

# Grounded Theory and Actor-Network Theory: A Case Study

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## ABSTRACT

This paper introduces a method of analyzing large text data in the context of an Actor-Network Theory based study. A case is used to illustrate conditions under which using an analytical technique from another philosophy seems particularly apt. A tool commonly used in Grounded Theory was applied in a manner aimed at facilitating a search for potential actors and their interactions and for evidence of specific translations of the innovation in the case used.

## KEYWORDS

Actor-Network Theory, Bitcoin, Case Study, Grounded Theory

## INTRODUCTION

Those of us with an interest in Actor-Network Theory (ANT) find it easy to gain adherents to the idea of our world being formed through the interactions of socio-technical actors – there seems to be a natural resonance with the ideas of ANT in qualitative researchers. A problem that becomes apparent when one is dealing with these “new adherents” is that ANT is an “approach” rather than a method. “ANT is a material-semiotic approach for describing the ordering of scientific, technological, social, and organizational processes or events.” (Wickramasinghe, Tatnall, & Bali, 2010, p. p8).

Once the ANT approach has been chosen, the next stage of applying the ideas to a research project often starts with the question, “what do I DO?” This question might be answered with intellectual honesty with “it depends on what the question is.” A quick look at relatively recent studies shows that various combinations of theoretical viewpoint and analysis technique have been used in interesting ways by those taking an ANT approach. Passoth and Rowland (2010) use state theory to define different types of Actor-Network theory outcomes. Both Fleischmann (2006) and Kéfi and Pallud (2011) use analysis steps from Grounded Theory to analyse interview data that produces an outcome familiar to ANT readers. Hedström (2007) commences a study using case studies, treating each case through the lens of Actor-Network theory and analyses the interview data using Grounded Theory methods. Although these methods include mixtures of analytical technique and new philosophical positions, there seems to be a growing desire to make explicit some methods used for identifying meaning in the data. That is, to make explicit the activities undertaken by the researcher in arriving at a conclusion. This desire is motivated by those seeking to increase trust in qualitative outcomes and those seeking to involve new researchers in ANT studies. The case of a recent convert to ANT may be of value in this discussion. This paper uses the example of a specific study to guide discussion of the nature of a question that might benefit using analysis techniques from Grounded Theory.

## THE CASE

The research team in this case was interested in the adoption of Bitcoin. The authors decided that the approach to understanding this adoption would involve identifying the important actors and their interactions and determining the nature of the translation of digital currency that came into being. This innovation is interesting as it has developed into a medium of exchange for those wishing to trade in illegal goods, but also as a speculative currency with the advantage of being almost a pure market driven currency.

Having decided that Actor-Network Theory was the most appropriate approach to this question, some research design decisions were made that make this project an interesting basis for discussion. It was decided that the data most likely to lead to understanding was not the post-facto interviewing of people today, but the examination of web-based sources. Web based sources are interesting as they are statements and opinions of some historical ‘fact’ frozen in time, rather than reflective reports filtered by the need to meet publication standards. Blogs and online articles are a discourse online – a type of conversation.

The research team examined a vast array of blogs, websites, commentary and news articles. As the sources were archived at the time of production, they allow the picture of the network forming in time to be captured and analysed. This source of data, and its size, is a unique aspect of the sample study. A limitation of web-based data is that it cannot be interrogated, nor can new statements be generated by asking new questions of the website (as is available with a live interview).

Bitcoin as a topic of the study brings with it research questions of a particular nature. Firstly, the entire history of the innovation is short, recent and intensely studied. The origin of Bitcoin is attributed to a person using the name Satoshi Nakamoto (who has still not been traced to a real person and is possibly a fictitious name) who uploaded a white paper to the Internet in 2008 (Nakamoto, 2008). The innovation is almost completely online, although the physical conversion of Bitcoins to other currencies was available from 2010 (Yermack, 2013). The scrutiny of Bitcoin is intense, partly because the possibility exists for disruption of global currency markets with an alternative unregulated by any government or organization that could be easily controlled (Böhme, Christin, Edelman, & Moore, 2015).

Bitcoin was adopted by various groups in very different ways: both legal and illegal. This is recognized by the wide differences in legal approach: from patents to make the coin legal in some way (Guthrie, 2014) through to attempts to stop illegal use of the currency (Slattery, 2014). These aspects of the topic invited the research team to think in terms of different translations and to seek to identify the actors involved and the interactions that formed possible stable networks supporting those translations.

## THE ACTOR-NETWORK LENS

Passoth and Rowland (2010), and many others, have identified that ANT is described by researchers in different ways and many methods have been used under this banner. Passoth and Rowland (2010) make a distinction between those researchers who seek to understand the nature of the actors in the network and those researchers who seek to understand the nature of the network. One might characterize these as those searching for the particular and those searching for the general. The “particular” would be intent on identifying who were actors with strong interactions and the detail of the translation that became stable. The “general” would seek to understand the network as a whole. A quick perusal of the Actor-Network Theory literature shows a continuum between those intent on the particular and those determined to understand the general. The particular might focus on the nature of actors and their interactions, and the general are more interested in understanding the story revealed by the research. This can be seen in the beginnings of ANT in the differences between the studies of (Latour, 1996)

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