

## **RUMOUR PROPAGATION ON TWITTER: A CASE OF MALAYSIAN CRITICAL NATIONAL INFORMATION INFRASTRUCTURE (CNII) ORGANISATIONS**

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### **ABSTRACT**

There are many rumours that have been spread on Twitter during a time of crisis and mass convergence events in Malaysia. Malicious rumours can affect national economy, politic and social impacts which can lead to possible threats especially to the Malaysian Critical National Information Infrastructure (CNII) organisations. Therefore, this paper takes several case studies that were reported in Malaysian news sources and relates them to the national economy, politic and social impacts later highlight the possible threats to CNII organisations. As a result, the findings of this paper can help to raise awareness on malicious rumours attack among the scholars and the CNII stakeholders.

### **Keywords:**

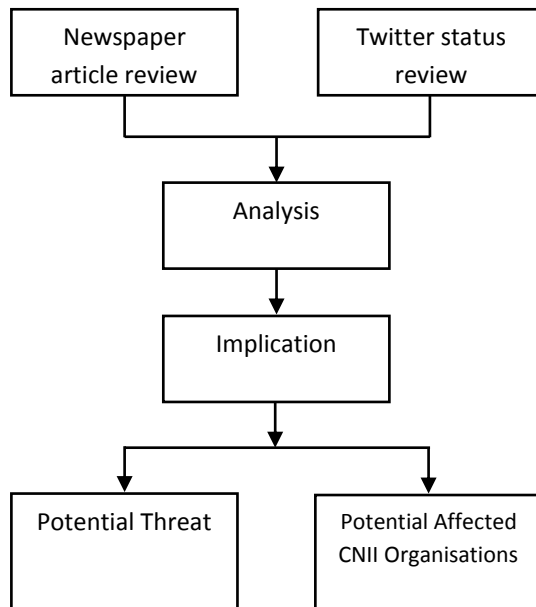
*Social Media, Rumour, Twitter, Critical National Information Infrastructure (CNII)*

### **INTRODUCTION**

Lately, the spread of rumours on social media sites, particularly Twitter are becoming more common in Malaysia. The increasing of internet penetration and the highly trusted on the online information was seen as one of contributing factors to more widespread of rumours [4]. With 140 characters long text-based messages in Twitter, known as tweets, users can stay close to everything they care with simpler and faster way to communicate with each other [18]. It has also been used as a tool of communications during the emergency and mass convergence events [5, 7].

Several cases of the spreading of malicious rumours on CNII organisations in Malaysia through Twitter, have been identified over the last few years. In the Malaysian context, CNII sectors are national defence and security, banking and finance, information and communications, energy, transportation, water, health services, government, emergency services, food and agriculture [3]. CNII assets in real and virtual form should be protected as their incapacity or destruction assets would have a devastating impact on national economic strength, image, defence and security, government capability to functions and public health and safety [14]. Therefore, this paper reviews three case studies on rumours that spread on the Twitter which can lead to a crucial impact on the national economy, politic and social and its threat to the CNII organisations.

We have proposed a conceptual framework (Figure 1) to assist us in reviewing the propagation of rumours on CNII organisations in Malaysia through Twitter and its implications. First, we reviewed newspaper articles which report the rumours propagation on Twitter and monitor the trending topics on Twitter based on the articles report. An analysis performed to determine implications from the rumours that has been propagated on Twitter so the potential threat and affected CNII organisations can be drawn.



**Figure 1: Conceptual Framework for Reviewing the Propagation of Rumour on CNII Organisations in Malaysia through Twitter and Its Implications**

### **THREE CASE STUDIES**

Since the advent of Twitter, the network of Twitter makes the dissemination of the information faster to large mass of people [7, 13]. There were few cases reported regards to the rumours circulated on Twitter that can be seen as threats to the CNII organisations.

In this paper, three incidents of rumours are selected as the case studies such as Sabah invasion, phantom voters during the general election and racial clashes in Sungai Petani, Kedah. The following excerpts drawn from various Malaysian news sources highlight the concerns within the CNII sectors that were affected by the spreading of rumours on Twitter:

#### **A. Sabah Invasion by Sulu Terrorist**

In March 2013, a rumour circulating in the social media and via short messaging services (SMS) that 700 more Sulu militants would enter Sabah through Kota Kinabalu and Tawau to create havoc was reported during the Lahad Datu intrusion [15].

#### **B. Bangladeshi Phantom Voters during 13th General Election**

During the 13th general elections, rumours have been circulated on social media by the opposition pact that 40,000 Bangladeshis had came to Malaysia within a week to vote [10].

