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The network construct in entrepreneurship research: a review and critique

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Introduction
In recent years the network construct has become increasingly employed by researchers studying the process of entrepreneurship (Dodd, 1997). Many reasons can be attributed to this increase in use but at the core is the recognition that entrepreneurship research should acknowledge the environmental context in which the entrepreneur exists (Granovetter, 1985; Aldrich and Zimmer, 1986; Johannisson, 1986; Birley et al., 1989; Blackburn et al., 1990; Curran and Blackburn, 1992; Donckels and Lambrecht, 1995; Joyce et al., 1995; Gilmore and Carson, 1999). However, as a consequence of this increasing attention, it has been noted that the term “network” has sometimes been loosely applied in entrepreneurial research (Shaw, 1997) and this has led to disparate research findings. This is thought to be due in part, to different researchers adopting different definitions as to what constitutes a network, adopting different levels of analysis and adopting different research methods.

This paper begins by addressing the issue of level of analysis in an entrepreneurial context. Then based upon a review of the literature it presents a description of two main streams of research within the entrepreneurship field, namely inter-organisational networks and personal networks. It is further shown that these two streams, although treated separately by some, are often subsumed into a general definition of a network. The article then discusses what specific areas have been given most attention and highlights those areas which have been neglected and suggests areas and methodologies for future research.

The network concept and levels of network analysis
The fundamental components of a network are nodes and connections. In a social sciences context, nodes can be replaced with actors which can be individuals or an aggregation of individuals, and connections can be replaced with social ties or bonds (Davern, 1997). The network therefore consists of a series of direct and indirect ties from one actor to a collection of others. However, even within the same broad field, different researchers adopt different definitions as to what exactly constitutes a network and adopt different units of analyses. Iacobucci and Zerrillo (1996) present four different levels of analysis, all of which have been adopted in research referred to as “network” research. First is the actor level where the research focuses on the “fan” like structure of those actors who are tied to a focal actor. The next level of analysis is the dyadic relationship in which the relationship between two actors is considered. Such an analysis allows for the comparison of the perception of the two actors as to the nature of the relationship or the environment in which it is embedded. Then group analysis considers higher order collections of triads or larger groups of actors, all of whom may or may not be directly connected to each other. Finally in network research, the network is assumed to consist of a closed set of actors and this is often taken to mean the largest set of interconnections possible. Needless to say the number of interconnections to be considered if such a definition is adopted, is vast.

Iacobucci and Zerrillo (1996) acknowledge the pragmatic difficulties in taking as the unit of analysis, two or more interconnected actors. They explain that most of what is referred to as network research simply means that it focuses on understanding interconnections between units, as distinct
from the use of classic statistical methods that require assumptions of independence between those units. They conclude by stating:

There is nothing improper or incorrect about referring to research that focuses on interconnections and relational ties as network research. Nevertheless, note that neither the links nor the network per se are the unit of analysis (Iacobucci and Zerrillo, 1996, p. 407).

Indeed Johannisson et al. (1994) note that most empirical studies of small firm networks have restricted themselves to the analysis of dyads in egocentric networks, possibly extended with indirect ties. Bearing in mind that different researchers may adopt different levels of network analysis, a review of the literature shows that research into entrepreneurial networks falls into two principal categories: inter-organisational networks and the entrepreneur’s personal network.

Alternatively the two categories have been called inter-organisational and social networks (Brown and Butler, 1993) or formal and informal networks (Johannisson, 1986). Table I shows how the two types of network are often distinguished.

A summary of the key characteristics of both inter-organisational and personal networks is presented in Table II. These two categories are discussed in greater detail presently, but as will be made apparent later, the two categories are often subsumed into one general “network” construct, which contains aspects of both.

Table I
The distinction between personal and inter-organisational networks

<table>
<thead>
<tr>
<th>Network “actor”</th>
<th>Inter-organisational network</th>
<th>Personal network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of link</td>
<td>Organisation</td>
<td>Individual</td>
</tr>
<tr>
<td>Formal</td>
<td>Formal</td>
<td>Informal</td>
</tr>
</tbody>
</table>

