

**Applying ANT to Blogging and Social Media Contents Sharing on the Missing Malaysian Flight
MH370**

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ABSTRACT

Weblog has been of immense help to virtually all the people around the world. With the help of this social medium, people can connect to each other, create and share ideas with ease. In so doing, the people and the social media form a seemingly unseen threadlike 'network of actors' through the interconnectivity of humans and nonhumans also called actants. It is in view of this that this study explores Actor Network Theory (ANT) developed by BrunorLantour, Michel Callon and John Law to understand its applications in blogging and social media contents sharing during the first two weeks that the Malaysian flight MH370 went missing. Using quantitative content analysis, the researcher analysed three Nigerian popular weblogs; gistmania.com, lindaiekeji.blogspot.co.uk, and bellanaija.com. These blogsites were selected purposively to know how they applied the tenets of ANT in relaying and sharing the news of the missing flight on their pages, and how commenters helped in completing the cycle of connectivity through their comments and replies. The findings show a huge interconnectivity of commenters from different parts of the world. There is however a low response rate from the bloggers. All the bloggers relied heavily on links from other sources, which shows an overlapping relationship and connectivity between them.

Keywords: Actor Network Theory (ANT), Weblogs, Blogging, Social Media, Malaysian flight MH370.

Introduction

Actor Network Theory (hence ANT) seems to have enjoyed much scholarly attention in contemporary academic discourse, especially in Europe. Also called 'enrolment theory or the sociology of translation' (Verhoeven, 2009, p.166; A-Ritzer Encyclopedia, 2004, p.1), this theory stemmed from the works of BrunorLantour, Michel Callon and John Law who did several science and technology studies (STS) in the 1980s (Verhoeven (2009)). After periodic review and wide acceptance, the theory was adopted as a theoretical perspective or underpinning by scholars in (social) sciences, public relations, and engineering alike (Verhoeven, 2009; Tatnall and Burgess, 2002). It was developed as a social theory that would enable better understanding of the scientific theories at the onset and later on social media studies. However, despite its wide acceptance, ANT is still considered very controversial. Actor-network theory assumes that the world is full of hybrid entities (Latour, 2013), and these entities make up both human and non-human elements, developed in order to analyse situations where separation of these elements is difficult (Callon 1997, p.3). ANT works on the premise that nature and society are constructed by attributing meaning. For instance, when information is shared on the social media, a lot of people give it several interpretations based on their orientations and dispositions.

Although notions like network, actor and controversy used by Lantour and his colleagues are applied in contemporary public relations and social media researches, ANT does not share same philosophical foundation with public relations concepts used in recent researches. It believes that truth is only found in strong networks of human and nonhuman actors often called actants (Lantour, 1999).

The social media technologies by their nature are socio-technical. With the help of information technology (IT), including networks and other electronic devices useful in storing, retrieving, manipulating and sharing information (Ghazioory and Hajishirzi, 2012; Turban and Mclean, 2009), social media use are better cherished. Thus, as Bainbridge and Roco (2005) argued, social media technologies provide a lot of opportunities for effective communication management. The total absence of IT and social network could even make human existence unsocial and boring. This may account for why despite an upsurge in the number of social media; they still attract much more subscribers or users on daily basis (Duggan and Smith, 2013; Bueger, 2013).

Today, the innovations in the social media sphere have been very massive. Social media technologies are becoming more ubiquitous and integral to human survival when effectively managed (Zhang et al. 2012). Thus, as the use of these technologies enables various changes in the society, the acceptance and diffusion of these technologies may often be determined by factors such as culture, nationality, orientation, economic status, selectivity principles etc. It could as well be based on uses and gratification principles in which case a user is left with variety of choices and based on the satisfaction he derives from each, he might prefer one to another.

Social media are innovations (ideas or technologies) which people see as new. By its nature, this study also adopted Diffusion of Innovations theory popularised by Everett Rogers in 1965. In practical case, when the Malaysian flight MH370 went missing, it generated a lot of comments and reactions from the early commenters and the commenters kept increasing as the drama unfolds until it attracted fewer comments as the tension reduced after it was announced that the whereabouts of the missing plane could be the Southern India ocean, a speculation that has defied substantiation. Till this research finished, there were still once-in-a-while comments from the commenters, an indication that the cycle of connectivity and sharing remains indefinite.

