

Modes of Knowledge Sharing between Groups

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Introduction

The inspiration for this work comes from a research consultancy project aimed at assessing the use of the web to enhance communication between two groups, namely, teams of clinicians and the families of patients in Intensive Care Units (ICU). As this project unfolded, the challenge of enabling knowledge sharing between these two disparate groups was encountered. In the ICU situation the patient usually does not have the capacity to contribute to their healthcare choices so that decisions have to be made on their behalf using the combined knowledge of the clinicians and the patient's family. The situation is made more difficult by the ad hoc nature of events experienced by the ICU staff and family members who happen to be present when time-critical decisions have to be made at all hours of the day and night. As a spin off from the main project, the potential for alternative modes of knowledge sharing between the two groups was investigated. The result of this process is the taxonomy of modes of knowledge sharing between groups that is presented and discussed in this paper.

The proposed taxonomy is composed of five types of inter-group knowledge sharing which, as described above, includes information flows and inter-personal communication on which decisions are based leading to action. Groups are engaged in interrelated activities so that between group coordination is required where there are weak ties between groups and strong ties within groups. In the ICU study for example, the clinicians had a common professional expertise and medical language, and the ICU team in each hospital had bonded through working together in crisis situations over an extended period of time. As expected, family ties were also strong and long standing but of a different nature to those within the ICU team. Each type in the taxonomy is described and illustrated by the case where two small groups interact. The two groups are designed as X and Y with members $\{x_1, x_2, \dots, x_i\}$ and $\{y_1, y_2, \dots, y_i\}$ respectively. However the same styles could apply where more than two groups are involved and where the groups are larger.

Mode 1 – Ad Hoc

In ad hoc knowledge sharing, each member of X (the x_i) has access to each member of Y (the y_i) as depicted in Figure 1 and interaction depends on individual communication often by chance meeting which could be infrequent and difficult. This mode of knowledge sharing was observed as the most common style of interaction between clinicians and families in the ICU study and is typical of informal proximally located groups, for example community organisations. Three problems observed in the ICU with this mode is, firstly, that there is often no record of who has spoken to whom, secondly, contradictory information may be passed between groups by different inter-group encounters, and, thirdly, knowledge received by one group member may not be shared among group members even though ties between them are strong. On the other hand, we have seen in the workplace and in the military, that there is value in encouraging informal social interactions between members of different teams and units. This builds morale, broadens social learning, and helps develop positive attitudes to activities that span team and unit boundaries. Ad hoc inter-group relationships and networks can be a source of new ideas and innovations and provide an informal alternative means of communication in situations when formal channels breakdown.

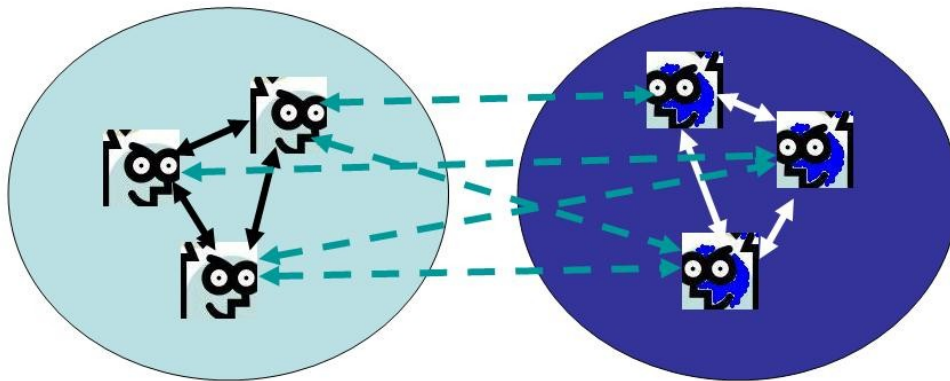


Figure 1. The ad hoc mode of interaction where there are weak ties between each x_i and each y_j and strong ties with groups X (left – light blue) and Y (right – dark blue)

By its nature the ad hoc mode often happens naturally and is the default when no other mode is set up. However, group members may realise that it is not a very efficient mode of knowledge sharing and can be the cause of fragmentation of information and decision making. The ad hoc mode is often of value as a supplement to other modes to build informal networks in a traditional formal bureaucratic organisation.

