Trust and the acquisition of knowledge from non-executive directors by high technology entrepreneurs

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Abstract This paper examines the role of trust in the process of learning and acquisition of knowledge by high technology entrepreneurs in their relationship with external directors. It examines the literature on organisational learning which showed the importance of social agency and trust as necessary elements of learning and knowledge management. In particular it identified dimensions linked to trust in competence of external advisers, situations of crisis and the necessity of trust but also the development of trust fostered by group identification. The paper also examines the literature on external directors to show that as open systems they present an appropriate case for investigating the dimensions of trust pertaining to knowledge and learning. The overall findings are that trust and relationships have an impact on the process of learning. In particular it was found that external directors have competence which brings value added benefits to growing small firms. It was also found that trust in situations of crisis was required. Finally, the long-term involvement and the development of relationships between external directors and entrepreneurs fostered group values and trust based identification.

Introduction
The role of learning by organisations has been widely investigated in a variety of contexts (Argyris and Schöen, 1978) and more specifically in the literature dealing with strategic issues (Grant, 1996). Similarly, the view that knowledge as an asset has gained increased currency in the past ten years with the emergence of a vast and developing literature (von Krogh et al., 1998; Grant, 1996). One of the common threads in the different studies is that, although it is individuals that learn, organisations also learn by integrating knowledge possessed by their members via a social co-optation (March and Olsen, 1990). Hence the social dimension of knowledge underpins the concepts of the “learning organisation” and the “knowledge-based firm” (Grant, 1996; Spender, 1996; Gherardi, 1999).

The dispersion and distribution of knowledge in society (Tsoukas, 1996) together with the now widely accepted paradigm of business as a network
(Hakanson and Snehota, 1989) brought forward the importance of social ties and relationships for knowledge acquisition from different sources particularly external ones, and for knowledge creation within the firm. In this respect, trust has emerged as a central concept for the study of networks and systems (Grabner, 1993; Lane and Bachman, 1998). Newly created firms, particularly high technology firms, also undertake networking in order to relate to their environment and their markets (Hakanson and Snehota, 1989; Zerillo and Raina, 1996). Their networking activities take place with not only firms and institutions, but also venture capitalists and external directors (Huse, 1998). Throughout the venture cycle, firms and entrepreneurs develop learning needs. Of particular interest is the need for strategic learning, critical for the development of a firm’s ability to cope with growth-related problems and survival (Kuwada, 1998).

The aim of this paper is to examine the dimensions of trust in the process of learning from external directors by high technology entrepreneurs. The study of trust in the context of small firms and external directors is appropriate because firms in general and boards in particular are open systems (Huse, 1998; Huemer et al., 1998). For the first time, strangers or unfamiliar actors (external directors and entrepreneurs) are brought into a process of continuing interrelating and co-operation (Meyerson et al., 1996; Bigley and Pearce, 1998). The results of the study have policy implications in terms of building an infrastructure for entrepreneurs (Van De Ven, 1995), particularly in the process of matching potential external directors with small firms.

The paper is divided into two parts: the first part surveys some of the literature which relates learning and knowledge management to trust, together with some theoretical issues related to external directors. The second part examines empirical evidence from qualitative research with high technology-based entrepreneurs.

Trust, organisational learning and knowledge management
Trust as a subject of study has generated an interest, which is reflected in the growing literature (Gambetta, 1988; Kramer and Tyler, 1996; Lane and Bachman, 1998). However, because of the multiplicity of disciplines which have tackled the subject, some confusion has also resulted from the variety of constructs (Rousseau et al., 1998; Sheppard and Sheppard, 1998; Whitener et al., 1998). A useful way of avoiding the confusion is to limit the discussion to the literature, which establishes links with learning and knowledge. Scher (1999) reminds us that the word trust is derived from the Norse traust meaning an obligation secured by collateral and differs from the characteristics of trust’s Latin counterpart Fides, faith, often taken as a sign of obligation expressed through allegiance or fealty. This distinction is valuable because it explains why so many conceptual developments see trust as containing expectations and belief (Luhman, 1979).

Another dimension is that, in situations characterised by risk and uncertainty, trust becomes important because it enables co-operation to take
place (Gambetta, 1988). Among the variety of studies dealing with trust, some are directly related to the issue of learning, expertise and knowledge. They include Zucker et al. (1994); Mishra (1996); Webb (1996); von Krogh et al. (1998); and Huemer et al. (1998). Zucker et al. (1994) cite economic literature that has studied the use of third party experts as a means to create trust for parties to act more in maximising group value, rather than simply pursuing myopic self interest. They argue that the higher the value of intellectual capital, the greater the demand of production of trust and the use of information boundaries to create it. Mishra (1996) posited the centrality of trust in situations of crisis, which he defined as “a major threat to system survival” with little time to respond, involving an ill-structured situation. He conceptualised trust as a moderator in the behaviour that may occur in response to crisis because trust combines four dimensions: competence, openness, concern and reliability. Webb (1996) also investigated the role of trust in a situation of crisis. For him, under circumstances of uncertainty and the need to juggle resources, dependency on others, particularly advisers, increases. He sees trustworthy advisers as having the advantage of providing a “more textured understanding of facts and consequences than is possible without them” (Webb, 1996, p. 292).