The problems

Since the emergence of weblogs and other social media technologies, knowledge creation and contents sharing have become faster, but the cycle of connectivity seems unending. Recent research evidence shows that the application of an ANT approach may lead to anthropomorphization of objects and construction of macro-actors. In this case, macro-actors represent actor-networks that coalesce in a way that the whole is seen as having projects acting as a single entity (Pentland and Feldman, 2005). The notion of network allows dissolving the distinction between micro and macro as the whole metaphor of scale is replaced by a metaphor of connections, akin to what (Latour 1997) claimed in his assertion that 'a network is never bigger than another one'. When the Malaysian flight MH370 veered off into the 'great beyond' reactions trailed its mysterious disappearance from all over the world. People irrespective of their geographical and psychological differences took to the media to criticise or make mockery of the development. The speed with which information on this saga spread was viral, but the cycle of connectivity was seemingly endless.

Previous researches on ANT such as Bueger and Bethke (2014), Best and Walters (2013), Bueger (2013), Couldry (2013) Ghazinoory and Hajishirzi (2012) ignored its application to social media content sharing. This accounts for why this study was designed to understand its applicability on selected weblogs hosted by Nigerians. Popularity of bloggers or blogs is often determined by the number of comments and followers they attract over time. Since previous researches on ANT ignored its application to social media content sharing this study was therefore designed to investigate three Nigerian popular weblogs to ascertain how ANT manifested in their posts and comments on the missing Malaysian aircraft.

Research Questions

This study was positioned to find answers to the following questions:

1. How did ANT contribute to the development of collaborative web platform and social media contents sharing on the missing Malaysian flight?
2. To what extent was the cycle of connectivity of actors completed (if at all) in blogging the missing Malaysian flight?

Literature Review

ANT is limited to its contributions on how to ‘theorize the connectivity that media enable.’ (Couldry, 2013, p.93). ANT has a strong profile in the new and social media as made glaring in Lantour’s (1993) book ‘We Have Never Been Modern’. Studies of the late 1980s show how media technologies embedded in the social media space could be closely tied to works in sociology of technology that can be influenced by ANT (Couldry, 2013). Very important in this regard too, are recent works of (Montenegro and Bulgacov, 2014; Poell, Kloet, and Zeng, 2014) which dealt extensively on how these technologies are embedded in the social life of the people in this digital age.

ANT is not only viewed as a theoretical framework. It is also seen as a ‘research methodology offering potential for further exploration as a way of developing project management knowledge, including bridging this divide between the general and particular’ (Pollack et al., 2013 p.1119). Explaining further, Lantour (2005, p.44) observed that ‘‘action is not done under the full control of the consciousness; action should rather be felt as a node, a knot, and a conglomerate of many surprising sets of agencies that have to be slowly disentangled’’. This means that the agencies or the actors in their interdependence co-interact involuntarily. This is more so because an actor is an ‘‘element which bends space around itself, makes other elements depend upon itself, and translates their will into a language of its own’’ (Omar, Ibrahim and Ibrahim, 2012; Callon and Lantour, 1981, p.286). This is a confirmation that the ontology of an actor is always under ‘‘flux and reconfiguration’’ (Callon, 1998, p. 253), a further justification that it enables knowledge creation and content sharing.

ANT and Online Public Relations

Studying PR from ANT perspective is like moving ‘‘debates and controversies about social issues to the heart of PR research’’ (Verhoeven, 2009, p.174). Lantour did not write about PR or PR practitioners collectively. He rather proposed a fourth ‘‘loop’’ in the ANT series named public representation after ‘‘mobilization of the world, autonomization and the building of alliances’’ (Verhoeven, 2009, p.172) if freed from PR stigma (Lantour, 1999). These early remarks about PR might account for why Lantour’s theories were largely ignored by PR writers especially when nonhuman actors meant little or nothing to practitioners.

