

# **Business networks: spanning boundaries and incorporating teams**

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## **Introduction**

Most Management and Organisational Behaviour textbooks have extensive information about group dynamics, teamwork, conflict management and leadership. Team leaders and managers build systems and networks in all directions across levels and boundaries in organisations (Daft 1999; Yukl 1998). However in most of these textbooks insufficient attention is paid to themes such as building networks and the role of teams within these networks.

Many international cooperative ventures by multinational enterprises and external interorganisational networks by small and medium enterprises have been established to improve Australian trade with organisations in the Asia Pacific region. This trend emphasises the importance of research of inter- and intraorganisational networks in organisations that were expanding or emerging during the 1990s (Limerick and Cunnington 1993; Hastings 1993; Miles and Snow 1994; Lee, Tummala and Yam 1996; Naidu, Casusgil and Chan 1996; Tallman and Shenkar 1997; Hill and Jones 1998).

This chapter aims to link information from two streams of research namely networks and teams. It does not repeat research on teams that spans four decades with the unit of analysis on a group level in organisations. Instead it focuses on research on networks that have emerged over the last decade and are on the meta or organisational level of analysis. Much of this research has been on interorganisational networks of multinational corporations but information on local and regional networks among small and medium sized organisations are becoming more prevalent.

One of the challenging issues in relation to networks is that one cannot assume that teams in an organisation will spontaneously form networks that span boundaries or conversely that people belonging to a broad business network will evolve into teams. Other challenging issues relate to how to map networks as well as discerning the stage of development of a network. Specific dilemmas that need attention in managing networks are dealing with interdependence, cooperation and competition in a network and the development of trust between members. The practical implications for organisations, managers and employees in building competencies in managing

networks will be discussed. Exploratory research on cultural diversity in networks and how knowledge is managed by key actors in a network will be noted.

## **Defining teams and networks**

This section starts by defining teams on a continuum from groups to high performance teams. It includes examples of types of networks to provide an overview of the diversity of networks as a concept.

Groups consist of two or more freely interacting individuals who share collective norms and goals and have a common identity. Teams are usually described as small numbers of people in an organisation with complementary skills who have a common purpose, have integrated their efforts to reach performance goals and developed an approach for problem-solving and mutual accountability. Teams fulfil individual and organisational functions to accomplish complex interdependent tasks. Self-managed teams are defined as workers in an organisation who are given administrative oversight for their task domains, and who could have cross-functional membership. High performance teams are characterised by participative leadership, shared responsibility, alignment on goals, effective communication, mutual trust, focus on the future, rapid response and using all the diverse talents of members creatively (Kreitner and Kinicki 1998).

All these standard descriptions focus on teams operating within a company and do not extrapolate how the descriptions need to be adapted if these teams function in a broader business network that span organisational boundaries.

Research on business networks, especially in international or relationship marketing seldom clarifies the role of teams in a network, but tends to provide examples of types of networks between organisations.

A simplistic form of a network is a 'virtual organisation' linking members by electronic means for the duration of a specific project to fulfil contractual obligations before dissolving to move on to other projects. An example of such a virtual organisation is Andersen Consulting with 40 000 consultants who operate independently, meet clients throughout the world and only visit branch offices intermittently. The extensive internal database assists consultants to pool knowledge when they cooperate on specific projects (Hill and Jones 1998).

A more complex form of network is that of a boundary spanning business network defined by Hastings (1993: 14) as 'the implementation of a range of social, cultural and technological processes that result in a devolution of power and responsibility and the breaking down of organisational boundaries. This facilitates direct person-to-person connections, sharing of information and joint working (both within and between organisations) in order to pursue common objectives, solve problems and satisfy the expectations of internal and external stakeholders more effectively and rapidly'.

An example of a boundary spanning business network is the Australian company Technical and Computer Graphics( TCG). It was a highly interactive network of 200 people in 24 companies with revenues of \$50 million in 1994. New product development followed a triangulation process that involved a three-cornered partnership between a TCG firm, a technology-based company outside TCG and a major customer. The TCG firm would have 5 to 10 professionals and a project leader was elected from the 3 partner groups. Further internal and external alliances with other professionals would be formed for the duration of the project. Leadership and entrepreneurship rotates and principles of self-managed teams and a human investment philosophy were cornerstones of TCG (Miles and Snow 1994).

A further type, the strategic network, occurs when a long-term purposeful arrangement among distinct but related for-profit organisations is formed. This allows those companies in the network to gain or sustain competitive advantage vis a vis their competitors outside the network by optimising activity costs and minimising coordination costs (Jarillo 1993; Limerick and Cunnington 1993). The definition can also be applied if a company is a not-for profit organisation (Hastings 1993; Lipnack and Stamps 1994). Networks may consist of equals or have a dominant partner (Buttery and Buttery 1994).

