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COOPERATION SYSTEMS IN RESEARCH NETWORKS – CASE EVIDENCE OF NETWORK (MIS)FIT AND ADOPTION CHALLENGES

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Abstract

University research is increasingly organised in inter-organisational networks. As part of its 6th research framework, the European Commission (EC) funded a total of 130 so called networks of excellence (NoEs), a special kind of network with the purpose of strengthening and developing community, scientific and technological excellence by way of integrating existing and emerging research activities and by exchanging knowledge. In such NoEs electronic collaboration platforms are typically implemented to support collaboration between the individuals from the various research institutions. In this paper we investigate the adoption of a collaboration platform in one NoE case - the GARNET network. We find evidence that the platform is used for administrative purposes and to support the organisation of events. However, a web log analysis reveals a lack of adoption for its actual purpose – the support of collaborative research and knowledge exchange. A social network analysis further uncovers that the GARNET network is very fragmented on the social level, which points to a misfit between network structure and the positioning of the collaboration platform. Our findings lead us to suggest immediate next steps for this NoE and also point to general implications for network designers and future research in the domain.

Keywords: Research networks, Networks of Excellence (NoE), Cooperation systems, Adoption, Social Network Analysis (SNA).

1 INTRODUCTION

In the past decade we have observed a profound transformation of the organisation and practices of work: most obvious is the increase of distributed and networked forms of work within and across organisations (Ciborra and Suetens, 1996; Malhotra, Majchrzak, Carman and Lott, 2001; Orlikowski, 2002). An increasing number of companies as well as universities and research institutions participate in organisational networks of various kinds (Ebers, 1999). This increase in inter-firm cooperation and network building subsequently results in an increasing number of geographically distributed work teams (Bultje and van Wijk, 1998). However, virtual collaboration is often precarious with well-known organisational problems on the group level (Breu and Hemingway, 2004; Introna, 2001). Especially the creation of the necessary social structures in distributed groups is often problematic (Riemer and Klein, 2008). Here, both an effective management of virtual work and the application of suitable cooperation systems are important.

In this paper we study the network structures and the application of a collaboration platform in a specific type of organisational network. As part of its 6th research framework the European Commission (EC) funded a total of 130 so called networks of excellence (NoEs). The purpose of NoEs is to strengthen and develop community, scientific and technological excellence by means of the integration of existing and emerging research activities and by the exchange of knowledge (European Commission, 2003). For our study we observed the NoE GARNET, a network of researchers with interests in globalisation phenomena. Two of the authors of this paper were responsible as software designers for the development of a collaboration platform that was deployed in the GARNET network. In this paper we report on the subsequent evaluation of the platform: we investigate the use and (lack of) adoption of the collaboration platform that was designed specifically for the NoE and implemented in order to facilitate and support collaboration between network members.

After introducing the study and our data collection approach in the next section, we present results of a log file analysis to show how the platform is currently being used and that the functionality of the platform is, to a large extent, not utilised by the network members (section 3). We then draw on social network analysis (SNA) in order to investigate reasons for this apparent lack of adoption within the NoE (section 4). We find evidence of a misfit between the existing network structure and the resulting requirements for supporting inter-personal processes in the network on one hand and the current functionality and positioning of the platform on the other hand. We discuss the results of our analysis and reflect upon tool-support for this particular type of organisational network (section 5). We conclude with implications for network managers and future research (section 6).

2 STUDY OVERVIEW

2.1 Motivation

Within the 6th framework program the EC invested more than ever in the built-up of networks between research institutions (Kock and Antunes, 2007). One particular action was the facilitation of 130 networks of excellence (NoE). The NoE as a specific type of network aims at integrating the research capacities of its network partners and, at the same time, it aims at advancing knowledge creation in the particular NoE scientific domain (European Commission, 2003). While the EC had high hopes for the NoEs as a vehicle for knowledge sharing and new knowledge creation on a European level, internal EC research shows that only few NoEs are currently fulfilling the expectations. A major issue is the apparent lack of actual collaboration among network partners. Typically, collaboration is being supported by the application of e-collaboration tools, i.e. Internet-based collaboration platforms. However, in most cases the usage of these platforms falls far behind expectations. Little knowledge exists

in regards to the reasons for this lack of adoption or, more generally, potential factors influencing the success of e-collaboration tools in the context of NoEs.

