Out of control: personal networks in European collaboration

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The formal ties that bind collaborating organisations are often assumed to be reinforced by the relationships of individual employees, and these by trust. So, too, are the personal networks by which employees acquire much of the information required for the organisation's innovation. It is easy to assume that personal networks should support collaborative arrangements. It is also tempting for managers to ensure that they do by bringing them under organisational control. This paper investigates collaboration in Esprit, the European Commission's programme for research in information technology. It finds personal networks, and considers the implications for innovation of attempts to render these networks compatible with collaboration.

1. Introduction

Organisational collaboration entails tying the activities of one organisation to those of others. In corporate strategy and government policy alike, organisational collaboration has found increasing favour in recent years (see, for example, Hagedoorn, 1996; Powell et al., 1996). One major reason is that such collaboration is assumed to facilitate the acquisition of information from other organisations, and thus to accelerate the innovation required for competitive advantage (Hamel et al., 1989; Dodgson, 1993). A common finding of diverse studies is that success in inter-organisational collaboration is dependent on relationships between employees in the collaborating organisations (Johanson, 1966; Granovetter, 1973; Dodgson, 1992a; Kreiner and Schultz, 1993; Mohr and Spekman, 1994; Håkansson and Snehota, 1995; Minzberg et al., 1996; Bailey et al., 1998; Oliver and Ebers, 1998). In turn, these relationships, if the literature is to be believed, are dependent on trust (e.g., Lazar, 2000).

Yet, the interests of the individual employee do not always align with those of the organisation. The employee may not wish to put his relationships at the disposal of his employer, to risk the abuse of his trust. There would seem to be some potential here for tension between the relationships of individuals and the collaborations of organisations. The more these personal relationships support information exchange networks, the more valuable they will be to the individual employee, but also to the organisation trying to innovate. This paper explores the interaction between the collaboration of the organisation and the personal information networks of individual employees, an issue that seems to be neglected in much of the literature on collaboration and networking (Ring and van de Ven, 1994; Oliver and Liebeskind, 1997; Hansen, 1999). We go further and consider the implications for organisations of attempting to exploit personal networks.

The paper draws on interview and survey data from a world characterised by highly formal arrangements for collaboration, the world of the European Commission (see Sharp and Pavitt, 1993). We focus on collaboration in Esprit (the European Strategic Programme for Research and Development in Information Technology). Esprit was the oldest and largest of the European Commission's programmes for research and technological development (RTD), accounting for some 40% of its RTD expenditure. In 1981, the 12 leading European electronics companies, interested in a concerted approach to information technology (IT), persuaded the European Commission to adopt a common strategy. Esprit dates from 1983. There have now been five Esprit programmes (Esprit I 1984–1988, Esprit II 1988–1992, Esprit III 1990–1994, Esprit IV 1995–1999, and Esprit V 1998–2002). Esprit has changed a great deal over the years, but at least one element has remained constant: Esprit has always insisted that the research it supports be collaborative, specifically that there be a minimum collaboration in each project of two industrial partners from two member countries.

2. Methodology

This paper draws on interviews with individuals involved in Esprit collaborations, and on responses to a survey initiated in 24 collaborations in which UK firms were main contractors. Individuals prominent in the technological endeavours of the collaborations were identified through the contact persons listed with the Esprit secretariat. These key individuals were then asked to nominate those who had contributed information of marked value to a specified technological innovation. Nominated individuals were then contacted and asked to nominate further individuals. All nominated individuals were requested to complete a questionnaire. In qualitative research, 'snowballing' is a similar method of locating information-rich informants (Patton, 1990; Mason, 1996). With time, patience and perseverance, an information network emerges whose operations and boundaries are not determined by the organization, to set alongside collaborative links which certainly are. There are problems, although (Davis, 1978). The most obvious is non-response; response is clearly much more critical in this sort of exercise than in conventional surveying. Consequently, a very great deal of effort was expended in making contact (by letters and phone calls), then in tracking down (often from very incomplete information) the individuals nominated, and then in encouraging their participation.