**Trust and organisational learning**
Moingeon and Edmondson (1998, p. 159) argue that organisational learning, by its nature, is needed in situations of uncertainty and periods of change, which create a “need for trust to enable experimentation, reflection or action”. They make a distinction between the “cognitive state of trust” and the “action of placing trust”. They also argue for a distinction between “trust in competence” and “trust in intentions” with the former referring to the belief that another has the ability to perform a task or fulfil a responsibility. Finally, they ascribe three functions to trust in implementing organisational learning: trust as a prerequisite, trust as an outcome and trust as an obstacle. As a prerequisite, trust is particularly appropriate when an external consultant is asked to intervene in an organisation. In that instance, the executives of the firm must have trust in both the ability and the intentions of the consultant:

> Trust in competence is highly influenced by organisation members’ view of the consultant’s capacity to understand their organisation and to take into account its unique attributes and concerns (p. 259).

A threshold of trust in competence is necessary but needs to be complemented by a threshold level of trust in intentions.

As an outcome, trust refers to the relationships which organisation members have. When people embedded in a social system together examine values and norms that shape behaviour in that system, and envision new values, the result can be increased understanding and trust. Members of firms involved in a significant learning process are likely to increase their levels of trust. This point highlights the identification or group-based dimension of trust, which was already explored by Kramer (1993), and Lewicki and Bunker (1996). The
nature of identification-based trust shows that “group-based trust is linked with group membership and develops as individuals identify with the goals espoused by particular groups and organizations” (Lewicki and Bunker, 1996, p. 122). Group identification enhances co-operative behaviour (Lewicki and Bunker, 1996). Finally, if an organisation’s members have too much trust in an interventionist’s competencies, they risk becoming dependent on them.

**Trust and knowledge management**

Another strand of the literature where trust has been investigated is the domain of knowledge management. Huemer et al. (1998) argue that the most important roles of trust concern issues on how and why organisational knowledge may develop. In accordance with March and Olsen (1990), they suggest that trust facilitates learning between partners and that decisions to exchange in knowledge under certain conditions are based on trust. In order to emphasise the link between knowledge and trust the authors suggest a typology of what they call “corporate epistemology” with three schools of thought: cognitivism, connectionism, and autopoeisis.

Briefly stated, cognitivist epistemology refers to idea that the mind has the ability to represent reality in various ways, that is creating inner representations that partly or fully correspond to reality. In this context, the authors argue that trust is a non-issue and may be viewed as heuristic. The connectionist approach to knowledge argues that rather than working sequentially starting with symbols, the brain seems to have dynamic global properties in a network of simple components i.e. neurones. The network metaphor is appropriate in studying social entities and systems as proposed by Hakanson (1982), Hakanson and Snehota (1989) and others (Iacobucci, 1996). In terms of knowledge production within the organisation, members construct their actions as contributions to a network of other contributors (Weick and Roberts, 1993). Knowledge, therefore, emerges and resides not only in the brains of each individual, but also in the connections among members through “the rules of heedful interrelating”. Here, trust in relation to group mind and collective action is an important issue, which is not only explicit but consists of an emotional bond between participating parties in a relationship. The last epistemology is the autopoeitic one, based on the work of Maturana and Varela (1980), and the concept of living systems. It suggests that cognition is a creative act of “bringing forth the world”. It sees knowledge as a component of the autopoeitic (self-productive) process, as history dependent and context sensitive. Adherents of this perspective see trust as a condition for the autopoeitic process to continue, i.e. for knowledge development. For knowledge to connect in the organisation over time, they posit two conditions: first, is the availability of relationships and second, is “self-description” which formulates the identity of the organisation. Relationships among members of an organisation lead to communication, which in turn allows knowledge to develop. Trust is essential because it provides an open system necessary for knowledge development, and the “autopoeitic process” enables trust to develop
by an adequate “self-description”. The last two epistemologies both contain arguments that underpin the notion of identification-based trust discussed by Lewicki and Bunker (1996).

**Dimensions**
The forgoing discussion highlights a number of dimensions that need to be considered in an investigation on trust and the acquisition of knowledge in situations involving non-executive directors (NEDs) and small high technology firms. These are related to:

- crisis situations;
- competence and knowledge of NEDs;
- relationships between the NEDs and the entrepreneurs;
- identification of NEDs by the firm.

**External directors in the literature**
In the UK context, NEDs as external directors have received considerable attention through their potential role in corporate governance recommended by the Cadbury Report (1992). In the UK there may be some blurring of the role of NEDs and other external advisers such as consultants and mentors. This paper discusses findings from a study that was limited to small, growing companies that were employing at least one external director or NED in the following way:

> ... a member of a board of directors who is involved in planning and policy-making, but not in day to day management of the company (Oxford Business Dictionary).

In the UK, NEDs have a specific legal function and contractual relationships related to stewardship functions on behalf of shareholders. Thus, in the UK, although NEDs have been commonly appointed in large companies; following the recommendations of the Cadbury Report (1992), there are no such requirements on the part of small, non-quoted companies to follow the Cadbury recommendations. In small companies, in the UK, NEDs are still comparatively rare, even though the growth of the venture capital sector has meant a concomitant wider use of NEDs, appointed due to requirements of venture capitalists. In the UK, however, Mileham (1995; 1996) has advocated the benefits of using NEDs in small companies based on his research with (large firm) company directors who served on the boards of small companies.

Literature on the role of outsiders on the boards of directors, in a European context, is beginning to emerge through recent studies into relationships between insiders and outsiders on boards, for example, concerning the importance of trust in relationships (Huse, 1996), and on board members’ roles (Daily and Dalton, 1994). There has also been a call for more research into the role of board members (Huse, 1998). In the USA, partly due to the more advanced nature of the venture capital sector, research has focused on the value-added that may result from the addition of directors to the
entrepreneurial team. For example, Rosenstein (1988) has suggested that such venture capital-appointed external directors provide little more added value than do internal directors.

