

Citizen Journalism in the Digital Age: The Case of the 2011 Social Protests in Egypt

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Abstract This study set out to explore the functions and affordances of Twitter for protest movements through a case study of the 2011 Egyptian uprising. Drawing on theories of social networks and social movements, this study adds to the growing body of scholarship on online activism in an attempt to explore how activists mobilize Web 2.0 technologies in times of social and political unrest. The paper hypothesized that the usage of Twitter for political activism should perform the primary function of citizen journalism which has the potential to effectively disseminate information to large audiences and raise awareness towards the protest movement. To test this hypothesis, this research undertook a content analysis of tweets, particularly the #jan25 hashtag, to verify whether they fulfill the functions of citizen journalism. The results obtained from this study were consistent with the formulated hypothesis. The findings offer a useful foundation for further studies on online political activism in developing countries, particularly the MENA region.

Keywords: *citizen journalism, social movements, 2011 Egyptian uprising, twitter*

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1. Introduction

This paper discusses the dynamics of the current news ecosystem as a result of dual participation by individuals as consumers and producers of media content. The microblogging platform of Twitter has been heralded as a critical asset to contemporary social movements and a crucial tool for political activism. It is compelling how this platform can be leveraged by social movements to overcome barriers and seize opportunities given the reduced cost of content creation and distribution and its implications on protest organization and mobilization. This study examined aspects of Twitter activism with particular reference to Egypt wherein activists capitalized on the affordances of Twitter as a site for political action. This introductory section presents the specific problem under study, explores importance of the problem, describes relevant scholarship, and states the formulated hypotheses and their correspondence to research design.

1.1. Statement of the Problem

Despite widespread research on online activism, little is still known about how it is utilized in the context of developing countries and the MENA region in particular. The motivation to conduct this study arises from the literature gap on the usage of social media for political activism in the MENA region. Much of the research on social movements has focused on the democratizing

potential of the new media, with little investigation into how protest movements capitalize on the affordances of social media in countries with emerging democracies. The limited literature on this issue is a compelling justification to undertake this research.

Early debates on the place of social media in social movements were mainly dominated by technologically deterministic narratives of conflicting utopian (e.g. [1]) versus dystopian (e.g. [2-11]) assumptions. This utopian–dystopian dichotomy is now being dismissed as an oversimplification in that it understates the complexities of social movements, downplays the larger media environment, and underestimates human sacrifices [6]. Based on these premises, the primary question to be asked is *how* rather than *whether* social media networks impact the dynamics of collective action [6].

The aim of this study is to contribute to the academic debate on how Twitter is employed, and to what effect in protest movements. An understanding of the methods and processes used by protesters offers useful insights into modern protest movements. This research set out to explore the interplay between social media and contemporary social movements, specifically the role of Twitter during the 2011 Egyptian uprising.

New technology has driven a major shift in the nature of how social movements operate. With the rise in the number of social movements around the world, there is a pressing need for more research on the dynamics of these forms of protest in the age of digital media. This study draws on previous research on social movements' use of Internet-enabled technologies in times of large-scale

protests. It also extends past research on socially mediated activism by providing a case study of how Egyptian users and activists employed Twitter for citizen journalism over the course of the 2011 uprising. This research interest is directed towards understanding the communicative functions of hashtags used in protest movements.

1.2. Purpose and Significance of the Study

This exploratory study purports to analyze the use of Twitter during the Egyptian social movement to understand the usage characteristics of the medium over the course of the 18 days of protest. The 2011 protests make an interesting case study to analyze the use of Twitter as it was extensively used throughout the major protests. Egypt is in the lead in the MENA region in terms of new media usage. The Egyptians are often referred to as the "wired population" owing to the widespread accessibility to mobile phones [3].

There have been increasing interests in analyzing tweet messages relevant to political events. The main goal that motivates the present research is to determine how citizens harnessed the affordances of the microblogging platform to collect, report, analyze, and disseminate news and information on the protest activity. Previous research on Twitter has addressed a broad array of questions. These included how information breaks into mainstream media or how Twitter is utilized in times of emergency events. Recent scholarship has also explored the dynamics between Twitter, elections, and public diplomacy amongst other topics [12]. With minor exceptions, previous research on social movements has not fully explored the usage of social media in protests and as events unfold in real time. As an extension to previous studies, this exploratory study contributes to the existing literature on Internet activism by exploring a set of research questions in order to garner more insights into the practice of citizen journalism.

