The Role of Social Media in the Egyptian Revolution: The Initiation Phase (2010-2011)

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Abstract. Social media tools are media for social interaction, using highly accessible and scalable publishing techniques.   Enabled by ubiquitously accessible and scalable communication techniques, social media substantially change the way of communication between organizations, communities, as well as individuals. Facebook, Twitter, Second Life, and blogs are all examples of popular social media tools. One of the reasons why Social media play a very important role nowadays is because of the increase of internet penetration all over the world.

   In this paper, we investigate the role social media played in the Egyptian revolution that erupted January 25th, 2011. It has been argued that the Egyptian revolution is a "Social Media Revolution." No other revolution was conducted using these tools before. The number of people who participated in the revolution grew rapidly because of the number of people using these tools and the amount of information sent instantly.   Facebook was used extensively during the revolution to plan and organize protests (Crovitz, L. Gordon. 2011). Even before the revolution began, it was used to spread messages and to bring people together.

Keywords: social media, Egyptian revolution 2011.

1 INTRODUCTION

Social media tools connect people from distant places all around the world and allow them to share information freely. Facebook, Twitter, Second Life, and blogs are all examples of popular social media tools. The number of people who use social media daily is increasing rapidly. For example, there are almost 200 billion different accounts registered on Twitter as of January 2011(Chiang, Oliver. 2011). That is nearly 28 times the world's population, which is close to 7 billion.

   On the 6th of June 2010, Khaled Saeed, a 28 year old businessman who exposed "police corruption by posting a video showing police officers dividing confiscated drugs among themselves" (Monkiewicz, Ingrid. 2011), was inhumanly tortured to death by two police officers in Alexandria, Egypt. "The two policemen banged his head against the wall, the staircase and the entrance steps. Despite his calls for mercy and asking them why they are doing this to him, they continued their torture until he died according to many eye witnesses" (*We are all Khaled Saeed 2011)*. This incident is what fueled the Egyptian revolution. Wael Ghonim, a product and marketing manager at Google, created "We are all Khaled Saeed" page on Facebook to show people how Khaled Saeed was brutally killed and to present the extent of corruption within the Egyptian government (Crovitz, L. Gordon. 2011).   After hearing rumors that the Egyptian president Mubarak is planning to place his son Gamal as his successor, protests were held on the 21st of September 2010. Inspired by Tunisians successful overthrow of their president, Egyptians wanted to do the same. Ghonim didn't only use that page to spread messages. He used it to call for protest on the 25th of January, 2011 (Giglio, Mike. 2011).   Because of the Facebook's page huge number of followers, news disseminated very quickly which was one of the reasons that caused people to go out to the streets and

protest. A few days later, on "Friday of rage (January 28th)", over a million people joined the protests (Nour, Ayman, Wael Nawara. 2011). Those protesters faced many obstacles but they achieved their goal after 18 days of heart felt protesting. On the 11th of February Hosni Mubarak resigned from being president of Egypt (Kifle, Elias. 2011).

The rest of this paper is organized as follows:

- Section 2: Background about Egypt, Facebook and twitter usage in Egypt
- Section3: Observations and findings.
- Section 4: Privacy and Computer Crime
- Section 4: Survey and methodology
- Section 5: Conclusion

2 BACKGROUND

According to the world bank data bank, Egypt has a very reasonable ratio of internet penetration (estimated at 27% in 2010). Figure 1 displays the percentage of internet users up to 2010 (*World bank data bank* 2012).
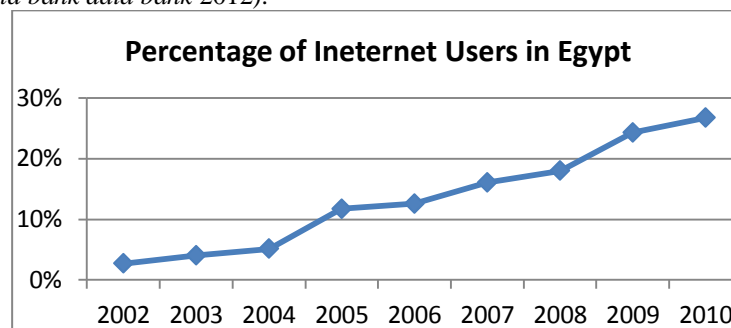

Fig. 1. Internet Users in Egypt

In a report produced by Ministry of Communications and Information Technology in Egypt (Ministry of Communications and Information Technology 2012), the number of users is growing in a faster pace in the last two years (2011-2012). The monthly growth rate is estimated at 1.27% (Ministry of Communications and Information Technology 2012). This could be associated to the increase of interest in using the internet after the revolution. Older generations started to believe in the importance of using technology in their daily communication. They also started to believe social media more than other media sources like public tv and radio. Internet penetration is estimated at 38% in June 2012 (Ministry of Communications and Information Technology 2012).

