

Contextualising Change with Social Network Analysis

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Unlike typical organisations where the essential knowledge and resources for change flow through formalised hierarchies, structures and trainings, universities often have diverse and disjointed schools and faculties that all coexist under a singular brand. How can universities pursue change management projects effectively given their unique organisational characteristics and the complexity of their internal structure? Social network analysis (SNA) has shed light on underlying forces that affect consensus building, community decision making, belief systems and the diffusion and adoption of innovations¹.

What makes SNA distinctive from other theoretical approaches? First and foremost, the focus on the relationships as the units of analysis and the structure of those relationships is a departure from the attribute-based analysis prevalent in economics and other social sciences. SNA is useful in allowing us to augment and contextualise attribute-based data with the relationships between actors having an effect on the actors themselves. Secondly, SNA's focus on social influences also make it distinct from theories in decision-making research such as utility theory and prospect theory that consider individuals who make decisions impervious to external influences. For group decision-making and consensus building, the network approach of analysing how members of the group influence each other is crucial to understanding the process of consensus building¹. It should be noted that this does not imply that SNA disregards the autonomy of individual agency nor does it suggest that individuals are merely subjects to the whims of the group. The point of SNA is to draw insights from the relationships between actors to deepen the understanding of why individuals, groups or organisations make the decisions that they do.

For change in higher education, social networks facilitate knowledge transfer, increase learning and provide social capital which mitigates the risks associated to change². While faculty resistance or poor governance may be possible sources of failure for change management, SNA can serve as both a diagnostic and tactical tool to understand and execute change management strategies effectively. Understanding how informal ties within an organisation can not only provide contextual clues on how to best communicate a strategy but also direct action towards key actors within a network. The authors conducted a study that used SNA to compare two business universities that embarked on a similar change project, i.e., introducing an interdisciplinary bachelor's programme.



INTRODUCING INTERDISCIPLINARY PROGRAMMES: A CASE STUDY COMPARISON

For our study, a business university in Singapore and a business university in Austria were selected. Both universities recently introduced successful interdisciplinary programmes, which are often viewed as challenging change projects due to the nature of involving stakeholders from various disciplines. Semi-structured interviews were conducted between February to May 2020 with key committee members from each university either in-person or virtually. For the sake of confidentiality, the names of the universities that were chosen for this study were changed and the names of the interviewees redacted. Table 1 describes the profiles for each interviewee.

Lion University

Lion University (LU) is a prestigious business university in Singapore which consists of six different schools specializing in disciplines ranging across business, social sciences and law. Founded at the turn of the millennium, the university is just over two decades old and offers various programmes in each of their respective six schools along with some interdisciplinary programmes which span across several schools. LU has a modest student population of around 10,000 students with over 250 faculty. LU launched their interdisciplinary programme in early 2016 that was offered under the School of Social Sciences (SOSS). The interdisciplinary nature of the major integrates courses from two other faculties in LU, namely, the School of Economics (SOE) and the School of Law (SOL).

Stag University

Stag University (SU) is a business university in Austria that is renowned in Europe for its thought leadership, state-of-the-art campus and robust academic credentials. The university was founded towards the end of the nineteenth century making it significantly older and more mature compared to SU. It has served as a pivotal institution for the education of business and economics in Austrian society. Unlike LU, the university leadership in SU has an element of shared governance and decentralization, notably with their Senate which consists of professors, junior professors and students. SU also boasts a much bigger student population with over 25,000 students and over twice number of faculty compared to LU. SU introduced their interdisciplinary programme in the 2018 winter semester. The programme's content adopts an interdisciplinary approach spanning across various departments like Economics, Marketing, Accounting and Law amongst others. While SU and LU might differ in age and size, both universities share a common belief in management education with a liberal arts tradition.

Interviewee	University	Position	School/Department
1	Lion University	Associate Dean	Social Sciences
2	Lion University	Associate Dean	Economics
3	Stag University	Department Head	Business
4	Stag University	Vice-Provost	Academic Programmes and Student Affairs

RESULTS

LU had a robust system of hierarchy which led to the speedy deliberation and implementation process of their programme. On the other hand, the instrument of shared governance in SU led to an iterative process of refinement that sought to integrate the goals and expectations of various stakeholders as consensus and agreement was built. Institutional governance was the key contextual difference that influenced most of the SNA themes which we cover in more detail. A summary of the results can be seen in Table 2.

