An innovation translation perspective of future Web 2.0 design trajectories

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A number of authors have recently argued that the web is entering a second phase in its evolution – Web 2.0. They claim that this phase is being marked by recent applications and services that enable more social collaboration – so-called 'social software'. When the previous dot-com certainties about a collaborative and interactive workspace exploded, it was perhaps fair to assume that some of the eminent diffusion theories went with them. Overestimations about the social impact of this collaborative and interactive workspace – during the now branded Web 1.0 era – was not due simply to 'irrational exuberance', as our rational proponents would lead us to believe. What is certain and still relevant is that a fresh direction of enquiry is needed to more fully understand technological innovations, such as Web 2.0.

An alternative way of conceptualising the Web 2.0 design challenge is to view these applications and services as a socio-technical phenomenon. Web 2.0 has both technical and social merits, and it might be appropriate to try to overcome the distinction between the technical and the social to improve our understanding of their implications. This lack of understanding of the socio-technical features by practitioners and academics may partly account for our failure to have made better predictions of Web 1.0's adoption and use in the previous era, and the recent protracted uptake of Web 2.0 technology applications and services in some contexts, as well as the surprising emergence of others.

A key feature of actor-network theory (ANT) is the perspective of the social world that shows it to comprise of heterogeneous networks that form actors. All phenomena are the effect or the product of heterogeneous networks. ANT does not accept any form of reductionism, either technological or social, that splits the technical from the social and supposes that the one drives the other. It states that there is no reason to assume, a priori, that either objects or people in general determine the character of social change or stability.

As such, ANT supports analytically treating objects and people in the same way; non-humans and humans together form the heterogeneous networks. This is best explained by means of an example. In our day-to-day lives, we are influenced by a wide range of factors: social and technical factors, as well as political and historical factors. For example, when using social bookmarking online, we are influenced by our research interests, previous peer collaboration experiences, bandwidth or accessibility conditions and the usability of the bookmarking application itself.

ANT presents the translation concept to describe the variety of ways in which actors actively seek to interest others in supporting the construction of a claim (in this case about Web 2.0), enrolling them directly or indirectly in a coalition dedicated to building a fact or a machine. The subprocesses of creating actor networks consist of
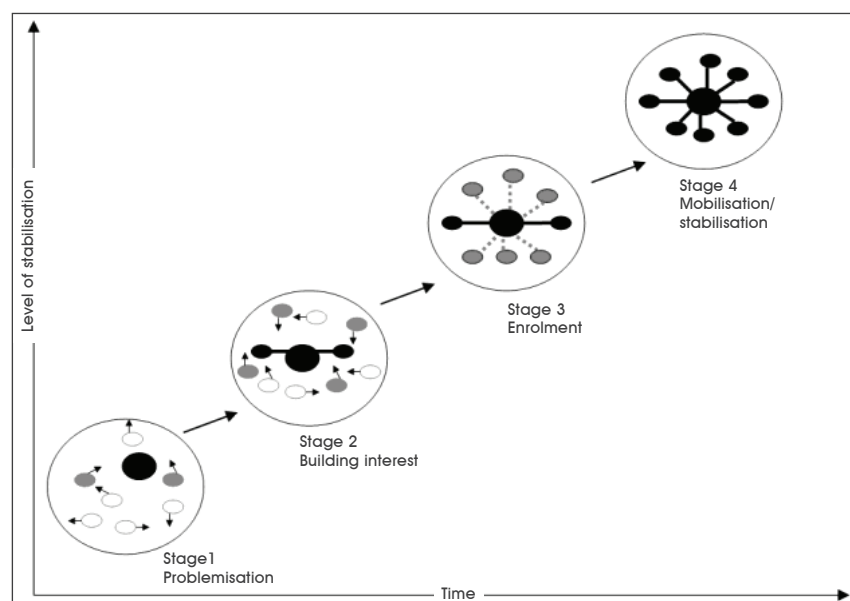
→ Stages in the subprocess of creating actor networks.
(Source: Adapted from Callon, M, 1986)

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four major stages: problematisation, building interest, enrolment and mobilisation.

The model uses the notion of weak ties (depicted by broken, thinner, disconnected lines) and strong ties (depicted by darker, connected lines). Whereas actors during the earlier stages, such as problematisation, are characterised by fragmented alliances and instability (weak ties), they are progressively locked into alliances through the process of translation, whereupon they come together and the network stabilises (strong ties). The depiction of the orderly sequence of the translation subprocesses allows us to construct an understanding around the sequence of events that led to the outcome of a Web 2.0 implementation.

ANT views Web 2.0 design largely as an emergent process initiated and guided by actors, such as designers, vendors or managers (agenda setters), with specific interests. Their agendas are enacted through processes of translation. The subprocesses of translation are used to enrol dissidents who oppose the new agenda. By inscribing the agenda in material artefacts, actors enable material artefacts like Web 2.0 services and applications to assume the role of actors in the network; that is, they stand in for the agenda setters. However, unexpected uses or trajectories may develop, leading to a new perspective on what the technological innovation does and what it is expected to do.

The translation process describes the emergent outcome of technology meeting social practice. This analytical framework can demonstrate the powerful role human and non-human elements of Web 2.0 and related socio-technical systems can play in a long and heterogeneous network. An ANT analysis can provide a detailed description of the way in which the internet, open standards and applications such as blogs, wikis, multimedia-sharing services, content syndication, podcasting and content-tagging services interact in a social, economic and cultural context.

By transcending the undue importance bestowed upon human agency, ANT provides a technique for grasping the ways in which social establishments diminish or stabilise. At the outset, a few actors typically gather and mobilise the support of influential actors (both social and technical) and decision-makers to accomplish their vision of transforming conventional social practices via the use of a technological innovation. Over time, ANT demonstrates how the design and implementation of technology emerges from the many unplanned negotiations and mediations with human and non-human actors, and not from some perfectly executed grand plan. In this way, ANT can perhaps provide an understanding of the limitations and opportunities of Web 2.0 applications in an increasingly socio-technically rich practice.

Different conceptions of the internet will emerge as more 'facts' about Web 2.0 are produced over time and actors reflexively alter their stance. ANT can be very effective at teasing out those socio-technical relations that must be explicated in order to come to terms with the role of web technologies, together with human actors, in constituting contemporary society.

Importantly, using an ANT perspective, the web is never complete or final. That is to say, if the web would remain fixed, stable and uncontested, it would not be translated and would likely die. In the case of Web 2.0, the web is consistently being reinvented by both designers and users. To carry on its march, further translations are needed. What these translations will be, only time will reveal. ❸

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