Perhaps, the above reason led to five types of controversies of ANT identified by Piet Verhoeven, including: ‘‘nature of group, nature of action, nature of objects, nature of facts, and uncertainty about the study itself’’ (Verhoeven, 2009, pp.176-178). These uncertainties show that societal debates are mainly controversies about what makes up reality and how people construct or make meaning out of it. It is still very unclear whether online PR existed in the minds of ANT proponents until recently. This is because, terms like ‘social ties’, ‘social capital’ and ‘online communities’ which contemporary PR practice advocates are seen in available contemporary ANT studies.

ANT and Social Network Analysis of Blogs on the Missing Malaysian Plane

Analysis of social network has strong connections and links with social entities (Vidgen, Sims and Powell, 2013). These social entities are otherwise known as actors. They are linked through social ties (Cross et al., 2001, p.103). Links are usually ‘‘between the actors and the events, although subgroups of actors can be identified for each group’’ (Vidgen, Sims and Powell, 2013, p.368). The actors in this regard take ‘‘the agency’’ of inanimate objects such as texts and hybrids into accounts. Thus, ANT

network is viewed as a 'heterogeneous amalgamation of textual, conceptual, social and technical actors also called actants or volitional actors (Ritzer-Encyclopedia, 2004, p.1).

Therefore, Lantour's (1996) argument that social network adds to the relationship between humans in their social and natural environment, whereas ANT accounts "for the very essence of societies and natures" should be reconsidered. This is because one of the claims of ANT is that "modern societies cannot be described without recognising them as having a fibrous, threadlike, wiry, stringy, territories, spheres, categories, structure, systems" (Lantour 1996, p. 3). The above features therefore, represent social networks and the only way to enhance our understanding of this is the reinjection of our knowledge of the social fabrics into the ontology of social theory (van Dijck, 2012).

ANT is therefore based on three principles: agnosticism, generalised symmetry and free association (Tatnall and Gilding, 1999, p.955). This means that there is no distinction existing among the social, the natural and the technological domains. An actor is not just an object; it is also an association of the heterogeneous elements and cells which combine to form the network.

Thus, the nearly ubiquitous nature of blogging has made individuals, groups and corporate entities to use blogs to connect their followers, fans and indeed the general public for creating or sharing knowledge, advancing their course, patronage and their acceptability to the people. Bloggers post a number of things on their pages, while allowing people (commenters) to react or reply to the posts (Silva et al., 2008; Vidgen, Sims and Powell, 2013). In doing this, the audience construct realities through the interpretation they give to the updates on weblogs. Often times, bloggers use number of comments, sharing, likes, replies, and re-tweets to measure the popularity of their weblogs. This is why this study investigates three Nigerian popular weblogs to ascertain how ANT manifested in their posts and comments on the missing Malaysian aircraft.

Since the sudden disappearance of the aircraft the whole world has been very expectant. In a crisis situation like that, knowledge sharing requires effective information management because poor management of information could be very disastrous. That is why some posts and updates on the issue trigger off uncommon attacks and reactions. The aviation authorities and governments of Malaysia, Australia and China employed all necessary crisis communication strategies to manage the situation in order to douse the raging inferno sparked off by the incident.

The 'Network' in ANT

Actor network theory assumes that networks comprise of machines. In blogs and other social networks, it explains the assemblage of different components called actors. The actors in this sense range from profile pictures, the advertisements, newsfeed, the cookies (which track the users' preferences on the web, the notifications on the webpage, the posts and updates, the comments or reactions, the commenters, shared links, like, tweet or re-tweet etc. These actors are all important; they all assist 'members' of the assemblage. This implies that all the actors are interdependent and can hardly function in isolation. For instance, without a post, there will be no comments; without the social network, virtual forum that necessitates the comments from commenters cannot be possible and placing of online advertisement could have not been rewarding without the number of visitors to the weblogs etc. These complexities therefore influence human nature in such a way that humans have become part of a "technologically inter-connected heterogeneous and complex system" (Hammond, 2012, p.4). This mutual connectivity no doubts represents ANT.