The number of Facebook users in Egypt is estimated at 14% of the population and 67% of the online population in Egypt. Egypt is ranked number 21 (in Facebook penetration) based on these percentages (*Egypt Facebook statistics*. 2012). Table-1 displays the age distribution of Facebook users in Egypt (*Egypt Facebook statistics*. 2012). It can be noticed that the majority of users is in the range of 18-35.

Table 1. Facebook users age distribution.

Age group	Percentage
18-24	39%
25-34	26%
16-17	11%
13-15	10%
35-44	9%
45-54	**3%**

Facebook was used extensively during the revolution to plan and organize protests (Crovitz, L. Gordon. 2011). Even before the revolution began, it was used to spread messages and to bring people together. Ghonim became "politically active" after he created a Facebook page called "We are all Khaled Saeed" (Crovitz, L. Gordon. 2011).   Many similar groups were created that supported and till this day support this revolution. On the other hand, many groups who are pro-Mubarak have created groups that support Mubarak as well.

   With its average of 110 billion tweets sent every day (*Social Media Statistics: By-the-Numbers.* 2011), Twitter played a major role in this revolution. "Tweets" spread faster than Facebook pages. They are very short and can carry keywords as well. Those keywords are added with hash tags before them. They are added as part of the messages. One of the popular hash tags during the Egyptian revolution was the #Jan25 and #Egypt tag. A company called OR Books created a book of tweets called Tweets from Tahrir which includes the pictures posted in these tweets as well. It describes what people were facing during the revolution through these tweets (Kessler, Sarah. 2011).

   Second life is an online 3d virtual world developed by Linden lab, it was launched on June 23, 2003. Users appear as customized characters that are free to do countless things in that virtual world. People in Virtual reality worlds, like Second Life, participated in the Egyptian Revolution as well. Some people who were unable to join the Egyptian Revolution or were just curious to see what was going on in Egypt logged to Second Life to participate. On January 25, the day of the "million person march" in Cairo, supporters went protesting in Second Life. They held up the Egyptian flag and put up signs against Mubarak's regime as shown in Figure 2 (*Second Life stands with the Egyptian revolution.* 2011).   On the 11th of February, when Mubarak stepped down, supporters held celebrations and there were many videos of that occasion.

   People not only used available communication tools, they have also created their own personal blogs to support the revolution. These blogs offer a place where these ordinary people were able to express their opinions and share their thoughts. Bloggers became "citizen journalists." They gathered and spread news to others through their blogs. They were active during the elections were they documented what was happening by taking photos and videos (*Countries under surveillance 2011).* Some of these blogs are: Egyptian Chronicles , the Egypt blog , and FREE BLOG for FREE PEOPLE.

Fig. 2. People protesting on Second Life [21].

3 OBSERVATIONS AND FINDINGS

3.1 Freedom of speech

Lack of freedom of speech is one of the main reasons that caused the Egyptian revolution. There are numerous examples that show how Mubarak's regime was against it. One of the clearest cases where Mubarak's regime demonstrated how they were against freedom of speech was when they detained bloggers. Throughout Mubarak's regime there was always a watchful eye on what bloggers wrote. On February 22, 2007 a blogger called Kareem Amer was imprisoned for three years "for supposedly inciting hatred of Islam and Insulting President Mubarak". Many bloggers were prosecuted as well but their cases were dropped like: Gamal Eid and Amr Gharbeia (*Countries under surveillance 2011).*

After Khalid Saeed was murdered, protesters from "We are all Khalid Saeed" organized a silent march in Cairo. They demanded that Khalid Saeed's death should be investigated. The government, opposed to freedom of expression of course, arrested 20 of these protesters (*Khaled Saeed Facebook group in Cairo.* 2011).