There was a time when ad hoc meetings between members of disparate groups would only occur if the groups were co-located so that face to face encounters were possible. Now it is increasingly likely that people meet online as there many places on the Internet where ad hoc encounters can and do occur (eg social systems such as Facebook, Myspace, and Twitter). Thus distance is becoming less of a barrier to the ad hoc mode of knowledge sharing.

Mode 2 Spokesperson

In this mode, each group has one member (say x_s and y_s) through whom all knowledge sharing is channelled as depicted in Figure 2. The spokesperson could be the group leader or a representative who could be assigned, elected or even just emerges in a self-organisation group. In the ICU the obvious spokesperson for the family would be the next of kin or guardian who can make decisions on behalf of the patient. This mode is the common official mode in many work and military situations eg meeting of team or unit leaders, and has obvious advantages of efficiency over the ad hoc style when there are formal decisions to be made and where there are many groups who must co-ordinate efforts. However, group, team or unit members can feel marginalised in this process. Our research into team games (Hasan & Warne 2008) has revealed that often a team leader or spokesperson can emerge as they become more cohesive but this does not always need to be the case.

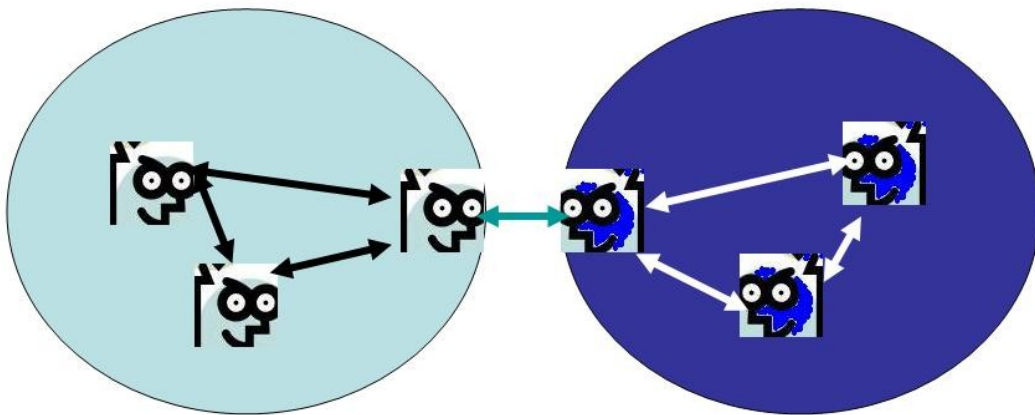


Figure 2. The Spokesperson mode of interaction where X and Y each have a spokesperson x_s and y_s who can develop quite strong ties between them in addition to with the strong ties within X and Y.

Selecting a spokesperson to interact with another group is often a solution to the recognition of problems with the ad hoc mode. Efficiencies come from faster consensus in decision-making but actual knowledge sharing may be slower and reduced as the spokesperson acts as a filter. The spokesperson can thus have a position of power and other members of the group may not have the same influence. There can be political implications on choice of spokesperson.

Mode 3 Mediator

In this mode, an external person M, ideally with relationship management or negotiating skills, performs the role of mediator and provides the channel for knowledge sharing. M could interact with all members of the group, as to each x_i in Figure 5 or and to a group spokesperson, as to y_s in Figure 3. This mode of knowledge sharing is prevalent when there is tension or antagonism between groups or a breakdown of knowledge sharing using one of the other modes. Possible mediators suggested in the ICU study were could be translators for families with limited English, social workers or lawyers. In the work environment union officials often act as mediators between worker groups and management. Negotiators also often act as mediators in hostage situations in law enforcement and military operations. Situations involving mediators usually have a level of stress and complexity on top of the other difficulties encountered in knowledge sharing between disparate groups. There is more likely to be a larger variety of motives between the activities of the groups involve that need to be resolved before they can work towards the common object that brings them together.