Taking the Egyptian upspring in 2011 as a case study, the primary purpose of conducting this research on Internet activism was to develop a comprehensive understanding of the political interaction shaped by the affordances of Twitter in Egypt, a country that has imposed tight controls on media content. The rationale behind conducting research on Internet activism is to gain a comprehensive understanding of the political interaction enabled by the affordances of new media technologies. The choice of Egypt as a case study finds explanation in the considerable political momentum which accompanied the 2011 uprisings and the unprecedented mobilization of technological and online resources to call for regime change. This study argues that the scale and scope of Internet activism in Egypt is incomparable in the MENA region.

The contributions of this study are both theoretical and empirical. Drawing on theories of social networks and social movements, this academic research adds to the growing body of scholarship on online activism exploring how citizens and activists mobilize Web 2.0 technologies in times of social and political unrest.

1.3. Research Questions and Hypothesis

The main aim of this study was to analyze the extent to which Egyptian citizens and activists used Twitter as a

reporting tool for breaking news. The advent of Web 2.0 has reinvented the relationship between social movement activists and the functions of social networking sites. This study is motivated by the curiosity to investigate how social media tools were used and what kind of strategies were followed by activists for political mobilization. The purpose of this mixed-methods study is to look at the ways and purposes of using social media for political change during the 2011 Egyptian uprising. Taking Egypt as a case study, the primary research question guiding this study was: How and for what purposes did the Egyptians utilize Twitter over the course of the 2011 uprising? To address this, a secondary research question was developed: How was Twitter employed as an alternative news source to traditional media outlets?

The hypothesis guiding this research is that the use of Twitter in times of mass protests can be conceptualized as a practice of citizen journalism. Twitter has the potential to effectively disseminate information to large audiences, serving as an alternative news source to mainstream media. As for the tweet language distribution, this study hypothesizes that the larger number of tweets will be in English. The dominance of English as a *Lingua franca* is meant to serve the purpose of citizen journalism with the intention of reaching out to the international community for support and solidarity.

2. Literature Review

The primary aim of this section is to discuss the relevant related literature on new media and Internet activism. It also outlines major scholarship on Twitter activism, especially in what regards the practice of citizen journalism as a strategy of contestation.

2.1. New Media and Internet Activism

The massive protests that engulfed the Middle East and North Africa (MENA) in 2011 sparked considerable debate on the role of social media in initiating and organizing social protests. The MENA events mark a watershed in the history of collective action and Internet-mediated activism. The emergence of the blogosphere and the evolution of the Internet from Web 1.0 to Web 2.0 have been embraced as valuable additions to users in emerging countries, thereby repositioning them as co-authors rather than mere recipients of content. This metamorphosis maximizes the potential for collective action in countries in transition to democracy [13].

A number of researchers have pointed out that networked publics and online groups have increasing potential to function as political forces [8,9]. Taking into account the affordances of social media, Poster (2009) speaks about a transition from elite production of culture to grassroots digital meaning-production to the point that the relationship between center and periphery is disrupted and dislocated. This relationship has given rise to a new society where the line separating consumers and producers of content becomes blurred and where power structures are subverted [8].

With regard to the role of networked digital media in political mobilization, a series of uprisings across the

globe have been allegedly dubbed as "Twitter Revolutions" in recognition of the supposedly role played by Twitter in mobilizing citizens including the civil unrest following the 2009 elections in Moldova and the Iranian election protests in 2009 and 2010 [8]. Twitter has been widely deployed by activists to promote their causes, organize protests, and to disrupt and circumvent official narratives propagated by traditional media or governmental institutions [8]. Internet-mediated technology offers users the ability to share not only specific information about the protests, but more importantly, to share interactive content that provides a different interpretation of events from that of official authorities [14].

The increasingly prevalent use of social media in contemporary political activism marks a new phase in the development of alternative communication. Throughout history, activists have spared no effort to gain access to a wide range of media to communicate with larger publics and garner public visibility [15]. Given that access to mainstream media has often proven difficult, activists have been forced to develop their own media platforms as a means for protest mobilization and communication. Alternative media can help counterbalance the dynamics of mainstream reporting, allowing for more issue-focused reporting that "inverts the hierarchy of access to the news by explicitly foregrounding the viewpoints of ordinary people ... citizens whose visibility in the mainstream media tends to be obscured by the presence of elite groups and individuals" [16].

Information diffusion through online social networks provides new means for social movement actors to disseminate self-representations that help bypass mass media gatekeepers [16]. Studies of online civic participation revealed that activists are now being able to reach out to wider publics in online blogs and forums, allowing individuals to fully engage in political activity. According to Della Porta (2013), "new media technologies—upheld as democratic, high-quality, horizontal communication—have made more permeable the divide between media producers and audiences, in great part due to the reduced financial and skills-based barriers to accessing them."