McDonalds is an example of a for-profit strategic network that incorporates key principles of vertically integrated networks with those that concentrate on a few things while subcontracting the rest. McDonalds is the strategic hub in the network and exercise control over decisions in the value chain. The essence of McDonalds is its system of franchisees and their closely tied suppliers acting together. A further example is Toyota and Honda who purchase subsystems such as gearboxes from subcontractors to form a keiretsu of firms with successful interfirm dealings (Jarillo 1993).

Companies such as McDonalds or Toyota are facing similar pressures namely the need to be efficient (to deliver products or services at lower costs) and the need to be flexible (to be innovative and do things differently. The two goals of vertical integration and subcontracting need not be mutually exclusive and a strategic network could be the organisational form to achieve both sets of goals. The norm for transactional exchanges is seen to be changing from competition and opportunism to a collaborative style based upon relationships rather than transactions in order to successfully link activities (Buttery and Buttery 1994; Jarillo 1993; Lipnack and Stamps 1994).

A community network is a group of organisations in a local area that operates as a network. For example in the USA the Baldwin Corridor Coalition consists of a steel manufacturing company, the union, educational and financial institutions, government, economic development agencies and the local community. These diverse organisations are playing specific roles to ensure that the community will be able to sustain itself in an uncertain economic environment (Chisholm 1998).

The assumption in these descriptions of networks is that a network is a loose collection of people implying that a network could consist of 'groups' rather than 'teams'. However the proposition is that to form a boundary-spanning network, the principles of self-managed and high-performance teams need to be consciously

implemented by members, leaders or managers in a network to achieve a superior level of performance. A leader or members of a network will need to decide what type of team within that specific type of network will be optimal.

## **Challenging issues in network formation and maintenance**

This section deals with dilemmas in discerning why networks are formed and how to map a network to discover linkages between members. It notes the debate on the states or stages in the process of forming and maintaining a network.

Managers or leaders create teams in organisations for specific purposes such as advisory, project, production or negotiation (action) tasks. In contrast many conditions in the external environment in which a company operates stimulate the formation of networks as a new organisational form. The emphasis on knowledge management made possible by leading-edge computers and communications systems or the complexity of current business problems in a globalised world contribute to the pressure to form networks across organisational boundaries.

Additional reasons for forming networks include the following

- generating economies of scope or scale for a company,
- manipulating the competitive structure of the market or technological alliances,
- gaining access to partners implementing technological change,
- members can jointly find ways to reduce costs and improve quality of products;
- rapid knowledge dissemination and demand for high quality products and services while controlling costs (Hastings 1993; Limerick and Cunnington 1993; Buttery and Buttery 1994; Chisholm 1998; Hill and Jones 1998).

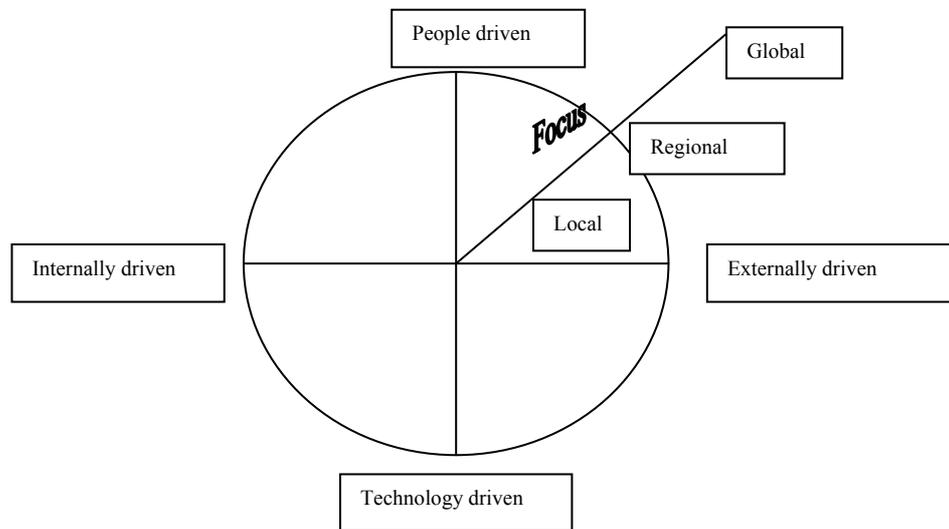
Leaders or managers in an organisation may form alliances or build loose networks for a variety of strategic reasons. The proposition is that members of a team within that network will have to define an additional, related set of reasons to evolve into a high-performance team. The complexity of the context in which the networks operate means that members who try to form teams will have to practice participative leadership, share responsibility, be aligned on goals, communicate effectively, develop mutual trust, be focused on the future, respond rapidly and use all the diverse talents of members creatively.

