

1-1-2014

Social media semantics: analysing meanings in multimodal online conversations

Michael Ibrahim Mehmet
University of Wollongong, mmehmet@uow.edu.au

Rodney J. Clarke
University of Wollongong, rclarke@uow.edu.au

Karlheinz Kautz
University of Wollongong, karlheinz.kautz@rmit.edu.au

Follow this and additional works at: <https://ro.uow.edu.au/buspapers>



Part of the [Business Commons](#)

Recommended Citation

Mehmet, Michael Ibrahim; Clarke, Rodney J.; and Kautz, Karlheinz, "Social media semantics: analysing meanings in multimodal online conversations" (2014). *Faculty of Business - Papers (Archive)*. 654.
<https://ro.uow.edu.au/buspapers/654>

Social media semantics: analysing meanings in multimodal online conversations

Abstract

There is a growing need to comprehensively understand how messages and online conversations construct and convey meanings especially when they are likely to be distributed across multiple social media platforms. This paper introduces a framework to address this need, the Social Semiotic Multimodal (SSMM) framework based on multimodal extensions to Systemic Functional Linguistics, a semiotic theory of language. The framework uses a set of expansion resources, to reveal how the meanings of social media messages are chained together to form online conversations. These meanings are frequently distributed across more than one social media platform. This semantic approach is exemplified using a case study, the Fairtrade Fortnight 2012 campaign. The framework is used to identify meanings associated with various social media conversations called Themed Clusters. The findings demonstrate the utility of semantic approaches for IS research and practice to analyse meanings within social media messages and how they form online conversations.

Keywords

media, social, online, conversations, multimodal, meanings, analysing, semantics

Disciplines

Business

Publication Details

Mehmet, M. I., Clarke, R. J. & Kautz, K. (2014). Social media semantics: analysing meanings in multimodal online conversations. International Conference on Information Systems (pp. 1-15). New Zealand: University of Auckland.

Social Media Semantics: Analysing Meanings in Multimodal Online Conversations

Completed Research Paper

Mehmet I. Mehmet

School of Management, Operations & Marketing, University of Wollongong,
Australia
mmehmet@uow.edu.au

Rodney J. Clarke

School of Management, Operations & Marketing, University of Wollongong,
Australia
rclarke@uow.edu.au

Karlheinz Kautz

School of Management, Operations & Marketing, University of Wollongong,
Australia
kautz@uow.edu.au

Introduction

In the popular press and also in those application areas that use social media extensively, for example on-line marketing, the emphasis usually lays in feature comparison across similar social media platforms, the utility and ease-of-use of applications for posting and managing social media messages, and of course the development, acquisition and closure of social media platforms. Due to the huge volume of social media message traffic that is created, posted, commented and transferred between platforms, it is not surprising that the usual approaches to studying social media are quantitative and statistical in nature; see for example the growth in social media statistically based analytics and dashboards. The underlying communication theory for this kind of research paradigm is based on a probabilistic model of information in the tradition of Nyquist (1924; 1928) and Hartley (1928) and the subsequent development of the mathematical theory of communication (Shannon 1948; Shannon and Weaver 1949). Collectively this work forms the prototype for a large number of process models (Fiske 1982) that consider communication in terms of sender and receivers, transmission channels and noise. The fundamental problem being addressed by the mathematical theory of communication is the reproduction “... at one point either exactly or approximately of a message selected at another point. Frequently the messages have meaning; that is they refer to or are correlated according to some system with certain physical or conceptual entities. These semantic aspects of communication are irrelevant to the engineering problem.” (Shannon 1948, 31). Beyond issues of social media technology and ubiquity (Boyd and Ellison 2008, Stroud 2008), new media sites are created and shaped through the use and utility of these services for their users. It is the possible meanings that accrue to social media and the contexts of its use that determine the utility or otherwise of a given social media platform or the uses to which social media can be put. The semantics of these social media messages cannot be addressed using a research paradigm informed by the mathematical theory of communication. Thus an alternative research paradigm ought to be identified that can accommodate the semantics of media and be able to consider the production and consumption of social media in terms of meaning-making.

Semantic research paradigms are not frequently employed in IS research (Clarke 2001). In the section ‘Semiotics, Communication and IS’ we briefly trace the history of Semiotics, the discipline of semantics and meaning-making (Nöth 1990), and its application to IS. After introducing the dominant research

approaches within semiotics, we present Systemic Functional Linguistics (SFL), a semiotic theory and model of language. Within the SFL community there have been proposals for extending approaches to accommodate other semiotic modalities than language including but not limited to images, video and audio. These proposals have contributed to the development of a new form of semiotics called Social Semiotics (Kress 2010). In the section 'A Social Semiotic Multimodality Framework', we consider three alternative approaches to multimodality and select one of these approaches because of its applicability to analyse completed acts of communication within social media conversations occurring across multiple platforms and involving multiple participants. A Social Semiotic Multimodal (SSMM) framework is developed for deploying relevant analysis methods to each medium within each social media message. We argue that the SSMM framework is an essential tool for IS research because it enables researchers to understand the meanings associated with online conversations that span multiple modes of expression via multiple channels of dissemination. A case study provides illustrations for key concepts and configurations within the SSMM framework. The approach is critically reprised in the final Discussion and Conclusions section.

Semiotics, Communication and IS

Social media research has often focused on identifying its dimensions of use (Kaplan and Haenlein 2010), the potential of social media for joint creativity (Shirky 2008), for sustaining social ties (Ellision et al. 2011) as well as the interplay of social media technologies and people in the context of how knowledge workers become engaged in communal knowledge conversations (Machjchrzak et al. 2013). In line with the latter work that overcomes the traditional separation of human action and technological possibilities as put forward in the affordance literature by focussing on the intertwining of people and information technology in use, we emphasize the importance of the actual meaning that is created through messages being posted in different modes and on different platforms. In this section we describe the IS discipline's engagement with semiotics, the discipline associated with meaning-making that is used as a reference discipline in this paper.

In reaction to the limitations of the traditional sender-receiver communication models (Shannon and Weaver 1949) in accounting for communication in human activity systems, two relatively independent lines of IS research, and their attendant communities, developed during the early to mid-1980s. One group of researchers formed an *organisational semiotics* community around the work of Stamper (1973) and Bøgh Andersen (1990). This community took as the basis of its work either one or the other of the two major modern semiotic theories. These two theories were developed in the early twentieth century by Swiss linguist Ferdinand de Saussure and the North American philosopher Charles Sanders Peirce. The unit of analysis for classical semioticians is the *sign*. It can be defined as a meaning-making entity that represents another object, subject or thing in some capacity or another (Nöth 1990). An image of a car is a sign because while not being the actual car it can represent it in some capacity or another. The primary issues for the organisational semiotics community involved how to think of organisations, and information systems of various kinds, as well as the associated development practices using signs as the primary unit of analysis.

However for IS academics, there are three major problems common to both of these approaches. First, the sign models of de Saussure and Peirce are entirely incompatible. The number and kind of dimensions used to ascertain each sign model's meaning are fundamentally different (Nöth 1990, 83) and yield entirely different perspectives. The Saussurean dyadic sign model consists of a vehicle of meaning making- its *signifier* and the associated meaning that it implies- the *signified*. A red rose is a signifier and what is signified is 'passion'; a red car is a signifier and it might signify is 'a really fast and dangerous driver'. The Peircian triadic sign model consists of a *representamen* (similar to a signifier), an *object* (similar to the thing that is being referred to- a referent) and an *interpretant* (the effect of the sign- its meaning- in the mind of the interpreter). The major difference between these two models is the interpretant of Peirce's triadic model. Applying the triadic sign model results in studies that are inherently cognitive in nature; Peirce privileges psychological accounts over sociological ones. Saussure's dyadic model does not address any cognitive aspects of meaning at all and so it is more directly applicable in social settings and privileges sociological accounts. This might suggest that within the organisational semiotics community Saussure's sign would be more relevant, but in fact, the overwhelming popular sign model is Peirce's triadic one. The reason for this has probably as much to do with the geography and

history of these ideas as it does with their inherent worth or applicability to the IS discipline. Nevertheless, these sign models are theoretically and methodologically incompatible; they cannot be substituted, interchanged or even used together without invalidating the study (Teymur 1982).