Unlike in other organisational networks, where organisations team up with a concrete aim, such as the development of a joint product or the streamlining of joint processes, in NoEs the participating organisations come together mainly because of their similar interests in one research domain. The NoE acts as a vehicle or potentiality for facilitating new activities, but the network formation itself is not motivated by the immediate aim to develop a joint product or artefact of any kind. As we will discuss later, this has implications for the type of e-collaboration tools that might be helpful in this context. In order to identify typical usage problems and reasons for the lack of adoption of e-collaboration tools in NoEs we investigate as part of a case study the GARNET network, which is a typical NoE both in terms of organisational characteristics as well as its regional distribution.

2.2 The NoE GARNET and its electronic collaboration platform

The NoE GARNET consists of 42 research institutes from 17 European countries. It is organised around nine work packages, in the first of which the authors were responsible for the development and introduction of the collaboration platform. Generally, the NoE aims at increasing the communication between its members by financing visits, conferences, collaborative publications and the building up of a common database on the topic of globalisation and regionalisation. In every work package or topic group multiple institutions work together under the lead of one or more coordinating partners.

The collaboration platform used within GARNET is based on the open source platform HERBIE, which was adapted for the specific needs of the GARNET NoE. HERBIE (www.herbie-group.de) aims at supporting communication, coordination and collaboration within knowledge creation processes. Its core element is a knowledge management system, in which information resources are organised in tree-like structures. The platform features a dedicated rights management system and a version management. Every (knowledge or other) object (information resource, group, user) can be characterised using a database of keywords. Furthermore, the platform facilitates text discussions, which can also be attached to specific objects (e.g. documents). Chat rooms, newsgroups and wikis can be used for communication purposes. Extended user profiles and search functionality allows the built-up of an expert database and several tools are available for organising the process of information generation, such as a messaging and a calendar system

2.3 Research Design and Data Collection

Our study is divided into two parts. The first part focuses on the usage of the GARNET platform. In order to investigate platform use patterns and the adoption of particular functionality we carried out an analysis of the platform log file data. The main finding from this analysis – the platform was generally used, usage however was mainly restricted to network organisation, rather than actual scientific discussions – led us to investigate the reasons for the lack of actual collaboration. For doing so we carried out a social network analysis (SNA) of the GARNET network. To verify and further explain our findings, we also started with a series of qualitative interviews; first results are discussed in section 5.

2.3.1 Log File Analysis

We carried out a log file analysis to investigate platform usage by the GARNET members and to get an idea of the adoption of single features. The data for the log file analysis was collected with web usage mining techniques. Every action a user takes, such as uploading a document, is logged o the platform. Data is stored regarding the time of a request, the feature accessed and the knowledge resource involved in the user action. For our analysis we relied on data collected between November 2005 and July 2007. The data was extracted from the central database using SQL statements and imported into spread sheet software, where the data was visualised.

As a first step in our analysis we concentrated on the structure of the document tree, the nature of files that were up- and downloaded and the areas that were most frequently used. Based on the nature of the structure and the classification of the documents within this structure we were able to draw conclusions regarding the purpose of the documents. In a second step, we looked at the usage of tools like chat rooms, wikis and newsgroup resources. Here, we focused on a comparison of the usage intensity of documents and collaboration tools. Results of the log file analysis are presented in section 3.

2.3.2 Social Network Analysis

Motivated by the results of the log file analysis we carried out a social network analysis. Data was collected using an online survey. In the survey every NoE member was asked to describe their relations with all other members. For doing so, four different options were provided: 1) "I do not know this person", 2) "I know this person", 3) "I am in regular contact with this person", 4) "I cooperatively work with this person". In addition to describing relations, we also asked for attributes such as sex, age, the role in the network (project manager, administrator, senior researcher, PhD student, post doc) as well as the member affiliations. Furthermore, all institutions were assigned to the countries they are located in, in order to investigate the regional distribution of the social network.