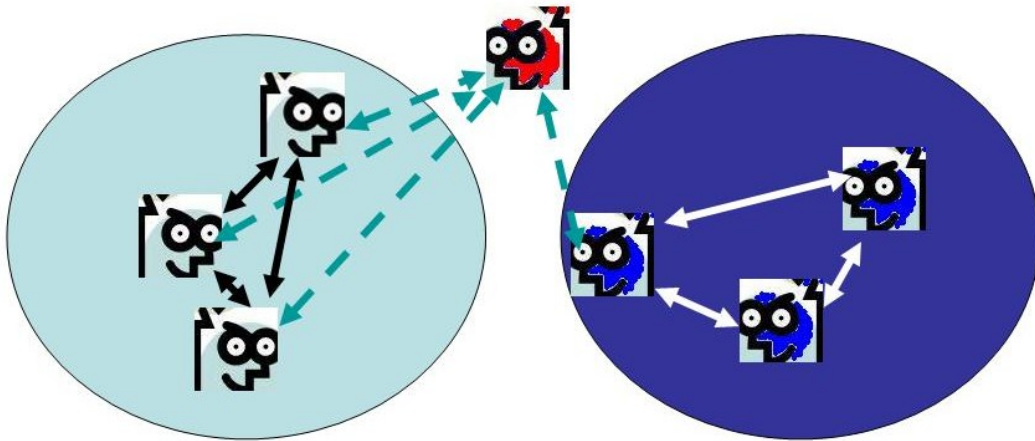


Figure 3. The Mediator mode of interaction where knowledge sharing goes through a neutral external person M (who can then interact with each group in either the ad hoc mode (X light blue group on the left) or a spokesperson (Y dark blue group on the right)

Calling in a mediator is often a solution to a breakdown in inter-group co-ordination using one or more of the other modes of interaction. There are usually difficult issues and problems to deal with so that a professional or experienced negotiator is needed. Trust and respect for the mediator, as well as his or her skills and suitability is critical to success. This mode is often used when much is at stake so that failure could have dire consequences.

Mod 4 Embedded

In this mode, as shown in Figure 4, one member of one team, say y_c from team Y, joins the other team, in this case X, either as an observer or even as a participant, and y_i can then report back to the rest of team Y from an insider's perspective. An example of this in the ICU would be if one family member attended ICU team meetings and had open access to their knowledge as appropriate. In the study we did not hear of any instances of this and, when questioned, ICU staff were quite negative to this possibility. This mode is more common in other organisations, where various representatives sit on committees of other parts of the organisation, student representatives sit on university boards, etc.

A particularly interesting recent instance of embedding is that of war- correspondents joining active battle units in covering events for news media. This mode of interaction between disparate groups gives deeper contextual understanding to the knowledge shared leading to improved outcomes of the joint activity. There are, however, obvious challenges to this mode due to issues of confidentiality, misinterpretation and even danger as the embedded person is exposed to the real activities of the other group for which they are not trained. In addition there are the issues of trust and acceptance by the receiving group of the embedded person.