The second problem involves granularity and the proliferation of signs when applied to IS domains. What is the level of granularity of a sign? Is the entire social media platform a sign? What can then be said about it? Or are only parts of the system being considered; for example signs associated with the user interface? If we are dealing with user interfaces, then how do we deal with the sign when there is no human agent communicating from the other side of the glass? This was a major part of Andersen's work (1990) that went a considerable way to addressing a number of these difficult issues. Signs also proliferate. Every sign creates meanings that in turn can create other meanings and so on *ad infinitum* in a process Peirce referred to as *unlimited semiosis* (Nöth 1990, 43). When dealing with actual chains of different social media over time, as we might find in a social media advertising campaign or a succession of tweets as a natural disaster unfolds, a crucially important methodological step is to identify those messages and those meanings that are relatable and relevant to the study in question. There is however a third problem in applying semiotic approaches to systems in general and multimodal social media platforms in particular. While the semiotics of Saussure and Peirce had been applied to language (in fact Saussure was a linguist who discovered semiotics in the act of trying to better define linguistics) both appeared to not be aware of, or uninterested in, a significant difference between language and all other meaning making modalities (audio, image and so on). While accounts can be made about language using either approach- although they are each very different kinds of accounts- neither of these approaches is capable of accounting for the detailed layering and interdependency of the many resources that comprise language in general.

Around the same time, groups of researchers were considering the communicative nature of systems using theories of language as a point of departure; see Lyytinen (1985) as possibly the first useful review of the applicability of language theories to the IS discipline. Of particular note here is *speech act theory* (SAT) developed by Austin (1955/1962) and Searle (1969). This work has collectively inspired, primarily through the work of Goldkuhl and the Workpractice development, IT usage, Coordination and Cooperation Group and Research Network centred at Linköping University, Sweden, the creation of the Language Action Perspective (LAP) community, and in part related events like the Action, Language, Organisations and Information Systems (ALOIS) workshops, and the IT Artefact Design & Workpractice Intervention (ADWI) workshops. The work of these communities and the development of *actability*- considering systems using their capability to support business actions rather than uses (Ågerfalk 2003)- has led to the development of *Information Systems Pragmatics* and its special interest group within the AIS (SIGPrag). There is however one approach that spans both the organisational semiotics community and the LAP/Pragmatics communities; that is, the semioticians on the one hand and the communication theorists on the other. This approach is a semiotic theory of language called *Systemic Functional Linguistics (SFL)* developed by Halliday (1978) and colleagues. It was applied in IS contexts by Andersen (1990) and Clarke (2000). It was directly used by Andersen (1990) in his *Theory of Computer Semiotics* to provide a theorisation of organisations. Unfortunately to understand the system itself, Andersen (1990) reverted back to Peirce and the triadic sign. Andersen's attempt at a coherent theorisation was ultimately defeated by the very theoretical incompatibilities we described between Saussure's and Peirce's world views.

Halliday is a neo-Saussurean and influenced by a social conception of the sign that he reinterpreted as a completed act of communication- the 'text'. Halliday embraced the fact that language is organised very differently to all other media modalities. For Halliday (1978), language is *tristratal*. Any completed act of communication is first an expression comprising sounds that are uttered aloud or scribbled down (phonology/graphology), that need to be organised into wordings and grammar (lexico-grammar), and into extended stretches of socially meaningful communication (discourse-semantics). All other media are *bistratal*; content with some expression. It is the lexico-grammatical stratum that gives language its ability to reuse letters and words in an apparently inexhaustible number of ways and that contributes to the enormous capacity of language to make meanings and even to represent other modalities as well. A picture can be described in words but the reverse is not really possible. During the early 1990s, there was a push to extend SFL to account for other media and especially texts that were *multimodal*- containing images and drawings as well as language (the motivation for this was its potential use in educational contexts). This led to new theoretical work that revisited the social sign of Saussure in order to lay the foundations for a new *social semiotics* (Hodge and Kress 1988; Kress 2010). In the next section we

describe the development of distinct approaches to theorising multimodality that have come out of the development of social semiotics (Kress 2010; O'Halloran et al. 2010).

A Social Semiotic Multimodal Framework

It is uncommon for a single media modality to be used when communicating new media meanings (Baldry and Thibault 2006; Jewitt 2009ab; Kress 2010; Kress and van Leeuwen 1996). Different kinds of media or *media modalities* permit new kinds of meanings to be made (Hodge and Kress 1988; Kress 2003; 2010; Kress and van Leeuwen 1996). Each new social media platform utilises combinations of these media modalities; language may be combined with visual, auditory, and kinetic resources, to construct very complex texts over time. In order to understand what a social media message might mean, it is first necessary to determine what media modalities are being employed and for each of these modalities to identify what features or so-called *semiotic resources* need to be considered. The value or significance of each semiotic resource can then be determined by applying one or more qualitative methods. Modern communication scholars handle the complexity of new media in general, and social media in particular, in a familiar way, by drawing on different communications disciplines to develop a toolkit for analysis (Baldry and Thibault 2006, Jewitt 2009ab; Kress 2010; O'Halloran et al. 2010).

Within Systemic Functional Linguistics, three distinct qualitative approaches have been developed to account for multimodality. They are social semiotic multimodality (SSMM), multimodal discourse analysis (MDA) and multimodal interactive analysis (MIA). Each approach was developed for a specific research interest. Space does not permit a critical comparison of each and so the reader is directed to Jewitt (2009a) for that purpose. SSMM is the most directly applicable systemic multimodal approach for our interests. SSMM attempts to reveal how semiotic resources, different modes and socio-cultural influences can impact meaning making, text deployment and text interpretation (Jewitt 2009b; Kress 2010). SSMM combines all the resources selected into an integrated whole called a *motivated sign* (Jewitt 2009b; Kress 2010) and for purposes of this study they include language, visual and intersemiotic modes. A *motivated sign* is a purposefully constructed message designed to use specifically selected modes to convey meaning (Kress 2010, 10). MDA and MIA privilege language as the dominate mode. Therefore we select SSMM to form the basis of our approach to social media analysis. The analysis proceeds by examining each media individually, then consolidating them to reveal the meanings carried by the multimodal message as a whole (Baldry and Thibault, 2006; Kress, 2010).

We propose the use of a framework called the Social Semiotic Multimodality (SSMM) framework, based on SSMM, that describes the meaning making resources that are used by producers of social media and are understood (at least in part) by consumers of social media. Social media messages can be understood because they draw on these meaning making resources.

To determine the meaning of each message, appropriate methods have to be applied to each mode. The mode of language associated with social media messages, both its spoken or written forms and also including emoticons and hypertext, are analysed using three basic kinds of meaning or *metafunctions* associated with language originally identified by Halliday (1978): meanings that relate to social actions and activities (*experiential metafunction*), to social organisation (*interpersonal metafunction*), and to connecting the experiential and the interpersonal into completed acts of communication (*textual metafunction*). SFL uniquely theorises a mechanism that enables a completed act of communication to be relevant to its immediate situation context of use within a broader cultural context of its production and reproduction. The immediate situational context provides a completed act of communication with specific values for its metafunctions: *field* refers to actual social actions and activities, *tenor* identifies participants in the immediate situation, and *mode* refers to how the language is organised (primarily a distinction between spoken or written language).

The visual modes of images and video are analysed using techniques established by Kress and van Leeuwen's (1996). They argue that visual meaning can be organised metafunctionally as well. They rework experiential meaning as *representational meaning*. *Narrative meanings* refer to the elements of an image that appear to be represented naturally or without alteration. *Symbolic meaning* is represented via a sign (Kress and van Leeuwen 1996). *Interactive meanings* are the visual correlate of interpersonal meaning; these identify how participants within an image relate to each other and the viewer (Kress and van Leeuwen 1996). This metafunction comprises of *modality*, *image/gaze* and *frame/social distance*.

