

# SOCIAL NETWORK ANALYSIS

## Understanding your communities



Everyone is talking about the enormous benefits to be had through collaborative working and better employee engagement. Industry analysts<sup>1</sup> report a 25% improvement in organisational efficiency when companies successfully deploy a collaboration platform. [McKinsey, 2012]

Whether it's social media or social collaboration, organisations are striving to deliver better value through a more connected workforce and closer engagement with customers and stakeholders. The term 'social business' nicely sums up this important development. The paradox is that *organisations continue to allocate a significant proportion of their IT budgets on communications infrastructure and 'social software' and virtually nothing on systems and tools that can analyse how effective this investment is.* A recent report<sup>2</sup> from Altimeter Group claimed that 66% of companies couldn't link social initiatives to business goals.

### Some Common SNA Terms



**Centrality** is a measure of the degree to which a single person is connected to others in the network



**Closeness** is a measure of one's closeness to all others in the network. A strong closeness measure indicates that the person can connect to all members of the network in a minimal number of steps



**Betweenness** is a measure of the degree to which a person attains a central brokerage position. A person playing a gatekeeper or intermediary role would have a high betweenness



**Eigen vector** measures one's connection to those who are highly connected, and hence may benefit through influence.



**Clustering coefficient.** High clustering indicates that there are tightly bound cliques of interconnected individuals in the network.

---

# How many organisations really understand the behaviours of their staff, stakeholders or customers?

Part of the problem is the belief that technology is the panacea for all things. No matter how many times we hear the mantra that “*it’s not the technology, it’s the people that matter*”, the task of implementing social software within the enterprise is - more often than not - addressed as an IT project. But technology doesn’t provide a solution for social interaction and human relationships. What is becoming increasingly apparent to the early adopters is that the real challenge with introducing social software is not the technology itself, but the introduction of new modes of behaviour.

But how many organisations really understand the behaviours of their staff, stakeholders or customers? Social media dashboards and sentiment analysis tools do not reveal the whole picture. A far more rigorous analysis is required in order to understand the patterns of behaviour in a network. Measuring the effectiveness of the network over time will provide the clues to its robustness and how it can be improved and developed. Social Network Analysis tools and techniques can provide these answers.



---

## What is Social Network Analysis (SNA)?

Social network analysis [SNA, sometimes referred to as Organisational Network Analysis, ONA] maps and measures relationships and knowledge exchange between people, groups or organisations. The nodes in the network are the people, groups or even blogs or computers, while the links show relationships or flows between the individuals. SNA provides a highly visual picture of these relationships. In other words the reality of how people are connected (or not), irrespective of hierarchy or role.

[Continued...](#)

---

## What are the benefits of SNA?

Analysis of social network diagrams helps determine the extent to which certain people are central to the effective functioning of a network and whether or not divisive subgroups in a network exist. Things that SNA can reveal:

- Bottlenecks - individuals or groups that provide the only connection between different parts of the network.
- Number of links - insufficient or excessive links between departments that should coordinate effectively.
- Degrees of separation connecting all pairs of nodes in the group. Short distances transmit information accurately and in a timely way, while long distances transmit slowly and can distort the information. This can also show the number of nodes that an individual would have to go through to get an answer.
- Isolation - people that are not integrated well into a group and therefore, represent both untapped skills and a high likelihood of turnover.
- Highly expert people – that may not be utilised effectively.
- Individuals whose potential departure might result in the loss of unique knowledge to the organisation.
- Organisational subgroups or cliques - can develop their own subcultures and negative attitudes toward other groups.
- Emergent leaders and informal experts.
- Linking patterns amongst blogs.
- Emergent communities.
- Tracking growth of on-line communities.
- Staff movements and location (e.g. for optimising office use). 'What if' analysis can be performed to predict the outcome of your organisational and social change initiatives.