### **Mapping a network**

If members can consciously overcome the tenuous couplings in a network, they could strive to form high-performance teams within the network. They need tools to map the network in order to identify potential linkages between members. In many Management and Organisational Behaviour textbooks, relationships between people in a team are depicted by means of the following methods: socio-metric analysis, network diagrams in project management or by using linkages in neural networks. In network literature a 'radar screen model' (Hastings 1993) captures the complexities of linkages between different types of networked organisations (see Figure 1). A

proposition is that both sets of tools need to be used in conjunction to map the boundary spanning business network and the potential teams within the network.

**Figure.1 Dimensions of the new organisation - the Radar screen model**



Source: Hastings (1993:13)

An organisation could emphasise relationships within the organisation (internally driven) or shift to the other end of the continuum to its relationships with other organisations (externally driven – see Figure 1). On the vertical axis the organisation could be concerned with social processes between people or prefer to give high priority to sophisticated information technology systems. The radar scanner rotates to indicate if the organisation has a primary focus on the local business environment, the region (for example Asia Pacific or Europe) or a global environment. These are not either/or dimensions but indicate the preferences of an organisation and reflect its sense of identity.

In Figure 1 the emphasis is on mapping the networks of a single organisation. Many companies in an industry or in a region tend to form networks to break through geographic or organisational boundaries. For example Australian small business owner/managers view their direct, *industry* network (that is, the supplier–buyer value chain) and their networks with local *government agencies or people*, as their most important networks (Healy and Perry 1998).

### **Stages in the development of business networks and teams**

Most Management and Organisational Behaviour textbooks describe the stages of group development. These stages of group development are mirrored in the network literature supporting the proposition that knowledge of teams is crucial for developing business networks.

Batonda (1995) synthesised the debate about stages or states of network formation and maintenance over time into a five-stage model shown in Table 1. The first stage usually revolves around the *search* for and evaluation of partners based on economic and social aspects with very little commitment or trust.

During the next stage, *relationship starting*, the new partners try to identify the inter-company as well as interpersonal dynamics. Based on these experiences and perceptions of each other's abilities, they will selectively enter into contracts. The immediate and long-term compatibility becomes important and the partners aim to define mutual goals. Bonding must start to emerge at this stage and continue to be cultivated over time (Buttery and Buttery 1994).

Joint planning efforts emerge during the *relationship development* phase and partners are evaluating the relationship to verify if mutual obligations of performance and effectiveness are met. There is sufficient trust for a gradual increase in interdependence. Mutual benefits are enhanced as the partners strive to create value through a synergistic combination of their strengths. There is a clear commitment of resources and people to developing the business relationship. The boundaries between partners and how permeable these boundaries are need to be determined. Information exchange needs to be investigated to determine what is acceptable to all members (Batonda 1995; Buttery and Buttery 1994).

**Table 1 A network development stages/states model**

Dimensions	Activities
Stage 1 Relationship searching process	Search and trail for partners Evaluation of partners based on economic and social aspects; no commitment
Stage 2 Relationship starting process	Identification of interfirm and interpersonal dynamics; selective entry based on abilities and intermediate and long term compatibility; defining mutual goals
Stage 3 Relationship development processes	Joint planning efforts; evaluation of relationship for mutual obligations of performance and effectiveness; increase interdependence through enhancement of mutual benefits; value creation through synergistic combination of partner's strengths; commitment of resources and people to relationships
Stage 4 Relationship maintenance processes	Integration of operations and strategies; increased commitment through institutionalised conflict resolution procedures ; long term rewards based on mutual behaviour and trust; adaptations and adjustment through agreement, negotiation and self control
Stage 5 Relationship termination processes	Termination based on mutual interest and cost benefit analysis of continuing in the network; developing strategies to mutually dissolve the relationship

Source: Batonda (1995)

During the *maintenance* stage, operations and strategies are more closely integrated and institutionalised conflict resolution procedures have developed. Increased commitment is visible through long-term adaptations and adjustment through agreements, negotiations and curbing opportunistic behaviour. Mutual trust is manifest. Criticism is accepted and conflict is managed in such a way that the relationships are not threatened.

If the members decide to *terminate* the relationship, it is based on an analysis of costs or benefit of continuing in the network. They jointly develop acceptable strategies to dissolve the relationship. Opportunistic behaviour at this late stage may lead to network breakdown. Despite this, certain bonds may be maintained after the break-up

if the partners' think that benefits have been appropriately distributed (Buttery and Buttery 1994)

However, recent research argues that network development does not follow a predetermined sequence; rather, it can be recursive and/or even 'skip' a stage (Batonda 1997). Chisholm (1998: 213) warns that the 'process of developing networked organisations is disorderly and nonlinear'.