Modality identifies how ‘real’ an image appears to be. Image/gaze is used to identify whether the subject in the image is directly connecting with the viewer or other subject or is unaware of a viewer. Frame/social distance describes varying levels of intimacy along a continuum between subjects and their viewers (Kress and van Leeuwen 1996). For example, a close framing implies an intimate relationship between subjects and the viewer, while a wide shot implies little intimacy (Kress and van Leeuwen 1996). *Composition* is the visual correlate of the textual metafunction of language and describes how an image is composed or constructed (Kress and van Leeuwen 1996). It comprises three components: *informational value*, *salience* and *framing*. Information value determines the reading path and which elements are centralized (Kress and van Leeuwen 1996). Salience identifies what elements are important in the image (Kress and van Leeuwen 1996) and framing identifies how components are connected or disconnected from each other (Kress and van Leeuwen 1996). Auditory and kinetic analysis is not required for the included case study; the reader is directed to van Leeuwen (1999) for further auditory modes, Martinec (2004) for kinetic gestures and Ekman and Friesen (1978) for kinetic facial expressions.

Space does not permit a detailed exploration of the semiotic resources that have been developed to describe language and all of the other modes that may constitute social media messages. For this paper, a more pressed concern is how to account for the way in which social media messages appear to form coherent wholes. For example, what makes a caption and an image appear as one relatively discreet social media message- a tweet for instance rather than some other kind of short message. We are also interested in how a series of social media messages can be identified as belonging to the same kind of thread- not structurally because of where the message is co-located on a social media platform, but semantically because its meanings are similar to meanings in other messages (we refer to this as an *online conversation*). For those engaged in eBusiness, eCommerce and online advertising, where companies are trying to sell products or services or otherwise engage consumers or users in activism or campaigns of one sort or another, we also need to know what mechanisms enable producers and consumers of messages to identify messages that are relevant or not (we refer to this as a *campaign relevant message* or CAM). We would also like to be able to visualise these related messages in online ‘conversations’ on social media (we refer to this as a *themed cluster*). The foundation for these three research problems- online conversation, CAMs and themed clusters are connections between different kinds of meaning making modes. These connections are referred to as *intersemiotic relations* and they are considered in the next section.

Intersemiotic Relations using Expansion Theory

Digital conversations on social networks consist of multimodal messages that are joined together by *intersemiotic relations* and are prevalent in our case study- see next section. These refer to messages containing more than one mode and are designed to be understood together, as with the example in Figure 4, where the image and written language are to be read together. To determine these co-occurring meaning the framework draws on *expansion* theory. First developed by Halliday and Hasan (1976) and Hasan (1989), expansion resources bind a text together to give it unity (Egins 2004; Halliday and Hasan 1976). Unsworth’s (2006) intersemiotic (image/text relations) framework is applied to determine the meaning of each multimodal message and to determine how messages within an online conversation impact each other and in turn generate new conversational meanings. With co-occurring modes, an image and a text for example, meaning can be realized in one of three ways, by concurrence, complementarity and enhancement. The first major intersemiotic resource is *concurrence* and refers to the ideational equivalence between image and text. There are three kinds of concurrence: *clarification* is where one mode, an image for example, clarifies or explains the other mode, for example a written text (Unsworth 2006, 1175); *exposition* refers to the re-expression of the meanings of the image or the text in the alternative mode (Unsworth 2006, 1175), and *exemplification* occurs when an image “may be an example or instance of what is in the text or the text may include an example of what is depicted more generally in the image” (Unsworth 2006, 1175).

The second major intersemiotic resource is *complementarity*. This relation occurs where one mode adds meaning to another; there are two kinds of complementarity- augmentation and divergence (Unsworth 2006). *Augmentation* involves one mode extending or adding new meanings to those realized by another (an image extending the meanings of a stretch of language, or language extending the meanings of those realised in an image. *Divergence* is where the ideational content of text and image are “at variance” (Unsworth 2006, 1176).

The third intersemiotic resource is *enhancement*. This relation occurs when one mode multiples the meaning represented in another mode (Unsworth 2006). There are four kinds of enhancement: condition, spatial, temporal and causal. *Condition* is made evident when one mode constructs the condition and another mode demonstrates the consequence of the event (Unsworth 2006, 1194). *Spatial* relations occur when one mode enhances the spatial context of the other (Unsworth 2006). *Temporal* relations occur when modal relations have an impact of time. Examples might be a bracket of closely timed shots or a time-lapse sequence (Unsworth 2006). *Causal* relations are evident when one mode enhances the other based on cause-and-effect (Unsworth 2006).

Online Conversations, Campaign Relevant Messages and Themed Clusters

For the purposes of this study, an online conversation involves considering multiple messages across multiple sites as a single large text. We use the term *campaign relevant message* (CAM) to refer to any message that consists of one or more themes that are aligned with those of the developing online conversation. CAMs are connected by a theme of the conversation's purpose and assist in the development of an online conversation. The term campaign refers to the fact that we are dealing with motivated signs over time. Once a CAM is deemed to be a salient to an online conversation, it is placed in a *themed cluster*. A Themed Cluster is a thematic grouping of relatable messages within the context of a conversation. A conversation may comprise a single or multiple Themed Clusters. The more themed clusters the larger and more complex the campaign is likely to be. Each Themed Cluster may consist of one or many CAMs. Themed Clusters may operate independently of each other, support each other or occur simultaneously within a broader conversation. The CAMs within a cluster can utilise one or many new media sites. Also, a single relevant message may be able to appear in more than one cluster. CAMs represent a starting point for each Themed Cluster will be determined.

Case Study: Social Media Meaning in Fairtrade Fortnight 2012

In the following we apply the SSMM framework in a case study to analyse sequences of messages which are all associated with one particular event, but were published on different social media platforms and in different modes. We investigate how these messages relate to each other and illustrate the role that images play in carrying meaning within these threads of messages. Subsequently, we show how one message expanding on another is crucial to how meaning is generated. The case setting is the Fairtrade Fortnight (FTF) 2012 communication campaign that took place in Australia. Fairtrade is an organised social movement whose stated goal is to help producers in developing countries achieve better trading conditions and to promote sustainability. Fairtrade Fortnight is an annual promotional campaign organised and funded by the Fairtrade Foundation, in Australia by Fairtrade Australia, to increase awareness of Fairtrade products. The events are often supported by local authorities and governments, charities and alternative trading organisations, all seeking to ensure the purchase of fair and ethically traded goods. Events are highlighted and recorded on 'Fairtrade licensing bodies' websites. Most media outlets support the fast growing trend in which previously disadvantaged third world producers have a fairer market to sell their wares and develop their economic capabilities (Fairtrade 2014).

Identifying Campaign Relevant Messages

First we apply the concepts of concurrence, complementarity and enhancement to identify Fairtrade Fortnight 2012 CAMs and their relations in the meaning-making process.

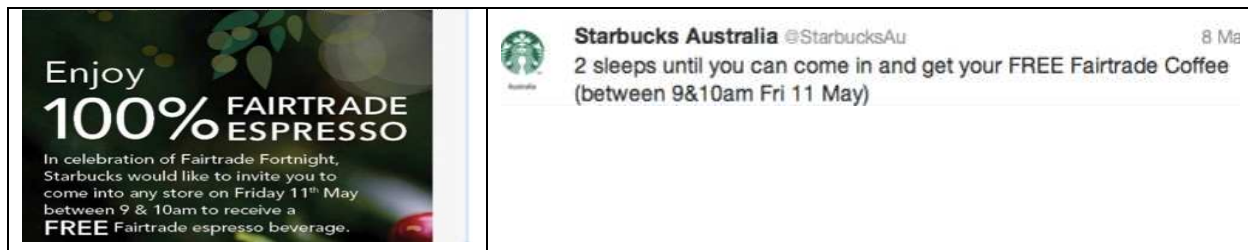


Figure 1. Example of clarification between CAMs

In the case study, concurrence appears in the form of clarification. Clarification occurs when the compared CAMs communicate identical or similar, clarifying meanings, without introducing any new meaning. This is often seen when the same message is posted on multiple platforms and sites as with many posts that are deployed on Facebook and Twitter simultaneously or when similar messages are posted in multiple modes on multiple platforms and sites based on the same theme. The example in Figure 1 illustrates the original posting consisting of a background image and text on a supporting organisation's webpage and a later tweet from that organisation's Twitter account: The tweet does not add any new information; it simply reiterates the same message in a new format and reinforces the contents of the earlier message.

