Chapter 1
Devising Parametric User Models for Processing and Analysing Social Media Data to Influence User Behaviour:
Using Quantitative and Qualitative Analysis of Social Media Data

Jonathan Bishop
Centre for Research into Online Communities and E-Learning Systems, UK

ABSTRACT

Academia is often plagued with those who define themselves by whether they are "quantitative" or "qualitative." This chapter contests that when it comes to researching social media the two are inseparable in datafying user generated content. Posts on Twitter for instance have a textual element to the narratives that could be considered qualitative, but also quantitative criteria can be applied. Interviewing approaches can allow for the exploration of discourses to produce new theories, which may then rely of those approaches commonly thought of as quantitative. This chapter tests out a variety of different approaches to show how it is only through using all approaches available can social media be triangulated to produce accurate modelling of user behaviour.

INTRODUCTION

Researching social media is challenging and publishing such research may be even more challenging. Even after a generation of expanded use of the world wide web, the methods and approaches to researching cyberspace are highly disputed. A positivist might say that only quantifiable facts can be studied, such as web metrics. A phenomenologist on the other hand might say that it is only through understanding the meaning behind internet postings and those who post them is it possible to understand Internet cul-

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ture. Even worse, the positivist might want to position themselves as a 'quantitative' researcher and the phenomenologist as a 'qualitative' researcher. Both points of view leave a lot to be desired. In order to properly understand life in cyberspace, one needs to triangulate various different methods to achieve a comprehensive account. This chapter explored in depth various forms of data collection and data analysis and how these, whether based around words or numbers, can contribute to the creation of models that allow for those who use the Internet and social media to be understood and influenced.

BACKGROUND

Scientists of all kinds are trying to understand the ways in which people communicate with respect of social media. Social media as a term can be seen to refer to all the forms of under-generated content that have existence since the second wave of social networking services, which include Twitter and Facebook. This period could be referred to as post-modem history. The reason being that social media platforms offer little above earlier social networking services like Friendster and MySpace, but as a result of affordable broadband connections more people are using the Internet, whereas previously they might have been technophobic. At present, many scientists seeking to understand social media have turned to Big Data. In other words they are using number-crunching algorithms to systematically understand why people might make certain postings at certain times.

As time goes on, there will be increasing pressure for education institutions to integrate social media functionalities into their managed learning environments. This will need to be done in such a way that the integration is seamless and invisible and not a central focus for the user. Such acts would allow for the creation of networked learning communities, where student-centred learning can be enabled. So far, approaches to this has followed an e-tivities model reliant on the use of message boards and other web-based communities. Whilst these are inevitably essential to online learning, they will no doubt attract the same sorts of problems found in social media platforms. Problems such as lurking, flaming and defriending can result in a loss of sense of community and result in disengagement with the learning process. It is therefore important to develop methods in which these behaviours can be identified and those behaviours influenced before they are able to occur.

This chapter seeks to set out a rationale and methodology of why this is inappropriate and why instead an approach based on making use of the senses of the researcher – to systematically draw out meanings from social media postings – is a better alternative. To demonstrate this it is first essential to understand the persuasive and seductive properties of hypermedia that give rise to varying behaviours in social media services and how these can be systematically detected and influenced. It will then be shown how drawing out meanings from social media can assist with enhancing sense of community in networked learning communities.

DEVISING A DATA THEORY: CONSIDERING METHODOLOGICAL APPROACHES TO SOCIAL MEDIA RESEARCH

This section sets out the methodological approaches for the overall study.