Around 300 participants were contacted; this includes all NoE members, which are the core group of this study, as well as other researchers, who have come in contact with the core network on conferences or workshops organised by GARNET members. The questionnaire return rate was 27% in total, which is not very good at first glance. However, the figure has to separated by return rates of NoE members, which was 71% (69 of 97), and non-NoE members, which was 7% (14 of 203). Consequently, we were able to get a good picture of the core group from this data. The poor return rate for non-members points to a rather loose integration of these individuals with the GARNET network. For carrying out the SNA we included the data of all 83 individuals that answered the survey. The restriction to only those members who answered the survey is necessary to ensure the validity of SNA measures such as the centrality measures (see section 4).

3 CHARACTERISTICS OF PLATFORM USAGE

In order to investigate the adoption and use of the collaboration platform as a first step a web usage analysis was performed using log file data. The first objective was to determine, whether people actually register for the platform. Second, we looked into the usage intensity of the specific functions on the collaboration platform. Finally, we aimed at identifying those tasks that were mainly executed on the platform. Due to space restrictions we only briefly present the main findings of the analysis; a detailed description was published elsewhere (vom Brocke and Große Böckmann, 2008).

3.1 General registration with the platform

The most basic step in determining the diffusion/adoption of the platform by the network members is to look at the proportion of people who registered with the platform. Hence, we first analysed whether the majority of the NoE members registered with the platform. The initial goal when setting up the platform was to reach 80% of the GARNET members within the first two years. Our analysis of registration data and user names shows that until July 2007 more than 420 people registered. This number includes external individuals that participate in one of the GARNET research projects, conferences or at the GARNET PhD school. Since a fixed list of GARNET members was not available at this stage of the study we looked into the research projects in order to see whether a sufficient number of individuals had registered with each single project. In every research project between six and 41 individuals were registered. Since the typical project size in GARNET is five to 15 members, it can be concluded that in every project the expected number of individuals were registered. Please note that the large number of members in some projects is caused by opening these projects to a broader scientific com-

munity. We conclude that a significant number of all GARNET members have been reached by the platform; the platform is known within the network and used in all workgroups and research projects.

3.2 Types of information resources most frequently accessed

This part of the analysis was concerned with the content tree, which contains the shared information resources being stored on the platform. This resource tree is divided into different areas by purpose of the resources and the sub project they are used in. Because of this, the distribution of objects (documents, wikis, newsgroup content or chat objects) across the resource tree gives good insight as to the purpose the collaboration platform served for the GARNET group.

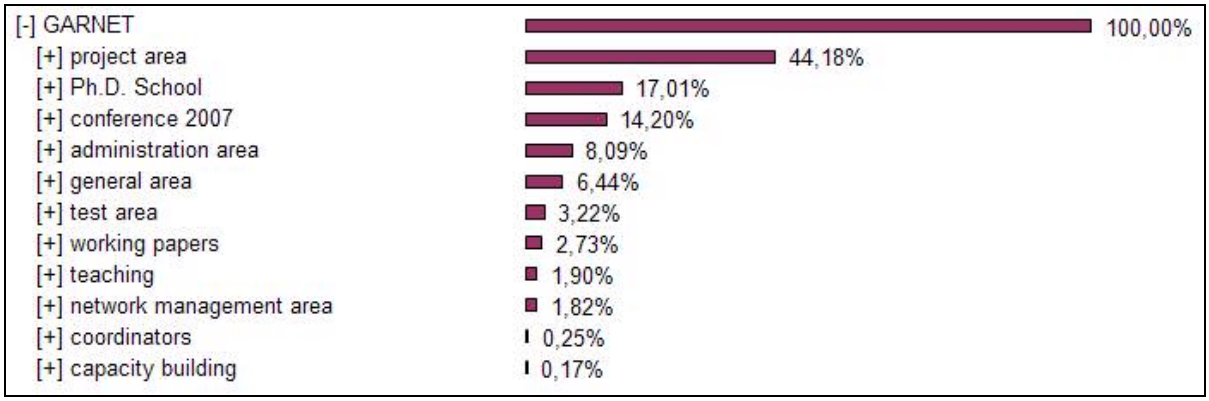

Figure 1: Document distribution across the resource tree

Figure 1 shows the relative distribution of documents in the main areas of the resource tree. Most documents were created in a project context (44%), in the PhD school (17%), or the conference area (14%). Another 8% were created in the administration area. Documents created in the PhD school and conference area are predominantly related to the reviewing processes of paper submissions (86%). For the project area a brief content analysis was carried out: 42% of all documents were concerned with the preparation and wrap-up of conferences and workshops, 23% were used for management reports, another 12% for other organisational tasks, such as personal management or budget management, and a mere 23% of documents were related to collaborative research in a narrow sense: the joint preparation of books, papers and other publications.