In discussing ANT, the description of the ties among actors leads to a critical analysis of the ways technological actors express concerns over their social environment. Web hypertextuality provides a veritable platform for illustrating this conception of technology as a site of social processes. The web as a

hypertextual system was first envisioned as an embodiment of this concept of a hypertext where the boundaries of print and the separation between authors and readers would be abolished (Langlois, 2005).

In studying networks ‘people’s attention usually shifts to technological or social aspect’ (Couldry, 2013). Technological determinist approach assumes that all outcomes of technological changes are attributable to the technological rather than the social, whereas social determinism maintains that only social categories can be used in explaining the social. To overcome this, ANT puts into consideration the technical and social determinism and proposes a socio-technical account which recognises both social and technological (Greenough, 2013). This means that all the actors deserve equality as any separation between these elements weakens the other.

Based on this, one may be forced to ask, ‘what are the elements that Nigerian weblogs place in the ‘black box’ to raise such a broad construction of reality— modes of thoughts, forces, objects, and how to examine such a macro actor and connect so fast? Earlier in their collaborative study, Callon and Latour (1981) suggest directing attention towards the processes by which an actor creates lasting asymmetries not to the social, meaning that only the differences between what can be put in black boxes and what remains open for future negotiations are now relevant. ANT promotes the kind of analysis that seeks to open black box, that is, the web as a singular object in order to examine the network of the many actors that constitute it (Langlois, 2005).

In its consideration as generalized symmetry and free association, the most provocative aspect of ANT lies in its symmetrical treatment of humans and nonhumans and its special focus on artefacts. Under this principle too, ANT attempts impartiality towards all actors in consideration, whether human or non-human, and makes no distinction in approach between the social, the natural and the technological (Tantal & Gilding 1999).

As a theoretical framework, Actor-network theory tries to understand the processes of knowledge creation and sharing and web collaboration. The core aim is mainly to describe a society of human and nonhumans as equal actors connected by a network built and maintained in order to achieve set objectives (Omar, Ibrahim and Ibrahim, 2012).

The interaction of these actors makes them active. Pollack et al. (2013) believe that all the actors are both the influencers and the influenced because of their interdependence, interconnectivity and mutuality of their functionality. This is more like the Six Degrees of Separation of Kevin Bacon, which maintains that in this world, ‘everyone knows someone, who knows someone, who knows someone, who knows someone...’ Meanwhile, the truth remains that some actors are at the centre while others are at the periphery, but no matter the positioning, the impact of an actor is always felt. This might be the reason why people are influenced to comment on posts from an influential person in the society even if the post makes no meaning.

Methodological Consideration

ANT is a methodology of itself. Some researchers use it as research methodology (Latour, 2005, p. 142; Pollack et al., 2013, p. 1121), but as the saying goes, no one is a judge in his own case. ANT study by its nature may use narration to trace the network of association between the actors and how their interaction could lead to the establishment of this theory. ANT also ‘shares fundamental principles with other qualitative approaches and especially with ethnography’ (Tatanall and Gilding, p. 959).

In essence, ANT offers a “search and find” (Pollack et al., 2013) approach, and it is very essential when dealing with innovations, new objects or concepts (Bueger and Bethke 2013). However, in exploring the relationship between the bloggers and commenters on MH370, this study employed content analysis as a tool for analysing different weblogs on the missing Malaysian aircraft to know how awareness and knowledge of this incident was created and shared. To this effect, three weblogs were selected for the

analysis: lindaikeji.blogspot.co.uk; gistmania.com; andbellanaija.com. The rationale for selecting these weblogs was done purposively considering their popularity in Nigeria. These blogs are also among the top ten high ranking weblogs in Nigeria (see <http://www.ranksng.com/top-bloggers-in-nigeria/>). The analysis was narrowed to the first two weeks of the incidence when tension and search intensified. This particularly paved way for a thorough analysis of the different blogs using the following unit of analysis: the number of posts, the nature of the posts, the commenters, the number of comments, sharing and like, and reply rate.

