

# (Mis)Information Dissemination in WhatsApp: Gathering, Analyzing and Countermeasures

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## 1 Introduction

1. They analyze information dissemination in whatsapp groups during major social events like national truck drivers strike and national elections in Brazil
2. They attempt to answer the following two questions:
  - (a) **RQ1:** What type of content is shared in Whatsapp groups and are fake news shared in the messages
  - (b) **RQ2:** Is there some relation between the dissemination of misinformation across between Whatsapp & other OSM like Twitter, blogs etc.

## 2 Main Points & Results

1. Data Collection:
  - (a) They search for the URL *chat.whatsapp.com* in Google, Twitter and Facebook and found 141 & 364 public whatsapp groups related to truck driver's strike and national elections respectively. The data is not representative however.
  - (b) The data was analyzed for URLs, audios, videos and images. The images were the most common form of media while audio was the least shared media. Only 50%-60% of URLs were unique indicating lack of diversity.
2. They characterize whatsapp images by performing content labelling and analyzing the distribution of images across categories. They identified duplicates of the same images using Perceptual Hash algorithm. Further analysis was also done on the presence of images in other online websites.
3. Extensive network analysis at a user and group level was performed to analyze sharing patterns across whatsapp. The analysis revealed the existence of several interconnected clusters and few users/groups served as central hubs. The network properties were similar to other OSM.
4. Analysis of propagation dynamics revealed that most of the images were shared for a very short period of time and that most images in Whatsapp appeared after they appeared online on some other sources like blogs/Google. Further, no statistical difference was found in the distributions of lifetime of images with misinformation and those with unchecked content.
5. A method for automatic labelling of misinformation was proposed wherein they performed reverse image search and checked if it belonged to one of the fact checking domains. If so, the fact checking page was parsed to identify if the image was fake or not.
6. They studied the propagation of images bw Whatsapp and the web and found that it takes much longer for an image on the web to reach Whatsapp (*i*. 1 year) as opposed to the other way around from Whatsapp to the web (few days).