A further problem arises from the very premise of the research: when personal relationships really are of great importance, respondents are understandably reluctant to disclose what is valuable intellectual property. Uncovering personal networks, then, tends to be easiest when they are least valuable, and hardest when they are most valuable, a paradox that has its analogy in the collaboration of organisations. Collaboration tends to be highly visible; a new strategic alliance, for example, is discussed in the business press and becomes public knowledge. In consequence, collaboration is easier to observe and investigate than the informal linkages that may hold it together (Freeman, 1991; Hagedoorn et al., 2000). Esprit collaboration is very visible. A final total of 267 individuals was achieved, which may not seem many by survey standards, but is an impressive number in this sort of exercise. Having traced personal networks that supplied information critical to a number of Esprit projects, we returned to the original informants in 10 of these projects. Each individual was shown the information network for his own project, and asked to reflect on the contribution the network might have made to the project's innovation. Comments of nominated individuals appear in italics throughout the paper to illustrate its arguments.

3. Collaboration and Esprit

The literature on collaboration is dominated by accounts of formal arrangements, typically involving various combinations of big companies, small research-oriented spin-off firms, universities and research institutes (Kreiner and Schultz, 1993). A common approach to the study of collaboration is to classify various types along a continuum (see, for example, Hergert and Morris, 1988). At one end, there are tight equity agreements with considerable co-ownership, control and inter-organisational dependence, such as complete mergers and joint ventures (Harrigan, 1986; Kogut, 1988); and at the other end, non-equity agreements, rather loose, even virtual arrangements for information sharing (Hagedoorn et al., 2000). Esprit would be positioned somewhere in the middle as it was concerned with formal, yet temporary, collaborative R&D, but did not involve co-ownership.

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Various explanations are commonly offered for firms entering into collaborative relationships. These generally involve some combination of risk sharing; obtaining access to new markets, technologies and knowledge; speeding products to market; and pooling complementary knowledge (Teece, 1987; Contractor and Lorange, 1988; Kogut, 1988; Hamel et al., 1989; Hagedoorn, 1993; Powell et al., 1996). A major motive for collaboration is the acquisition of information, especially the new information the organisation requires for innovation, for change. Innovation was the primary purpose of collaboration in Esprit, but it was not the only purpose. By its very nature, the European Union is collaborative; it exists because its members perceive benefits in collaboration that they would forego as separate entities. Through pooling resources in collaboration, Esprit was to amass sufficient strength to counter American and Japanese competition in IT (Ray, 1998; Georghiou, 1999; Hagedoorn et al., 2000). Collaborative R&D was to replace the single-nation support for national champions that had demonstrably failed to yield competitiveness. Intervention in R&D would still allow the market to determine competitiveness in that nothing could be further from the marketplace than R&D (Dodgson, 1993; Georghiou, 1999). Even so, the notion of 'pre-competitive' R&D was devised to emphasise that the Commission was definitely not interfering in the market (Quintas and Guy, 1995). The argument was spurious, of course, buoyed up by misunderstanding – perhaps deliberately – the role of co-ordination and co-operation (both formal and informal) in Japanese and American IT innovation. The misunderstanding hardly mattered; for the Europeans, collaboration was always an instrument to help effect political unity (Sharp, 1987). Thus it was that Esprit came to be valued less for the innovation it encouraged than for the ability of its collaborative philosophy to insist that small firms and firms from southern Europe participate in its programmes (Marschan-Piekkari et al., 2001).