### C. Racial Clashes in Sungai Petani

Rumours on racial clashes involving killings or burning of houses of worship in Sungai Petani had been circulated through postings on Facebook and Twitter by the police on December 2012. Another rumours circulated that an emergency had been declared due to the racial clashes [8].

The next section explains the impact of the three above mentioned cases in term of its implications to Malaysia.

## **IMPLICATIONS**

Our initial review found that the rumours spread on Twitter have implications to the social, economic and political, directly and indirectly. The following subsections will explain these implications based on the rumours that have been selected in the previous section.

### A. Social Impact

The rumours highlight that another 700 more Sulu militants would be entering Sabah through Kota Kinabalu and Tawau have inflamed tensions and panic among the public. It will also cause anxiety among the people especially in Sabah. In addition, local people who are not from Sulu origin will have a wrong perception on Sabahan Sulu which may lead to racial discrimination and xenophobia.

On the spreading claims of phantom voters from Bangladeshi, the rumours have created 'foreigner phobia' to the community and some voters from the opposition pact took on vigilante roles to "monitor" polling centres and checking people's identity cards at polling centres [16]. A bus of 54 foreigners consisting of Myanmar, Nepal and Bangladesh nationals factory workers who were returning home from a trip into town on their day off pelted with rocks and all windows were smashed by a group of political supporters. Some of them were beaten while trying to escape. There are few cases that were reported relates to the harassed of voters. In Rawang Selangor, a Malaysian citizen who looks like foreigner has been confronted and beaten while trying to cast a vote [17].

### B. Economy Impact

The rumours on the Sabah security situation had caused the decline in tourist arrivals in the state [2] and many warehouses and shops reported have run out of stocks due to the panic buying of essential items [9]. Until mid of May 2013, most of the foreign countries still issued the travel warnings regarding the situation in Malaysia [19]. Consequently, the travel warning can influence the confidence among international tourist on Malaysia particularly Sabah.

### C. Political Impact

Up to this moment, the rumours on Sabah invasion by the Sulu terrorist and Sungai Petani racial clashes have not given any significant impact on political matters. However, the rumours of 40,000 Bangladeshis had been flown into Malaysia for voting in the 13th general election (GE13) can be a threat to the relationship between Malaysia and Bangladesh. The rumour can lead to a serious case of xenophobia and put Bangladeshi workers at a greater risk of abuse by the locals. The Bangladeshi High Commissioner to Malaysia mentioned that portraying

Bangladeshis as phantom voters may cause their citizens in Malaysia feel insecure as well as giving Bangladesh a negative image [10].

In the next section, this paper will discuss on how these impacts can lead to potential threats to CNII organisations in Malaysia.

### **THREATS TO THE MALAYSIAN CNII**

Although the malicious rumours that have been spread on Twitter not only give incorrect allegation to the nation’s social, economy and politic in general, the rumours also pose threats to the CNII organisations. For instance, the potential threats from rumours are panic, racial tension, investor confidence, xenophobia and foreign relation. As a result, these threats would give crucial impacts to the Malaysia’s image, economy and the government capability to functions. Finally, we have summarized the potential threats to the potential CNII organisations which is illustrated on Table 1.

**Table 1: The Summary of Potential Threats to the Potential Affected CNII Organisations**

<b>Rumour</b>	<b>Potential Threat</b>	<b>Potential Affected CNII Organisations</b>
Sabah Invasion by Sulu terrorist	Panic buying, investor confidence, tourist confidence	Malaysian Government, Royal Malaysian Police, Malaysian Armed Forces, Ministry of Home Affairs
Racial Clashes in Sungai Petani	Racial tensions, racial discrimination, panic buying, xenophobia	Malaysian Government, Ministry of Home Affairs, Royal Malaysian Police
Bangladeshi Phantom Voters during 13th General Election	Racial tensions, foreigner phobia, foreign relation, xenophobia	Malaysian Government, Election Commission (EC), Royal Malaysian Police, Ministry of Foreign Affairs, Ministry of Home Affairs

The potential threats and affected CNII organisations has been extracted by reviewing news articles from various sources. As a result, a list of potential threats and organisations has been identified. A list of affected organisations subsequently revised with a list of organisations that have been defined by CyberSecurity Malaysia, agency responsible for the protection of CNII in Malaysia as a CNII Organisation.

This study is the first to review the spreading of rumours against the Malaysia’s CNII organisations on Twitter and its implications. Study on the implications of the spread of rumours on Twitter will be improved to allow more in-depth analysis and the mechanism of rumours identification on Twitter will be developed. It is very important to allow the CNII organisations to take any protection from the rumours spread as soon as possible in order to minimise the impact of the spread of the rumours.

