

Following the Leader? A social network analysis of UK Higher Education Institutions on Twitter

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Overview

Researchers have increasingly invoked the network as a conceptual device for understanding trends in higher education. From a network perspective, the capacity of institutions and individuals derives largely from embeddedness in relationships collaboration and information exchange. For example, a report from the British Royal Society claims that contemporary research is driven by “self-organizing networks” of researchers and that these networks are “motivated by the bottom-up exchange of scientific insight, knowledge and skills, span the globe, and are changing the focus of science from the national to the global level” (Royal Society, 2011:62).

The resulting need to reconsider the organizational model of the university has led several authors to transpose Castells’ (1996) concept of the “network society” to describe the “network university” (Lewis, Marginson and Snyder 2005; Grant, 2013). Reflecting the post-Fordist underpinnings of the “network society” in which flows of information drive economic production, the idealised “network university” is characterised by flexibility, non-hierarchical decision-making, and deterritorialization, as geography and institutions no longer constrain academic work. However, Lewis, Marginson and Snyder point out that network organizations are not necessarily incompatible with authoritative bureaucracy and managerialism, concluding that the “the model of the flattened, networked university is still very much an ideal rather than a norm” (2005:67). King (2010) concurs, arguing that network processes underpin the spread new public management strategies in higher education. In an inspiring analysis, he goes on to show how “network power” - “the ability to coordinate multiple-linked actors” - drives institutional isomorphism and convergence on a model of the “world-class” university, as network power is translated into both normative and competitive pressures that constrain policymakers into “almost generic” prescriptions for institutions. (King, 2010:586-7).

While networks are well established as a conceptual device for understanding higher education, empirical applications to rankings and the resulting competitive dynamics are more limited. Burris (2004) lays important groundwork in this respect, showing how networks of interdepartmental hiring (i.e. networks composed of institutions that hire PhD graduates from other institutions) are a better measure of academic prestige than output metrics such as publications and citation. Tapper and Filippakoub also identify that reputation is more complex and nuanced than ranking, and better expressed by networks in which “members of a group reinforce each other’s status” (Tapper and Filippakoub, 2009:62).

This project seeks to empirically understand the concept of the “network university” through a systematic analysis of data on how universities communicate through social media. In particular it investigates:

- ◆ Patterns of communication between institutions, with a particular focus on communities that have become unbound from institutional and geographic constraints.
- ◆ Variation in communication within institutions, identifying institutions that have greater levels of integration in social media spaces and potential “tipping points” at which
- ◆ How status groups and prestige are re-constituted and contested in social media spaces, with a focus on how institutional hierarchies relate to social media communication.

Methodology

The project uses large-scale data on Twitter accounts that are associated with UK HEIs. Data used in the analysis are taken from Twitter accounts posted on University websites, which were collected through specialised software. Data on these accounts were then obtained through the Twitter Application Programming Interface (API), which allows public access to Twitter data through a standardised software protocol. Data collection was completed in June 2014 and includes approximately 6000 Twitter accounts from 127 institutions. These accounts were all verified as official institutional accounts (i.e. belonging to an organizational unit of the institution), and coded according to their relevant field of practice (e.g. teaching and learning, research centres, university communication, etc).

Data downloaded through the Twitter API can be used to construct three types of networks:

- ◆ Following: Networks composed of accounts that follow one another on Twitter.
- ◆ Conversations: Networks composed of accounts that participate in the same conversations, identified using Twitter hashtags (keywords that identify a topic, indicated with a ‘#’).
- ◆ Direct Interactions: Messages that directly address another user, using Twitter’s concept of mentions (indicated with a ‘@’).

Key questions for the analysis focus on how the structure networks relate to attributes of the respective users. For example, are accounts located in the same geographic region more likely to communicate with one another? Or does that status of an institution reflect the extent to which ties are symmetrical, e.g. that an account associated with a high-status institution is less likely to reciprocate ties. The notion that the “network university” is deterritorialised and non-hierarchical would suggest that both of these tendencies are declining.

The project does not purport to capture the totality of social media networks in higher education, and recognises that other forms of social media communication (e.g. between individual academics) are important in shaping contemporary research and teaching. However, it represents an important step in empirically applying the concept of the network university.

Preliminary Findings

Data analysis is on going, and results are thus preliminary and subject to revision. However, statistical models of data show several interesting patterns in the dataset. First, models show that that both institutional prestige and geographic location are significantly related to the probability of interactions on social media networks: accounts in the same geographic area are more likely to form ties, and ties are less likely to be reciprocated by accounts associated with high-status institutions. However, results also show that the effect of geography is much greater than that of ranking, suggesting that rankings are not as important as geographic considerations. Further analysis will contextualise this by the field of practice, particularly focussing on whether the effects of ranking and geography differ across accounts associated with research, student support, internationalisation, etc. Ongoing analysis is also focusing on the production of informative visualisations of the large scale data, which will be presented at the conference. The findings are important with respect to the concept of the “network university,” showing that despite an increasing “flattening” and deterritorialisation of the field, important spatial and status divisions still operate.

References

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