## **Dilemmas in relation to dynamics in networks**

This section addresses dilemmas in relation to teams and networks, including interdependency, cooperation and conflict, and especially the violation of trust between partners in a network.

The dilemma of *interdependency* is discussed in relation to conflict management in most Management and Organisational Behaviour texts as well as the network literature.

Members of a network usually recognise that their competencies compliment their potential partners' knowledge skills or expertise – this is described as domain overlap. There are similarities or complementarity between products, services, clients, mode of operating, territory, seasonal or time spectrums. Partners share their expertise or other valued resources with the network. This contributes to different types of interdependency that develop over time between members of a network:

- Sequential interdependency occurs if a company produces the first stage of a product, and a second partner completes the next phase in the sequence before a third partner adds value to the product.
- Pooled interdependency occurs if most partners draw expertise from a central pool of knowledge or resources such as a business start-up facility and adds value back into the pool.
- Reciprocal interdependency assumes that a company and its partners will be learning from each other over a long period of time, but is also the most difficult interdependency to manage (Buttery and Buttery 1994; Hastings 1993).

One should remember that a local company might be so large (for example BHP in Australia) that it is able to form internal networks to cross-organisational boundaries to share resources. These managers have a particular mindset or cognitive map; they see themselves and their units as autonomous and having distinct competencies, but choose to focus on the 'bigger picture' of the organisation and voluntarily look for collaborative ventures with other units in the company (Limerick and Cunnington 1993).

The second dilemma in networks is how the two pressures of *competition and cooperation* are reconciled (Jarillo 1993; Lipnack and Stamps 1993 and 1995; Hastings 1993). Cooperation is usually associated with the ways in which a network's members work together to reach a goal such as maintaining market share or delivering a high quality service. Competition is associated with unacceptable behaviour between members for example to take away market share from another. The section

on building TeamNets (Lipnack and Stamps 1993; 11) in this essay discusses 'co-opetition' strategies for integrating competition and cooperation.

One of the key factors influencing a company's decision to cooperate in a strategic network is economic efficiency expressed as the point when external cost of the transaction between the companies is lower than the internal cost of producing the product within a company. This focus on financial aspects implies that members have a specialised investment in the network. Consequently transaction costs can be lowered even further if the members of the network trust each other and rely on each to deliver the required service.

The third dilemma, *developing trust* is an essential component in groups, teams and networks. Trust between business partners in a network can be defined as a willingness to rely on a partner in whose integrity and reliability one has confidence as the trust has been earned and built up over time. Partners in a network have to be selected carefully for example by selecting partners with similar value systems. Network members adapt their business practices, specialise in a particular aspect of the business, trust each other, focus on the longer term and have an internal consistency to provide efficiency and flexibility (Jarillo 1993). Members of the network will be worse off if they behaved opportunistically and put their partners at risk (Kimber 1996; Healy and Perry 1997; Williams 1998)

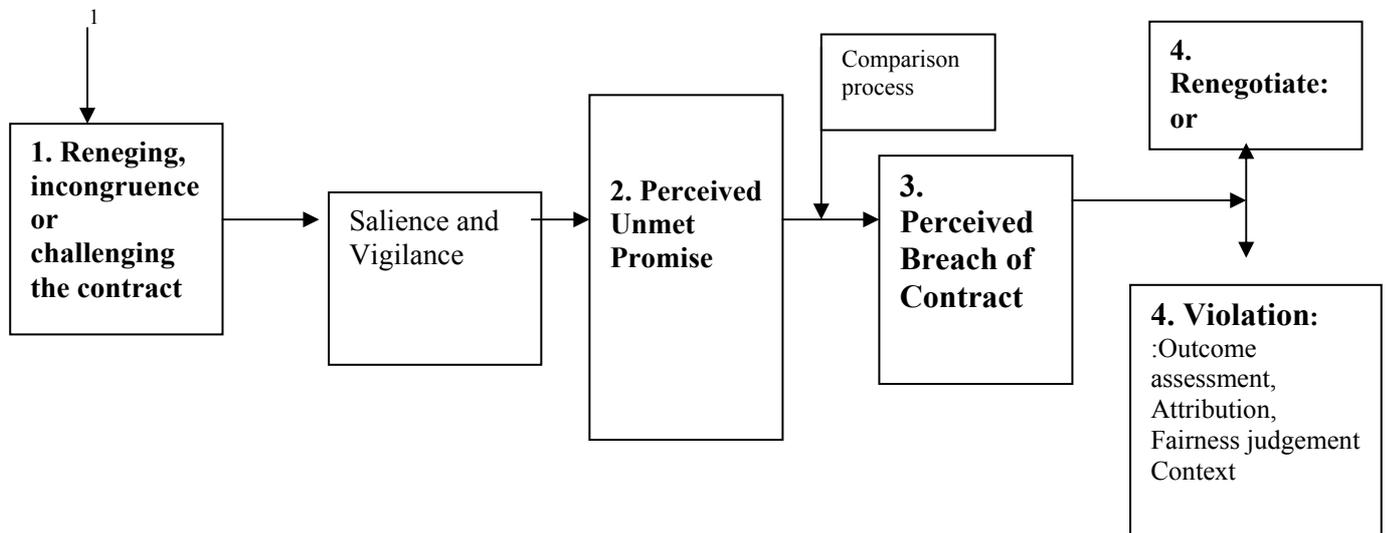
An example of developing trust is Benneton's careful selection of partners by choosing subcontractors from people known to the family in the immediate area. It still operates on the basis of trust with 380 subcontractors and carefully selected agents that sell its products. Other factors to establishing trust in this company's case were that relationships between the partners are long-term, based on mutual respect and building up each others' reputation. If a subcontractor does not keep to quality standards over the longer term it is eventually released from the network (Jarillo 1993).