SNA Themes	Lion University	Stag University
Strength of Ties	Strong ties were important between actors inside committee	Strong ties were important between actors from committee and actors around the network
Central Actors	Not significant	Important in negotiation process to win support of central actors
Diversity of Ties	Both universities had formal bodies that encouraged bridging ties	
Nature of Interaction	Dependent on the governance style of university	
Subgroups	Both universities emphasised small teams	

Strength of Ties

Strong ties would be characterised as two parties who share 'frequent interaction, extended history, and intimacy or mutual confiding between parties'². Strong ties reduce the likelihood of resistance and increase the opportunity to understand the complexities of all the stakeholders that are involved in the change implementation³. The most fundamental similarity between both case studies is the clear presence of strong ties being a factor for the successful planning and implementation of the interdisciplinary programmes. The difference, however, lies in where these strong ties are found.

For LU, the strong ties were within their committee. This allowed for a quick curriculum building process where each member worked independently within the given curriculum structure after a single meeting. Due to the system of shared governance in SU, strong ties were instrumental in connecting committee members with people around the organisation who were not directly involved in the planning. These strong ties aided in the negotiation process for the interdisciplinary programme's approval in the Senate.

The strong ties that were crucial in the change initiative for LU and SU differed as a function of their institutional governance. With the top-down hierarchy of LU, the strong ties were important in the planning stages as core members of the committee were decision makers and once consensus was built at the top, implementation was rolled out expeditiously through the organisation. In contrast, the importance of strong ties for SU weighed heavily on the committee members being connected to the professors in the Senate.



Central Actors

Centrality is a fundamental concept in SNA and central actors are the ones who 'occupy central position in the network' and 'tend to be more visible, they tend to know many people and many people know them'⁴(p⁹⁶). Central actors are individuals with the most number of ties to other actors in an organisation leading these individuals to have 'more access to information and knowledge, have a better ability to communicate throughout the system, and are likely to have great influence within the network'². In the case study of LU, the centralised university governance left little need to question the functional power of central actors given the executive authority of senior leadership. However, with the lobbying process involved in winning support amongst SU's formal bodies like the Association of Professors and the Senate, central actors played an influential role in the change process for the programme's implementation. Gaining the support of opinion leaders in SU assisted the committee in building agreement and approval among various parts of the organisation.

In short, central actors and, within the same vein, opinion leaders, were important in the negotiation process for SU due to their shared governance structure. The shared governance structure translated the influence of opinion leaders and central actors into informal power in the formal bodies that had voting rights. With voting power being dispersed across the formal bodies, central actors would have a superordinate position to influence change due to their highly connected position. This is opposed to a centralised governance structure where it would be more crucial to be connected with the actors that possess authority.

Diversity of Ties

Diversity of ties is also referred to as heterophily which describe ties that 'span multiple knowledge sources or cut across structural holes'². As expected for a change initiative that is about interdisciplinarity, there were diverse ties in both committees for LU and SU. The committee members for LU were associate deans from each participating faculties, while similarly in SU there was a representative professor from the business department and the economics department for their interdisciplinary programme. In both universities, formal bodies within the organisation facilitated tie formation across the typically siloed departments in higher education. LU had a University Curriculum Committee which consists of members from different faculties meeting regularly, thus allowing for the awareness of diverse sets of interests and constraints from each school to be shared. The Senate and various other formal organisations in SU served a similar function as fora that brought together diverse sets of individuals. These structures, while artificial, in LU and SU helped to reduce the heterophily that is characteristic to higher education institutions.

Nature of Interaction

Nature of interaction can be characterised as being one-way, where information flows only from one source or two-way, where information sharing is mutual. In theory, two-way interaction allows for greater learning and schema change which is ideal for successful change implementation². The case study of LU showed otherwise with the planning and implementation of the interdisciplinary programme stemming from mostly one-way interactions across different levels of the organisation. Conversely, in SU two-way interaction was the rule regarding the nature of interaction. It was imperative for SU's project members to engage in a two-way dialogue with other faculty to understand and express their goals and concerns. The intensive negotiation process by the project members in SU embody these principles where individual meetings with different department heads allowed the programme's curriculum to evolve and eventually succeed in the Senate vote.

The difference in institutional governance again played a major role as the element of shared governance necessitated the need for a two-way interaction for SU's introduction of their interdisciplinary programme. The efficient hierarchy at LU made the success of their programme's introduction less contingent on the nature of interaction where a one-way interaction sufficed.