Consequently, the web usage analysis reveals that only 13% of all documents (including all versions) on the platform are related to the actual collaborative research. In contrast, 57% of all documents on the platform are related to conference or workshop preparation and wrap-up, a further 15% are used in administrative tasks concerning the entire network or specific projects and the remaining 15% have been created in various other contexts. The lack of usage for collaborative research is also reflected in the ignorance of the versioning feature. On average only six percent of the documents exist in more than one version. Only eleven documents have more than three versions. Hence, since our main intention developing the platform was to support collaborative research and scientific work, this emphasis on project coordination and administrative tasks could point to a lack of adoption of the platform with regard to the daily work practices of researchers and scientists. This is corroborated by an examination of the level of usage over time: although the platform is used continuously, the usage level increases significantly right before conferences, PhD workshops as well as when formal reports and administrative documents had to be prepared and uploaded to the platform.

3.3 Usage of collaboration features

In the final step of the analysis the usage of collaboration features was examined (wiki, newsgroup and chat). Our analysis shows that only 45 wiki texts with an average of 2.2 versions each and 53 news-

groups with an average of 2.4 entries have been created. The collaboration features were mainly used for carrying out collaborative research work, but the absolute number and especially the intensity of the initiated discussions falls far behind expectations.

In summary, we conclude that by examining the platform usage patterns we find no evidence for achieving the main NoE goal – the support and intensification of collaborative work within the GARNET network. We see that most of the uploaded documents are not related to scientific work, but to organisational tasks. Additionally, our data reveals that the communication tools on the platform are seldomly used. Increasing the level of direct collaboration hence could not be achieved with the introduction of the platform. However, the platform in general has been accepted and used for conference and workshop organisation, for administrative tasks, and as a document base for project reports. Usage thus is mainly coordinative and not collaborative in nature.

Two possible reasons for these observations should be considered: firstly, the reason might lie in a lack of acceptance of large parts of the platform, e.g. due to usability problems; secondly, a general lack of collaboration in the NoE might be mirrored in the platform usage patterns. However, the general acceptance of the platform for coordination tasks stands in stark contrast to the (lack of) evidence found for collaborative research work. This leads us to the question whether research collaboration in the GARNET NoE actually happens, i.e. outside the collaboration platform. A first starting point is to look at the social network structures within GARNET.

4 SOCIAL NETWORK STRUCTURE

4.1 Overview

The objects of interest in a social network analysis (SNA) are the relationships (and their type/nature) between members of an organisational unit and the structures they form (e.g. with regard to the particular nature of the resulting networks). A social network can be defined as a number of individuals (the nodes) and the relationships between them (the links) (Newman, 2003). The SNA as an analytical tool aims at describing and explaining the behaviour of individuals by scrutinising the existing structures of their social networks, as well as the creation and development thereof (Jansen, 2006). Again, we are only able to report on the most important results of our SNA, for a full account of the study please refer to (vom Brocke, Riemer and Richter, 2008).

The analysis of the social structures of the GARNET NoE reveals a high degree of centrality in the network, which means that only a few individuals are able to work efficiently, as they have the necessary social influence and access to resources. The social influence can be measured using the so called rank prestige (Friedkin, 1991). Rank prestige is defined by the sum of all connections that lead to an individual in the network, either directly or indirectly; every connection is then weighted by the influence of the individual where the connection originates from (Trappmann, Hummell and Sodeur, 2005). Further analyses led us to single out the following three findings, which are suitable to explain the reasons for the lack of adoption of the collaboration platform:

- **Initiation of new cooperation:** Only a few individuals in the network are well enough connected to initiate new cooperations.
- **Existing scientific cooperation:** Only one third of the scientists in GARNET are connected in a way that makes them member of a scientific cooperation of three ore more individuals.
- **Junior faculty cooperation:** Young scientists (PhD students, post docs) are generally only poorly connected.

In the following sections we elaborate on these observations.