Overall, despite the recent emergence of some studies, noted above, the relationships on boards between directors remains something of a “black box”. In addition for small companies, little is known about the role and influence of external directors. For example, Huse (1998, p. 218) comments “As a consequence we know little about the role of boards in small firms, family firms, owner-managed firms, start-ups, entrepreneurial or fast growth firms”. This paper aims particularly to examine the dimension of the role of trust in the relationships between external directors and other directors, in the latter category of entrepreneurial and technology-based firms. Before discussing methodology and our findings, however, it is necessary first to review some theory on the role of external directors.

**Roles of external (non-executive directors) and high technology small firms**

An extensive literature exists on the monitoring and corporate governance roles of external directors in large companies (Pettigrew etc). In small, unquoted companies, NEDs theoretically have equally important monitoring roles. NEDs could fulfil important functions of adviser, counsellor, “expert” consultant as well as the more familiar stewardship and monitoring roles. In addition, NEDs may be able to overcome potential moral hazard problems for venture capitalists. It is possible to hypothesise that such functions may depend on circumstances surrounding the appointment of NEDs, although, over time, such functions are likely to develop and change. It is also likely that personality differences or similarities between NEDs and founding entrepreneurs will be magnified in the small company environment and board meetings.

There is limited research, however, on the actual role of NEDs in small companies generally and HTSFs in particular. Huse has discussed how the importance of trust and emotion can affect director roles in different small companies, which may reflect the interest of different stakeholders (Huse, 1990, 1998). As suggested above, NEDs may affect strategy by bringing additional, informal networks; they can also provide contacts in new markets and in acquiring resources (Borch and Huse, 1993). NEDs may also improve the credibility of a firm in new markets (Hambrick and D’Aveni, 1992; Keasey et al., 1994). The limited literature on the role of NEDs in small firms is surprising given the fairly extensive literature that now exists on the role of venture capital in growing small companies. Venture capital companies and other equity investors are known to insist on the appointment of NEDs to monitor entrepreneurial behaviour and financial performance as part of their contractual requirements with an entrepreneur.

NEDs may have other roles in small firms than merely those of monitoring and evaluation. Apart from bringing additional skills and important contacts,
NEDs may be able to influence entrepreneurial and growth strategies, approaches to marketing, problem solving, strategic planning, recruitment, training and staff development. By providing advice to the entrepreneur or entrepreneurial team, NEDs take on the role of counsellor, of someone who can listen to ideas and remove some of the self-reliance that is sometimes dominant in entrepreneurs. These counselling and advisory roles provide an extra dimension to the role of NEDs in smaller and entrepreneurial firms (Daily and Dalton, 1993; Mileham, 1995). Mileham (1995) has also indicated that NEDs may have an impact on the strategic planning processes of the small firm, through, for example, raising awareness of strategic, environmental issues and incorporating these into the planning procedures of the small firm.

Potential value of role in HTSFs
Capability building in order to achieve a sustainable competitive advantage is probably an area where NEDs’ contributions might be appropriate both in market sensing and in customer linking. Thus according to Sinkula (1994), a newly conceived organisation enters the hierarchy with congenital knowledge that is knowledge inherited from its founder plus any knowledge acquired prior to its birth (Boussouara and Deakins, 1998). But organisations never cease to learn; hence in the aftermath of its birth, a firm finds that knowledge about the markets can be acquired externally.

The necessity for a firm to make sense of the markets where it operates is also shown by the fact that the capability for customer linking is not as straightforward as it seems because markets are networks and relating to these networks is the strategic goal for any firm (Hakanson, 1982; Hakanson and Snehota, 1989; Zerillo and Raina, 1996). This school of thought is based on the fact that because of the social embeddedness of markets, relationship marketing as opposed to the traditional 4P’s concept, is more appropriate for understanding not only the process of innovation but also how firms develop their strategies after their birth. Because of the importance of relationships in entering networks, NEDs might again provide valuable insight for high-technology firms but in some cases might even use existing relationships in certain networks for that purpose. This is particularly crucial, as some writers have shown that new products that enter the market face barriers (Zerillo and Raina, 1996) because networks are full systems where, at any point in time, the vast majority of channel or network position is occupied. Therefore informal relationships could provide the key to network entry (Zerillo and Raina, 1996).

This implies that for new high-technology venture firms, achieving success in distribution channels can only be achieved via co-operative actions with other partners in the network and that initiating such co-operation might require the use of formal and informal relationships. This suggests that a co-operative strategy might be achieved through the use of NEDs. Other writers have also argued that firms need to achieve strategic learning in order to deal with a variety of problems during their life cycle (Kuwada, 1998).
Despite the wide divergence of roles that NEDs could take in small companies, we concur with the model proposed by Zahra and Pearce (1989) which suggests that the roles of directors are determined by attributes (such as characteristics and composition, i.e. outsiders vs insiders) and by contingencies including company size. The roles of directors determine strategic outcomes and in turn performance of the company. Zahra and Pearce (1989) suggest that in small companies “cronyism” will affect composition and roles of directors, a factor that may affect appointment of NEDs. For example, they comment that “In smaller firms, boards tend to be under-utilised cronies of the owners or CEOs” (p. 294). In small companies that may need to recruit additional board members, such cronyism may affect the search and appointment.