4. Personal relationships and trust

Many studies reveal the particular dependence of companies on other companies beyond the organisational boundary, especially suppliers, customers and competitors (von Hippel, 1987; 1988; Carter, 1989; Schrader, 1991). From such sources comes the new information the firm requires for its innovation (Powell, 1990; Badaracco, 1991; Powell and Brantley, 1992). Also revealed is the importance of personal networks in acquiring this information (Macdonald, 1996a; Oliver and Liebeskind, 1997). The characteristics of information dictate that it cannot be bought and sold like other goods. While information may be easy to transfer, information transactions – getting the right information to the right place at the right time – are much harder to effect. Supply cannot identify demand in the market, and the organisation's internal information systems do not stretch beyond its boundaries. In large part, it is to compensate for this market and organisational failure that the organisation finds partners with which to collaborate. Basically, it seeks to internalise information to avoid the problems inherent in external information transactions (Williamson, 1985). But collaboration is necessarily exclusive and may isolate the collaborators from the external sources of information on which they had previously depended for their innovation (Macdonald, 1996b). Moreover, information is difficult to value in terms likely to satisfy the organisation's accountants, or to describe in terms likely to satisfy the organisation's lawyers. In short, collaboration, in itself, is unlikely to overcome the obstacles to information transactions.

In the midst of contractual obligations to supply information to collaborators are networks of individual employees, extending well beyond the organisational boundary. Personal networks can accomplish what the contractual arrangements of collaboration cannot; they allow network members to express demand for information in ignorance and to be supplied in the same ignorance. By providing a mechanism for the exchange of information, personal networks overcome the fundamental obstacle to information transactions of one side not knowing what it does not know, nor what the other side does know. Multilateral exchange is an especially formidable mechanism, enabling information put into the network to be extracted by other members, in other places, at other times.

Relationships develop between individuals from organizations with business links. When organizations are in collaboration, these personal ties are said to play an important role in cementing the connection, especially in the early stages of collaboration (Kreiner and Schultz, 1993; Ring and van de Ven, 1994; Håkansson and Snehota, 1995). Collaborative agreements, particularly between customers and suppliers, are widely claimed to work through informality rather than formal contracts (Håkansson and Wootz, 1979;

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Turnbull and Cunningham, 1981; Ford, 1984; Håkansson and Snehota, 1995). Indeed, personal relationships have often been shown to be more effective in the development of business links than formal contractual arrangements (Johanson, 1966; Johanson and Wiedersheim-Paul, 1975; Håkansson and Wootz, 1979; Turnbull and Cunningham, 1981; Ford, 1984; Johanson and Vahlne, 1990; Gelsing, 1992; Håkansson and Snehota, 1995; Bidault et al., 1997; Engwall, 1998). Face-to-face contact is particularly important (de Meyer, 1991).

> Individuals involved in a business relationship tend to weave a web of personal relationships, and this appears to be a condition for the development of inter-organisational ties between any two companies (Håkansson and Snehota, 1995, p. 10).

It seems to follow, then, that the personal relationships that support organisational collaboration are the same relationships that underlie personal networking (see, for example, Håkansson, 1990; Dodgson, 1992a, b; Mohr and Spekman, 1994; Ring and van de Ven, 1994; Bailey et al., 1998). But what if the personal relationships supporting organisational collaboration are really no more than convenient business arrangements, quite different in degree, and perhaps in kind, from the personal relationships that support personal networking? What if only the latter provide the information the organization – even the organization in collaboration – requires for its innovation? Could it be that the trust that underlies personal relationships in collaboration is of a different order from the trust that allows the exchange of information in networks?

By trust we mean the ability to rely on the behaviour of another. People rather than organizations trust, and then by inclination rather than managerial diktat (Blois, 1999). In the context of this paper, trust has no moral dimension; a trusting relationship is not necessarily wholesome (see Lane and Bachmann, 1998). Indeed, relying on someone to be absolutely despicable is no less trusting than depending on honourable conduct. Trust generally takes time and effort to establish, a matter that can be overlooked by managers accustomed to a command and control environment (Himmelman, 1996). One study of organizational gatekeepers found that information exchange was facilitated by the trusting relationship between gatekeeper and contact, but that these relationships had, on average, taken 16.5 years to establish (Macdonald and Williams, 1994). Esprit collaborations put individuals in contact with each other for considerable periods, and presumably contributed to the creation of trust, but only over many years (Lowndes et al., 1997).

> What has worked well for us is to be in a project where we are . . . working on different things and watching each other. Then when we recognise there was some synergy because we had been working on the same project, we had the mutual confidence and trust [to] work together in the next project. If we had been required to be collaborating and working on the same thing in the first project, we would probably never have got together.