Internet websites that reported news about the on-going revolution in Egypt were filtered in Egypt to prevent them from spreading the news. Some of these blocked websites belonged to Al-Dustour, and Al-Badil newspapers (*Countries under surveillance 2011).* Tweets about the Egyptian Revolution were increasing more and more especially on the day of the "million man march". Hash tags that included Jan25 were getting more and more popular. To control what information was sent on Twitter, the government, although they have denied it, blocked access to Twitter and all its applications (Fildes, Jonathan. 2011). When the government felt it had no control over the social media, it shut down almost all internet access on the 27th of January. As quoted from The New York Times, "The shutdown caused a 90 percent drop in data traffic to and from Egypt" (Richtel Matt. 2011). The most important method of communication was shut down.

With all the latest technology, almost everything can be done using mobile phones. Mobile phones provide the ability to: text, call, tweet, take photos, and record videos that can be easily uploaded to the internet using a click of a button. Mobile penetration in Egypt grew rapidly in the past 10 years to reach above 100 percent in 2012 (Ministry of Communications and Information Technology 2012). Mobile phones were posing a threat to Mubarak's regime, so the government decided to cut them off. That had a huge effect on the people in Egypt that supported the revolution because it was very hard to communicate. They wanted to spread the news to the world of what was happening in Egypt and what Mubarak's regime was hiding. They couldn't express themselves on the internet or through their personal mobile phones.

Reporters without Borders (*Freedom of Speech index*. 2012), an international organization that defends journalists and fights censorship, ranked Egypt as an Internet enemy at least four times since 2006. In the past five years, when Egypt was not an internet enemy it was considered a country under surveillance. Egypt's rank in press freedom since 2006 is shown in table-2. Egypt's ranking puts it at the lower half of the list closer to the end. Freedom of speech in Egypt was one of the main demands of the Egyptian revolution.

Table 2. Egypt's ranking according to reporters without borders.

Year	Ranking
2006	133
2007	146
2008	146
2009	143
2010	127
2011	**166**

There were two main measures that were taken to try to allow people to communicate with each other during the revolution after Internet and mobile services were cut off. The first method that helped was foreign ISPs which provided modem connections. A French and a Swedish ISP network provided phone numbers that people can access using a specific password. The second method of help that was provided to the Egyptian people was "a system of voice tweets" by Google and Twitter. This service helped post news and updates in real time on one of the most popular social media networks. It allowed anyone to call specific foreign numbers and "leave messages that were instantly posted on Twitter followed by the hash tag #egypt."

3.2 Privacy and computer crime

Many forms of invasion of privacy and computer crime occurred during the Egyptian revolution, but most of these crimes were committed by pro-Mubarak groups and the Egyptian government. There are many cases where the Egyptian government used invisible online information gathering to profile people especially bloggers. These actions are considered massive invasion of privacy because they are not only gathering information about people, they are also arresting and imprisoning some of them as well. After Ghonim anonymously called for protesting on Facebook on January 25, the government gathered info about him and found out he was the person who called for these protests. He was then imprisoned on January 27th for 11 days (Rosenthal, Robert. 2011).

One of the major news channels, Al-Jazeera, was attacked in two different ways. Its website was hacked by opponents of the revolution and defaced. They posted an ad on the Aljazeera website that said "Together to overthrow Egypt" (*The Hacker News* 2011). As shown in Figure 3, they changed the logo on the top left corner. They were trying to damage Aljazeera's reputation. Its TV channel signal was being interrupted in many countries in the Arab region to prevent them from broadcasting news about the anti-government demonstrators.

Fig. 3. Al-Jazeera website hacked [6]

Pro-Mubarak groups were not the only ones who did acts of computer crime. An outsider hacker group, called Anonymous, which represents "freedom of speech, freedom of information and freedom of information taken to the extreme," has also participated in the Egyptian revolution. Anonymous supported the anti-government protesters because Mubarak's regime restricted freedom of expression and implemented a lot of censorship. Therefore, to help these protesters voice their opinions Anonymous took down the Egyptian government's website. They did this by performing a denial-of-service attack (an attack that is characterized

by an explicit attempt by attackers to prevent legitimate users of a service from using that service). Anonymous performed this type of attack on three websites that belonged to Egypt's cabinet, the Ministry of the Interior, and the Ministry of Communications and Information Technology (Wagenseil, Paul. 2011) using a program called Low Orbit Ion Cannon (LOIC). With the help of many volunteers that used this program, they flooded these websites' server with requests till the websites were down (Mutton, Paul. 2011).