Despite the limited studies on the topic, it is possible to conclude from the existing literature that:

- boards of directors have all the characteristics of open systems where relationships and trust are paramount (Huse, 1998);
- following the studies by Huemer et al. (1998) and Moingeon and Edmundson (1998), which showed the importance of trust dimensions in learning and knowledge issues, we believe that it is appropriate to study the role of external directors under those dimensions.

The rest of the paper begins with a discussion of our research methods; we then discuss our research evidence on the roles and influence of external directors in small, growth companies that are involved with an entrepreneur-NED relationship. We compare findings on roles in high technology and non-high companies. We discuss qualitative evidence and attempt to unlock the “black box” of board relationships and trust in small technology-based companies and conclude with some observations on the factors that have affected successful and unsuccessful relationships.

**Research methods**

The target sample for this research was small growth companies in Scotland. In arguing for the need for research on a largely unexplored topic, this paper has already established that little is known about the use of NEDs in small firms, i.e. who uses them, how are they used and who are the NEDs. Not surprisingly, therefore, the research team faced an initial problem in identifying potential interviewees. Conceptually, this meant that no precise definition of “growth” was applied as this could act as a constraint on what was likely to be an already limited research sample. Logistically, the problem of identifying potential interviewees was overcome largely by the team approaching public sector agencies, the local enterprise companies (LECs), venture capitalists and other agencies for potential contacts. This gave the research team an initial list of 25 entrepreneurs. We sought to expand this by various means: further contacts were sought with large consultancy and accountancy firms using a networking agency working with high technology and growth firms; and with our own “snowballing” techniques. We also sought local publicity for the
research, which might lead to further contacts. Media searches also revealed a small number of contacts. Snowballing further expanded the database of potential contacts, whereby entrepreneurs were asked on completion of their interviews if they could provide the names of other firms who they knew had utilised NEDs. This approach resulted in a small number of new potential contacts, however, and is perhaps indicative of: first, the well-documented “isolation” from their peers that small firm entrepreneurs may experience (Storey, 1994; and for which NEDs may offer a networking remedy); and, second, the problem that this research sought to surmount i.e. that little indeed is known about the use of NEDs, in the UK, in small companies, even by the small firm community itself.

The study has been undertaken through face-to-face interviews with key and founding entrepreneurs in small, entrepreneurial companies in Scotland. Although, over 50 in-depth interviews have been completed, recorded, transcribed and analysed, for the purposes of this paper, analysis is restricted to 46 of these interviews. This was necessary since some firms fell outside our employment size limit (< 500 employees); and other entrepreneurs had to be excluded from analysis because they were not engaged in a true NED relationship (e.g. in some cases contacts had been given, but the interview revealed a long-term consultancy relationship). All the interviews have been conducted face to face by the authors (apart from one telephone interview).

Sub-sets of 15 interviews were conducted with firms that were classified as high technology. In determining such a sub-set, account was taken of the extent of R&D and the type of technology utilised by the firm. Comparisons are made on the most important roles of external directors between the HTSF sub-set and the rest of the sample (the non high technology) sub-set. The authors are also engaged in extending the study by completing interviews from a database of external directors used by selected companies in the first stage. The section on situation of crisis in the findings is based on those interviews with external directors.

The interview guide contained many open questions and was also designed to allow extensive probing of responses. It has, therefore, facilitated in-depth and fairly flexible interviews to occur. In many cases, the interviews lasted for two to three hours and were characterised by the openness already mentioned above. All the interviews were taped and transcribed and have been analysed on a qualitative software package. Discussion and analysis of this qualitative evidence is given below. However, we also comment on the sample company profile first.

The sample: entrepreneurial companies
We sought to recruit growth firms, since NEDs may have a role in the growth process by bringing in particular contacts which may enable a firm to expand and enter new markets or to remove barriers to accessing resources, through their credibility role, particularly in accessing additional sources of finance. Bringing in contacts may also be important for firms in
certain sectors, say with new technology-based firms; firms seeking to expand in new markets. In terms of growth characteristics, all firms included in our sample were either strong growth performers or (in a few turnaround cases) had strong growth aspirations for the future. For example, taking one criteria of growth, average percentage increase in turnover rates for the full sample over the previous three years (1995-1998) was 68 per cent. A total of 77 per cent of our sample had percentage increases in turnover over the previous three years of at least 33 per cent. These growth characteristics compare favourably to other studies of growth firms, e.g. Barkham et al.’s (1996) study of selected growth firms in different regions of the UK had average percentage turnover growth of 56 per cent over a four year time period.

**Selection of external directors: competence versus cronyism**

Zahra and Pearce (1989) suggest that appointment of board directors is influenced by size of the firm and that the appointment of additional (outside) directors will be influenced by cronyism in smaller companies. Our investigation of the source of appointment of NEDs in our sample of small entrepreneurial companies in Scotland revealed three main reasons for appointment, as shown in Table I. Of the sample, 21 firms (46 per cent) had appointed the NED due to a perceived need for additional strategic and managerial skill capacity. The second category had appointed NEDs due to formal venture capital requirements and the third category consisted of other venture finance requirements including business angel finance, corporate venturing or public sector venture fund requirements. Interestingly, if cronyism were prevalent it would indicate a lack of trust between capital providers and the entrepreneur.