5. Hostility to personal networks

Organisational collaboration is structured to allow systematic activity among organisations, and is usually defined by written, legal agreements. It is distinguished by the contractual delivery to partners of explicit information (Kaye, 1995). Personal networks are typified by unstructured behaviour related to the personal interests of employees. They allow the exchange of tacit information, that which cannot be described and thus is even harder to exchange than other information. Unlike collaboration, personal networks, centring around the individual, are largely invisible. Individuals develop and maintain their own networks, the full extent of which will not necessarily be evident to the organisation, nor, perhaps, even to the individuals themselves. Membership of information networks is personal and cannot be transferred. Providing access to information critical to the organisation's innovation, network membership is valuable property. Work on corporate gatekeepers suggests that information acquisition through contacts is very different from information acquisition through network membership (Macdonald and Williams, 1994). While the former is usually restricted to immediate, bilateral exchange, information networks enable long-term, multi-lateral exchange of information, a much more powerful mechanism.

Just as collaboration among firms is much more evident than personal networks, so is research on collaboration more evident than research on personal networks. Most research in this area focuses on formal aspects of collabora-

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tion, usually subsuming personal relationships within this dominant concern (Friedman et al., 1979; Kreiner and Schultz, 1993). From this perspective, it follows that the personal networks of employees should reinforce the organisation's collaboration. Research on the biotechnology industry, for example, reveals both organisational collaboration and a dense network of personal ties (Oliver and Liebeskind, 1997). This does not mean that the networks of these employees necessarily serve the collaboration.

Even if organisational links and personal networks are aligned within the organisation (DiMaggio, 1992; Ibarra, 1992), the interests of the individual and those of the organisation may collide in the outside world (Kreiner and Schultz, 1993; Macdonald, 1993, 1996, 1998b). The individual's behaviour inside the organisation may be quite different from the individual's behaviour outside the organisation (Ring and van de Ven, 1994). Kreiner and Schultz (1993) observe that the functional significance of networking for innovation lies in pieces of information, ideas and gossip travelling to places where they do not usually go. At best this is inefficient in organisational terms: at worst it is industrial espionage.

Fear of employee indiscretion may prompt the organisation's senior managers to discourage personal networking (Oliver and Liebeskind, 1997). In practice, employees who exchange information in personal networks are unlikely to confuse their activities with industrial espionage and will have less incentive than other employees to engage in spying. Information that is sold tends to be explicit, the sort that many others can easily use and hence value: information that is exchanged for other information through personal networks tends to be tacit, the sort that needs expertise to understand. Exchange boosts the individual's professional reputation: spying destroys it (Macdonald, 1996c). But confusion between the two provides convenient justification for depriving employees of any information that is not essential to their job. There is a fundamental belief, prevalent among senior managers, that information, being a valuable resource, should belong to the organisation and should be guarded to ensure that it remains within the organisation. Information that leaves the organisation is considered to be information lost to the organisation. Information, it is argued, should be firmly under management control if it is to retain its value for the organisation. Such convictions are compatible with both modern methods of knowledge management that stress the obligation to share information (e.g., von Grogh, 2003) and with the strict conditions of collaborative agreements. However, they are obviously in conflict with the independent information exchange fundamental to the functioning of personal networks.

> Through [John], who works for [a non-Esprit organisation], I get access to an awful lot of information. He will give me information actually sometimes about what is going on in our other [Esprit] partners and they wouldn't tell me. So, I would get the information from him via the back door . . . He might tell me something absolutely in confidence about somebody else that they wouldn't tell me.

Relationships are the glue holding together personal networks. They tend to have an existence of their own that is neither supported nor confined by organisational boundaries or organisational links (Macdonald, 1992). It is very far from axiomatic that the strengths and advantages of personal networks automatically become assets in organisational networks. Consider the invisible college of the academic world, professional networks that span the globe, extending well beyond the organisational boundaries of universities, and free from their direction and control (Leadbetter, 1983). The invisible college permits exchange of information among academic peers, which is essential to scholarly endeavour, the original purpose of universities.