Results

Actor network theory is employed in this study to understand its applicability in the use of IT and social media technologies by selected bloggers on the Missing Malaysian Flight MH370 which disappeared since March 8, 2014. Three weblog sites were content analysed on all MH370-related posts for the two weeks. For each of the sites, a blog connectivity score was calculated and presented in their order of connectivity as shown in the tables below:

Table i. Content analysis of LINDAIKEJI BLOG

Date of post in March 14	# of posts on MH370	#of comments on posts	Nature of comments/ framing of the issue			#of likes/ sharing/ re-tweets	Reply Rate
			Positive	Negative	Neutral		
080314	01	117	39	56	72	34	04
090314	**	**	**	**	**	**	**
100314	03	224	78	41	105	**	03
110314	01	93	22	51	20	**	12
120314	01	90	41	27	22	**	07
130314	01	65	13	38	14	**	**
140314	01	75	14	44	17	**	**
150314	01	106	57	34	15	**	**
160314	01	96	12	72	12	**	**
170314	**	**	**	**	**	**	**
180314	01	18	09	02	07	08	**
190314	01	33	04	18	11	06	**
200314	01	10	08	02	**	11	**
210314	01	19	02	08	09	**	**
220314	01	27	08	15	04	**	**
230314	01	03	01	**	02	**	**
240314	02	106	56	18	32	16	22
TOTAL	18 posts	1082	364	426	342	75	48
% 100			33.6	39.4	31.6	6.9	4.4

NB: # means 'number'; * means 'nil'.

The above table-i contains variables from lindaikejiblog.com. The descriptive indicators or measures used in the analysis showed an overlapping network of actors who shared opinions and comments about the mysterious flight. Using the indicators, a huge form of connectivity and relationship was revealed. The bloggers must have had difficulty in reading the comments flowing in from different commenters to some of the posts. Many of the comments stemmed from what another commenter said not necessarily in

response to the original post. There was a very low reply rate to the commenters. Some of them sought clarifications, but they never got any feedback from the bloggers. In summary, for lindaikejoblog.com, there were 18 posts on the issue within the weeks; 1082 comments, 364(33.6%) positive comments; 426(39.4%) negative comments and 342(31.6%) neutral comments. Only 4.4% reply rate was recorded.

Table ii Content analysis of GISTMANIA.COM

Date in March '14	# of posts on MH370	# of comments on posts	Nature of comments framing of the issue			# of likes/sharing/re-tweets	Reply rate
			Positive	Negative	Neutral		
080314	5	275	68	145	62	89	23
090314	2	87	56	21	10	14	03
100314	2	109	67	23	19	16	09
110314	4	178	79	71	28	04	**
120314	1	32	12	17	03	02	**
130314	1	68	51	06	11	01	**
140314	2	97	31	49	17	08	**
150304	3	103	87	13	03	06	**
160314	**	**	**	**	**	**	**
170314	**	**	**	**	**	**	**
180314	2	132	66	14	52	21	03
190314	**	**	**	**	**	**	**
200314	**	**	**	**	**	**	**
210314	**	**	**	**	**	**	**
220314	2	68	18	13	37	13	01
230314	**	**	**	**	**	**	**
240314	3	111	27	56	28	10	04
Total 27posts		1260	562	441	270	174	43
% 100			44.6	35	21.4	13.8	3.4

NB: # means 'number'; * means 'nil'

Table ii shows variables from the gistmania.com. The table shows that there were 27 posts; 1260 comments; 562(44.6%) positive, 441(35%) negative, 270(21.4%) neutral comments. 174 (13.8%) sharing or re-tweets. The reply rate was only 3.4%.

Table iii Content analysis of Belanaija.com

Date in March '14	# of posts	#of comment on daily posts	Nature of comments/ framing of the issue			#of likes/sharing /re-tweets	Reply rate
			Positive	Negative	Neutral		
080314	**	**	**	**	**	**	**
090314	01	07	04	01	02	67	03

100314	**	**	**	**	**	**	**
110314	**	**	**	**	**	**	**
120314	01	13	03	07	03	19	**
130314	01	16	07	07	02	08	**
140314	01	**	**	**	**	87	**
150304	01	23	11	03	09	102	16
160314	01	03	01	02	**	134	03
170314	01	22	12	04	06	12	**
180314	01	11	02	07	02	77	05
190314	01	08	03	05	**	42	**
200314	01	04	**	03	01	43	**
210314	01	11	09	01	01	127	**
220314	02	18	13	03	02	157	**
230314	01	**	**	**	**	42	**
240314	01	21	03	09	09	88	**
Total 15 posts		157	68	52	37	1035	27
% 100			43.3	33.1	23.6		17.2