### **Violation of trust in business networks**

Conflict management and psychological contracts are usually discussed in most Management and Organisational Behaviour textbooks. However, an issue that warrant inclusion is whether there is an emerging perception that trust has been violated in business relationships.

The concept of *violation* of the psychological contract refers to the perception that a partner has failed to fulfil one or more obligations in the psychological contract (Rousseau 1996; Morrison and Robinson 1997; Morgan and Hunt 1994). The development of violation is depicted as a process that has discernible decision points or 'a set of interceding judgements' (Morrison et al 1997: 230). At the beginning of the process the partners become aware of negative feelings and perceptions about their psychological contract. A decision point occurs where a perception arises that a promise has not been met. A partner may believe that an act or decision may be 'unfair'. Morrison and Robinson (1997) describe this as reneging (when a partner knowingly breaks a promise) or incongruence (when the partners have different understandings of a promise). This creates strong emotional experiences such as betrayal and anger (see Figure 2).

**Figure 2 Renegotiation or violation of psychological contracts**



Either incongruence or reneging may lead to a perceived unmet promise by creating a discrepancy between what a partner understood of what was promised and what was received. This discrepancy triggers a comparison process of how well the partners upheld their promises. A partner may then perceive a breach of contract based on a decision that this partner fulfilled all the obligations but that the other partner did not reciprocate. In this state of mind, the aggrieved partner may still decide to renegotiate (Rousseau 1996) or interpret that a violation of the psychological contract occurred. Morrison and Robinson then argue that further comparisons take place before the partners decide that the contract has been breached and they have to make a decision if there is to be renegotiation or termination of the relationship.

Erwee and Perry (1999) studied the perceptions of violation of trust in partnerships between educational institutions and small and medium enterprises in the Asia Pacific region. Reasons why a network was decaying were analysed by using the concepts of ‘reneging’, ‘unmet promises’ and ‘perceived breach of contract’. The focus was on how trust was violated within a psychological contract, particularly for partners from different cultures. The psychic distance between partners of different cultures could contribute to diverging perceptions of the relationship.

In one of the cases an Australian importer experienced a multitude of psychological contracts that was operational between different partners. The importer company had a psychological contact with its Malaysian supplier but also with Australian merchants and the latter had contracts with builders. Any unmet promises from the Malaysian supplier caused unmet promises between the Australian importer and merchants and between merchants and builders. There were *multiple* decision points in any one time period. For example, within a few weeks in July the full cycle of incongruity –reneging – vigilance - unmet promise – breach -renegotiation had been

<sup>1</sup> Adapted from Morrison and Robinson [1997] and Rousseau [1996]

experienced between the Australian importer and the Malaysian supplier. This full cycle process was rapidly followed by a second, shorter cycle in September. This recursiveness helps explain why predetermined stages are difficult to discern in the life span of an international marketing network.

Members of a network should not only build trust but also guard against violations of trust resulting from making promises that cannot be met and against perceived breaches of contract. Restoring and protecting the capacity to form positive psychological contracts is essential to managing relationships between partners in a network.

## **Practical implications for managing networks and building TeamNets**

Discussion of strategies to manage teams in most Management and Organisational Behaviour textbooks need to be adapted to take account of the ways in which company structures are changing. For example many Australian organisations are evolving into sustainable, networked organisations. One of the key competencies of sustainable organisations is to create 'communities of practice' (Limerick and Cunningham, 1993) that cut across organisational boundaries, are involved in ongoing dialogue to expand their intellectual capital, are flexible and fluid and often use an intranet or electronic means of communication.

