

## **Does understanding of network context by actors really matter?**

*Simon Geoffrey Martin, Auckland University of Technology, [simon.martin@aut.ac.nz](mailto:simon.martin@aut.ac.nz)*

*Nitha Palakshappa, Massey University, [n.n.palakshappa@massey.ac.nz](mailto:n.n.palakshappa@massey.ac.nz)*

*Maureen Benson-Rea, University of Auckland, [m.benson-rea@auckland.ac.nz](mailto:m.benson-rea@auckland.ac.nz)*

### **Abstract**

Research conducted into an intentionally formed network<sup>1</sup> in which the central broker has retained control, reveals that actors do not need to understand network context. The reason for this is twofold. In the first instance the central broker matches actors' objectives to network activities so there is no need for the actors to understand context – their primary business aim is being met successfully. Second, actors are unable to have power over parts of the network or the network processes due to the role the central broker holds of monitoring the network with the intention of safeguarding the interests of meeting network objectives and matching these to appropriate actors.

Keywords: Central broker, network context, actor objectives, power.

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<sup>1</sup> Full data appendices have been omitted due to page limits but details of density tables and networks maps are available from the first named author on request.

## Introduction

Networks allow an actor belonging to the network to generate greater returns than those obtained solely from the individual organisation's resources (Coviello & Munro, 1995; Dyer & Singh, 1998; Gulati, 2007; Powell, 1990). Interest among researchers and practitioners has shifted from networks that form naturally to the study and creation of networks that are intentionally formed and often coordinated by a central broker. The intentional creation of a network is of interest to practitioners as governments and organisations seek to induce the same benefits offered by these naturally forming networks (Galaskiewicz, 1996; Powell, 1990). What is required is further research into an understanding of network context because few studies have been conducted into that particular area (Holmen & Pedersen, 2003) and more work is required in a sports sector setting (Cousens & Slack, 2005; Thibault & Harvey, 1997).

The current study examines understanding of network context in a New Zealand sports sector setting. Three intentionally formed networks, each of which are controlled by a central broker, were examined. The creation of the networks was the response taken by the New Zealand government to addressing concerns over New Zealand's position compared to other sporting nations. It was a creative way of doing more with less through identifying and leveraging community resources. The approach was intended to enable New Zealand to 'punch above its weight'. A literature review is presented next. This is followed by method, findings, discussion and the conclusion.

## Literature Review

There is a large range and diversity of current network constructs from different perspectives (Hoang & Antoncic, 2003; Johnsen, Wynstra, Zheng, Harland, & Lamming, 2000). Thus clear definitions of network constructs are required for this investigation and these follow next.

A network is defined here as a series of nodes linked to each other by social and economic relationships. Within the present study the term *actor* is conceptualised to mean the *organisation*. The network literature does *not* specify what a node consists of, and so a node may be individuals, work-units or organisations; this peculiarity is noted by a number of researchers (Brass, Galaskiewicz, Greve, & Tsai, 2004; Emirbayer & Goodwin, 1994; Geser, 1992; Lane & Lubatkin, 1998; Wasserman & Faust, 1995).

The term *central broker* is used to describe an actor that coordinates the tasks of the network, connects actors to other actors, mediates between actors, acts as a gatekeeper for information and chooses to whom this information is passed (Borgatti, Everett, & Freeman, 2002; Hanneman, 2001). The number of *connections* with others is the number of ties or direct contacts that an actor has in a network (Mitchell, 1969; Van den Bulte & Wuyts, 2007). *Network density* is the proportion of the possible number of ties that exist which connect actors to other actors in a network (Emirbayer & Goodwin, 1994).

*Power* within this study is defined as influence over others for the performance of network tasks, and is based on centrality (Krackhardt, 1990). This is because actors are dependent on the resources of others in order to complete their task (Burkhardt & Brass, 1990; Cook, 1977; Krackhardt, 1990). However, the concept of power is complicated by the resources that an

actor controls. For example, Burt (1977) also includes in his definition of power the resources that an actor controls, and how they use these resources and the resources of others. The benefit being the more power an actor has, the more bargaining power it has in the relationship exchange with others (Cook, 1977).

*Network context* is defined as the part of the network horizon comprising all the pertinent actors directly and indirectly connected with the actor, as well as the external business environment in which the network is located and to which it will respond (Anderson, Håkansson, & Johanson, 1994; Erickson & Kushner, 1999; Holmen & Pedersen, 2003). The *network horizon* is defined as all actors and relationships in the network (Holmen & Pedersen, 2003). The method is discussed next.