> At one level it is a professional relationship in that the reason we know each other across all these vast distances is because there are common professional interests. I think the informal college idea is probably a good model of what is going on.

But the invisible college is not necessarily compatible with universities as organisations driven to undergo drastic change, and to embrace management method and much managerialism (Cain and Hewitt, 2004). Now that collegial structure has been replaced by hierarchy, and power in universities lies with senior managers, academics tend to be treated much as the employees of other large organisations. Their product is to be produced not for their own personal satisfaction, but as a contractual obligation to their employer, measured for quality and quantity to ensure that it meets the organisation's requirements. Education is now packaged, marketed and sold, and tight managerial control is considered appro-

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priate to what has become an education business. There is no place in this new world for the independent networks of academics. These are to be taken over by the organisation, to be exploited by, and for, the organisation.

> The International Office are compiling a database of overseas universities and research institutions . . . Please supply any details regarding the contacts which you feel may be of use to the University in furthering international links (University memorandum, July 1999).

> This is a high-profile opportunity to promote [the department] to regional public/private/regulatory and voluntary organisations.. . . at this point we need members of staff to inform [the Administrative Officer] of their contacts (i.e. name, responsibility, address, email, telephone and fax numbers). This will ensure that the full potential is achieved and that the names in our database are correct (University memorandum, March 2000).

Universities are not unique; the same determination to acquire the external links, and especially the information networks, of individual employees is evident in other sorts of organisation where control is the primary concern (Macdonald, 1998a; Macdonald and James, 2001). Organisations in general, and large ones in particular, seem driven to formalise, control and monitor activities (Marschan, 1996). Even in high technology, in small and new biotechnology firms, personal ties are being subject to increasing levels of organisational intervention and control (Oliver and Liebeskind, 1997).

Crucial to the professionalism that helps the personal networks of academics to function as information exchange mechanisms is loyalty beyond the organisation (Jauch et al., 1978), loyalty to standards and etiquette set by external agencies. In the modern managed organisation, professionalism is something else altogether. Professionalism is the demonstration of loyalty to the organisation (Scarbrough, 1999). Proper and responsible behaviour is determined not by the employee and his peers, but by the manager. Such behaviour is unlikely to include exchanging information in personal networks.

6. Results

This research was always going to show a connection between the collaboration of the organisation and the information networks of individual employees; the methodology would hardly permit anything else. By design, everything was focused on the collaborations of Esprit. But the nature of the connection remained to be revealed. Some respondents, while noting that relationships took a long time to develop, seemed quite happy to accept a symbiotic relationship between their own networks and the collaboration. One built upon the other.

> My personal network pre-existed Esprit work, but gained additional 'nodes' through collaboration with new partners, or new groups in existing partners. The 'nodes' that are the most important (and active) are the ones that developed into business relationships.

Contact in previous collaboration had often paved the way for present collaboration, a link frequently expressed in terms of personal relationships. Table 1, compiled from the responses of those nominated as having contributed valuable information to Esprit research, is not in conflict with this happy complementarity, although it does suggest that most of the relationships so critical to Esprit innovation were forged outside Esprit.

> I knew them before. I have been working in this area since '81. I know virtually everyone working in this area in the world.

> The partners I chose are people I have worked with previously. We have a reasonably good relationship.

Much of the research that emphasises the role of personal relationships in organisational collaboration relates the success of the collaboration to the closeness of the relationships (see, for example, Kreiner and Schultz, 1993; Håkansson and Snehota, 1995; Oliver and Liebeskind, 1997). Our data suggest that the relationships with

Table 1. How first contact was made with nominated individuals.

This Esprit collaboration	83
Another organisational collaboration	46
Professional meeting	43
Working in the same organisation	38
Another Esprit collaboration	17
Working for supplier or customer	15
Other means	29
Total number of individuals responding	271

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nominated individuals are not very close at all. They are very much business relationships, made through work rather than professionally. Even though these individuals have known each other for an average of 5.7 years, they are still not friends. They are colleagues, at best acquaintances (Table 2).