4.2 Initiation of new cooperation

Initiation of new cooperations can generally be done in two ways: 1) One or more of the future cooperation partners inititate the contact (internal initiation) or 2) an outside person triggers the cooperation without further participation (external initiation). For self-initiating new cooperations, a high direct social influence is necessary, as the future cooperation partners need to know each other. At least this needs to be true for one of them. Direct social influence can be best measured by the outdegree of degree centrality (Breiger, 2003; Friedkin, 1991; Jansen, 2006). Actors score high on centrality when they hold a large number of outgoing connections (Knoke and Burt, 1983). Three individuals show a high direct social influence with an outdegree of more than 60 connections. Another four individuals with an outdegree of more than 30 connections still have an acceptable potential for the direct initiation of new cooperations. But 71% of the NoE members are connected to less than a quarter of the other individuals. Overall, the potential for internal initiation is low for these individuals. They will most likely have to depend on external initiation by other NoE members. As only seven individuals have a siginificant potential for internal initiation of cooperation, the network mainly depends on a handful of mediators to externaly initiate any new collaborative endeavours.

The potential for acting as a mediator to initiate new cooperations can best be determined by the betweenness centrality (Friedkin, 1991). The ten individuals with the highest betweenness centrality and hence the potential to act as a mediator are listed in figure 2. Individuals 51, 5 and 89 are included in more then ten percent of all connecting paths in the network and thereby have a high mediating potential. Moreover, 78 of 83 individuals have nearly no potential for acting as a mediator. Based on the analysis of centrality measures we conclude that the structure of the GARNET social network neither holds significant potential for internal nor for external initiation of new cooperations. Hence, this reduces significantly the likeliness for the formation of new cooperations from the social network.

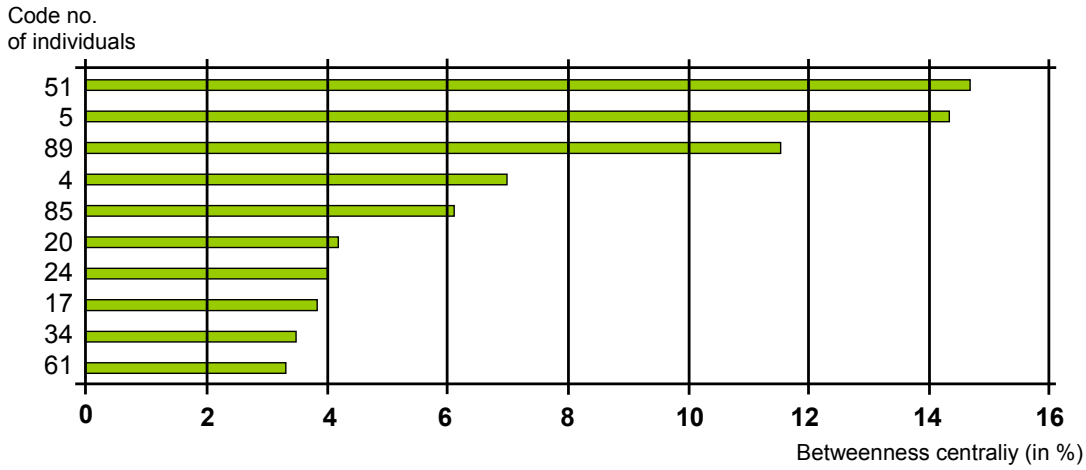

Figure 2: Betweenness centrality

4.3 Existing scientific cooperation

Not surprisingly, the low potential for creating new cooperations is mirrored in the number of existing ones. In order to analyse existing cooperations only connections can be meaningful that give an insight into the work relations of the GARNET members. Thus, only 'type 4 connections' were considered ("I cooperatively work with this person").

In total, eleven cliques were identified in the social network; two cliques consist of four and the rest of three members. The most influential individuals in terms of centrality (see above) are also best represented in the cliques. Individual 5 is part of four, individuals 89 and 85 are part of three cliques. All in

all only 20 individuals belong to at least one clique. This indicates that more than two thirds (42) of the scientists (senior researchers, PhD students and post docs) in the network are not represented in any of the cliques. Consequently, we have to conclude that two thirds of all GARNET scientists are not included in any cooperative groups with three or more of the other GARNET members. All existing cooperations are pictured in figure 3. The individuals are coloured according to their affiliations.