The above table iii contains variables onbellanaija.com. There were 15 posts from the bloggers, 157 comments; 68(43.3%) positive, 52(33.1%) negative, 37(23.6%) positive comments and 17.2% reply rate; while number of sharing, likes and re-tweets was 1035. Examples of positive comments are: 'R.I.P', 'pity'. Negative comments included: 'terrorists, Muslim countries, idiots, bloodsuckers, fools'; neutral comments: they'll be fine, 'wao, wow, what is all this?' etc.

Discussion

RQ1: How did ANT contribute to the development of collaborative web platform and social media contents sharing on the missing Malaysian flight?

RQ2: To what extent was the cycle of connectivity of actors completed (if at all) in blogging the missing Malaysian flight?

This study explored ANT in understanding how bloggers and their followers connect and share information and feedback on the missing Malaysian flight MH370. As made glaring in the above tables, there exists a non-systematic collaborative web platform and content sharing on the missing plane. That is to say that ANT contributes to the development of collaborative web platform and social media content sharing by promoting easy access and sharing or re-tweets so that in navigating the web actors through the help of the search engine optimization (SEO) go through these social networks (weblogs, Facebook, twitter etc.) and web browsers (Google, Internet explorer, Mozilla fox, Yahoo, Amazon etc.) with ease. These networks are all interwoven and connected networks to further establish the complex and unpredictable structure of their connectivity.

It was found that similar to Everett Rogers' diffusion of innovation theory and other network theories such as the Six Degrees of Separation of Kevin Bacon, ANT approach is a useful concept-building and not a concept-testing especially in a situations that requires simplifying concepts. Thus, as Woozeer (2010) observed in the Six degrees of separation, the interconnectivity of human beings was originally thought to be an urban myth, but the truth now is that almost everyone irrespective of the remoteness of his abode on the planet can be connected in just a few steps of association. That is to say that everybody on earth knows someone who knows someone, who knows someone, who knows someone, who knows someone,

who knows someone, who knows someone around the world in just a few steps as a population of dissimilar individuals suddenly synchronise (<http://vimeo.com/14196818>).

How fast these people connected and responded to weblog updates showed a high degree of interconnectivity of actors in such a way that weblog updates hosted in Nigeria attracted comments from different parts of the world. The network cycle also stemmed from several parts of the world and shared by different people with varied interpretations and reactions but it is hard to measure the completion of the cycle in the real sense of the word. On the other hand, it shows how information and knowledge flow from one source and shared by different persons until everybody gets to know the latest. The location of the commenters although not part of the above tables extended from Nigeria to other African countries such as Ghana, South Africa, and Kenya to European countries such as UK, France, and Netherland. There were also scores of commenters from the US and some Asian countries such as Malaysia and China to mention but a few.

The inn thing is that commenters easily connected and shared or reacted to stories on MH370 in few steps, but the cycle of connectivity remains infinite as it does not seem to have been completed. One clear message is that there is an overlapping connectivity of people in web collaboration from different parts of the world. Despite the above cycle of connectivity and overlapping relationships among the actors, it is difficult to determine how the cycle is completed.

Conclusion and Limitations

This study was aimed at investigating the application of ANT to social media use by selected bloggers on the missing Malaysian flight MH370. Analysis of the posts and comments on the blog pages revealed a huge form of interconnectivity of the actors. However, it was not clear which of the actors that influences each other more. For instance, the bloggers post updates and allow commenters to react with a minimal reply rate thereby raising a question of where the connectivity ends. The study therefore concludes that the cycle of connectivity of actors is in a state of flux.

This study has limitations; two weeks are not enough to come up with results that could be generalised. The two weeks of study do not paint the exact picture of the functionality of ANT to social networks. This therefore calls for a further research to know how what one person shared/liked from a weblog could be shared and shared by other actors and networks to see if the cycle could ever be completed.

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