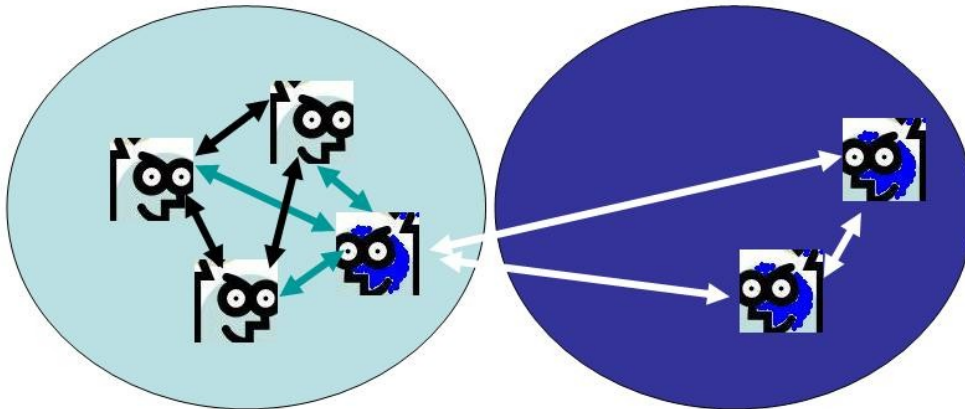


Figure 4. The Embedded mode of interaction where a member y_e of team Y joins team X.

Mode5. Boundary Spanner

In this mode, the boundary spanner has a legitimate claim for membership of both groups, and so is someone who is both an x_i and a y_i . In the ICU study there were several cases, particularly in the small regional health services where someone who worked at the hospital had a family member in ICU. Boundary spanners exist in a wide range of inter-group situations. Most such arrangements are serendipitous but provide an opportunity for quality knowledge sharing that should be exploited. The military for example can benefit from members of their own forces who have a cultural or language background of the enemy or of the countries where they are serving on peace-keeping duties.

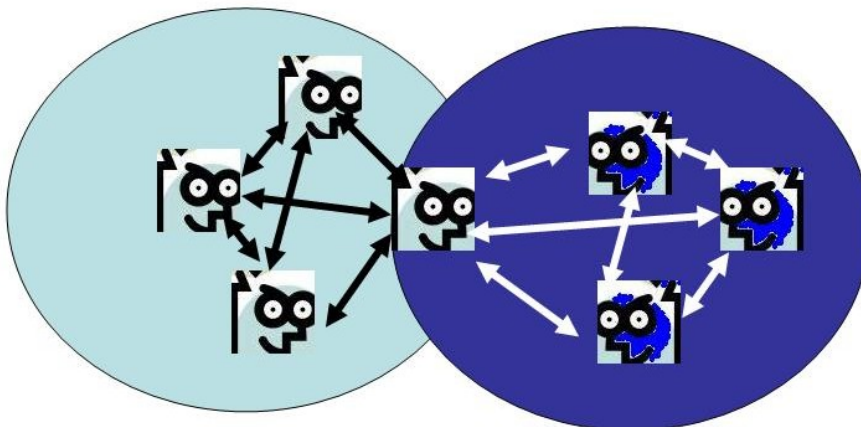


Figure 5. The Boundary Spanning mode where someone is a member of both teams.

Mixed Modes

In reality interaction between groups results in a mixture of these modes of knowledge sharing. For example in Figure 6 the light blue group, X, has a spokesperson while the other dark blue group relies on the ad hoc mode. Similarly in the mediated mode, members of group X may have ad hoc interaction with the external mediator while group Y use a spokesperson.