> If [Jim] had decided to leave [one of the Esprit partners] in the early 1990s, that may not have made that much difference because [the Esprit partner] would have found someone else to run its European projects. If you like, I have a very broad relationship with [the Esprit partner]; most of the current directors of [the Esprit partner] used to work for me at [another organisation].

In that all these individuals were engaged in IT research, it is hardly surprising that much of their communication involved telecommunications. Yet, even here and among widely scattered individuals, face-to-face communication was dominant both for establishing personal relationships, and for maintaining them (Table 3).

> How we find collaborators? I often get asked this. It is easy. You could put a piece of e-mail out on the Web and get loads of collaborators that are probably useless. Much better is to have a look at who you are [already] working with.

> Most important are the individual face-to-face contacts, usually gained at conferences, workshops, seminars, whatever.

> The new technologies, even fax, will not replace a tel [ephone call] or direct face-to-face meeting. In France the lunch and dinner have always been important to judge of someone as a friendly relation, if we can trust, if we like and value the relation and consequently the info and their reliability, at least [it is] necessary to chat before any useful info has been exchanged. For my experience email cannot.

Interestingly, far from relying on the Internet to augment their personal networks, some respondents were using their personal networks to help guide them on the Internet. Members of the network would signal to others what on the Internet was worth consulting.

> Importance [of personal networks] is increasing because volume of information transfer in general increases (the Internet). Personal networks are adding a valuable filter to find the information with greater importance in the general information flow.

Respondents did not communicate frequently with other nominated individuals; more often than once a month was rare (Table 4).

> There is nothing regular about contact times or the balance of value of information exchanged. I tend to meet people at various professional events and information days and during the course of everyday business. . . . The result is that any conversation with personal contacts is usually ad hoc and covers a range of subjects and projects.

Yet respondents were quite clear – adamant, actually – that, although the personal relationships they identified were not generally close, they were definitely personal rather than organisational. Relationships may well have sprung from organisational activity, but they did not belong to the organisation. What did belong to the organisation was something rather different – lists of names. Individuals would often speak about the number of contacts they had and how useful these

Table 2. Type of relationship with nominated individuals.

Colleague	131
Acquaintance	72
Friend	62
Total number of individuals responding	265

Table 3. Means of contact with nominated individuals.

Face to face	217
Internet (e-mail, web, etc.)	197
Phone/fax	185
Post	87
Total number of reported means	686

Table 4. Frequency of communication with nominated individuals.

Daily	17
Weekly	38
Monthly	120
Every 6 months	70
Total number of individuals responding	245

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were, the length of the list being emphasised rather than the quality of the relationships.

> [The database has] got 1200 names and I know most of those people. I have met most of those people. I have talked to them, some of them once or twice. Some of them once, many of them quite a lot. I see myself as a person who makes contacts and develops contacts ... So our business is really based on making contacts and I think that this database, which is being added to all the time, is ... Roberta Lasanta – that should be Bosante – is an MEP ...
>
> Let me show you something. This is a database of contacts I have made and, indeed, here is another database. That is my own personal database of contacts. 768 people on it all over the world ... 36 people in Australia.

In small firms, especially high-technology firms, the personal networks of the chief executive can easily be taken for the firm's networks (Johannisson, 1998). In larger firms, the networks of key individuals are quite distinct from the databases of corporate officials. Knowing absolutely everyone who is expert in the field does not necessarily involve networking with them (Conway, 1995).

> Bob would view himself as not knowing many people. I don't think he would go out of his way to know a lot of people in a company like ours. Much more a person who would identify the person he needs to know and know them and approach it that way. He has, because he is so well respected I imagine, he has to fight off people contacting him. He is unlikely to put a lot of effort into making a lot of contacts. He already has the contacts he needs and has had for a number of years.

As we have seen, much of the literature on collaboration assumes that trust within personal relationships underlies organisational collaboration (see, for example, Håkansson, 1990; Dodgson, 1992a, b; Mohr and Spekman, 1994; Bailey et al., 1998). Our study suggests that the trust supporting the collaboration was almost a form of insurance.