The sub-set of HTSFs were significantly more likely to have appointed an external director originally from need, rather than as a formal venture capital requirement. This could be explained by: first, the acknowledged reluctance of venture capital companies in the UK to fund HTSFs (at least until more mature

<table>
<thead>
<tr>
<th>Reason (or source) for appointment</th>
<th>Number of firms</th>
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<tbody>
<tr>
<td></td>
<td>Non HT set</td>
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<tr>
<td>Identified need at either start-up or stage of growth</td>
<td>14</td>
</tr>
<tr>
<td>Former venture capital company requirement</td>
<td>14</td>
</tr>
<tr>
<td>Other financial institution requirement (venture finance)</td>
<td>1</td>
</tr>
<tr>
<td>Informal venture capital – business angel investment</td>
<td>0</td>
</tr>
<tr>
<td>Corporate venture capital requirement</td>
<td>0</td>
</tr>
<tr>
<td>Public sector development agency requirement</td>
<td>2</td>
</tr>
<tr>
<td>Total (number of firms)</td>
<td>31</td>
</tr>
</tbody>
</table>

**Notes:** Chi-square = 10.4*; Probability = 0.034; DF = 4; * Significant at 5 per cent level
stages of development) and second, the nature of the sample (see above) which sought to recruit firms largely through contacts of the research team, rather than directly to formal venture capital companies.

If selection of outside directors was to be affected by cronyism we would expected this to be revealed in our sub-sample that appointed NEDs due to need. Entrepreneurs in such firms would be unlikely to find a selection, would have to rely on existing contacts and would be unable to refer to any professional list. We found that although the search process was very limited, such appointments were made from a variety of sources, coming across a potential candidate for a NED position, but not appointed as, for example, a favour to a long standing friend. An example is provided by the following case taken from this sub-sample of appointments:

We had to replace the position of financial director, be it executive or non-executive, so that the person who sprung to mind was . . . I had worked with him for a short time prior to this company – the fact that whether he was a non-executive director or an executive director did not come into it at that time (non high technology case 13).

Another entrepreneur in this category had appointed the NED to gain additional experience but had identified a previous bank manager as a source of recruitment:

It was entirely my own decision – I recognised that I had a young Board and appointed the NED for two reasons – first, I needed someone who had experience beyond mine and I could use as a sounding board and second, the rest of my directors needed someone as a reference point other than me.

And:

Basically, he was my bank manager, I knew he was about to retire and I knew he had a wealth of experience – not a conventional type bank manager – highly entrepreneurial (non high technology case 38).

Changing the NED, however, having made a selection was more problematic. Problems arose when the choice was limited making it difficult to change, retaining a NED when no value in terms of credibility or strategic outcomes was being derived. In these situations “lock in” developed leading to deterioration in relationships, a relationship from which the entrepreneur found it difficult to unravel and extract. We found that greater flexibility in choice was allowed when the NED appointment was the result of formal venture capital requirements, in some cases the firm was allowed to nominate its own candidate. This widened considerably the prospective choice for the entrepreneur. For example, one firm was able to replace its NED, through its own nomination:

[He] is actually our second – it was my fault I chose the first one. At that time XXX [the new NED] was working for YYY, when the MBO went through initially, he had helped us up to the MBO and I had him attending Board Meetings – he was still working with YYY, so he was not an element that we could have considered. I made a bad choice [with the first NED] – nice guy but chemistry wasn’t right and it wasn’t working well at all. So XXX was nominated by us (non high technology case 8).
Findings on external director roles and director relationships in high technology small companies
We have suggested that, in the UK, NEDs have been promoted for corporate governance roles in large firms. In smaller companies, however, external directors may take a variety of roles, from a general advisory role, to specific qualities of credibility and providing contacts. The semi-structured interview guide was used to ask both structured and open-ended questions on the issue of director roles. Through this bi-lateral method of investigation we were able to achieve two sets of results. The first set is shown in Table II, this table is derived from a pre-set list of (20) director roles that entrepreneurs were asked to score. This illustrates the most important roles that entrepreneurs valued across all companies, irrespective of the reason for appointment. It shows that the most valued were those close to roles of a mentor and adviser; entrepreneurs valued having an independent outside director who could give a different view, a different perspective on a strategic issue. Less important roles were perceived to be networking (highly variable), providing ideas, and succession planning.

Although there were more similarities, there were some differences in roles undertaken by external directors in the high technology sub-set. For example, guidance and support was valued more highly and discussing solutions was also significantly more important. Although results need to be interpreted with caution, it could be that in high technology companies, operating in rapidly changing environments, the expertise of external directors needs to be called upon more frequently and therefore may be more highly valued.

<table>
<thead>
<tr>
<th>Action</th>
<th>Rank order</th>
<th>High tech set score$^a$</th>
<th>Non high tech set score$^a$</th>
<th>Chi-square$^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Most important</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guidance and support</td>
<td>1</td>
<td>4.2</td>
<td>3.5</td>
<td>8.9*</td>
</tr>
<tr>
<td>Discussing problems</td>
<td>2</td>
<td>3.7</td>
<td>3.6</td>
<td>4.0</td>
</tr>
<tr>
<td>Constructive criticism</td>
<td>3</td>
<td>3.8</td>
<td>3.4</td>
<td>5.7</td>
</tr>
<tr>
<td>Discussing alternative solutions to problems</td>
<td>4</td>
<td>3.9</td>
<td>3.4</td>
<td>15.3**</td>
</tr>
<tr>
<td>Using benefit or previous (general) experience</td>
<td>5</td>
<td>3.4</td>
<td>3.4</td>
<td>3.3</td>
</tr>
<tr>
<td>Emotional support</td>
<td></td>
<td>3.6</td>
<td>3.3</td>
<td>7.5</td>
</tr>
<tr>
<td><strong>Least important</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethical role/action</td>
<td>15</td>
<td>2.3</td>
<td>2.3</td>
<td>3.7</td>
</tr>
<tr>
<td>Relating concepts to practice</td>
<td>16</td>
<td>2.1</td>
<td>2.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Visionary ideas</td>
<td>17</td>
<td>1.8</td>
<td>1.8</td>
<td>8.9</td>
</tr>
<tr>
<td>Succession planning</td>
<td>18</td>
<td>1.8</td>
<td>1.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Restructuring board</td>
<td>19</td>
<td>1.7</td>
<td>1.1</td>
<td>2.7</td>
</tr>
<tr>
<td>Administration</td>
<td>20</td>
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</tbody>
</table>