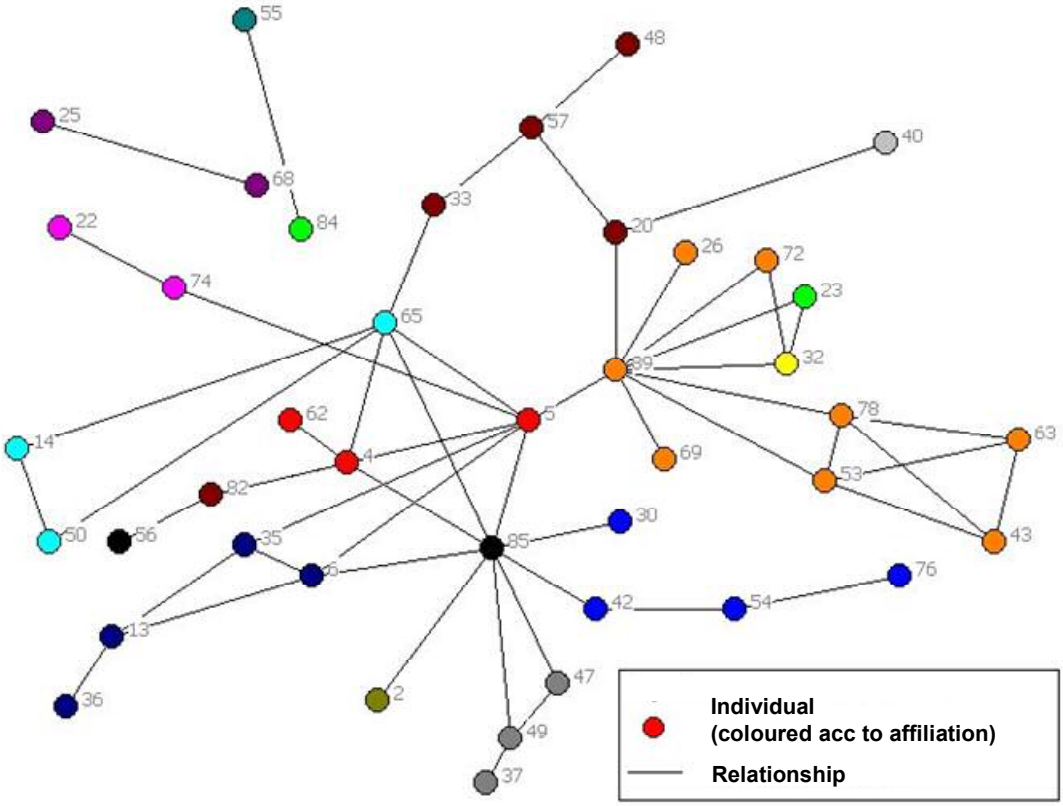

Figure 3: Existing groups of cooperation

Figure 3 reveals a strong local character of collaboration: in four of the eleven cliques all members [(6, 13, 35) (14, 50, 65) (53, 78, 89) (43, 53, 63, 78)], in another five at least two members are working at the same institution [(4, 5, 82) (32, 72, 89) (4, 5, 65, 85) (47, 49, 85) (5, 6, 35)]. Only two cliques feature members who are all working in different institutions [(23, 32, 89) (5, 6, 85)]. However, in one of the cliques (23, 32 ,89) all members work at institutes in the same country, which are also located quite close to each other; one clique (4, 5, 65, 85) at least has members form three different institutes in different countries. All in all, nine of eleven cliques have to be characterised as geographically co-located cooperations. Only two cliques (<20%) qualify as geographically distributed cooperations.

4.4 The network of young scientists

The network of junior faculty members or young scientists (connection type 2: “I know this person”,) is made up of PhD students and post docs. The betweenness centrality in the network of young scientists (0.38) is noticeably higher compared to the overall network (0.13). This indicates that the most central individual (4) is much more influential than the most central one in the overall network (Jansen, 2006). This is also reflected in the social influence of individual 4 (0.555), who has more than double the rank prestige than the second influential individual, no. 76 (0.26). Consequently, the network of young scientists is quite centralised.