> There is a lot of talk about trusting networks. I don't believe in trusting networks. Trusting networks are all about the management of risk ..... To a certain extent, this consortium was about a group of organisations coming together, saying there is a risk and we want to try to learn how to assess and manage that risk.

Trust of a sort was involved in these Esprit collaborations, but not perhaps the trust that facilitates information exchange in networks. Individuals were trusted, but not far.

> I trust Siemens, the guys I talk to in Siemens, but you wouldn't go there and expose something that is to your competitive advantage because they would be idiots if they did not take it away and get on with it quickly because they would know that you are going in that direction ...
>
> It is clear, even with Philips, we don't know what they are doing when they are doing it ... You wouldn't expect them to talk about their new product while they are still trying to sell their old one. Bad practice.

The rules of the personal information network may not be explicit, but they are strict. Those who do not put information into the network soon lose their entitlement to take information out, and are rapidly ostracised. The same fate awaits those who abuse the system by seeking sensitive, proprietary information from it. The system works through the self-interest of network members, each aware that he will be the poorer if the network mechanism fails. The conventions of the organisation are different from the conventions of the personal network, and they demand different levels of confidence that individuals will observe them. Less confidence is required in the organisation simply because control mechanisms can compensate for any wavering of trust. This difference is evident in the attitude of many of the organisation's managers towards personal networks. It seems that the conventions that hold the personal network together generate suspicion rather than confidence among managers. Trust is all very well when it serves the requirements of the organisation, and when it can be guided and checked by management, but not when it allows activities beyond managerial control. These activities include personal networking. The result in Esprit was an uneasy co-existence between personal networking and collaboration.

> I believe that personal networks are the basic stuff of my work. All the events the Commission stages are only useful for the extension of these networks. However, my own specialist

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> world, in which I have worked for over ten years, is the place where I really create and maintain the contacts. This network of contacts spans the world . . .

The attempts of the European Commission to reinforce its collaborations with the trust and relationships of personal networks could be less than judicious.

> One extremely irksome thing the Commission tries to force on those who work in Esprit is collaboration with people outside the network of contacts. Such people are outside the network for both personal and professional reasons and that is a personal choice. Therefore, when the EC insists one works outside one's network (which is of course always capable of extension and expansion) such a collaboration is bound to fail.
>
> . . . I won't let the Commission influence a network that has naturally set itself up. You can appear to be tolerant, but you haven't actually damaged your network. . . . What you are saying is that these guys who weren't in your network still are not in your network. Well, they weren't in the project to start with and they have been imposed on it.

This is not to say that the Commission was insensitive to personal networks, or at least to their advantages for innovation. Individual project officers in Brussels would work tirelessly to create new networks, mimicking the way they thought personal networks were developed.

> Over time, people get to know each other and who was worth working with. You knew somebody who knew somebody else. Contact led to contact and eventually to a professor at the University of Barcelona. It took a year [for the Commission] to put together this project.

The problem was that the Commission's project officers could never be part of the networks they were striving to shape. They might imagine they could create a new Silicon Valley for the European microelectronics industry, but their position of authority, and their ignorance of the field prevented them being accepted as peers.

> Esprit employed about 200 [administrators] and yet hardly one of them knew their area.

The efforts of project officers were also frustrated by the European Commission seeking collaborations that would not only generate the innovation that was the ostensible purpose of Esprit, but also satisfy political demands. The Brussels of the European Commission is a warren and the workings of Esprit were positively Byzantine. While individuals in Esprit collaborations had little patience with the interference of the Commission in their own personal networks, they fully appreciated the importance of contacts in Brussels. Companies anxious to ensure the continuation of their Esprit funding made certain they made and maintained the right contacts.

