On the Analysis of Twitter Spam Accounts in Saudi Arabia

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ABSTRACT

Twitter spam accounts try to spread malicious content, deceive or advertise certain thoughts over Twitter network. Different approaches have been presented both in industry and academia to identify spammers on Twitter. This study aims at understanding the behavior of Twitter spam accounts targeting Saudi Arabia. In this study the author performs an empirical analysis of Twitter spam accounts in Saudi Arabia by applying previous techniques found in various research studies for extracting and analyzing such accounts. The activity levels of spam accounts as well as their content were gathered over a two months period. The study not only analyzes the content of spam accounts but also recognizes their behavior. Results show that Twitter spam accounts targeting Saudi Arabia are naïve and still in their infancy. Third party tools are used to control them for spreading duplicate content and perform retweets. Also trendy hashtags are polluted with specific content in a way to frame the public opinion.

Keywords: Network Analysis, Saudi Arabia, Spam Accounts, Spam Behavior, Twitter, Usage Scenario

1. INTRODUCTION

Social media has emerged as a paradigm shift in generating and sharing information that can influence personal mentalities and thoughts (Nasukawa & Yi 2003). In fact, social media websites can be used to disseminate hate, war, racism, and other evil acts by anti-social elements that influence users with evil thoughts, which is considered a big threat to security (Schmid 2013). The speed of disseminating thoughts among people is facilitated by the flexibility and social interactions found in social media websites (Choi & Park 2014). These features might help in shaping (framing) public opinions. Lotan et al.(2011) claims that,

Mainstream Media (MSM) outlets have adopted Twitter as a means of engaging with and enlarging audiences, strengthening their reach and influence while also changing how they rely on and republish sources.

The concept of framing in the communication paradigm refers to “the process by which a communication source, such as a news organization, defines and constructs a political issue or public controversy” (Nelson et al. 1997). The

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concept is considered one of the most fertile research areas in mass communication (Matthes 2009). It involves the use of theory when judging content. It also applies many methods in frame analysis, whether using quantitative or qualitative analysis (Matthes 2009). Media framing is well-known in political issues and public controversy, in an experiment by Nelson et al. (1997) to measure the media power in shaping public views and political problems, they found that media framing provided strong drivers for political judgment and opinion.

With the emergence of social media websites such as Facebook and Twitter, the speed and magnitude of spreading news that reach a large segment of people has increased. Twitter, for instance, is a widely used micro-blogging website. It has gained great popularity in the era of social media. It has a total number of users exceeding one billion (Smith 2014), 0.8% are from the Arab region (ASMR 2013). Twitter has extensively been used in the Arab region as a mass communication media. On “Dubai School of Government” March report about social media usage in the Arab region, it states that there were 3.7+ million Twitter active users in the Arab world with 1.9 million users from Saudi Arabia alone (ASMR 2013). This boom in Twitter usage, especially in Saudi Arabia, is attributed to many factors such as the use of Arabic hash tags, the low cost of 3G enabled mobile phones and the emergence of Arab spring (Huang 2011). Actually, social media has been instrumental in mass street demonstrations in Arab spring, such as those in Tunisia, and Egypt (Huang 2011), were they used social media, such as Twitter, to organize protests or spread awareness about them (Lotan et al. 2011). In short, Twitter has played an important role in facilitating revolutions in the Arab region. It was used primarily to disseminate news and recently was employed to silence political protests (Thomas et al. 2013).

Today, spam and spammer are well-known phenomena in social media websites, according to a recent report by Nexgate.com, during the first half of 2013 there was a 355% growth in social spam (H. Nguyen 2013). Such growth has pushed researchers to conduct research and develop systems to identify and analyze Twitter spam accounts.

Several research were carried out to distill characteristics of spam accounts and identify them. According to a recent report published in the New York times, there are more than 20 million fake accounts on Twitter (Paunescu 2013). In effect, Twitter has taken counter measures to detect and suspend spam accounts that illustrate the following behaviors (Twitter 2013): low ratio of followers to following, posting duplicate content and aggressive users’ following/un-following behavior. Twitter also mentioned that spammer behaviors and tricks will be constantly monitored to adjust its detection methods accordingly.

With the proliferation of spam accounts over Twitter, the purpose of this work is to study spam accounts behavior on Twitter for a country such as Saudi Arabia. Focusing the study on spammers for a particular country such as Saudi Arabia is important given the political, economical and geographical position of the country in the world and the recent events in the region.

In this study, we present an empirical analysis to study spam accounts targeting Saudi Arabia in terms of profile properties, interactions and the act of framing the public opinion. The study will seek to discover whether these spam accounts carry one message. We also try to characterize their behavioral patterns.

Our study builds on previous work in this domain and reports our analysis of spam behavior from different perspectives. This will be the first study to analyze and understand the behavior of Twitter spam accounts in Saudi Arabia.

The remaining of the paper is organized as follows: section 2 highlights our research questions and the aim and contribution of this study. Section 3 reviews previous studies on spam detection methods for Twitter and summarizes the main features found in such accounts. Section 4 describes the method of data collection and analysis results. Section 5 discusses in details our findings. Finally, sections 6, 7 and 8...
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