Table II
The network construct in entrepreneurship research: a summary

<table>
<thead>
<tr>
<th>Type of network</th>
<th>Inter-organisational network</th>
<th>Personal network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research background</td>
<td>Transaction cost economics</td>
<td>Sociology</td>
</tr>
<tr>
<td></td>
<td>Industrial marketing</td>
<td>Social network theory</td>
</tr>
<tr>
<td></td>
<td>Organisations</td>
<td>Individuals</td>
</tr>
<tr>
<td>Type of link between actors</td>
<td>Formal</td>
<td>Informal</td>
</tr>
<tr>
<td>Level of analysis</td>
<td>Dyad</td>
<td>Egocentric/fan structure</td>
</tr>
<tr>
<td>Common categorisations</td>
<td>Vertical network</td>
<td>Commercial network</td>
</tr>
<tr>
<td></td>
<td>Horizontal network</td>
<td>Social network</td>
</tr>
<tr>
<td>Frequently researched areas</td>
<td>Industrial districts</td>
<td>Communication network</td>
</tr>
<tr>
<td></td>
<td>Joint venture</td>
<td>New venture creation</td>
</tr>
</tbody>
</table>

Inter-organisational networks

Before the idea of inter-organisational networks was conceived of and accepted, economists argued that resources can be obtained through one of two principal means: through the market mechanism or through a hierarchically arranged firm achieved through vertical integration. Williamson (1975), drawing upon the work of Coase (1937) is widely cited as the first to question under what conditions transactions are carried out across a market interface, and which are subsumed in a hierarchically organised firm. He argued that the market mechanism will preside when transactions are inter-temporal, non-repetitive and require no transaction-specific investments. On the other hand, when transactions are uncertain in outcome, recur frequently and require substantial “transaction-specific investments,” they are likely to take place in a hierarchically organised firm. Such firms internalise their market function and perform more of the stages of the production and marketing processes within their own organisational hierarchies. In this way some of the inefficiencies and costs inherent in the market system are avoided. Essentially therefore, it is argued that depending on the state of the transaction, the organisation will adapt to the most cost efficient structure.

This rationale was subject to an often cited critique by Granovetter (1985) on the grounds that it fails to acknowledge that economic behaviour is embedded in networks of interpersonal relations. Granovetter (1985, 1992) argued that individuals and institutions are constrained by ongoing social relations, thus refuting the assumption of classical and neo-classical economists that individuals engage in rational self-interested behaviour that is affected minimally by social relations.

In response to the criticisms of Granovetter (1985) and others, Williamson (1991, 1996) acknowledged that in addition to markets and hierarchies, firms can operate within what arrangements as inter-organisational networks (IONs). There is considerable acceptance of the network as a third organisational arrangement, which is viewed as an alternative to both a market situation, where market forces are the regulators, and the hierarchical firm where administrative fiat regulates organisational activity (Eccles, 1981; Mariotti and Cainerca, 1986; Thorelli, 1986; Johannisson, 1987a; Jarillo, 1988; Blois, 1990; Powell, 1990; Larson and Starr, 1993). Accepting that firms can be organised in this way, competitive performance is considered meaningful only in the context of the networks within which
firms are embedded (Metcalfe, 1976; Thorelli, 1986).

**The inter-organisational network in entrepreneurial research**

The inter-organisational network has been paid much attention by researchers investigating companies operating in business markets, often, but not exclusively small, entrepreneurial firms. In fact Golden and Dollinger (1989) in a study of small manufacturing firms concluded that few small firms function without some degree of inter-organisational relationship. They further found that the use of inter-organisational relationships tends to be associated with successful strategic adaptations.

Frequently in the literature, networks are categorised as vertical networks and horizontal networks, although it should be noted that these two categorisations do not capture the full possible range of inter-organisational network arrangements.

**Vertical networks**

Vertical networks are seen as those members of the value-adding system or distribution chain, spanning from suppliers to end-users (Piercy and Cravens, 1995; Elg and Johansson, 1996; Achrol, 1997). Vertical relationships co-ordinate the flow of complementary resources. Although the concept of the vertical network is often used in entrepreneurship research, much of this research focuses almost entirely on the dyadic buyer-seller relationship (Hakansson, 1982; Ford, 1990). As such its application of the network construct is limited.

**Horizontal networks**

The common view of a horizontal network is those organisations in the same industry (Elg and Johansson, 1996) or more specifically relationships among actual or potential competitors (Piercy and Cravens, 1995). It has been noted that networks which include competitors have received little attention in the literature (Jorde and Teece, 1989; Brown and Butler, 1995; Bengtsson and Kock, 1999). Where more attention has been paid to competitor networks, is in research that has investigated what are known as “industrial districts”. In fact industrial district research is perhaps the most common field of entrepreneurial research in which the inter-organisational network construct is applied.