Subgroups

All four interviewees mentioned that they were deliberate in keeping the group size for the committees small. In SNA, these smaller networks that exist within a whole network but are bigger than triads are known as subgroups⁴. Cohesive subgroups have been observed to be important for change projects as they [enable] information flow, [change] attitudes and [create] resources necessary for change². Having an effective subgroup with the right expertise allowed the committee at LU to build consensus quickly and collaborate without any major disagreements. Subgroups not only allow greater trust to be fostered amongst the actors but also constrain the number of interests involved which moderates the possibilities for conflict. SU's Department Head for Business only agreed to work on the project if there was a maximum of 3 people on the committee and was insistent that he "wouldn't do it if there was too many people because you cannot make it work". More importantly, the main committee for SU was a subgroup of brokers who had strong bridging ties with the rest of the greater network. Brokers are actors that connect structural holes which exist among disconnected subgroups⁴. In order to influence and negotiate with the larger network of SU, the committee members sought to individually meet with departments that they were more

connected to. In essence, it was through SU's committee subgroup where change attitudes could flow smoothly through the network that may originally have parts that were disconnected.

CHANGE WITHIN CONTEXT

Underpinning the differences between LU and SU is their institutional governance. LU's top-down hierarchy is expressed not only in their formal organisations like the University Curriculum Committee but also in the way change is implemented in the university. Change initiatives flow down from a decision made by senior management through various levels of leadership. Subgroups that connect the different faculties also lie in a hierarchy. When SNA is applied to understanding LU's planning and implementation process a cohesive subgroup with heterophilous ties at the centre of the change initiative can be observed. Having the right people in the subgroup enabled LU's expeditious planning and implementation of their interdisciplinary programme.

The bottom-up culture in SU is also prominently expressed through the structure of the social network and how actors within the network interact. With formal organisations like the Senate comprising of not only professors, but students and junior professors, we can observe a deliberate effort from the organisation to provide a point of connection between diverse organisational subunits at different levels. Given the voting power of each professor in SU, change actors pushing for initiatives are, by design, compelled to engage in two-way interactions with the network. The intensity and frequency of negotiations involved led to a more time-intensive process which likely built greater consensus throughout the organisation. While SU has a different process compared to LU, the core of the change initiative was also subgroup with the right people. For SU, the right people consisted of influential opinion leaders whom could convince and learn from the greater network to adapt the interdisciplinary programme for its eventual successful form.



CONCLUSION

In summary, our study investigated the challenges of implementing widespread systematic changes given the mounting external pressure for universities to evolve. SNA was used as a lens to understand how universities are organised with a focus on informal networks. Five SNA themes were highlighted which give a greater understanding of how a change strategy might potentially unfold, allowing for rectifications in the strategy itself or the implementation approach in order to maximise the effectiveness.

As observed in the case study comparison, change management strategies work best when tailored to the organisational context. In institutions of centralised hierarchies, strong ties across departments at each level are optimal for change to spread throughout the network. In decentralised systems where power is dispersed throughout the network, identifying brokers, opinion leaders and central actors are crucial to the change process. Fostering the right ties is crucial and organisations should analyse whether their committees are facilitating the creation of these strong bridging ties. Ensuring a diversity of ties with individuals from varying parts of the organisation meeting up regularly can be the first step to creating such bridging ties.

In summary, SNA can be an invaluable tool for leadership in people-oriented and knowledge-intensive industries that need a pulse on the informal structures within their organisations. Having this pulse will allow even the most complex of organisations to nimbly and effectively navigate and evolve through uncertainty.



Footnotes

¹ Wasserman S, Faust K. *Social Network Analysis*. Vol 8. Cambridge University Press; 1994. doi:10.1017/CBO9780511815478

² Kezar A. Higher Education Change and Social Networks: A Review of Research. *J Higher Educ*. 2014;85(1):91-125. doi:10.1353/jhe.2014.0003

³ Tenkasi R V., Chesmore MC. Social Networks and Planned Organizational Change: The Impact of Strong Network Ties on Effective Change Implementation and Use. *J Appl Behav Sci*. 2003;39(3):281-300. doi:10.1177/0021886303258338

⁴ Prell C. *Social Network Analysis: History, Theory and Methodology*. Sage Publications; 2012.

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