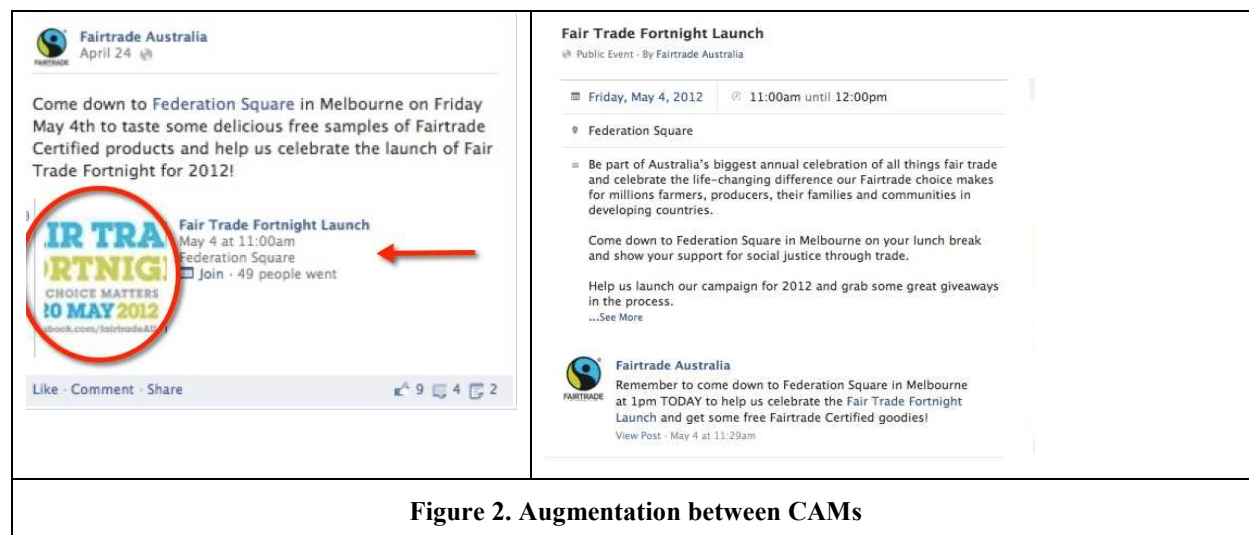


Figure 2. Augmentation between CAMs

Complementarity comes in two kinds: augmentation and divergence. Augmentation takes place when one CAM contributes additional meaning to another. This can occur with embedding hyperlinks and semantic links. In Figure 2, the primary post connects to another CAM via a hyperlink (identified by an arrow). This connects the user to another CAM (on the right) and by providing additional details about Fairtrade and its benefits to farmers and their families, it adds meaning to the primary message. Divergence occurs when one CAM contradicts another, or present (an) opposing view(s). Divergence will potentially be more apparent with a semantic linked CAM, than with embedded or hyperlinked CAMs. The primary coherence on the left side of Figure 3, represents a section of their official website that details what Cadbury believes it is doing to assist Fairtrade and Fairtrade cocoa farmers. The CAM on the right however, implies that Cadbury could do more and in fact, should do more for farmers. The contradiction reveals divergent meaning.

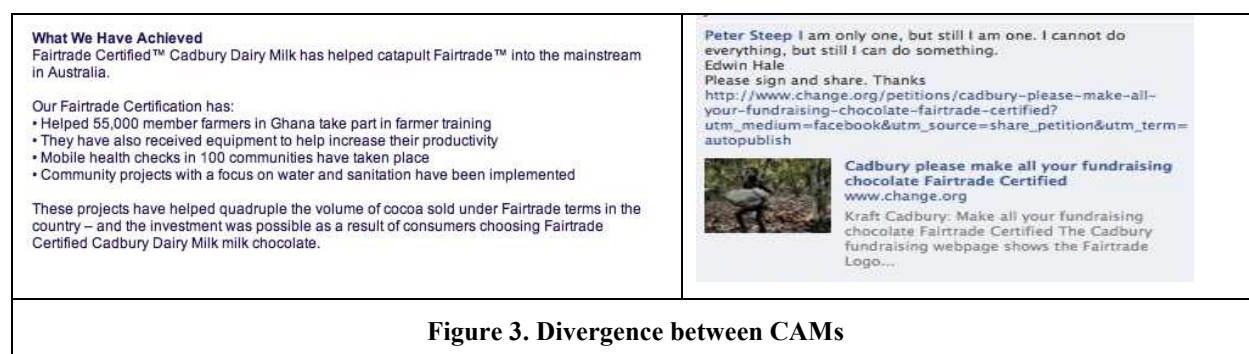


Figure 3. Divergence between CAMs

Enhancement happens when a message adds to the meaning expressed by the message preceding it. Condition herein occurs when one CAM in a particular mode presents a precondition for making meaning of a subsequent one, possibly presented in a different mode. In Figure 4, the primary message is in textual mode and asks users to “check out” photographs of Fairtrade Fortnight 2012. This is the condition for making meaning out the second CAM that in this instance reveals images of the event. The condition was

established by the need for action, which in this example was to click and view images. Without further (textual) information the image that represents the second CAM would not make any meaning.

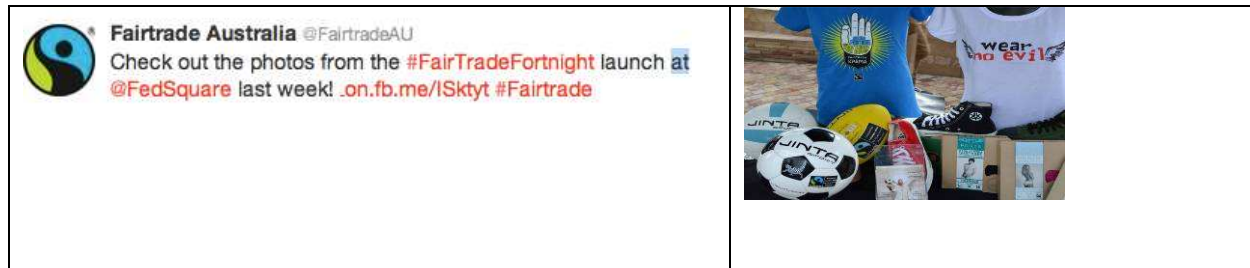


Figure 4. Condition relation between CAMs

Causal relations are revealed when a direct causal link connects one CAM to another in a cause and effect relation. An example is shown in Figure 5. The primary message asks Twitter followers to 'come down to Fed Square' - the location of the Fairtrade Fortnight 2012 launch. The second CAM is a 'thank you' to those who visited and engaged in the event; it would not be meaningful without its preceding CAM.

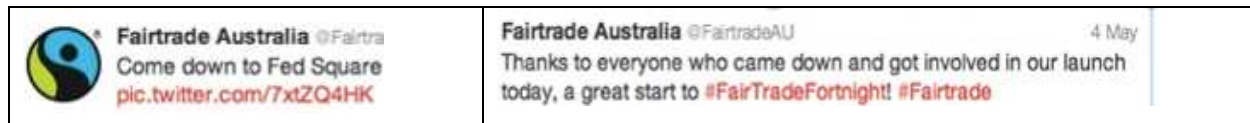


Figure 5. Causal relation between CAMs

Temporal relations exist when a time-based connection is made between CAMs. For example, the first CAM may outline an event or a particular occurrence that has some impact and the second one is a result of this impact. In Figure 6, the primary marketing message provides details of a certain person, Australian celebrity chef, Simon Bryant, baking chocolate muffins for Fairtrade Fortnight 2012. The following CAM's depiction enhances the understanding of the event. This may occur via alternate accounts from stakeholders beyond the original source. In this instance, Oxfam Australia's (though not identified in the Figure) photograph and post refer to the evidence that the chocolate muffins had been baked and offered.