**Industrial districts**

Industrial districts are a special type of inter-organisational network and the “industrial district thesis” argues that a major component of restructuring in many economies is the emergence of powerful economic networks of mainly small enterprises spatially concentrated in specific geographic areas (Curran and Blackburn, 1994). In some cases, a government has taken formal steps to facilitate this process by encouraging or even requiring groups of firms to locate in the same location (Querre, 1989; Smilor et al., 1980). This organisational arrangement is thought to characterise “new competition” and in doing so replaces the old model of the hierarchical firm (Nohria, 1992, p. 2). At the centre of this form, is a relatively small organisation structured in a unitary manner with minimal layers of hierarchy specialising in a given product or service. This organisation maintains a set of long term relationships with suppliers, customers and investors. Relationships with competitors are usually cooperative with information and even personnel flowing freely between parties (Galaskiewicz, 1996).

Commonly cited examples of these industrial districts include the Emilia-Romagna district in Northern Italy (Lorenzoni, 1982; Piore and Sable, 1984; Pyke et al., 1990) and Silicon Valley in California (Piore and Sable, 1984; Pyke, 1992; Saxenian, 1985, 1990). However, it has been suggested that the popularity of this notion has led commentators to use the term “industrial district” to describe regions which in fact do not exhibit the intensity of inter-firm relationships that is suggested by this term. Curran and Blackburn (1994, p. 23) commenting on its application in Britain, conclude that the applicability of the industrial district thesis has been “hopelessly stretched to the point of distortion”. They believe that newer types of smaller businesses which are increasing in numbers are less connected with their immediate locality than older kinds. They call for a re-evaluation of the ways in which businesses articulate with their environments. Nonetheless, the success of these industrial districts has generated governmental interest in identifying and implementing special types of network structures to serve as a catalyst for entrepreneurial networking activities (Shaw, 1997).

**Other applications of the inter-organisational network construct**

In addition to industrial districts, the joint venture is probably the most researched form of inter-firm network in the economic and managerial literature (Grandori and Soda, 1995). Different authors adopt different criteria as to what constitutes a joint venture (Vyas et al., 1995) but it can be described as
involving two or more legally distinct organisations, each of which actively participate in decision-making activities of the jointly owned entity (Geringer, 1988). Other phenomena in the area of entrepreneurship which have employed inter-organisational network construct include, foreign market entry (Mattsson, 1986; Hakansson, 1987; Axelsson and Easton, 1992; Axelsson and Johanson, 1992; Borch and Arthur, 1985) and the global high technology industry (Miles and Snow, 1986; Larson, 1991).

The personal network

The terms personal network, social network or personal contact network frequently appear in the entrepreneurship literature and can be thought of as roughly interchangeable. The use of the personal network construct in entrepreneurship research arose from the acknowledgement that traditional approaches to the study of entrepreneurs failed to include a social context (Aldrich and Zimmer, 1986). This was recognised as a serious omission in this field of research and consequently researchers of entrepreneurship began to examine the process of entrepreneurship in its environmental context (Aldrich and Zimmer, 1986; Johannisson, 1986; Birley et al., 1989; Blackburn et al., 1990; Curran and Blackburn, 1992; Donckels and Lambrecht, 1995; Joyce et al., 1995; Gilmore and Carson, 1999).

Coupled with this appreciation of a social context, is the frequently iterated opinion that entrepreneurs place great importance on meeting and conversing with people, leading to the belief that ‘business know who’ is at least as important as business know how (Peterson and Rondstadt, 1986). Many researchers thus began explicitly to investigate the networks in which small firms are embedded and as such interest in entrepreneurial personal networks has increased in recent years (Dodd, 1997). The personal or social network construct has its roots in social network theory.

Social network theory

Earlier it was noted that in the social sciences, networks are depicted as a series of direct and indirect ties from one actor to a collection of others. Furthermore, it is accepted that network analysis should consider both the structure of the network and the nature of the interactions between network actors (Mitchell, 1973; Granovetter, 1973; 1985; Powell, 1990; Burt, 1992; Spekman, 1996; Olkkonen et al., 2000). An early conceptualisation of social networks which considers both structure and process and has been frequently employed in social science research, is that of Mitchell (1969). Drawing upon the work of other sociologists (Barnes, 1954; Bott, 1957; Epstein, 1961; Mayer, 1961; Pauw, 1963; Mayer, 1966), he describes the social network as a set of morphological dimensions, which consider the pattern and structure of the network, and interactional dimensions, which consider the network process.