> Over the last year or so we have put quite a lot of effort into making contacts there and a number of us here have acted as evaluators or reviewers for working projects . . . . They do pay us for it, but in reality the money isn't very good and we wouldn't do it for any other reason than just to make those contacts, make it easier to get further funding.
>
> . . . Every little sub-division of the Commission evolves its own local rules set and if you want to get funding from [one sub-division], you had better know the [sub-division's] set of rules. Part of knowing the [sub-division's] set of rules is seeing what they write, but part of it is understanding what they don't write. They all try and say what they are looking for, but there is often a hidden agenda as well in all these areas. If you don't know the hidden agenda in the area you are approaching, then your prospects are much worse.

Organisations that had successfully infiltrated the Brussels system found themselves part of the Esprit establishment. The benefits were obvious, but the cost may have been isolation from those organisations and individuals not part of this establishment.

> It is always the same faces we see. Esprit has always been a closed club. . . . Unless you can spot the right channel, there is no way you can get into Esprit – unless you are introduced by one of the old faces.

7. Concluding thoughts

Senior managers value information, but not particularly for knowledge. It is entitlement to in-

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formation, rather than information itself, that confirms a senior manager's place in the organisational hierarchy, and bestows the authority to control (Pettigrew, 1972; Adam, 1991). The personal networks of the organisation's employees may well provide the external information the organisation requires for its innovation, but these networks entitle the senior manager to nothing and they evade his control. Collaboration to share information for innovation – the ostensible purpose of Esprit – demands that senior managers have control over this information to ensure its sharing (Kaye, 1995; Bidault et al., 1997). Without this control, managers may promise their collaborators information from personal networks, but they offer what is not theirs and what is not in their power to give (Conway, 1997).

Many senior managers are reluctant to accept that they may not control the networks of employees, the functioning of these networks, nor the information obtained through the exchange that personal networks permit. Reluctance is fortified by a climate in which a profusion of management methods promises managerial omnicompetence, even omnipotence, in which individualism has been subsumed by the command culture of organisation, in which managers are expected to manage knowledge within network organisations. It is not at all easy for the modern senior manager to admit that not everything can be managed and that the role of managers includes determining what can be influenced rather than controlled, and what is best left entirely alone (Augsdorfer, 1996; Eliasson, 1999).

> ... a contact of any type can instigate something that ends up in a research project. It is a little difficult to identify the cause and effect because there is a snowballing there. Often it can be a technical enquiry and from that some completely unexpected activity can result.... Our strategy tends to be very responsive and our ability to respond to opportunities that this rapidly evolving market provides is in a way our business strategy. Rather than have a clear strategy of what we are going to do over the next ten years, we don't look that far ahead. What we do is look to drive out opportunity from the contacts we have and quickly.
>
> What we actually find is having put this network together in a controlled way, they then think about things in a completely uncontrolled way and a new idea pops out. It is a spin-off benefit which you can't predict.

This paper has used evidence from the Esprit programmes to explore networking in collaboration. To be sure, it finds networks within collaboration, information networks supported by personal relationships and trust (see Assimakopoulos and Macdonald, 2003), but many of these seem to be pale and flaccid affairs, a far cry from the vigorous information exchange systems of the Silicon Valley model. These networks are often scarcely distinguishable from contact lists, personal relationships are often made through the organisation, and trust is decidedly bounded. These networks fit unthreateningly within organisational structures. They do not test organisational loyalty, and they do not challenge managerial control.

> I feel I can ring people in a hundred different companies in Europe and just pick the phone up. I could talk to a professor of Hallam University now and he would say, 'How are you doing? Wasn't that good the time we came over and punted up and down the river? Yes, now why did you ring me up?'. And off he goes. I think it is a very pleasant aspect of the networking which may help a great deal into how much you feel you can tell the guy at the other end of the phone, and a level of, I suppose, trust you are talking about.

Of course, there is always a balance to be struck between the control required to manage and the freedom needed for personal networking. There is, perhaps, a tendency for senior managers to see collaboration as automatically tilting the balance in favour of information flow, and therefore requiring managerial action to restore control. The Esprit evidence indicates just the opposite, that collaboration does not mean ready information flow, and that more freedom, rather than less, is required to restore the balance.

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