In the networking literature Limerick and Cunningham (1993) highlight a number of essential competencies of managers for network management. These competencies are related to certain strategies for forming TeamNets. TeamNets (Lipnack and Stamps 1993; 1994) are a network of teams that cross conventional organisational boundaries to harness the power of creative individuals and teams. This way of working emerged in Europe and occurs in both large and small companies, in economies so diverse as Denmark or Italy and in different industries eg. textiles and tourism.

TeamNets share certain principles of managing effective teams by combining two powerful business ideas:

- teams are formed consisting of small groups to work with focus, motivation and skill to achieve shared goals and
- networks are formed where disparate teams form links to work together based on common purpose.

The aim of this section is to suggest practical implications for managing the relationship between partners in a network consisting of teams.

The principles of forming TeamNets were applied in two Southern African examples (Erwee 1997; 1999). The Enterprising Women's Initiative (EWI) and the XYTeamNet (name changed on request) were created. The EWI grew out of a number of organisations that have women entrepreneurs as members or assist in the development of entrepreneurs. The XYTeamNet was an internal network of young managers of the various divisions of a high technology company. The basic principles that Lipnack and Stamps (1993; 1994) formulated were applied in the South African examples namely

having a unifying purpose, having independent members, building voluntary links, using multiple leaders and having interaction on many levels.

Establish a Unifying purpose:

Any potential TeamNet needs to find a purpose that can unify diverse teams or individuals. This vision must be so strong and compelling that it will help the members survive the future patches of strife or dissent inherent in such teams within networks that span boundaries. TeamNets have needs and common goals that become so explicit that they can be tested against real products or services.

Limerick and Cunnington (1993) confirm that competencies in defining the focus as well as building a unifying vision are necessary. This clear purpose should benefit a critical mass of participants who will be able to stick to the TeamNet when it is threatened with collapse.

Identify independent members:

A powerful myth exists that if one joins a network, one gives up one's independence. This myth usually causes subtle resistance among potential members and most members need much reassurance that their independence will be respected. and no mergers, takeovers or dissolution will take place. A number of independent members should be invited to the first series of meetings. A few will withdraw as they may not be able to identify with the purpose, or be threatened by other members, or find the TeamNet principles too difficult to implement. Therefore the choice of participants is crucial.

This strategy is related to the competencies of liberating network members, developing boundary roles and setting up the alliance carefully (Limerick and Cunnington 1993). Members of networks should be competent to take personal responsibility to initiate and maintain contact without having to obtain permission to proceed. Network members should be empowered to develop boundary roles to become outward-looking and active external to their units or companies. Compatible and strong partners should be chosen carefully to compliment each other's strengths in technology, information and decision systems as well as values and decision styles.

Create voluntary links:

TeamNets usually cross geographical, organisational and professional boundaries. The TeamNets are not merely local area networks connected by fibre optics, but groups that are 'working together apart' (Lipnack and Stamps, 1993: 43). The real connections between participants are the trust, respect and relationships they have to build up over time. The relationships need to shift from being intangible, unreal or fleeting to visible, strong and sustainable. As relationships take time to mature, every link that can be created can contribute to building the relationship. In the beginning links have to be consciously created, but as trust develops these links become spontaneous and voluntary. The existing relationships between potential TeamNet members should be analysed for example which members know each other, who has worked together before, who will resent the inclusion of particular members, how often do they come into contact. Decisions need to be made on how trust can be built among the members and what strategies can be used to stimulate voluntary contact.

Recognise the power of multiple leaders:

A network does have leaders, yet a specific individual does not carry all leadership responsibilities. TeamNets usually consist of many powerful individuals who are well known for their expertise or who play significant roles in companies, industry or professions. They are used to sole leadership and many initial Teamnets meetings can deteriorate into a battle for leadership. The partners need exceptional maturity to deal with the leadership pressures that can arise, especially the ability to share or rotate leadership between members or companies.

This strategy is related to the competencies of developing an appropriate mindset and managing leadership diversity (Limerick and Cunnington 1993). The mindset includes both a new cognitive framework as well as a new set of values. Members of the network need to reconceptualise their companies as networks or value chains to enable them to challenge organisational boundaries. Partners need to be able to tolerate diverse values, difference and independence within a collaborative and harmonious culture. Collaborative individualism focus on the autonomy of the individual who has the ability to tolerate the uncertainty of moving in and out of temporary teams, while collaborating with others to achieve a goal.