According to Mitchell (1969) there are four structural dimensions. Firstly, the focus of the network inquiry is called the anchorage and this can be thought of as lying anywhere from personal relationships to inter-organisational relationships. The density is a measure of the extent to which actors in the network are connected to one another. Thus networks can be described as being either tight- or loose-knit. Reachability describes the ease with which players in the network can contact one another and range refers to the social heterogeneity of the actors.

The first of the five interactional dimensions is content. Content is taken as the meaning that people attach to relationships and their understanding of the implications that their involvement in the relationship may have. Any relationship may have more than one content. For example the same two people could share a business and a friendship relationship. Intensity refers to the extent to which individuals honour their obligations to others in the network. Frequency describes the number of times and the amount of time the various actors spent interacting in relationships. Durability is a measure of the length of time a relationship has lasted and the direction from which a relationship is oriented is the final interactional dimension.

Although Mitchell (1969) had conceptualised a social network as an analytical construct for use in a particular context (personal relationships in central African towns), his morphological and interactional dimensions or various combinations and adaptations of them, have been used extensively in business research, of which entrepreneurship is one specific stream.

Descriptions of the entrepreneur’s personal network

Although widely used, numerous definitions of a personal network have been presented which differ in terms of breadth. Burt (1992) for example offers perhaps the widest ranging description. He states that in a competitive arena, each player has a network of contacts consisting of everyone he
now knows, everyone he has ever known and everyone who knows him even though he doesn’t know them.

A narrower perspective is presented by Mitchell (1969) who proposed that potential members of a person’s network are those people who within certain norms might be expected to provide that person with some specific service or support or alternatively might expect him/her to provide them with some specific type of service or support. Mitchell (1969) further states that these potential relationships may not be activated and that only those people who become involved in some social exchange or transaction will become links in the personal network. There is therefore some element of choice in the make-up of a person’s network. However, Mitchell (1969) does point out that as well as those persons whom the individual chooses to include in his network in terms of his interest in them, there are others that he will include due to some kind of moral obligation.

Joyce et al. (1985) provide an even more specific perspective of networks. They state that a person’s or firm’s linkages with its environment does not constitute evidence of a network unless it can be shown that the person or firm was influenced by their involvement in them.

Gilmore and Carson (1999) have presented a definition of a network which has taken cognisance of prior conceptualisations and is specific to an entrepreneurial context. They describe a network as:

A collection of individuals who may or may not be known to each other and who, in some way contribute something to the entrepreneur, either passively, reactively or proactively whether specifically elicited or not (Gilmore and Carson, 1999, p. 31).

Regarding the unit of analysis, most studies of entrepreneurial personal networks have viewed the network as all relations extending from, or converging on, the entrepreneur. This perspective has been likened to a “fan” as discussed earlier. While most of the research into inter-organisational networks adopted a dyadic unit of analysis, neither can the entrepreneurial personal network research be truly considered to be positioned at the network level of analysis. However, it has been used to provide an understanding of the network of relations in which the entrepreneur is embedded.

Where the concept of the inter-organisational network was most frequently applied in industrial district research, the concept of the entrepreneur’s personal network has been most often employed when investigating newly created, as opposed to established firms.

The entrepreneur’s network at time of firm set-up

The network approach has become a popular means by which to describe the creation of small, entrepreneurial firms. This approach is thought to provide many advantages over other models which explain organisation formation and growth. Firstly it is a dynamic construct that focuses on linkages between units (Larson and Starr, 1993). Second, it emphasises exchange processes between actors and recognises both the economic and social aspects of these exchange relationships (Etzioni, 1988). Third, it views the actors in their environmental context (Aldrich and Zimmer, 1986). Specific to the formation of small, entrepreneurial firms, some researchers have claimed that the availability and development of personal networks can explain why some individuals start firms and others do not (Aldrich and Zimmer, 1986; Johansson, 1987b). A more generally held belief is that the information needed to start a business is passed to the small business owner through an existing social network of friends and acquaintances (Johansson, 1987b; Johansson and Nilsson, 1989). It is also thought that the personal network of the owner-manager is the most important resource upon which he or she can draw in the early days of the firm’s development (Vesper, 1980; Birley, 1985; Jarillo, 1989; Ostgaard and Birley, 1994; Hendry et al., 1995). Furthermore, personal networks are thought to allow the owner-manager to create a firm that fits his personality (Weick, 1969; Johansson et al., 1984).