Centralised networks in general are very effective when it comes to goal-oriented problem-solving work (Jansen, 2006); this is due to the central position of the individual with the highest social influence who is in a broker position in an otherwise only sparsely connected network (Burt, 1992). However, a scientific network such as GARNET aims at bringing together as many individuals as possible for discussion and knowledge sharing. In order to form an efficient scientific network therefore social capital in the form of densely connected social networks is needed (Coleman, 1990). This is not the case in this network however; the network of young scientists (17.002) shows only a third of the closeness centrality of the network of senior researchers (53.123). In the network of young scientists it is thereby hard to get in contact with other individuals. This is also reflected in the generally low number of connections: individuals in the network have a mean of 2.5 connections to other individuals (7.6 connections in the network of senior researchers). The absence of social capital in the form of a high degree of connectivity is to be seen as a major problem for the facilitation of joint work and collaboration in the GARNET network, because in academia a considerable amount of research work tends to be carried out on the junior faculty level. Hence, the lack of absence of suitable social structures between young scientists is a good indicator for the absence of notable collaborative activity in the entire social network within the NoE.

5 DISCUSSION

5.1 Usage of the platform to support organisational tasks

The main goal for introducing the collaboration platform in GARNET was supporting geographically distributed collaborative work in groups of three or more individuals. However, as our results reveal, the platform was mainly used for organisational tasks instead of collaborative work. Tools for collaborative work (chat rooms, newsgroups and wikis) have hardly been used and only 13% of all documents uploaded to the platform are related to the actual collaborative research. Thus, we can conclude that nearly no collaborative research work is taking place on the platform and that the original goal has not been fulfilled. Nevertheless, the platform has been and is still being used by GARNET members, albeit with a different focus. Usage is mainly concentrated on coordinative or administrative tasks (72%). Particularly intensive use of the platform can be observed in the periods before upcoming events (conferences, PhD workshops); the platform is used to organise the events and to fulfil the necessary reporting tasks, even without the existence of specific features (e.g. for planning) to support these tasks. Hence, there seems to be a high demand within GARNET to better support conference organisation and reporting tasks.

Support of organisational tasks was not the focus when introducing the collaboration platform. Usage patterns of these tasks clearly exceed expectations. Despite providing some functionality that can be adapted for event organisation (calendars, support for paper submission, project working areas…), the use for such purpose was neither pushed nor supported explicitly by way of planning features or document templates provided. We conclude that one possible next step is to reposition the platform to better support these organisational and administrative tasks through integration of project management functionality.

5.2 Structure of the network and facilitation of new cooperation

Despite the administrative use of the platform, overall usage still did not reach the expected level. The social network analysis of existing cooperations in the network, especially considering the geographical factor, shows that almost no distributed cooperation in the GARNET network proliferated to date. This becomes even more vivid when taking a deeper look at the two existing distributed cooperations. Whereas in one of these cooperations one member is not even registered, in both cooperations half the remaining members have not created one single document on the platform. Most individuals are not sufficiently connected; the current network structure is highly fragmented. That gives advantage to

certain individuals with high social influence as they can move into broker positions (Burt, 1992). However, information exchange within the network as well as the creation of new cooperation suffers from this fragmented structure. Most individuals do not have the influence to initiate new cooperations on their own and, in addition, there are only very few individuals that can act as brokers for facilitating cooperation. This is increasingly apparent as most individuals with a high social influence are only rarely or not at all active on the platform. Preliminary interview results also point to the fact that organisational work is mostly delegated to assistants and phd-students; the social network of the junior faculty network however is even more fragmented than the overall network.

Without creating new connections, the network will stay fragmented and not build up the necessary social capital, i.e. the necessary connections, trust and also joint understanding among network members, for enabling effective inter-personal cooperation across institutions (Riemer, 2005). This is particularly problematic for NoEs, since they are created specifically to support information exchange and the facilitation of new cooperation among European scientists. Hence, it is imminent to increase the degree of connectivity in the sense of dense network structures (Coleman, 1990), because densely woven networks are known as good environments for information exchange as well as for creating awareness of other network members as potential cooperation partners (Nahapiet and Ghoshal, 1998). Consequently, new opportunities for making contact, establishing relationships and thus creating social capital in the NoE are needed. Following this line of reasoning there seems to be another route for repositioning the GARNET platform as a vehicle for relationship facilitation and network creation.