### Method

A single case design with multiple embedded cases was used. The embedded cases comprised of Sport and Recreation New Zealand's (SPARC) high performance network called the New Zealand Academy of Sport (NZAS) and includes the National Office and three networks: North, Central, and South Island networks. Each of these interdependent NZAS networks is coordinated by a central broker. The network boundary was determined by the research participants located within the network actors in that they identified the actors in each network, identified other research participants, and identified three levels of research participant; CEO/Board, work-unit, and individual level (Doz, 1996; Hanneman, 2001; Seidman, 1991). In total 52 interviews were conducted with 42 research participants from different levels within the networks.

Data on each NZAS network was collected and written up using key constructs identified previously from the literature. Findings were used to build a descriptive within-case summary of each network. Each within-case description was conducted separately across multiple levels – CEO/Board, work-unit, and individual – by the construct areas identified from prior network studies. Following on from this a cross-case analysis was undertaken (Eisenhardt, 1989; Miles & Huberman, 1994; Patton, 2002). To further strengthen the approach, cognitive mapping was used to map each network and was also used to calculate density (Huff, 1994).

### Findings

The North network serviced the top half of the North Island. Central network comprised of four core actors and serviced was the lower half of the North Island; in total there were 23 actors in the network. South Island network serviced the whole of the South Island and comprised of 16 actors including a number of core actors. Within the study, research participants at multiple levels identified the South Island network as being effective and efficient, the North network as being efficient and the Central network as being neither effective nor efficient. The use of terms 'effective' and 'efficient' by research participants was to indicate 'how well the networks were meeting the needs of athletes' and 'how well the network was administered including levels of costs for services'. The use of polarised embedded cases based on effectiveness enabled a contrast to test the limits of any conclusions that were reached (Eisenhardt, 1989; Miles, 1979; Miles & Huberman, 1994).

The three embedded networks all demonstrate a lack of understanding of the national network's context as there is no awareness of the influencing factors or the purpose behind

the network's creation. Instead, each level within each network holds the view that it was created from a tender process due to a lack of facility provision. The only exception to this view is held by the central brokers at CEO/Board level the North network and South Island network, because these individuals had been involved in the process for changing elite sport provision. Representative comments that show a lack of understanding of context include:

Well I suppose it was first of all when the government changed its, the way it worked with elite athletes and set it up, and informed that they wanted local authorities to have some sort of involvement. (Work-unit level)

For the intentionally formed network to be effective the central broker needs to match the organisational objectives of actors to the network activities – this requires an understanding of who are the actors in the network. There is a contrast between the findings for the North and South Island networks with those for the Central network in terms of both density and understanding objectives. The North network is dense, i.e. all actors know of all others and understand their objectives, and the South Island network has a high level of density, i.e. actors know of most of the other actors and their objectives, and this is especially so for the central broker. In contrast, the Central network is not dense: actors do not know all other actors nor do they understand their objectives. Evidence of density is presented in Appendix A from the findings of the cognitive-mapping technique. For the North network 100% of ties are known at each level between all actors, and for the South Island network most actors (71%) know of the others. However, awareness of other actors in their network is only 48% of all possible ties for the Central network. Consequently, there is a high level of awareness at all organisational levels (CEO/Board, work-unit and individual) of objectives of other actors in the North and South Island networks, but only a limited awareness by network members in the Central network.

There is a shared understanding at all organisational levels that the central broker in the South Island network makes a conscious effort to understand the objectives of each actor in order to match and develop business opportunities between actors. Evidence of the understanding is demonstrated by the core competencies of the network being developed and applied to different markets. The following representative quote illustrates the ability of the central broker to facilitate business developments for the network:

And I think that's what an Academy is about. It's about bringing the component bits together, and about communicating so that happens. And I think they know, they understand that role as well. (CEO/Board level)

In the effective network (South Island), actors are unable to have power over parts of the network or the network processes due to the role held by the central broker. In the efficient network (North), although one actor (AUT) is able to challenge the central broker for power they are unable to take the power away from the central broker. This is because the central brokers in both the North and South Island networks hold the most power based on financial influence, and successfully monitor the network with the intention of safeguarding the interests of meeting network objectives and matching these to the appropriate actors. For the North network, the central broker holds the most power, as illustrated by the following quote concerning where the balance of power lies in the network:

... decision rests with the Academy [the central broker] and with the NSO. (CEO/Board level)

For the South Island network, the central broker also holds the most power. Actors within the South Island network also note the collaborative manner in which the central broker operates:

These things can often be achieved effectively by the collaborative effort of all those who can actually bring something to the table ... As I say, very, very informally, there's no structure to it ... So it's all about having information and as and when opportunities come along then we can swing into action pretty quickly. (Work-unit level)

In contrast, the ineffective network (Central) has been unable to add value because the central broker has not engaged actors in the network to develop business opportunities. The central broker also has a lower level of power in the network. The lack of power within the Central network was attributed to SPARC holding the funding and being involved in the operation of the network:

The bureaucrats at SPARC should step back and allow that to be administered [about the holding of power in the NZAS regional network in the central area]. (Individual level)

### Discussion

Prior studies support actor power being based on a network position of centrality. Centrality enables the brokerage of information, and both access to and power over resources (Brass et al., 2004; Cook & Emerson, 1978; Gulati & Gargiulo, 1999; Van den Bulte & Wuyts, 2007). The view of centrality is clearly evident in the North network. Within the South Island network the central broker is clearly the most powerful actor based on centrality. In contrast, the central broker in the Central network does not hold a convincing position of centrality and this is noted by research participants who commented on the lack of focus for the network. By holding power, actors seek to influence parts of the network environment (Erickson & Kushner, 1999; Gulati, 1999). The findings from the present study contrast with prior research as the findings demonstrate actors have been unable to gain power over the network because of the role held by the central broker. Prior studies also demonstrate understanding of context as being critical for actors and for network survival because actors are able to make sense of the network environment and, as a result, position themselves accordingly to take advantage of new developments (Achrol, 1991; Anderson et al., 1994; Cook, 1977; Cousens & Slack, 2005; Erickson & Kushner, 1999; Gulati, Nohria, & Zaheer, 2000; Mattsson, 1997; Thibault & Harvey, 1997; Wilkinson & Young, 2002). However, there appears to be little guidance from the literature on the need for actors to understand context within an intentionally formed network. In contrast with prior research, findings from the study show actors, with the exception of the central broker, are unaware of the network context.

Stronger connections result in more stability and less likelihood of disruption, and are more probable between actors that are similar with similar values (Coleman, 1988; Emirbayer & Goodwin, 1994; Hanneman, 2001). However, strong ties may also limit understanding of the environment as actors become dependent on their closely knit actors for information. A network with dense ties may pursue a collective strategy whilst competing with each other individually (Gulati, 1998). This view is supported by findings for the North network. Networks that are dense are substandard, whereas a network that is not dense and includes the brokerage of structural holes develops better ideas and provides more creativity (Ahuja, 2000; Burt, 1992). Weak ties act as a bridge to other actors that otherwise would not be connected in order to give access to new information, diverse resources and new opportunities (Ahuja,

2000; Granovetter, 1973; Van den Bulte & Wuyts, 2007). The network will fail if it is embedded with solely weak or strong ties. The ideal situation is to establish a cohesive core of strong ties while also maintaining weak ties to facilitate information flow (Uzzi, 1996, 1997). The findings from the present study show the North network to be a dense network with limited creativity and business development. In contrast, the South Island network has a cohesive core of strong ties with weak ties connecting the central broker to other actors and, as a result, the network has developed new business initiatives. In the third case, the Central network has been characterised by weak ties and has not developed new business or been able to add value.

Understanding the objectives of others is an important aspect of relational success (Brass, Butterfield, & Skaggs, 1998; Mullen & Kochan, 2000; Whipple, Frankel, & Frayer, 1996). This is because there is a risk involved when cooperating when little is known about a potential partner's abilities and skills in maintaining a relationship (Gulati & Gargiulo, 1999; Powell, 1990). Yet evidence suggests within an intentionally formed network ties are not strong and activities are typically short-lived rather than long-term (Pihkala, Varamäki, & Vesalainen, 1999; Welch, Welch, Wilkinson, & Young, 1996; Welch, Welch, Young, & Wilkinson, 1998). The task of the central broker then is to ensure positive rivalry by making certain all actors share in the gains and also to prevent opportunism and exclusive relationship development with actors by having numerous choices of potential partners for the project or task. Value and desirability of these relational opportunities is also dependent on whether there is recognition of complementary resources: too much overlap of resources between actors means there may be no benefit, yet if the resources are too far apart they may not be understood by either actor (Cowan, Jonard, & Zimmerman, 2007; Pihkala et al., 1999). This view is supported by findings for the North and South Island networks in which the central brokers have understood the objectives of other actors and ensured all have shared in the gains from network activities.

## Conclusion

Findings from the embedded cases demonstrate support for the view that actors' understanding of network context is not critical for network effectiveness. The three embedded networks highlight the importance of the central broker's role in preventing actors from influencing parts of the network or the network processes through the holding of power. Within the North and South Island networks the central brokers have a high level of power, are connected to all actors, and understand actor objectives. Actors within the networks also understand all others and their objectives. Actors are unable to take power over the networks due to the position of centrality that the central brokers occupy. As actors' business interests are being met by the network there is no need for them to understand network context. In contrast, the central broker for the Central network, which is ineffective, has a lower level of power and actors are not aware of others or of their objectives.

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