2.3. Citizen Journalism as Alternative Media

One of the most striking contributions of the new system of political communication is the emergence of citizen journalism as a result of the growing dissatisfaction with mainstream reporting. A citizen journalist is someone who may or may not have a profile of an activist, but suddenly tends to convey critical information to the public at a significant moment. Micro-blogging is often viewed as synonymous with the practice of citizen journalism where individuals carry out a number of institutionalized communication functions of specialist journalists, often supplying first accounts, images or videos of news events [17].

Citizen journalists are ordinary citizens who feel their duty to speak truth to power [17]. Given the attributes and the dynamics of the digital age in terms of information accessibility, citizen reportage of human rights abuses in conflict zones has reached unparalleled levels. In today's hyper-media environment, Citizen journalists, rightly described as the Third Eye, (The First Eye being power

and the Second Eye being the subject) [17] consist of third party bystanders equipped with the needed technology to produce e-documentation of events.

Social movement activists have come to the recognition that the way they have been framed in mainstream news coverage has been overwhelmingly partial and inconsistent [18]. As a reaction to these practices, activists turned to alternative methods of media production to provide their own version of events [18]. For the purposes of this study, citizen journalism is seen as a form of alternative media. Tumber and Waisbord [19] define alternative media as "oppositional media representing and serving the interests of groups marginalized by the mainstream media." According to the writers [19], the Internet represents "an opening in power hierarchies—an alternative space where information and counter-information can easily and cheaply circulate, uninhibited by the gatekeepers of the traditional media." As such, ordinary citizens can participate in the media landscape and thereby contest hegemonic power structures through the process of media intervention.

The practice of citizen journalism provides ordinary citizens with the opportunity to self-publish their own version of events and tell their own side of the story [6]. It differs from professional journalism in that ordinary citizens deploy digital media tools to report on events on the ground, uploading content directly to the Internet or feeding information to media and press outlets [6].

Social media networks are instrumental in reshaping news media landscape in terms of news selection, production, and distribution. This feature has broken the monopoly of media professionals over news stories and has led to the emergence of an ecosystem in which journalists, sources, readers, and viewers exchange information in virtual communities [20].

SNSs can contribute, among other factors, in driving change in countries where voices of dissidence are silenced and mainstream media is accused of being subservient to the government. With the affordance of the micro-blogging platforms such as Twitter, it has become increasingly difficult for authorities in the MENA region to brutally suppress demonstrations due to the emerging practices of citizen journalism

2.4. Twitter and Political Activism

Twitter features themed hashtags for each topic allowing like-minded users to address issues that they otherwise cannot discuss because of government censorship and to generate substantial interaction and potential followers. Twitterers can easily categorize their tweets and identify their community by creating hashtags like #jan25. This microblogging platform makes it possible for everyone to create and share information instantly and bypass state surveillance and interference. The highly advanced technology has become a growing and evolving part of the media landscape and a powerful networking and framing tool. As such, Twitter is not limited to information diffusion and news gathering. Its reach also extends to influencing people's perceptions of events.

The exponential growth of social media has set the tone for contemporary social movements. Modern movements

are twittered, photographed, recorded, reported, and documented in ways that may not have been previously possible without the affordances of new media. While there is still controversy surrounding the impact of social media on the course of protest movements, there is no question that this new media will continue to be a powerful recruiting tool for activists across the globe to mobilize, organize, and inspire people to protest against government policies.

Blogs and micro-blogs have risen to prominence as news reporting mechanisms. With the arrival of Web 2.0, *consumers* have become *producers*, resulting in a radical transformation of traditional media landscape [21]. Twitter, in particular, applies available social media tools, such as Twitpic for photo-sharing and YouTube for video-sharing, in order to live tweet to an online audience looking for up-to-date and instant information [21]. The enhanced connectivity of social networks and the fast pace dissemination of news online are valuable assets to citizen journalists in ways that normal citizens could bypass traditional information gatekeepers in times of socio-political unrest.

2.4.1. Twitter and Alternative News Coverage of Protest Events

The lightweight, always-on communication systems like Twitter are enabling individuals to "maintain a mental model of news and events around them" [22]. Twitter, in particular, can be qualified as an "awareness system" which intends to "help people construct and maintain awareness of each other's activities, context or status, even when the participants are not co-located" [22]. This computer-mediated communication system facilitates the instant, online dissemination of short fragments of information from a variety of sources, leading to a considerable shift in the consumption of news and information [22].