4 SURVEY AND ANALYSIS

4.1 Survey and Methodology

A survey was conducted to find out how people used social media sites during the Egyptian revolution and their point of views about certain events. This section includes a subset of the questions that were used. The number of participants was 100.
   The following profiles have been sampled:
- Age group is chosen between 18-35 (because the majority of social media users in Egypt is from this age group (*Egypt Facebook statistics*. 2012))
- Males and females are equally represented
- All the participants are educated (either high school or university graduates).

Procedure
The survey was administered online through survey monkey website using snowball method. We followed the referral sampling technique.

Tools
The survey consisted of two sections; a set of closed ended categorical questions, and a set of even-point Likert scale questions. The first section of the questionnaire aimed at discovering the reasons how social media contributed to the Egyptian revolution. The list of choices provided was based on the results of an exploratory focus groups and one-on-one interviews conducted among some of the participants.
   The second section of the survey aimed at discovering the attitudes and perceptions of social media through a 4-point Likert scale.
   Mid-point responses have been omitted from the Likert scale. This has proven useful in attitude questions as it helps avoid social desirability, arising from the inclination to choose middle ground responses (R. Garland 1991). Reverse scoring was applied to negative questions to maintain consistency.

Hypotheses
The following are the main hypotheses of our research:
1. Social media played an important role in the Egyptian revolution.
2. Facebook was the main social media tool during the revolution.

Results

Question-1: When mobile phones and internet were cut off, what other methods have you used to stay in contact?

Table 3. Results of the survey participants

Answer Options	Response Percentage
Google and Twitters system of voice tweets	82.4%
Foreign ISP's Modem Connections (French and Swedish)	23.5%
Comments	

Question-2: Mark the type of social media that you used to coordinate your activities (for example: distributing foreign numbers to ease communications or organizing and planning their gatherings)

Table 4. Results of the survey participants

Answer Options	Response Percentage
Facebook	100.0%
Twitter	32.4%
Blogs	5.9%
Second Life	0.0%
Comments	

Question-3: Which of the following roles do you think social media played before and during the Egyptian Revolution?

Table 5. Results of the survey participants

Answer Options	Response Percentage
Social Media only initiated/ triggered the Egyptian Revolution	7.9%
Social Media only promoted the Egyptian Revolution after it started	21.1%
Social Media initiated and promoted the Egyptian Revolution	68.4%
Social Media did not have any effect on the Egyptian Revolution	2.6%

Question-4: During the first 2 months of the Egyptian Revolution (15th January to 15th March 2011), how many hours have you spent in monitoring developments through social media (Facebook, twitter...)?

Table 6. Results of the survey participants

Answer Options	Response Percentage
None	15.7%
Less than one hour	9.8%
1 - 3 hours	25.5%
4 - 6 hours	25.5%

Question-5: Kindly rank the following social media methods based on their effectiveness in the success of the Revolution. (1 being the worst - 5 the best)

Table 7. Results of the survey participants

Answer Options	1	2	3	4	5	Rating Average
Facebook	0	1	0	8	29	4.71
Twitter	1	4	6	13	12	3.86
Blogs	9	7	11	5	1	2.45
Second Life	18	10	1	0	1	1.53

5.0 Analysis and conclusion

After conducting the survey on a sample, it is clear that the respondents agree that social media websites played a huge role in the revolution (hypothesis 1). A large percentage of 68.4% voted that Social Media initiated and promoted the Egyptian Revolution. All the respondents confirmed that they used Facebook to coordinate their activities and not as many respondents used the other social media websites, so it can be concluded that Facebook had the largest impact (hypothesis 2). After Facebook comes Twitter with 32.4%. When voting for the social media's effectiveness, the respondents voted similarly: Facebook was the most effective social media website with a 4.71 rating and Twitter as the second most effective with 3.86. Blogs played a small role and Second Life didn't have much of an impact.

   Social media are tools on the internet that are used by people to communicate. These social media websites were used throughout the Egyptian revolution and it has been said that this revolution is a social media revolution unlike any other. After conducting the survey, it is apparent that social media tools had a significant impact on initiating and promoting the Egyptian revolution. Currently, almost all political players in Egypt believe in using social media to promote their parties. In the near future, social media will have more influence as the number of internet users' increase. We are planning to pursue research about the period after the revolution to investigate how social media played a role in parliament and presidential elections.

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