising them. Second, through the use of a network-institutional approach, the article proposes a framework for understanding how effective co-operation can be achieved. Further research on DNOs will be fruitful.

On the basis of the case study analysis, some lessons can be drawn, particularly for development practitioners and policymakers. An important lesson learned is that the common mission and network institutions need to be negotiated during the initial stages of developing the network. The common mission acts as the ‘glue’ that holds the actors in the collaborative space, while the network institutions act as social mechanisms for control. Negotiating network institutions is an ongoing process that is crucial for developing trust, and addressing avoidance or resistance behaviour and conflict. Hence, a flexible management style is necessary. The kind of negotiation required goes beyond sharing the proposal and inviting others to contribute to it, and beyond project launch events and signing a MoU. What was most useful in the MozOptom DNO was getting all of the core actors – not just the leaders of the organisations – in the same space to discuss the expectations and needs of each organisation and the division of labour based on their expertise and willingness. This was an opportunity for open discussion and negotiation, which ideally should be done before the proposal is submitted and before the signing of an MoU.

In facilitating co-operation, effective leadership and bridging actors are important for mitigating the impact of endogenous and exogenous threats. Why some actors are more effective at facilitating co-operation in DNOs, and development networks generally, is not well understood in the literature. The analysis shows that individuals selected to lead should possess the necessary social skill to persuade others to co-operate. This is especially important in an aid-funded

‘North-South’ network where establishing accountability and ownership by all is a challenge. The Principal Investigator, for example, went to great lengths to impression manage, to show himself as a team player. Bridging actors – typically project managers or co-ordinators and Principal Investigators – are essential for channelling information flows, but also for fashioning a shared identity, creating a sense of belonging, and facilitating the negotiation of network institutions. Recruiting a bridging actor should be based on the needs of the network at the time rather than preconceived ideas. For example, recruiting a local person from Mozambique was not the most appropriate approach in the MozOptom DNO during the initial stages. Ideally, the bridging actors should have some grounding and experience in each of the ‘worlds’ being brought together.

Finally, governance needs to be negotiated among the actors involved in the network rather than stipulated externally (for example, by funding agencies) or decided unilaterally. People who are not under a hierarchical authority are much more likely to follow rules they come up with themselves and gently escalate sanctions in place, when necessary (cf. Ostrom, 1990). In the MozOptom DNO, governance along the lines of traditional ‘donor–recipient’ relations was a major challenge that caused tension. The funding models used by funding agencies should facilitate the development of network institutional cultures conducive to achieving ownership and accountability, which are qualities promoted in international development policy.

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