Frequently researched aspects of the entrepreneur’s personal network

The structure of the entrepreneur’s network has attracted more interest than processual aspects of the network. In particular, the structural dimension of network size has been considered an important criterion for some time (Boissevain, 1974) and the entrepreneurial network literature frequently reports that network size is positively related to an organisation’s initial performance (Hansen, 1995). Indeed many studies of entrepreneurial networks have counted the contacts that entrepreneurs have with other actors (Birley, 1985; Aldrich and Zimmer, 1986; Aldrich, 1988; Birley et al., 1989; Szarka, 1990; Butler and Hansen, 1991; Burt, 1992; Pyke, 1992; Bryson et al., 1993; Larson and Starr, 1993; Ostgaard and Birley, 1994; Wilkins, 1997).
However the literature cautions that it is not simply the size of the network that is a correlate of business success, but also diversity. Burt (1992) has stated that size is a “mixed blessing” (1992, p. 64) since a bigger network may not necessarily lead to the focal person receiving more information. This argument reiterates the notion that a network of contacts with whom the entrepreneur is weakly tied will provide greater information benefits than a network of strong ties (Granovetter, 1973).

In addition to size and to a lesser extent diversity, network researchers have often sought to identify the benefits for creating and maintaining a network of contacts. Information sharing is the most often cited benefit (Weick, 1989; 1991; Birley, 1985; Johannisson, 1986; Mazzonis, 1989; Shaw, 1991; Carson et al., 1995; McGowan and Rocks, 1995; Shaw, 1997; Gilmore and Carson, 1999). Other benefits that have been discerned from the literature include: extending the entrepreneur’s range of contacts (Birley et al., 1991; Cromie, 1994); introductions to business associates (Birley, 1985); motivation, support and encouragement (Szarka, 1990; Tjosvold and Weicker, 1993); providing self confidence (Johannisson et al., 1994); providing product and service ideas (Hansen, 1995).

Despite the increasing volume of research in this field, aside from dimensions like size and diversity, there is little consensus amongst researchers regarding other aspects of the entrepreneur’s network. A review of existent research has revealed three key sources of disagreement amongst researchers investigating the personal networks of entrepreneurs and accordingly three key questions remain unaddressed:
1. Are entrepreneurs more extensive networkers than their employed counterparts?
2. What is the ratio of formal to informal contacts in the network?
3. Is the entrepreneur reactive or proactive in his/her networking activities?

Different levels of analyses and different definitions of a network have undoubtedly contributed to such confusion and lack of consensus. Indeed one particular outcome of the increasing research in this area, as will now be discussed, is that the lines of distinction between personal and inter-organisational networks have become blurred.

**The overlap between inter-organisational and personal networks**

In Table I the distinction between inter-organisational and personal networks was simply that in personal networks, the “actors” are individuals who are linked to each other informally, whereas in inter-organisational networks, the “actors” are organisations between whom the links are formal. However, the term personal network has been used in the literature to encompass actors who cannot be treated as individuals. For example, customers and competitors may be included in the definition of a personal network but often these are organisations as opposed to individuals. Furthermore, when discussing Mitchell’s (1989) conceptualisation of a social network, it was noted that by introducing the dimension of “anchorage”, inter-organisational relationships can be considered within the domain of a social network. Similarly, it has been noted that in organisation network studies, the individual has more recently become a focus of research (Nohria, 1992). It appears therefore that in personal network research, the organisation as an “actor” is acceptable and in inter-organisational research, the individual as an “actor” is also embraced. As such, some researchers believe that the two types of network, personal and inter-organisational, should not be treated separately. For example Johannisson et al. (1994) stated that in entrepreneurship research the problem of separating interpersonal and inter-organisational exchange is to a great extent, overruled. They believe that the entrepreneur epitomises his or her firm and this means that he or she has personally to integrate the various social and business dimensions of network ties. Hence although “personal” may precede the term “network”, in various entrepreneurship research and commentary the entrepreneurial (personal) network is taken to include both formal and informal ties between individuals and between individuals and organisations.

In addition to issues pertaining to definition and unit of analysis, other factors have been discerned from the literature which account for the somewhat confusing findings emerging from this body of research. These are discussed next.

### Critique of entrepreneurial network research and future research areas

In reviewing the existing research in the field of entrepreneurial networks, it becomes apparent that certain areas and issues remain relatively neglected. These are:
- the process of networking;
- the contents of network relations;
• the dynamic nature of networks;
• networks in practice; and
• the skill of networking.