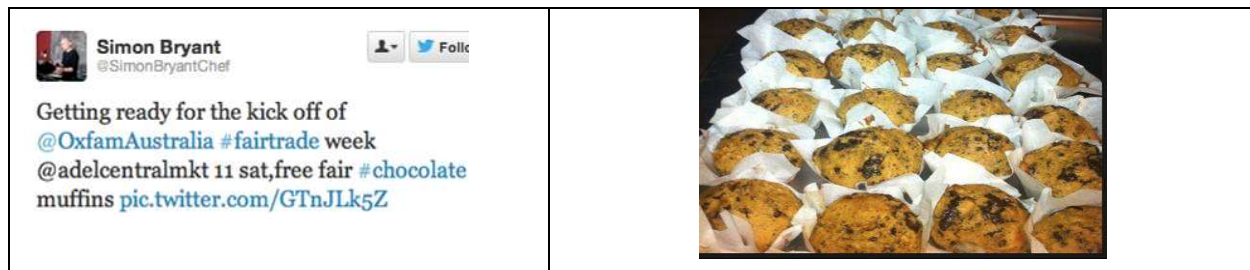


Figure 6. Temporal relations between CAMs

Revealing the Making of Conversational Meaning in Themed Clusters

We now employ the SSMM framework to organise data into themed clusters and analyse each cluster and its intersemiotic relations to reveal how the conversational meanings of social media messages that apply several modes of articulation are made by chains of individual posts that are linked together across multiple venues or outlets. The original analysis of the Fairtrade Fortnight 2012 campaign data identified over 15 themed clusters, however, due to space constraints, we only consider three of them here: the themed clusters 'Fairtrade Farmer Michael Toliman'; 'La Trobe University Celebrations'; and 'e-Newsletter Promotion'. Each themed cluster is depicted in a figure, Figures 7 – 9, which provides selected labelled instances of the individual posts and messages, the media source and site in which they appeared and their entire intersemiotic relations and expansion connections. The key for interpreting the clusters in Figures 7 - 9 is shown in Table 1.

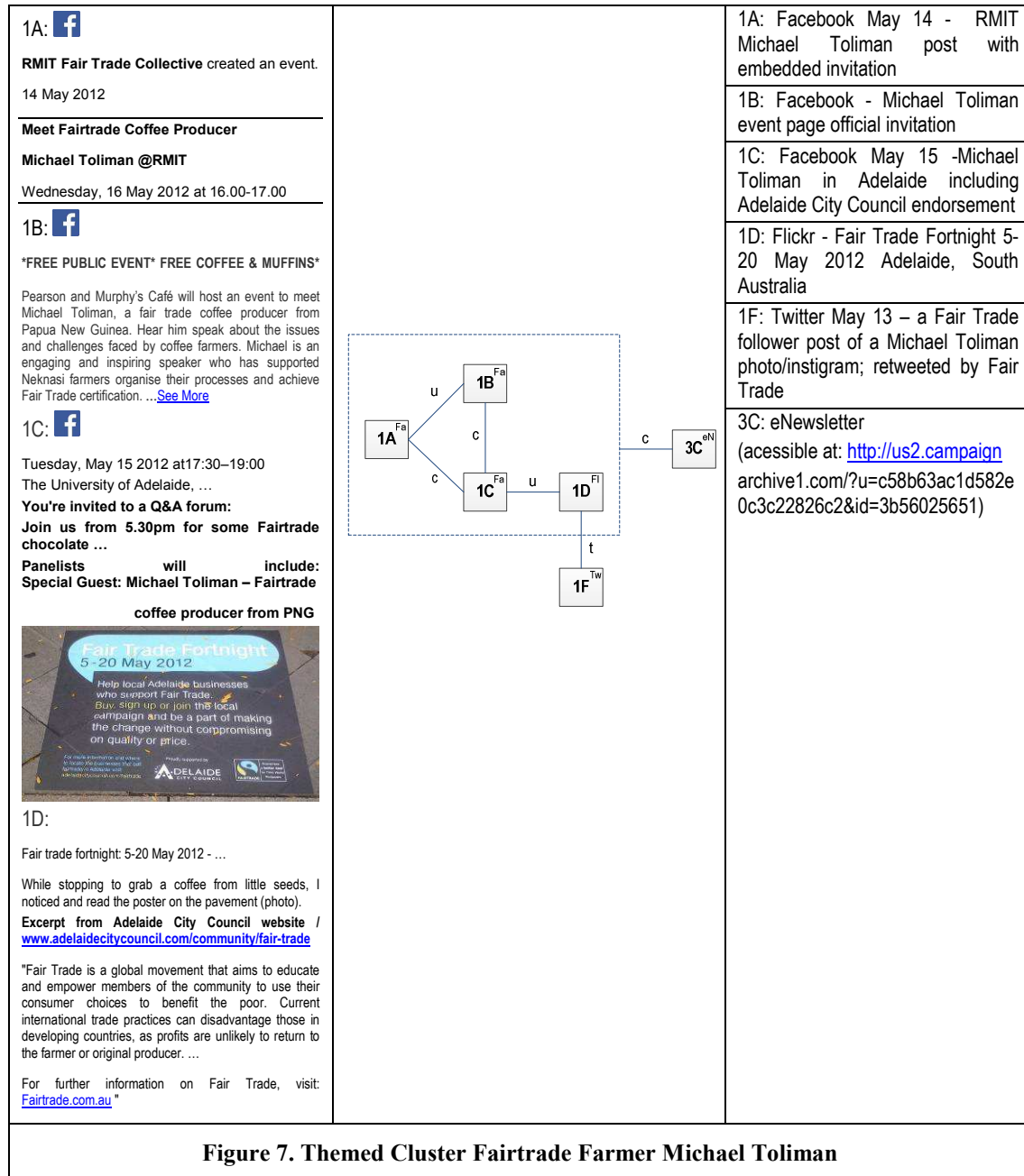
Table 1. Key for Themed Cluster Figures 7-9**Media** Website, Facebook, Twitter, Tumblr, YouTube, Vimeo, Flickr, Official Blog, eNewsletter**Expansion** Concurrence (=): Clarification; Complementarity (+): Augmentation, Divergence; Enhancement (x): Condition, Causal, Temporal**Theme Cluster 1: Fairtrade Farmer Michael Toliman**

This cluster, represented in Figure 7, is an instance of an ongoing narrative that details the exploits and travels of the Fairtrade farmer Michael Toliman who acted as a guest speaker during the event. This was achieved visually through static images and via written text, across several media channels, including Facebook, Flickr and Twitter. The cluster documents how Fairtrade Australia utilised the speaker to promote the Fairtrade system and its products during Fairtrade Fortnight 2012. Additionally, the cluster detailed Fairtrade Australia's multiple alliances, including international alliances, the guest speaker, and domestic alliances, the Royal Melbourne Institute of Technology (RMIT), the University of Adelaide and Adelaide City Council. The analysed messages, none of them posted by Fairtrade Australia themselves, intertwine seamlessly with the commissioned organisational marketing material and government endorsement as evidenced by the Facebook, Flickr and Twitter messages documented below. As part of this cluster a private Fairtrade advocate and follower posted an image of the speaker at RMIT via Twitter; this was retweeted by Fairtrade Australia and indicated a level of familiarity between Fairtrade and their followers (photo and retweet not included in Figure 7). As stated, Fairtrade themselves did not post any images of the event on Twitter; it was left to an event participant to include RMIT and Fairtrade Australia in the *Twitterverse*, illustrating the ease of which co-created meanings are constructed within social media. The official Fairtrade e-Newsletter as a finishing part of this cluster (see also below as part of the independent themed cluster 3) provided a brief history of the speaker and his activities undertaken whilst in Australia, in effect concluding his involvement with the campaign.