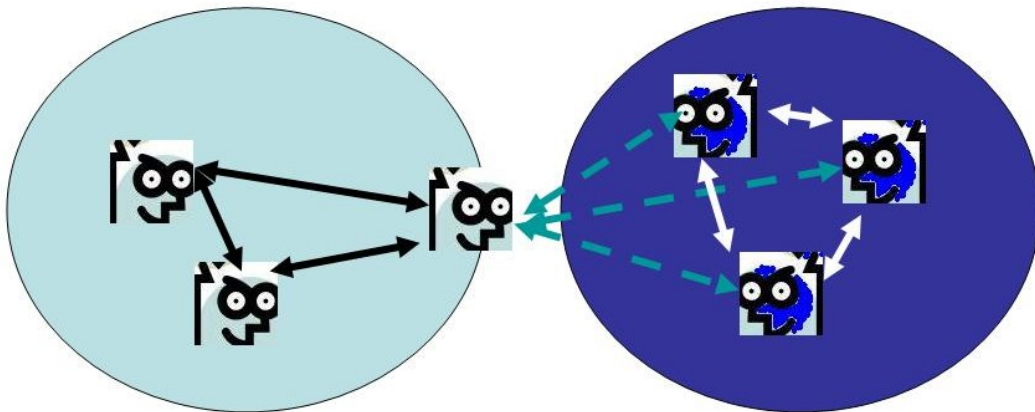


Figure 6. An example of a mixed mode of interaction where the light is blue team X operates in spokesperson mode and the dark-blue team Y has an ad hoc knowledge sharing mode.

It would also be possible for two or more modes operate in parallel particularly as most modern organisations have complex hybrid structures consisting of both hierarchies and networks (Crawford et al 2009). The hierarchical part of the organisation would set up formal arrangements, such as the spokesperson and mediator modes, to coordinate the work of teams and unit where as the less formal networks would more likely use ad hoc or boundary spanner modes.

Discussion

Table 1 is a summary of the taxonomy of alternative modes of knowledge sharing between disparate groups who must coordinate actions in activities, in which they participate, that share a common object. This taxonomy is set up to be useful for research, understanding and for practical application. As identified in this paper, disparate groups have different ways of knowing and working posing difficulties for inter-group knowledge sharing. This taxonomy provides an understanding and a language for the different modes of knowledge sharing that could be applied as appropriate in any particular inter-group activity.

Mode	Summary Description
Ad hoc	Each member of X (x_i) has access to each member of Y (y_j) and interaction depends on individual chance meetings.
Spokesperson	Each group has one member (x_s y_s) through whom all
Mediator	An external person M performs the role of mediator and interacts with all members of the group, ie each x_i or to a
Embedded	One member of one team ,say y_e from team Y, joins the other team, in this case X, either as an observer or even as a participant, and y_i can then report back to the rest of team Y
Boundary Spanner	With a legitimate claim for membership of both groups, the boundary spanner is both an x_i and a y_j .

Table 1. A Summary of the Taxonomy of modes of knowledge sharing.

The taxonomy is intended to be a tool that could be found useful in providing some guidelines as to which mode suits which group engaged in any particular joint activity. In reality, complex interaction between groups will usually involve a mixture of these modes of knowledge sharing. The choice of mode may depend on the size and number of groups; the length and strength of ties within and between groups; the level of trust based on previous occurrences of the groups' interaction; the critical nature of the communication; time pressures and constraints. Here the modes have been described when there were only two groups involved whereas many joint activities involve multiple groups, making the picture more complicated, although still a combination of the five modes described here. The reader may have encountered other modes of interaction and the taxonomy could be extended accordingly. In future research, it is hoped that the usefulness of the taxonomy will be verified and the basic concept found to be widely applicable.

References and links

Crawford, K, Hasan, H, Warne, L & Linger, H 2009, 'From Traditional Knowledge Management in Hierarchical Organizations to a Network Centric Paradigm for a Changing World', *Emergence: Complexity and Organization* (in press).

Hasan, H 2009, 'A taxonomy of modes of knowledge sharing between disparate groups', *PACIS 2009 proceedings*, Indian School of Business, Hyderabad, pp. 1-13, <<http://ro.uow.edu.au/commpapers/682/>>.

Hasan, H & Pousti, H 2006, 'SNA as an Attractor in Emergent Networks of Research Groups', *Proceedings of the Australasian Conference of Information Systems*, Adelaide, December 2006.

Hasan, H & Warne, L 2008, 'Go*Team experimentation results: research, train and sustain', *Human Dimensions of NCW*, sub-task report, Joint Operations Division DSTO-RR-0337.