## CONCLUSION

The propagation of rumours can be done easily through the Twitter network [12]. Based on the rumours on Twitter recently in Malaysia, we have found that incorrect information gave bad implication to the nation's social, economy and politic and it has also at least threatened the stability of the Malaysian CNII organisations. In our future works, development of a framework on controlling Twitter's rumour propagation especially to the CNII organisations will be studied and later developed.

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## REFERENCES

- [1] BERNAMA. (2013, June 10). IGP dismisses report of more Sulu militants headed for Sabah [online], Retrieve from <http://www.mole.my/content/igp-dismisses-report-more-sulu-militants-headed-sabah>.
- [2] Borneo Post Online. (2013, June 10). Rumours cause a drop in tourist arrivals in Sabah - Yen Yen [online], Retrieve from <http://www.theborneopost.com/2013/03/24/rumours-lead-to-drop-in-tourist-arrivals-in-sabah-ng/>
- [3] CNII Portal. (2013, July 27). About CNII [online], Retrieve from <http://cnii.cybersecurity.my/main/about.html>
- [4] Edelman. (2013). The 2013 Edelman Trust Barometer. Edelman.
- [5] Gupta, A., & Kumaraguru, P. (2012). Credibility ranking of tweets during high impact events. In Proceedings of the 1st Workshop on Privacy and Security in Online Social Media (p. 2). ACM.
- [6] Lovejoy, K., Waters, R. D., & Saxton, G. D. (2012). Engaging stakeholders through Twitter: How non-profit organisations are getting more out of 140 characters or less. *Public Relations Review*. 38(2), 313-318.
- [7] Nagar, S., Seth, A., Joshi, A. (2012). Characterization of social media response to natural disasters. In Proceedings of the 21st international conference companion on World Wide Web. pp. 671-674. ACM.
- [8] New Straits Times (2013, June 10). Cops: No racial riots in Sungai Petani [online], Retrieve from <http://www.nst.com.my/nation/general/cops-no-racial-riots-in-sungai-petani-1.188498>
- [9] New Straits Times. (2013a, June 10). LAHAD DATU: Sabahans advised to avoid panic buying [online], Retrieve from <http://www.nst.com.my/latest/font-color-red-lahad-datu-font-sabahans-advised-to-avoid-panic-buying-1.230506#ixzz2ZnXPVRbL>
- [10] New Straits Times. (2013b, June 10). Bangladeshis voting in GE13 'a fabrication' [online], Retrieve from <http://www.nst.com.my/top-news/bangladeshis-voting-in-ge13-a-fabrication-1.293255#ixzz2a2Gd34eH>
- [11] New Straits Times. (2013c, June 10). Have faith in our security forces [online], Retrieve from <http://www.nst.com.my/nation/general/have-faith-in-our-security-forces-1.228301#ixzz2ZihJh5Za>

- [12] Ratkiewicz, J., Conover, M., Meiss, M., Gonçalves, B., Patil, S., Flammini, A., & Menczer, F. (2010). Detecting and tracking the spread of astro turf memes in microblog streams. arXiv preprint arXiv:1011.3768.
- [13] Santos, L.A.F.; Campiolo, R.; Gerosa, M.A.; Macedo Batista, D. (2012). Analysis of Security Messages Posted on Twitter. Collaborative Systems (SBSC), 2012 Brazilian Symposium on 15-18 Oct. 2012, pp. 20-28
- [14] Shamir b.Hashim, M. (2011). Malaysia's National Cyber Security Policy: The country's cyber defence initiatives. Cybersecurity Summit (WCS), 2011 Second Worldwide. 1-2 June 2011, pp.1-7.
- [15] The Edge Malaysia. (2013, June 10). IGP: 700 invasion force nothing but mere rumours, March 8 [online], Retrieve from <http://my.news.yahoo.com/igp-700-invasion-force-nothing-mere-rumours-045841347.html>
- [16] The Star. (2013a, June 13). GE13: Assaulted foreign workers were not phantom voters, say police [online], Retrieve from <http://www.thestar.com.my/story.aspx?file=%2f2013%2f5%2f5%2fnation%2f20130505212957&sec=nation>
- [17] The Star. (2013b, June 17). GE13: Voters harassed for not looking like Malaysians. Retrieve from <http://www.thestar.com.my/story.aspx?file=%2f2013%2f5%2f6%2fnation%2f13070356&sec=nation>
- [18] Twitter. (2013, June 10). The fastest, simplest way to stay close to everything you care about [online], Retrieve from <https://twitter.com/about>
- [19] Yahoo News. (2013, June 15). Sabah is safe for tourists, so where is everyone? [online], Retrieve from <http://my.news.yahoo.com/sabah-is-safe-for-tourists--so-where-is-everyone--102826593.html?page=all>