**Notes:** $^a$ Likert scale from 0 to 5; $^b$ Chi-square is appropriate due to non normal distribution; DF = 5; * Significant at 10 per level; ** Significant at 5 per cent level
Further analysis was undertaken through a series of statements whereby entrepreneurs were asked to consider whether they agreed or disagreed with potential roles that could be undertaken by external directors. The highest agreement was with seeing external directors as counsellors. Hence, reinforcing the results in Table II, but also suggesting that external directors undertake a strong advisory and mentoring role. The results on impacts of external directors for networking, however, were much more mixed. Interestingly, though there seems to be a more important role in high technology firms than non high technology. Figure 1 indicates that, in high technology small companies, there was more agreement (and less strong disagreement) that external directors had an important role in bringing additional contacts and networking (although this was not significantly different).

We discuss below some of the qualitative evidence; this in most cases has been taken from the high technology set of companies only. However, we have also included some comments drawn from non high technology-based entrepreneurs, where these are considered relevant comments. We have indicated whether the firm is technology-related in each case.

![Figure 1.](image-url)

**Figure 1.** Percentage of entrepreneurs in agreement on the role of networking for external directors (percentages)

*Note: chi-square for high technology set v non high technology set = 13.0; probability = 0.5; df = 13.*
Competence and ability to impart knowledge

It is arguable that individual entrepreneurs have to learn how to assimilate and process information and knowledge, while operating in complex environments. Unlike large firms there will be few filters of information, hence it is the efficient processing and assimilation of knowledge that is one of the keys to successful entrepreneurial learning. It can be expected that external directors will bring considerable experience, however, this experience may be either specialist (e.g. related to industry sector/technology) or general business experience (such as experience of entrepreneurial management in small companies). The interview results indicated that bringing previous general experience was rated in the top six actions (see Table II) but for HTSFs, this was more important than bringing specialist experience. It was environmental awareness and processing, for which external directors were valued, as commented one technology-based entrepreneur below:

... he [the NED] is very good at giving overviews as to the state of the businesses elsewhere and the general state of industry – if we were to say “xyz”; he will, because of his other contacts in non-executive directorships, say that is exactly what is happening elsewhere or you’re going against the trend and it puts you in a position of knowing (high technology case 23).

Increasing the processing of information improves the role of the entrepreneur in reducing uncertainty. For example, another technology-based entrepreneur commented on the way that information and improvements in management had occurred since the appointment of the external director and commented:

... drastically increased [info] from management team in terms of delivery and discipline – much more analysis of own roles – takes the pressure of me ... [and] vastly reduced uncertainty in growth areas (high technology case 12).

Setting challenges and influence on strategic decision making

Executive entrepreneurs can be expected to respond to challenges, yet how they respond and overcome such challenges is an important part of their development. The abilities required of the external director is to set achievable goals and challenges that support entrepreneurial development. Through further support/encouragement external directors can influence how technology-based entrepreneurs respond to new challenges. In fact guidance and support was rated as the most important perceived action (see Table II) taken by external directors.

The importance of setting challenges in the small company environment for executive learning is represented by the following statement from one of our entrepreneurs:

I think the most important thing of course is that it gives you somebody to challenge you, particularly in a small business when you are a fairly dominant part of it. It's extremely important that someone challenges what you do and can actually argue with you ... (non high technology case 31).
The most important value-added, however, was perceived to be through benefits in strategic planning. For example, 80 per cent of the technology-based entrepreneurs in the sample agreed that external directors had an impact and value-added in strategic planning. Although, we would expect through boardroom discussions that such impacts would be revealed, the importance of such impacts was also revealed by many comments on the value of external directors in strategic planning. Several times the value of a different (outside) dimension in strategic issues was the subject of comment. For example, that the external director could:

... bring another dimension to an idea, that I had [not] thought of (high technology case 23).

And:

... they come up with specifics that are very interesting and we follow them. They just give us another dimension really, and if it’s appropriate we take it (high technology case 7).

The technology-based entrepreneurs discussing a specific issue or strategic problem resulting from decision making as a result of expansion or growth often reflected this role of providing independent counselling and advice.

The impact from these actions and roles undertaken by NEDs was subjective and in some respects quite subtle, taking some time to materialise, but nevertheless, often considered to be very valuable. A typical response on the role and hence impact of NEDs is given by the following comment from one entrepreneur:

He’s trying to modify our strategy and add longer term value and change the emphasis ... (the same entrepreneur later also comments)

He has changed my perception about the need to learn (non high technology case 26).

**Situation of crisis**

The strategic challenge is sometimes the direct result of a crisis affecting the survival of the company. Here it is trust in the competence of the external director that is paramount: the study showed a variety of crisis situations as described by Mishra (1996) and Webb (1996) which included an alliance with a company that went wrong and posed a threat to the company and in many cases difficulties in the market and the risk of bankruptcy:

They took their eye off the ball and assumed that sales would keep coming through and they kept hiring people, put an infrastructure in place which was very unusual for a small company ... . They were in a panic situation and I was asked to help refocus, produce the business plan, raise some money, just to get them back on track (external director, high technology case 29).