5.3 Collaboration platforms for fragmented networks

Our results point to a need for relationship formation within the GARNET network in particular and in NoEs in general. NoEs are artificially generated setups aiming at facilitating cooperation and knowledge exchange, but without a lot of explicitly designed mechanisms for doing so (apart from vehicles such as the joint meetings, workshops or working paper series). Technical support for relationship facilitation seems one promising approach for doing so, albeit embedded in other organisational measures that are not in the focus of our study (e.g. workshops, team exchanges etc.).

We argue that the collaboration platform might be redesigned to support the initiation of new contacts in fragmented networks. Since most GARNET individuals do not know each other yet, the platform might support getting to know each other instead of supporting existing collaboration. Tools that hold the potential to improve the structure of a social network are tools that collect, structure and provide information about members and with that increase the awareness of other individuals and their skills in the network (Huysman and Wulf, 2006). The need for tools that support the initiation of new cooperations as well as a group collaboration life cycle has also been articulated in the qualitative interviews we carried out with selected GARNET members.

By integrating features typically known from social software portals such as MyFaces, Xing, or Facebook the platform might be repositioned to support the creation of new connections between network members (Hippner and Wilde, 2005). In social network platforms various features aim at gathering information about platform members or facilitating contact between them. Users are typically able to describe themselves using profiles that hold contact details, interests, professional background etc. and to maintain a list of contacts in (buddy) lists. By applying functionality like “contacts of my contacts” members can playfully search for other people who are only indirectly connected with themselves, but might have related interests (Parameswaran and Whinston, 2007). With such features, the broker potential of the most central individuals can be better utilised; the initiation of new contacts, in particular for junior faculty, can be facilitated and with that the proliferation of a denser network structure.

Interestingly, the collaboration platform used in GARNET already provides some rudimentary profile description as well as a feature to search for experts, however, without providing the same functionality for supporting the facilitation of new connections or for searching the network by related contacts. Here, the interactive and participative nature of social software might be the key to enabling network

formation. In a next step these features might be integrated to the platform on a prototype basis and be tested with GARNET members in order to learn about their suitability in an NoE context.

6 CONCLUSIONS

Our results reveal that the collaboration platform used in GARNET, aiming at supporting collaborative work, did not fit the actual needs of the network. Taking into consideration that most NoEs are very similar in their structure and the nature of formation it is likely that these findings are transferable to other NoEs. Consequently, at least for GARNET, we propose a repositioning of the platform in use. More specifically, we propose a two step approach: first, the obviously existing demand for supporting organisational and administrative tasks should be met; second, features (e.g. derived from social software) should be implemented to support members in getting in contact and to create new cooperations. A successful realisation of step one can hereby act as a promoter for success in step two; as an increased use of the platform will make users not only more familiar with it, but will also simply increase the time during which they use it and are thus amenable for using the opportunities provided for getting aware of other members.

Our findings show that our collaboration platform was not adopted by the GARNET members in the way we expected it to be. One reason was found in the structure of the network. But though the proposed repositioning of the platform could contribute to improving the network structures, we still need to find out the underlying reasons for these social network structures, especially since – typical for an NoE – in GARNET opportunities in the form of conferences and mobility funding existed to create new contacts among members and with that to create a denser network structure. Preliminary interview results point to incentive problems: Most researchers seem not to hold much interest in collaborative work, because single author publications are much more appreciated within the GARNET community. Also, applying for mobility funding in most cases is motivated more or less financially rather than by the opportunity to get in contact with other scientist. It needs to be further investigated, to what extent research culture and incentive structures in the social and political sciences contribute to the apparent lack of collaborative work in our NoE. Therefore, a detailed analysis of the organisational structures of GARNET and the motives for members to join the network are needed starting with a more detailed analysis of the interviews we carried out. After all, the creation of new cooperations is only possible in an environment promoting a cooperative culture (Figallo and Rhine, 2002).

By implementing our two-step approach we will also have to analyse to which extent the proposed actions are able to improve the usage of the collaboration platform as well as the formation of new contacts and cooperation between the network members. Apart from further analysing the GARNET project, studies on other NoEs as well as networks with a similar structural setting need to reveal whether our findings represent a general phenomenon for this particular type of network or if they are specific for the GARNET case. From our experience and a brief overview of other NoEs we believe that our findings should be of interest for managers and platform designers in other NoEs. We also hope to make a contribution to better understanding in general the application of collaboration platforms in distributed research contexts.

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