The Facebook post 1A, offered a brief background of the speaker and a general and informal invitation to the event held at RMIT. The embedded section detailed the time and date, the name of the event and who would be hosting. The Facebook post 1B augmented the meaning of post 1A by representing the official invite to the event and expanded on the speaker's history, listing his credentials and expertise. Furthermore, the post visually detailed actual and possible attendees (not displayed in Figure 7). The Facebook post 1C including a message about an earlier event in another town (Adelaide) clarified who the speaker was and his history, in relation to 1A and 1B. The post displayed his travels from Adelaide to RMIT enhancing the readers' and viewers' understanding of the subject and his relation to the Fairtrade organisation. Post 1D augmented meaning via a link to 1C; it provided specific details about the photographed stencil at the bottom of the Michael Toliman invitation in 1C, indicating how FTF was being endorsed by the Adelaide City Council (ACC). The language the ACC used was more formal than that of Fairtrade Australia, as in keeping with it being an official government website. This provided coherent meaning for the reader, as one would expect to read formal content on a government site. The initial post provided awareness and key information about the author and his presentation at RMIT, which invited Facebook users to the event and attempted to cultivate a following for the speaker. The official event page provided additional meaning, enhancing the understanding of the event and the speaker and the relationship between the speaker and RMIT. Post 1F represented an image sent from Instagram via Twitter from an advocate of FTF and the Fairtrade farmer Michael Toliman, the message was retweeted by Fairtrade Australia and displayed the Fairtrade farmer Michael Toliman presenting at the RMIT coffee evening. The post was deployed in Twitter, whilst the rest of the material was deployed within Facebook. This demonstrates how semantic linked themes are necessary for understanding conversations or campaigns when analysing the complexity of social media communications. Secondly, it demonstrated Fairtrade Australia's willingness to use the advocate's images as part of their own communication campaign. This relevant message enhanced the meaning of the themed cluster via temporal enhancement; the message provided a positive association with the speech and provided visual evidence of the events taking place. Post 1F acted as a cohesive tie for the campaign material all together, acting as a conclusion to this portion of the FTF campaign.

Post 3C also concludes the Fairtrade farmer Michael Toliman's involvement in FTF 2012. The post clarifies his contributions and the initiatives and activities he participated in whilst visiting Australia as part of FTF 2012 celebrations by citing specific accomplishments, such as, the RMIT coffee evening. Post

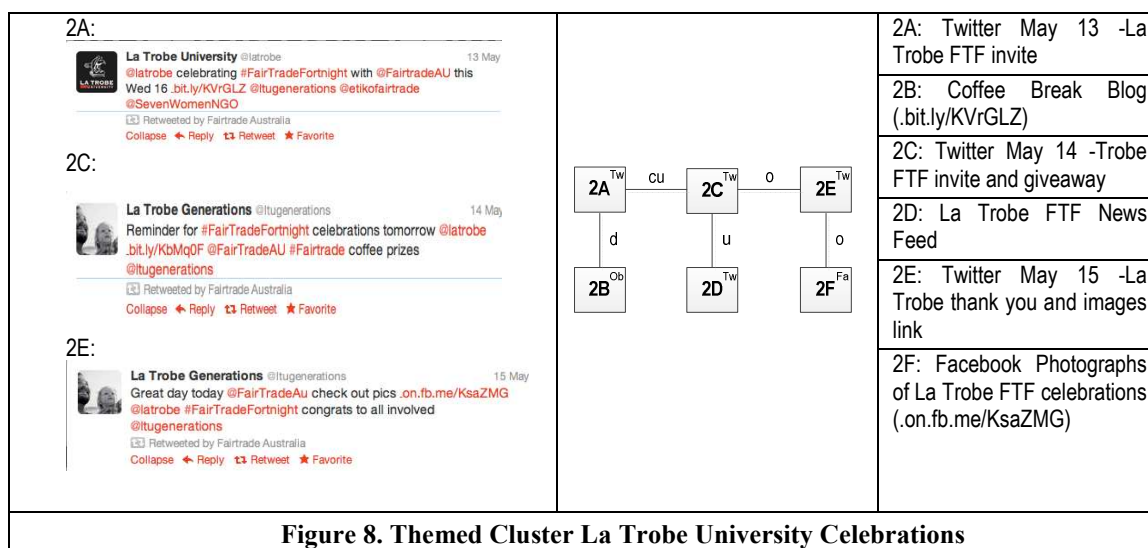
3C is linked to themed cluster 3 and its analysis will be expanded below in the cluster labelled “e-Newsletter Promotions”.



Themed Cluster 2: La Trobe University Celebrations

The cluster, represented in Figure 8, refers to a Fairtrade Fortnight event hosted at La Trobe University Melbourne during the 2012 campaign and followed a narrative process with Twitter being the dominant media used within the cluster to communicate. However, each of the hyperlinks offered by the tweets directed the user to different media, including, a blog (.bit.ly/KVrGLZ), website (.bit.ly/KbMqoF) and Facebook (.on.fb.me/KsaZMG) page. The cluster represents an instance of co-produced meaning and involves five different message constructors, from the six different CAMs involved. This configuration demonstrates how a cluster's composition can include messages related to a theme (Fairtrade Fortnight), whereby none of the material was constructed by the organisation at the centre of the conversations

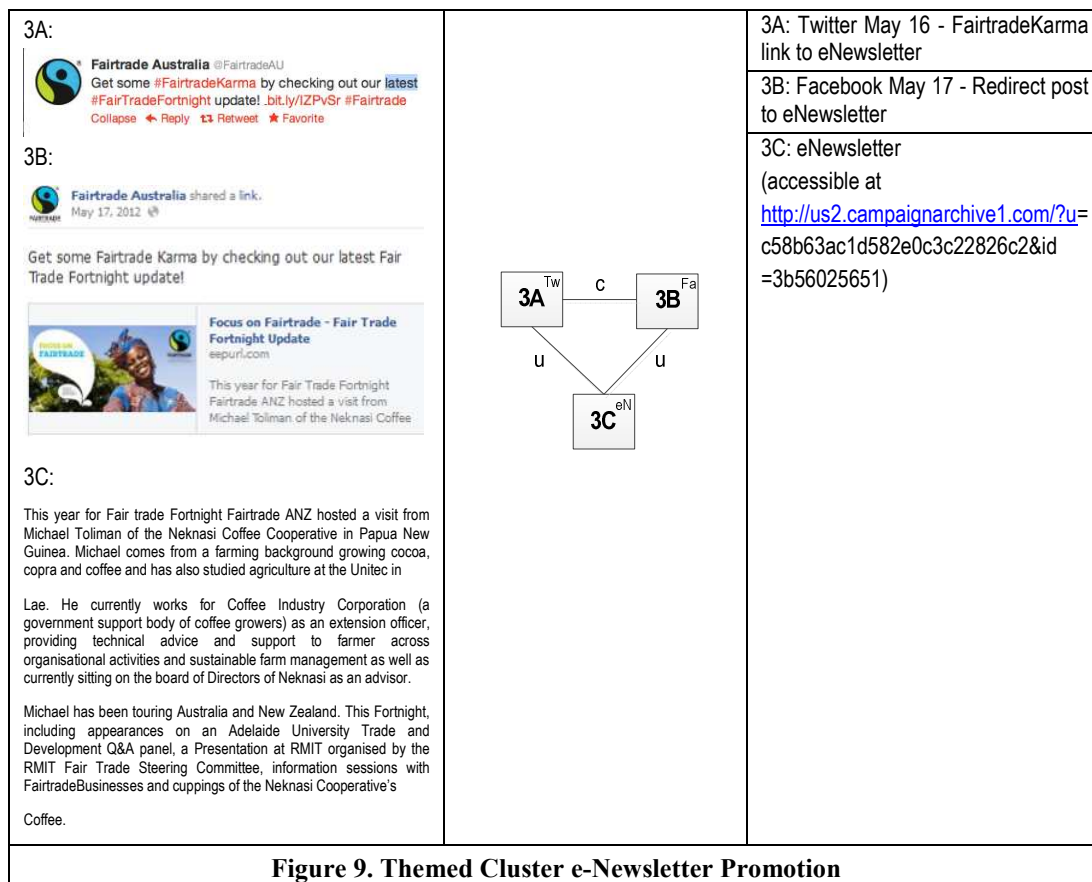
(Fairtrade Australia). Once again, the language used by La Trobe and their affiliates is more formal, as expected from an educational institution than that of Fairtrade Australia. However, the cluster was tied together by Fairtrade Australia retweeting the messages (posts 2A, 2C and 2E) and in doing so, united the sequence and consolidated its meaning. In effect, this positioned Fairtrade as a filter and coordinator. Meaning is imparted based on their selection and ordering of the posts published. Furthermore, if each attachment or hyperlink is not read, the message sequence takes on a different level of meaning. For example, this cluster only following 2A, 2C and 2E would have read: raise awareness of event, reaffirm invite and then a thank you tweet to conclude.