The process of networking
Previously, when discussing Mitchell’s (1969) conceptualisation of social networks it was noted that network analysis should consider both the structure and process of relationships that join individuals, groups and organisations (Granovetter, 1973; 1965; Powell, 1990; Burt, 1992; Spekman, 1996; Ollkonen et al., 2000). However a general criticism that has been levelled at network research is its essentially structural imperative (DiMaggio, 1992; Arujo and Easton, 1996). As such, relatively more attention has been paid to the structural dimensions of networks and less to the process of networking. In fact it is noted that there has been a general failure to recognise that networks and networking are different constructs (Shaw, 1997). Understanding the process of networking is thought to be achieved by examining the interactional dimensions as well as the morphological dimensions of networks as described by Mitchell (1969). It is believed that morphological attributes can be measured using quantitative methods, while the interactional dimensions demand a qualitative approach (Curran and Blackburn, 1994).

The contents of network relations
While the interactional dimensions of networks are generally regarded as relatively neglected, appeals have been made to examine one specific interactional dimension, that of content (Aldrich and Zimmer, 1986; Birley and Cromie, 1988; Blackburn et al., 1990; Birley et al., 1991; Curran et al., 1991; Powell and Brantley, 1992; Curran et al., 1993; Curran and Blackburn, 1994; Joyce et al., 1995; Alajoutsijarvi et al., 2001). Content is thought to capture the meanings people attach to certain relationships (Mitchell, 1989) and the quality of these relationships (Ostgaard and Birley, 1994). These meanings incorporate the individual’s motivations, expectations and outcomes of network participation (Curran et al., 1993). A deeper appreciation of these dimensions in different contexts would increase the understanding of the process of networking.

The dynamic nature of networks
A further criticism of many network studies is an overly static analysis (Borch and Arthur, 1995). It is considered imperative that the networks of entrepreneurs be studied over time, otherwise all that will be achieved is a “snap shot” (Aldrich and Zimmer, 1986). The need for more longitudinal studies has been highlighted by researchers of entrepreneurship generally (Hornaday and Churchill, 1987; Low and MacMillan, 1988; Bygrave, 1989) and the need for a longitudinal dimension in network studies is even more apparent.

Networks in practice
Appeals have also been made to make network theory operational in a way practical enough to help entrepreneurs position themselves in networks or develop network strategies (Paasche et al., 1993; Lago, 1995; Provan and Milward, 1995). Gilmore and Carson (1999) support any such moves towards increased practicality but caution that this does not mean that networking should necessarily be harnessed in a formal infrastructure. Rather, they believe entrepreneurs ought to develop their own networking ability and use this skill as a proactive business development tool.

The skill of networking
Continuing from the previous point, it is noted that the ability to network should be viewed as a key entrepreneurial skill or competency (Szilagyi and Schweiger, 1984; Vyakaranan et al., 1995; Hill and McGowan, 1996; Gilmore and Carson, 1999). However it is also noted that there has been a lack of attention paid to defining the skill of networking or describing how it can be developed (Jarillo, 1986; 1988; Downing, 1998). Furthermore, most critiques of entrepreneurial networks and networking fail to even mention that networking as a skill, is an area worthy of investigation (Downing, 1998). Considering this omission together with the aforementioned need for longitudinal study, an obvious potential future research study is the investigation of entrepreneurs’ networking competencies.

These gaps and others which arose earlier in this discussion are presented in Table III.

Conclusion
The network construct has been used widely in entrepreneurship research and is recognised as a means by which researchers can study the entrepreneur in his/her environmental context. However the popularity of the network construct has, in some instances, led to misapplication and inconsistency. The review of existent research presented in this paper has shown that entrepreneurial networks are generally
categorised as either inter-organisational networks or personal networks. However, it was noted that some researchers adopt a definition which encompasses aspects of both, and indeed such a perspective is encouraged. Although subject to increasing empirical research, findings pertaining to the entrepreneur’s network are often confusing and contradictory. A key reason for such confusion is thought to be that research studies have tended to focus on the structural elements of the network to the relative neglect of the dimensions pertaining to the interaction between network players. This review identified other gaps in existing research which provide opportunities for further research. Future research in this area should focus on the aspects of networking presented in the right-hand side column of Table III. These aspects call for an in-depth, “holistic” research approach which may include observation and in-depth interviewing of entrepreneurs within their own environments over a period of time. Such research requires dedication from the researcher and co-operative participation from the entrepreneur and accordingly calls for careful planning and execution. Addressing these gaps with appropriate research approaches will add to current understanding of entrepreneurial networks and will consequently improve our understanding of the entrepreneurial process.

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