In most of the cases where a crisis occurred a high level of trust in the competence and the intentions of the external director was shown:

Now the fact that I was appointed did not make the difference between loss and profit. What did make the difference was the dis-entanglement from the most unfortunate arrangement (external director, non high technology case 31).
**Director relationships and trust-based identification**

Relationships were affected by expectations of the entrepreneur concerning the role of the external director. In most cases, entrepreneurs expected someone independent, to give a different view of an issue, yet they also wanted someone who had experience as an entrepreneur rather than someone from a large corporation. It was an ability to see a different perspective that was valued. For example, the following quote is taken from an entrepreneur in a mature business:

I think it [the role of the NED] gives a balance to the Board. Quite simply, a Board gets carried away with its own ideas, it gets into a way of thinking that everyone is comfortable, you begin to get carried away with the technical concept and the NEDs are there as a sounding board and to give us balance (non high technology case 41).

The approach of the NED also affected relationships. Some NED roles were restricted to inputs through board meetings, however, others took a much more proactive role to develop close relationships with other directors. For example, one NED adopted a proactive role as described below by one technology-based entrepreneur:

[Initially] Everyone was terrified of him because he was the non-executive director. The fact that he comes in a sort of tattered old check shirt and a pair of cords, there is no threat there (high technology case 14).

The true independent NED has the advantage of providing the additional dimension to director meetings that helped to structure and maintain a focus of a meeting on strategic objectives and strategic planning. For example, one technology-based entrepreneur, when in discussions with his other directors,

[I] . . . found it difficult to stick to strategic as opposed to operational decisions and quite often it [discussion] degenerated into a bitching session . . . they [the NEDs] help to structure them better for us (high technology case 29).

In small companies, relationships were obviously affected by personal chemistry, more so than in a large company. External directors became valued as friends in a relationship with an entrepreneur, in this way the external directors’ roles were similar to that of mentor, a trusted friend in which problems and issues could be confided and discussed. As one technology-based entrepreneur commented:

I think personal chemistry is very important – Yes I regard him [the NED] as much more than a colleague, a friend that I trust – a respectful relationship (high technology case 23).

A minority of cases revealed more negative relationships, not based on trust and as a result lacking value added for the company. This limited development of relationships existed where the NED undertook a mere monitoring role, a role that was not proactive. The limited value that can occur was agreed in a minority of cases. As the following entrepreneur comments:

I think NEDs can add tremendous value to a company but experience to date has led me to believe that there are a lot of NEDs out there who simply are acting as consultants for themselves (non high technology case 16).
Another technology-based entrepreneur was able to see the benefit of NEDs even though the relationship had not produced hoped for benefits:

Although we have been disappointed, the right NED and the right personal chemistry can add tremendous value (high technology case 17).

**Changing need and long term involvement**

Timing and stage of development was another issue affecting the role and value from the NED relationship to the small firm. Our sample of small firms reflected our focus on growth firms and the use of NEDs. In many cases, such firms were rapidly changing and may move out of a transition period leading to a change in the need of the firm for a NED. One new start technology-based company commented:

I think we will eventually grow out of the need for him – I don't think he sees himself being here in five or ten years. A sort of transition period – I think the XXXX [agency] see him as somebody, when they have new start companies will help them over a three-five year period (high technology case 2).

A further example of changing need is given by the following comment from an engineering firm:

I would say his role has reduced from the initial impact ... we've been sick a few times financially and at these times he was particularly helpful. Again depending on the growth and whatever changes may come up in the company in the future ... [he] would tend to come in more to bear in a crisis or changed situation (non high technology case 3).

Even though the role of external directors is seen as temporary, it must be said that in business terms the periods of involvement mentioned by respondent (five to ten years) are significantly long enough in the venture cycle and can constitute a basis for identification based trust to develop. (Lewicki and Bunker, 1996; Zucker *et al.*, 1994). This is also borne by the fact that overall the relationships developed because the number and frequency of board meeting was very high in most cases studied. This can be important when considering the value and impact of external advice for high technology small firms.

**Episodic versus long-term involvement**

External directors represent just one means of gaining external advice and additional expertise for the technology-based entrepreneur. Assuming that a relationship with an adviser will always be beneficial, is of course problematic. We have seen in the discussion so far, that in a minority of cases, the value from such a relationship could be limited. Thus, for technology-based entrepreneurs appointment of an external director involves an element of risk. Unlike external advisers, external directors sit on the board and bring their own power-base. Many technology-based entrepreneurs, in reality, are going to be very wary of entering such relationships involving as it does sharing power, control and sometimes equity. Assuming that external advice then is desired and sought, we may ask whether technology-based entrepreneurs have alternatives?
One approach is to view the range of external advice available as continuum with that undertaken by external directors/mentors at one end of a contingent scale and episodic short-term business consultancy at the other. The relationship will be dependent on time scale; whether short or long term; the nature of advice received, whether context-specific, expert or generic; and the style of delivery, whether collaborative or directive. In the light of this approach, it is clear that a range of alternative sources (of external advisers) are available (at a cost), ranging from short-term and episodic business consultancy to longer-term mentoring. Unfortunately, much of public sector-funded support is often of the episodic variety, sometimes with prescribed solutions (for example, that high technology entrepreneurs will require additional marketing expertise).