Post 2A introduced La Trobe University FTF celebrations and informed Twitter followers of the date of the event. The hyperlink 2B redirected users to the 'Coffee Break' blog. This post did not provide any new or additional information about La Trobe's FTF activities and represents a divergence that actually distracted audiences from La Trobe's celebrations. Post 2A is clarified by 2C; although it added and augmented it with the coffee prize element, it primarily repeated the same information of the original tweet. Post 2C redirected users via a hyperlink to 2D. The hyperlink directed users to the university news feed, which provided additional meaning and thus augmented the tweet on the Fairtrade Fortnight 2012 celebrations at La Trobe University. The news feed elaborated on venues and those involved, as well as contact details for participants wishing to get more involved. Meaning was enhanced from 2C to 2E, 2C as a condition provided a reminder to take part in the event, while the message 2E then congratulated those involved and provided a link to images of the event activities available through post 2F. The images, in turn enhanced the meaning of the cluster- here 2E also represented a condition through which the images became accessible- as they visually displayed stalls and other activities such as coffee drinking experienced on the day. In effect, the message displayed and described the means through which the events took place, as well as depicting VIP's interaction with event organisers. In summary, post 2A introduced the event, albeit briefly; post 2C reiterated and reaffirmed the event, with the attached relevant message post 2D providing more detail and adding meaning to the two preceding CAMs. The fourth message post 2E with the congratulatory tweets enhanced the meaning of the themed cluster, as did post 2F via visual displays.

Theme Cluster 3: e-Newsletter Promotion

This cluster, represented by Figure 9, is an instance of self-promotion for Fairtrade Australia and Fairtrade Fortnight 2012. The cluster appeared towards the very end of the Fairtrade Fortnight 2012 campaign, in effect concluding proceedings. The tweet and Facebook posts made an effort to turn users to the e-Newsletter; they were the only two sites used to redirect users. The e-Newsletter itself referred to the main events and activities held during the campaign, highlighting the Fairtrade farmer Michael Toliman's impact and involvement in the campaign. The posts also attempted to motivate users to learn more about Fairtrade and Fairtrade Fortnight, adding to the breadth of understanding generated about Fairtrade Fortnight festivities.



Clarification appeared between post 3A and 3B, as both posts communicate the exact same offer. Fairtrade offered readers good Karma in exchange for viewing their e-Newsletter. Post 3A and 3B have hyperlinks to the e-Newsletter, however, post 3B has an embedded section that displays a brief excerpt from 3C and 3B has an image embedded that represents the cover of the e-Newsletter. The e-newsletter augmented both post 3A and 3B and detailed information about the events that had occurred, including the Fairtrade farmer Michael Toliman events which we analysed above in themed cluster 1.

Discussion and Conclusions

The presented study was motivated by the fact that IS researchers are currently facing the challenge of developing analytic tools for understanding the complex and multimodal communicative practices that are emerging as a result of the ubiquity of social media. We establish that semiotics, the study of meaning making and theory of signs and symbols, can provide a solution for this challenge. For this purpose we relate semiotics to the information systems discipline and provide a Social Semiotic Multimodal (SSMM) framework as an essential tool for IS research that enables researchers to understand online conversations that span multiple modes of expression via multiple channels of dissemination. Its components allow for a better understanding of the complex and multimodal communicative practices taking place on and through social media.

The framework is based on systemic functional linguistics (SFL) and one of its further developments expansion theory. Incorporating expansion theory into the framework enables the semantic relationships between constituent media in a given social media message to be described. This latter aspect has been the focus of this paper. The theory provides a classification of the possible directions message sequences can take: These are concurrence in the form of clarification, exposition, and exemplification, complementarity appearing as augmentation and divergence and enhancement based on conditions or spatial, temporal, and causal relations. This distinctive classification allows for the unambiguous identification and subsequent analysis of the meaning making processes of online conversations and

campaigns. Such an analysis will enable IS researchers and practitioners to develop guidelines for the design of effective conversations and campaigns. Its supports formulating appropriate social media messages for companies which plan or undertake campaigns or more generally eBusiness by engaging and cultivating a more varied and nuanced relationship with their online communities. While experience more than amply demonstrates how the meanings associated social media campaigns are not capable of being controlled by businesses, this approach to social media enables companies to at least describe and understand what meanings are being sent out into their online communities as well as being able to describe and understand how these meanings are being interpreted, repackaged and propagated online. A semantic approach to social media messages and campaigns necessitates abandoning the illusion of controlling the meaning of social media messages and campaigns at a given point in time, in favor of promoting a closer, sustained and more engaged voice in the ongoing conversations within online communities during the course of campaigns.

The study commenced with identifying how the limitations associated with the sender-receiver model in accounting for communication in human activity systems led IS scholars to seek out alternative solutions, one of which included the use of semiotics (see Stamper 1973; Andersen 1990). However, limitations continue to prevail when a sign-model is applied to analysing social media messages (O'Halloran et al. 2010). They include, incompatible sign models, granularity and limitations of the use of the sign models to comprehensively analyse multimodal messages prevalent in social media texts. In order to alleviate issues associated with various sign-based approaches and to demonstrate how messages, online conversations, and campaigns placed on different social media platforms and in different modes construct and convey meanings, this paper argued for a SFL approach comprising expansion theory (Halliday and Hasan 1976; Unsworth 2006) to be extended to include social semiotic and multimodal components. The construction of the SSMM framework heralded several benefits over traditional sign-based approaches. These benefits included the framework's ability to separate the message, site and conversation components in themed clusters for analysis and subsequently to comprehensively analyse multimodal message and conversation elements, within the context of a broader online conversation, a campaign in this instance, to identify how they made meaning.

The application of the SSMM framework in the Fairtrade Fortnight 2012 case study demonstrates how language, images, and intersemiotic relations combine to create multimodal messages. The SSMM framework provides a metafunctional perspective on experiential, interpersonal and textual meaning, within a consistent frame of reference for text and visual modes. This allowed findings from different modal resources to be considered within the context of messages which make up a conversation and/or campaign. Multimodal meanings specific to language were analysed using the SFL concepts detailed by Halliday (1978). These were useful in determining what the text referred to and who was involved in the generation of meanings. It also recognized different levels of formality between various participants. Experiential meaning also aided in assigning CAMs to particular clusters, based on the particular themes assigned in the written component of a message. Visual representation approaches presented by Kress and van Leeuwen's (1996) facilitated determining the meaning of images. Their work assisted in identifying the theme of the image, which participants were involved and the role(s) each participant had in the conversation. The representational meanings, in particular, helped in placing CAMs into specific clusters. We found that at times images carried the majority of the meanings in comparison to other accompanying modal resource(s) represented in the message. This finding concurs with Kress's (2010) and O'Halloran's et al. (2010) assessment that social media message construction is increasingly dominated by images. The SSMM framework based on expansion theory with its focus on intersemiotic relations assisted in determining how co-occurring modal configurations were connected and together made meaning. In determining if one modal element clarified, augmented, diverged or enhanced meaning in another element, valuable insights were generated about the purpose of completed acts of multimodal communication. It allowed the identification and understanding of co-created messages, where different elements from different sources in combination create a cohesive message.