Ensure connections on all levels:

The myth that networks are flat structures with only horizontal connections, needs to be dispelled. Lipnack and Stamps (1993: 51) note that 'a network has at least two levels: the level of the member parts and the level of the network whole. A Teamnet has at least three levels: a network of teams composed of members'. A Teamnet needs relationships with larger systems of which it is a part eg. professional bodies or other stakeholders in the business environment.

This strategy is related to the competency of developing communication systems (Limerick and Cunnington 1993). Transaction costs of networking are kept relatively low by computer-assisted integration of systems between partners in a network. Partners should not only rely on high technology communication systems, but also personal communication with peers. All types of communication should be used to enhance the shared vision and core values of the network.

Partners should not assume that mutual trust alone would sustain the relationship through difficult periods. Clear legal contracts need to be negotiated, behavioural expectations need to be openly discussed and penalty clauses for renegeing on commitments could be explored.

Lipnack and Stamps (1993: 38) caution that networks exist in the 'creative tension between competitive and cooperative tendencies, ever-shifting between the self-assertion of individuals and the integration required for the group as a whole'. The only way to test if TeamNets can work in an environment is to risk experimenting with the principles.

## **Future directions**

There are a number of major gaps in the network literature that need further research before more practical guidelines can be developed. Two of these areas are the impact of cultural diversity in networks and the role of key actors in networks. The latter issue again relates to how knowledge is managed in the network.

### **Cultural diversity in teams and networks**

Diversity within teams can include the dimensions of age, gender, race, culture of origin, sexual orientation, physical and intellectual disability. All teams and networks are diverse, but they do not necessarily recognise the extent of the diversity or have policies or practices to harness this diversity (Erwee and Innes, 1998).

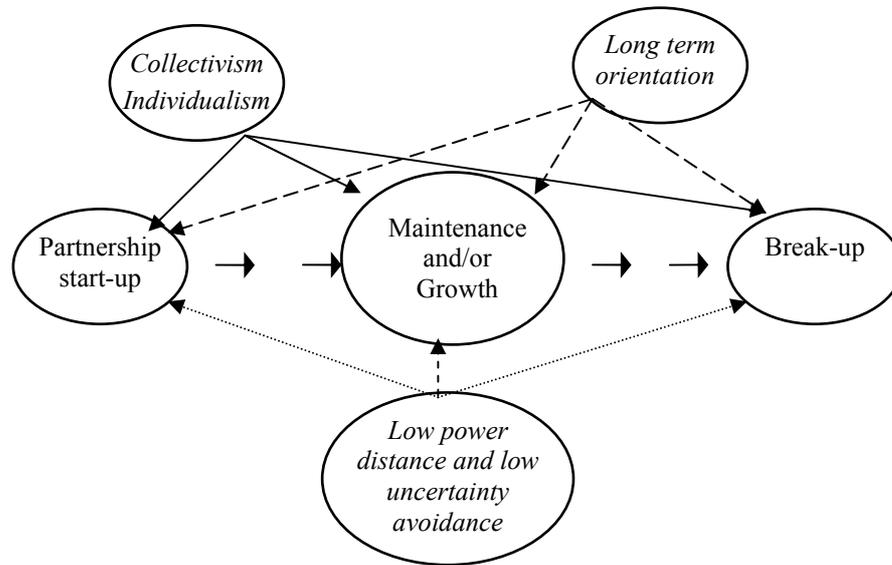
A network can have strong geographical (see Benneton) or cultural components (Orthodox Jews in the diamond trade or emigrant Chinese in South East Asia). In these cases the psychic distance between the members in the network is low as they share basic belief systems, have similar traditions of doing business and may have other social connections such language or family ties. Furthermore, different cultures employ different networking strategies or are more 'open' to networking. The history of relationships or ties between groups within a culture may facilitate or impede new entrants, especially from different cultures or groups.

Perry, Erwee and Tidwell (1999) explored linkages between stages of network development and psychic distance in partner selection. The results suggested that cross-cultural business networks between Australians and Malaysians do not appear to develop through clearly defined predictable stages. It showed that all dimensions of culture appeared to consistently influence a network's development (see Figure 3).

There was a gradual dissolution of partnerships in business networks over a decade and this contributed to an undermining of trust between the Australian and Malaysian partners that will probably have a negative effect on future links with wider networks. It seems that personal and business networks are important for both partners (not only for Chinese Malaysians) but if these networks are not consciously linked or expanded jointly, very little basis for cross-cultural understanding is built.

Previous research suggested that Malaysia had the greatest psychic distance from Australia of all the Asian countries. However in another exploratory study it was found that psychic distance is reduced by the international experience of network members who have previous contacts or experience in the overseas countries (Healy and Perry 1998). It appeared that psychic distance has only a moderate or weak impact on a business network between Australian companies with partners in the Asia Pacific.