As discussed in the introduction and the methodology, we also have some findings on the role of external advice from a range of sources in a separate interview set with HTSFs. Table III gives some results on the importance of sources of advice in HTSF development. The table shows that expert-led advice, which is often available from part-funded consultancy, was less critical than factors associated with the entrepreneurship process in technology-based firms. Perhaps surprisingly, advice from the bank manager and accountant rated above that of public sector advisers, however, there was some degree of variation in importance of these results.

As can be seen from the table the value of external consultants or advisers was limited. We argue that this result contrasts with the findings with external directors. From the external director set of interviews, major business issues

<table>
<thead>
<tr>
<th>Importance$^a$</th>
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<tbody>
<tr>
<td>Dealing with customers</td>
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<tr>
<td>Developing products</td>
</tr>
<tr>
<td>Design</td>
</tr>
<tr>
<td>Dealing with suppliers</td>
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<tr>
<td>Dealing with employees</td>
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<tr>
<td>Research</td>
</tr>
<tr>
<td>Training</td>
</tr>
<tr>
<td>Advice from bank manager</td>
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<tr>
<td>Advice from accountant</td>
</tr>
<tr>
<td>Short courses/seminars</td>
</tr>
<tr>
<td>Trade association/firms in same sector</td>
</tr>
<tr>
<td>Using consultants</td>
</tr>
<tr>
<td>Applying for patents</td>
</tr>
<tr>
<td>Public sector advisers</td>
</tr>
<tr>
<td>Advice from insurance broker</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Total number of entrepreneurs</td>
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</tbody>
</table>

Note: $^a$ Likert scale derived from subjective perceived scale of critical importance to no importance

Table III. Importance of external sources of advice for HTSFs
that they faced were discussed with entrepreneurs. They were then asked who they would be most likely to turn to for advice on the most important of these issues. Surprisingly, a high percentage, 74 per cent, said that they would turn to their NED first for advice. In this respect, the external director was much more important than other forms of external advice such as bank managers and accountants. Figure 2 indicates that this percentage was common across both high technology and non high technology sector firms. Moreover it confirms the view that long-term involvement creates a sense of belonging and identification with the firm which in turn generates trust and co-operation (Kramer et al., 1996; Lewicki and Bunker, 1996; Huemer et al., 1998).

Conclusions
In small companies, there is great pressure placed on the entrepreneur as the decision maker. Having external or non-executive directors can deflect some of that responsibility. This leads to improved procedures and better decision making as a result. Entrepreneurs valued the ability to call on someone else to ease the isolation and responsibility of such decision making. While the roles of external directors in large firms are comparatively well defined, the limited literature and research on the roles and influence of external directors in small firms still remains a research gap in entrepreneurial and small firm literature, more so in HTSFs. We have remarked that this research gap is surprising.

<table>
<thead>
<tr>
<th>Category</th>
<th>NXD</th>
<th>Bkm</th>
<th>A/ct</th>
<th>Fam</th>
<th>Oex</th>
<th>Frd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full sample</td>
<td>74</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>High tech set</td>
<td>73</td>
<td>7</td>
<td>0</td>
<td>13</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Non high tech set</td>
<td>74</td>
<td>6</td>
<td>10</td>
<td>3</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 2.
Percentage turning to external source of advice first on business issues.

Key: NXD non-executive director; Bkm, bank manager; A/ct, accountant; Fam, family; Oex, other external; Frd, friends
given the increased profile (in the UK) that has been given to the role of NEDs in large firms since the Cadbury Report (1992), and the increased focus and public policy support for entrepreneurial, growth firms. In this paper, we have discussed a number of potential roles that external directors can take in entrepreneurial and high technology small companies and compared these to our findings. We have also discussed the dimension of trust in the process of learning and acquisition of knowledge from external directors by small high technology firms:

- **Trust and competence**: overall we found that external directors do bring value-added benefits to a growing small technology-based firm. They perform more than monitoring roles. Their competence lies in acting as councillors, guiding and advising the entrepreneur particularly in strategic planning. To that extent most entrepreneurs had trust in their competence.

- **Situation of crisis**: most firms investigated had faced a situation of crisis which involved a lack of resources and possible bankruptcy. In those situations it possible to see that those firms and their owners showed trust not only in the competence but also in the intentions of the external director called to act in order to save the firm.

- **Long-term involvement and identification with the firm**: we found that most relationships are significantly long by business standards even though most of the respondents did not see themselves as permanent members of the board. We found that, overall, the relationships produced a certain chemistry and sense of group identification particularly where personal friendships developed and this might explain why entrepreneurs prefer to take advice from external directors rather than relying on episodic involvement by other external advisers.

**Policy recommendations**
Overall the above conclusions show the importance of trust and relationships in the context of board compositions in small firms. In terms of policy, this implies that external directors should be promoted in terms of their knowledge value and their place in the overall development of an infrastructure supporting entrepreneurship (Van De Ven, 1995). However the other side of the relationship coin is that not all of them can be beneficial. To avoid this negative aspect, which in many cases might result in financial loss, attention should be directed towards the matching of external directors with small firms’ entrepreneurs. In this area institutions like development agencies might have a contribution.

**Limitations and recommendations for further research**
This study mainly focussed on the perception of entrepreneurs in order to analyse the dimension of trust. Owing to circumstances pertaining to the schedule of the project, the perception of external advisers was only used to
examine their role in a situation of crisis. It would be desirable to extend the
analysis to all the dimensions pertaining to trust and compare the perception of
entrepreneurs with those of external directors in order to validate the findings.

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Trust and the acquisition of knowledge