Aside from its use in understanding intersemiotic relations, the study demonstrates the usefulness of extending original expansion theory with its focus on texts with Unsworth's (2006) work on the relation between text and images to assist in ascertaining conversational meanings. By reshaping expansion and its constituting concepts of concurrence, complementarity, and enhancement to view a campaign as a conversation consisting of text and images, the framework effectively was able to determine if one message clarified, augmented, diverged or enhanced the meaning in relations to another message. The

SSMM framework allowed themed clusters to be established for the different conversational tracks evident in the Fairtrade Fortnight 2012 campaign, making it easier to determine how various conversation components developed and who in particular was involved in its transformations. As illustrated in the findings, unexpected contributors have the potential to impact online conversations, potentially altering how the broader conversation is viewed and comprehended. Cluster 2 demonstrates how a conversation can potentially appear linear and non-linear depending on which messages a user decides to view. In this instance if particular tweets alone are viewed the message would seem to follow a familiar narrative with a beginning, middle and end. However, if the hyperlinks are also examined, the configuration of that particular themed conversation could take on an entirely different structure. If one post in particular is viewed (post 2B), there is a real potential that the user or reader might be completely distracted from the original purpose of the cluster.

The findings also demonstrate how actions as simple as a central participant reposting and embedding messages developed by other participants can construct a cluster. For example, Themed Cluster 2 is solely constructed by tweets external to and other than from the owner of the twitter page Fairtrade Australia, simultaneously positioning them as a constructor and deploer of material associated with the conversation. In addition, the framework assists in determining how different clusters could be interconnected by a single message, as in the case of cluster 1 and 3 (post 3C). This demonstrates how conversations are not always linear, nor do they always subscribe to two-way communication formulations. Rather, they have the potential to be continually reshaped by multiple participants, across multiple sites using multimodal messages. We suggest that the SSMM framework and its systemic underpinnings have much to offer in this respect. Approaches based on multimodal extensions to SLF have great potential in developing frameworks that assist IS researchers in understanding human-to-human multimodal communication taking place through different social media platforms. Exploring more such approaches demands future research.

Finally, the analysis of the Fairtrade Fortnight 2012 case study also demonstrates how in social media and platforms the classic concept of the user of digital information systems becomes inappropriate and obsolete, the 'user' is simultaneously producer and consumer of messages, the roles become blurred, the distance between them shrinks and becomes negligible. Achieving a better understanding of this phenomenon and its consequences also is a challenge and opportunity for future research.

References

- Ågerfalk, P. 2003. *Information Systems Actability. Understanding Information Technology as a Tool for Business Action and Communication*, Linköping Studies in Information Science, Dissertation No 7 Linköping, Sweden.
- Andersen, P.B. 1990. *A Theory of Computer Semiotics. Semiotic approaches to the construction and assessment of computer systems*, Cambridge Series on Human- Computer Interaction, NY: Cambridge University Press.
- Austin, J.L. 1955/1962. *How to Do Things with Words*, Oxford: Oxford University Press.
- Baldry, A.P., and Thibault, P.J. 2006. *Multimodal Transcription and Text: A multimedia toolkit and coursebook*, London: Equinox.
- Boyd, D.M., and Ellison, N.B. 2008. "Social Network Sites: Definition, History, and Scholarship," *Journal of Computer-Mediated Communication* (13:1), pp. 210-230.
- Clarke, R.J. 2000. *An Information System in its Organisation Contexts: A Systemic Semiotic Longitudinal Case Study*, Department of Information Systems, University of Wollongong, Australia Unpublished PhD Dissertation.
- Clarke, R. J. 2001. "Studies in Organisational Semiotics: An Introduction," *Australian Journal of Information Systems* (8:2), pp. 75-82.
- Eggs, S. 2004. *An Introduction to Systemic Functional Linguistics*, 2nd ed., London: Pinter Publishers.
- Ekman, P., and Friesen, W.V. 1978. *Facial Action Coding System: A Technique for the Measurement of Facial Movement*, Palo Alto: Consulting Psychologists Press.
- Ellison, N. B., Steinfield, C., and Lampe, C. 2011. "Connection strategies: Social capital implications of Facebook-enabled communication practices," *New Media & Society* (13:6), pp. 873-892.
- Fairtrade, 2014. Wikipedia: http://en.wikipedia.org/wiki/Fair_trade, http://en.wikipedia.org/wiki/Fairtrade_Fortnight: assessed August 6, 2014.

- Fiske, J. 1982. *Introduction to Communication Studies*, London: Methuen.
- Halliday M.A.K. 1978. *Language as social semiotic. The social interpretation of language and meaning*, Open University Set Book, London: Edward Arnold.
- Halliday, M.A.K., and Hasan, R. 1976. *Cohesion in English*, London: Longman.
- Hartley, R. V. L. 1928. "Transmission of Information," *Bell System Technical Journal*, July, p. 535.
- Hasan, R. 1989. "The texture of a text," in *Language, Context and Text: Aspect of Language in a Social Semiotic Perspective*, M.A.K. Halliday and R. Hasan (eds.), Oxford: Oxford University Press, pp. 70-96.
- Hodge, R. and Kress, G. 1988. *Social Semiotics*, Cambridge: Polity Press.
- Jewitt, C. 2009a. *The Routledge Handbook of Multimodal Analysis*, New York: Routledge.
- Jewitt, C. 2009b. "Handbook rational, scope and structure," in *The Routledge Handbook of Multimodal Analysis*, C. Jewitt (ed.), New York: Routledge, pp. 9-11.
- Kaplan, A. M., and Haenlein, M. 2010. "Users of the world, unite! The challenges and opportunities of Social Media," *Business Horizons* (53:1), pp. 59-68.
- Kress, G. 2003. *Literacy in the New Media Age*, London: Routledge.
- Kress, G. 2010. *Multimodality: A social semiotic approach to contemporary communication*, London/ New York: Routledge.
- Kress, G., and van Leeuwen, T. 1996. *Reading Images: The Grammar of Visual Design*, London: Routledge.
- Lyytinen, K. 1985. "Implications of Theories of Language for Information Systems," *MIS Quarterly* (9:1), pp. 61-74.
- Majchrzak, A., Faraj, S., Kane, G.C. and Azad, B. 2013. "The Contradictory Influence of Social Media Affordances on Online Communal Knowledge Sharing," *Journal of Computer-Mediated Communication* (19:1), pp. 38-55.
- Martinec, R. 2004. "Gestures that co-occur with speech as a systematic resource: the realization of experiential meaning in indexes," *Social Semiotics* (14:2), pp. 193-213.
- Nöth, W. 1990. *Handbook of Semiotics Advances in Semiotics*, Bloomington and Indianapolis: Indiana University Press.
- Nyquist, H. 1924. "Certain Factors Affecting Telegraph Speed," *Bell System Technical Journal*, (3:2), p. 324-346.
- Nyquist, H. 1928. "Certain Topics in Telegraph Transmission Theory," *A.I.E.E. Transactions* (47), February, p. 617-644.
- O'Halloran, K.L., Tan, S., Smith, B.A., and Padlasov, A. 2010. "Challenges in Designing Digital Interfaces for the Study of Multimodal Phenomena," *Information Design Journal* (18:1), pp.2-12.
- Searle, J.R. 1969. *Speech Acts- An Essay in the Philosophy of Language*, Cambridge: Cambridge University Press
- Shannon, C. E. 1948 "A Mathematical Theory of Communication," *Bell Systems Technical Journal* (27:3), pp. 379-423.
- Shannon, C.E., and Weaver, W. 1949. *The Mathematical Theory of Communication*, Urbana: University of Illinois Press.
- Shirky, C. 2008. *Here comes everybody: The power of organising without organisations*. New York: Penguin Press.
- Stamper, R.K. 1973. *Information in Business and Administrative Systems* London: Batsford.
- Stroud, D. 2008. "Social Networking: An age-neutral commodity-Social networking becomes a mature web application," *Journal of Direct, Data and Digital Marketing Practice* (9:3), pp. 278-292.
- Teymur, N.1982. *Environmental Discourse: A critical analysis of environmentalism in architecture, planning, design, ecology, social sciences and the media*, London: Question Press
- Unsworth, L. 2006. "Image/text relation and intersemiosis: Towards multimodal text description for multi-literacies education," in *Proceedings of 33rd International Systemic Functional Congress*: Sao Paulo Brazil pp. 1165-1205.
- Van Leeuwen, T. 1999. *Speech, Music, Sound*, London: Macmillan.