**Figure 3 Complexity of Hofstede’s dimensions of culture during the life of a network**



Source: Perry, Erwee and Tidwell (1999)

The implications from these exploratory studies could be that partners should be aware of cultural differences and try to understand these differences between countries and teams within an organisation. However, this understanding should not blind cross-cultural Teamnets to the particular needs of individual persons in teams.

### **Leadership or Key actors in networks**

In most of the descriptions of teams or groups, formal and informal leaders are identified whereas in self-managed teams leadership is shared or rotated. In contrast more exploratory research is needed in the network literature, to investigate the role of leaders or key actors during all the stages of network formation and maintenance.

Networks often start with chance encounters between individuals that can form the nucleus of each network and these 'key actors' are the driving forces in that network. The concept of network embeddedness indicates that a key actor can be embedded in a dyadic relationship or be part of a task force that has business relationships with other groups in the network (Williams 1998). They usually are known and trusted by all network members and can share information at critical times. The role that key actors play in managing the knowledge contained in the network needs further exploratory research.

An example of key actors in international agribusiness emerged among case studies (Perry, Brown and Erwee, 1999). One Australian agribusiness company's European share ownership 'pushed' the company to become more international. It hired an export consultant who became the export manager and brought his networks with him. Therefore this company did not have to establish new networks to enter overseas markets. The export manager illustrated the embeddedness of his networks by saying 'I've worked in the pig industry in this part of the world over the past 11 years.... the

pig industry is fairly incestuous really.... we seem to know whether we attract one another or we seem to, and we get fairly well known'(Perry, Brown and Erwee, 1999: 4).

Arising from this case is the role of the export manager as a '*knowledge information node*', This node has extensive knowledge of the complex international networks involved and actively uses this information to coordinate activities between the partners to gain competitive advantage. 'Without this node, the whole system would not work' (Perry et al 1999: 6).

In a second case of an international company, the chief executive officer, business manager and 5 regional managers of the Australian subsidiary integrate information from their national and international networks. This core group of managers forms the Australian *knowledge integration node* that again disseminates information nationally and internationally. Quarterly national meetings ensure that information is disseminated, but there is a high use of information technology daily. The core group has their own individual networks that they have built up regionally, nationally and internationally to assess trends. It was proposed that the role of key actors and knowledge information nodes (KINs) in such networked organisations are critical to the establishment, development and control of international networks (Brown and Erwee 1999).

A further proposition is that the emerging research stream of knowledge management may be one of the mechanisms that could link the disciplines of team dynamics and network research. Davenport and Prusak (1998: 37) argue that 'knowledge markets' cluster around informal and formal networks within firms. Nonaka & Takeuchi (1995) identify knowledge practitioners, knowledge engineers and knowledge officers as part of the knowledge crew or team within a firm. A knowledge integrator node could be an additional role that a person engages in that is not bound to hierarchy as the Nonaka and Takeuchi (1995) model implies. Knowledge integrator nodes could also be those actors that integrate aspects of the roles of the knowledge crew. Such actors could ensure that a knowledge spiral will be built by drawing out tacit knowledge from various sources and sharing this with other knowledge integrator nodes in the internal and external networks of the firm (Erwee and Brown 2000). Without the specific attempts to integrate explicit knowledge, build a knowledge system or create of a knowledge spiral, the network will be less effective.

## **Conclusions**

A major research gap in the literature is how the extensive knowledge on team dynamics can be integrated in the growing network research to enhance the latter's practical application for managers.

Key challenges will be how to enable teams in an organisation to form networks that span boundaries within that organisation or industry as well as how to ensure that teams can evolve within broad business networks. Networked organisations are not the only viable, sustainable organisations for the next decade but there are many types and approaches to building business networks and developing boundary spanning teams in a network. Tools for analysing relationships within teams and those for mapping of networks need to be integrated in a set of complimentary self-assessment

strategies. Knowledge about group and team development needs to be utilised to enhance the emerging debate about stages or states in network development.

Network literature can investigate the concept of violation of trust in business relationships to ensure building effective relationships over time. Some exploratory research has been conducted in Australia but further in-depth research about the impact of cultural diversity in cross-national teams or networks is necessary. Training of managers should concentrate on the dynamics and complexity of cross-cultural relationships over the life span of a boundary spanning team, and the need to bridge communication gaps within cross-cultural teams in business networks.

The practical implications for organisations, managers and employees are that they need to build competencies in managing networks. Key actors need to understand what is happening in the teams in their current network and to be more deliberate in designing and developing the network and its teams. The roles of knowledge integrator nodes to elicit share and manage knowledge within a team or a network is a new area of investigation that should be explored. Key actors need to be continuously revising their development plans in an action learning way by using recent research to make their teams or networks more viable.

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