## Interpreting a Social Network Analysis Diagram

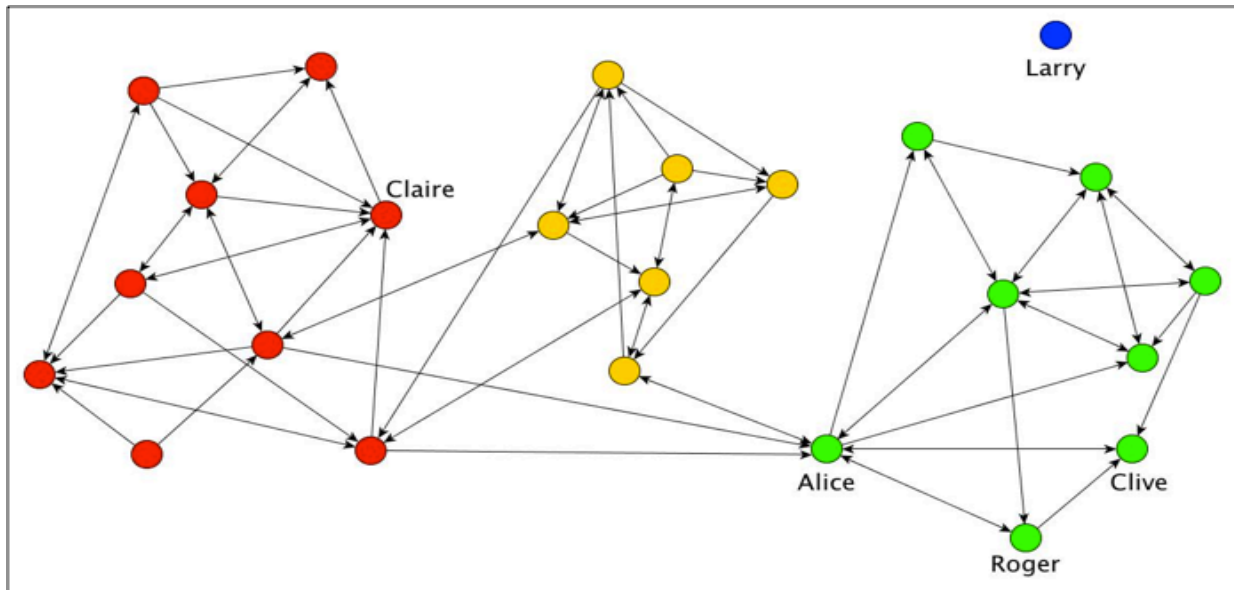
In the example on the following page, lines represent the relationship of interest and each line indicates a connection between two individuals. Arrowheads represent the direction of the relationship.

In an information network an incoming arrowhead is one in which a person is sought out for information. An outgoing arrowhead is where someone is seeking information. In this example, Roger seeks information from Clive, but this relationship is not reciprocated. Network analysis allows us to see whom the group is dependent upon and who is heavily dependent on the group.

Central people such as Claire in the diagram are those who have many relationships. In this case Claire is heavily sought out for information, but only from her immediate colleagues. Such people can be bottlenecks to a group. Alternatively they can be highly valued employees whose contributions had gone somewhat un-noticed. Working to retain someone playing this role can be important, as they would disproportionately affect the entire network if they left or were transferred.

Continued...

## Example Social Network Analysis Diagram



Peripheral people such as Roger are those that have few relationships. A special case is that of Larry, who has no connections to anyone and is completely isolated from the group. It is important to identify peripheral people because they are often under-utilised resources.

Hidden sub-groups or communities can occur due, for example, to formal organisational structure, political tensions, physical location or content specialisation. In the example above there are three noticeable sub-groups. Knowing the reasons for this demarcation is useful when considering targeted interventions to improve engagement.

Connectors such as Alice can have undue influence on the network, since she is the primary interface between two groups. Is she accurately passing messages between the two groups, or does she have her own agenda? Having a single point of contact between two groups carries a risk of corrupted information flow, and a potential disconnect between the groups.

Social Network Analysis will help managers identify the key knowledge brokers within the organisation. Removing some or all of these, e.g. as part of a company rationalisation or staff re-assignment can lead to the collapse of a previously active network. This is potentially critical information

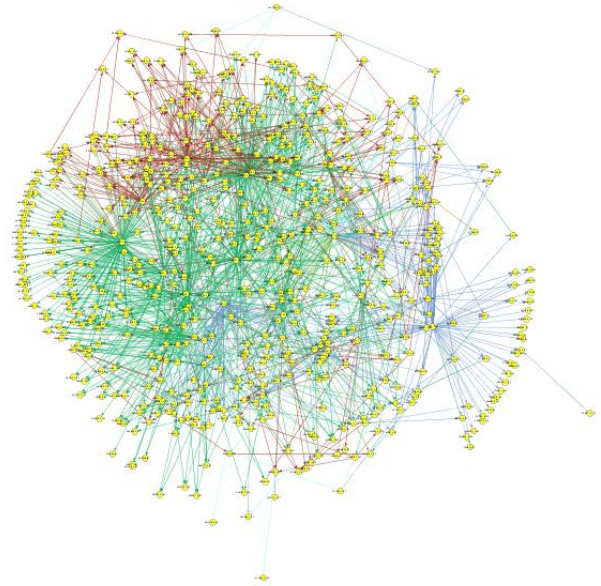
[Continued...](#)

---

# The challenge is not the technology, but the introduction of new modes of behaviour

when considering knowledge transfer requirements.

Social network analysis data can be collected in various ways such as analysing email or phone logs, conducting surveys or even personal observation. The choice will often depend on how large the network is, what information needs to be extracted and what degree of intervention is required or tolerated (e.g. the need to avoid “survey fatigue”).



---

## How can we help?

Contact us to hear how Collabor8now can help you use Social Network Analysis to better understand your organisation, deliver more effective knowledge flows and improve workplace efficiency.

If you believe that your business should be leveraging social media or already has a ‘social business’ initiative underway, we can help you measure and improve its effectiveness and impact.



Contact:

Steve Dale

Director, Collabor8now Ltd

Email:  
steve.dale@collabor8now.com

Mobile: +447769 908777

---

## References

<sup>1</sup> McKinsey, 2012.

<sup>2</sup> The Evolution of Social Business, March 2013. <http://cdn.social.bz/download/Altimeter-Social-Business-March-2013.pdf>