Stages in NetMapping

HEAR transfer index

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Awareness: Spread the network concept

The essential initial stage of an NetMapping process is to let your client and potential users know what networks are, how they can be mapped and analysed and what you can do with them. Although everyone talks about networks there is little familiarity in the UK with Social Network Analysis (SNA) - the process of identifying the extent and structure of a network and then developing ideas and actions based on that. Without an initial awareness process the map will probably wither and die.

Diagnosis: Explore the existing networks

There are many existing networks out there. The process of mapping will reveal these and start to identify the structure of relationships. The danger is to restrict the map to only those organisations or individuals within a company or within a locality. Most networks will extend beyond these boundaries. A node within the locality may connect to another local node through a third node that is national or regional. The network map will be artificially constrained if the scope of the diagnosis limited.

Although the networks being explored my not have a purpose, the process of creating a map is always purposive. You create a map in order to understand or influence or improve and so on. It's important not to confuse the purpose of the map with the purpose of the network. Most networks come about through the aggregation of many conversations and collaborations. Their structure will not have been designed and the members will have many different, complementary and competing goals.

data collection

There are several ways to collect information for a network map. A good way of securing the engagement of map members is to get them to participate in the creation of the map at an event. Paper maps or surveys can be used to contribute data on assets held, interests and present collaborations. As these are returned the map can be created over the course of the event and that developing map can be projected on the event wall so that attendees can see the result and their own contribution.

Interviews are also a good source of map data and also allow a better understanding of the collaborative relationships that appear on the map. Surveys - both on and offline - will give more structured data but don't necessarily give you same feel for and insights into what is happening.

The sumApp data collection system we use employs an online survey very similar to SurveyMonkey. The big difference is that it stays open permanently so that respondents can update their data. The survey is also directly linked to a map created in the online Kumu network visualisation and analysis system. This will draw the map automatically and allow map members direct access to the map and their data. This is a continuous process which eases the monitoring and management of the map considerably. One sumApp feature is the 'Opt-In' that allows map members to send invitations to organisations or people not yet on the map to apply for map membership. Application results in the survey being sent to the applicant. This process allows 'snowballing' - the growth of the map over time using the members contacts.

mapping

Using sumApp with Kumu, you don't have to draw the map yourself. The nodes and links will be created for you and their content will be taken directly from the survey. The way the map **looks** becomes the major task of the map manager. The sizing and colouring of nodes and connections can be linked to their content. Filters can be shown that allow you to navigate the map and highlight nodes with common characteristics. Decorations of the map that emphasise different insights can be

saved as 'views'. Kumu is a very versatile mapping system, but it can also be quite complex for the new user. Care should be taken to simplify maps so that their visual complexity doesn't overwhelm the user.

Analysis: Identify patterns of connection

Kumu can analyse a network map and provide measures of its likely performance. These measures relate to the structure of the map and are independent of the content of nodes and connections.

centrality

Kumu can analyse a netmap to show various types of centrality - a network analysis term that covers the possible influence and ability to spread information or ideas through the network. Although SNA provides a wide range of centrality measures, in practice we tend to use three:

- **Closeness** measures the distance each element is from all other elements. In general, elements with high closeness can spread information to the rest of the network most easily and usually have high visibility into what is happening across the network. '***Discover the sensers / spreaders***'
- **Betweenness** centrality measures how many times an element lies on the shortest path between two other elements. In general, elements with high betweenness have more control over the flow of information and act as key bridges within the network. They can also be potential single points of failure. ***'Discover the brokers / bottlenecks'***
- **Eigenvector** centrality measures how well connected an element is to other well connected elements. In general, elements with high eigenvector centrality are the leaders of the network, though they may not have the strongest local influence. ***'Discover the Leaders'***

communities

Kumu identifies communities in a netmap - clusters of nodes that hang together because of how they are connected rather than because of attributes they share. This is useful in showing the key nodes that connect the clusters (bridges) and in the gaps between communities which may indicate that collaborative connections might be needed.

clusters

Kumu has a feature that allows you to identify clusters of interest. The nodes on your map will contain 'attributes' - skills, resources and so on that are often expressed as tickbox lists. Kumu can be instructed to express these as 'pseudonodes' and show connections to the nodes that contain them. We often call these affinity maps as they visualise shared interests or assets.

connectivity

Many community based projects will emphasise connectivity as a virtue. Well connected communities are held to be more resilient and able to use scarce resources more efficiently and equitably. Indeed the concept of community capital is often linked to connectivity. Kumu can provide

gaps and opportunities

Once you have learned to 'read' a network map, you start to spot holes and clusters as well as possibilities for sharing.

Focus

All netmaps have a focus.

Strategic

Operational

Use

Organisational

Organisations can use the map to:

- identify 'communities' of organisations and individuals that hang together because of how they collaborate
- identify clusters of organisations and individuals that share are common interests or assets
- pinpoint key individuals and organisations that may have the potential to influence the network or spread information
- suggest new collaborations that might improve the network for its members
- test strategies for sharing assets and information

Personal

It is unlikely that individual members of a community will use a network map to identify useful information. A local directory will direct you to services and facilities \and you don't really need to know about the connections that bind them. The value of a network map will be to guide individual activists and network builders of all sorts as to what collaborations exist and to suggest new collaborations that might improve the delivery of services or further a campaign or access skills and resources.

Evaluation

In the US network maps are increasingly used to evaluate projects where increased connectivity is a valued goal. The diagramme below was created by Network Impact for the Center for Evaluation Innovation. It come from a review of projects using network maps for evaluation.

Using network mapping for Evaluation.

Increasing use in the US by project funders where **connectivity** and / or increased **collaboration** is major aim of a project. Maps can be used to show changes in connectivity over time and relate this to project activities.