The practice of sharing links on Twitter is analogous with what Johnson (2009) describes as a "customized newspaper, compiled from all the articles being read that morning by your social network." In this sense, tweets provide an awareness of what others in a user's network are reading and deem it worthy of attention. The link-based nature of tweets and the conversational aspect of reposting links as a retweet create a shared conversation in that retweets are not bound by physical space or time. This aspect creates what Boyd et al. [23] describe as a "distributed conversation" which enables users to be informed about the content without having to be actively part of it [22]. In other words, twitter messages keep users informed of the ongoing discussions without being contributors. This conversational and awareness system helps engender information interactions and develop a shared culture among users distributed across geography [23].

The fact that Twitter is a network-based real-time messaging system makes this platform an ideal terrain for the dissemination of breaking news directly from the news source and/or from the geographical point of interest. Twitter users with high follower counts are identified as network hubs, being the reason for the spreading of a message due to their specific connectivity in the network. In the case of Twitter, retweets play a strategic role for information diffusion. Needless to say that most retweets

posted by a user are originally tweets posted by someone the user follows. By implication, the retweet activity attests to the power of social network in maximizing the propagation of information. It also implies that the larger the number of followers a user has, the larger the follow ratio will be [24].

This study looks at micro-blogging as a new media technology that enables individuals to obtain immediate access to information and create their own narratives [24]. The present research draws from literature on new communications technologies to postulate that the lightweight communication platforms are creating new kinds of interactions, especially in what concerns citizen journalism. The compelling body of academic literature in the field of communications has extensively focused on the use of new media by activists in western societies to counter hegemonic discourses of capitalism and globalization. Conversely, much of the literature on Internet activism in the MENA region celebrates the democratizing potential of the new media, with little investigation into how this form of activism is utilized in social movements.

This review is deemed necessary to further understand how social movements first came to realize the significance of providing an alternative to mainstream protest reporting and how this led to the current use of social media, and Twitter in particular, as a form of citizen journalism. Based on what has been stated above, it is absolutely imperative to resist the temptation to adopt a narrow, reductionist approach to the analysis of the role of social media in social movements. It is also against common sense to take the online and offline world as two separate or opposite entities, presuming that one world is of more critical importance than the other [13]. This study puts forward the argument that online activities intersect and impact offline practices and vice versa. The strategic implications of this interconnectedness is believed to exert an influence on both offline and online worlds and act as a decisive force for social movements.

The outlined studies testify to the absence of a practical and working theoretical model to analyze online social media activity during protests. This study proposes instead to bridge this gap through identifying social media usage during social movements, particularly the 2011 Egyptian uprising. Most of the studies investigating the use of Twitter during protest events fail to explore what media content is shared via tweets or how it embodies the characteristics of citizen journalism.

This section has provided a synthesis of scholarship on the emerging role of user-generated content and social networking in protest movements. This review is deemed necessary to further understand how social movements first came to realize the significance of providing an alternative to mainstream protest reporting. Much of the reviewed literature on social movements underscored the importance of new media for protest movements and argued for the need to reconsider approaches on technological determinism.

Contrary to the prevalent assumption held by skeptics of social media who downplay the role of Internet activism, this section argued that Internet-mediated communication technology can assist movements in empowering individuals to perform tasks that were once

exclusively undertaken by centralized organizations. The information diffusion through online social networks provides new means for social movement actors to disseminate self-representations that help bypass mass media gatekeepers.

3. Method

The study is an empirical content analysis of the #jan25 tweets. The focal point of this study was to find out what Twitter was actually used for over the course of the 2011 Egyptian uprising leading to the fall of the Mubarak regime. A content analysis of tweets was undertaken to identify key conversation trends and patterns. Analysis of Twitter data has become an active and promising research area, offering valuable insights for social sciences and providing visibility to underrepresented demographic groups in research. As such, Twitter allows greater representation of minority groups [23]. Tweets are of valuable significance for several reasons, the most important of which is that they serve as firsthand, real-time accounts of events. The #jan25 tweets could then be used as a primary source for historians conducting research on Twitter activism.

Manual content analysis is an effective method to reliably identify important social phenomena in textual data. Frequently used in the social sciences, this type of research technique is used to make replicable and valid inferences by interpreting and coding textual material. Despite being extremely time consuming due to the large-scale text analysis, it has been found to be of great utility in identifying patterns of media usage [25]. In the case study of this research, manual content analysis was utilized to categorize tweets according to a coding category list.

With the rise of Twitter and other social media platforms, there is a growing need for mixed methods and interdisciplinary approaches for the qualitative and quantitative study of *big data* datasets [26]. This study utilizes a mixed methods approach [21] to explore social media usage in social movements, particularly the 2011 Egyptian uprising. This approach is a research design or methodology for "collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies in order to better understand research problems" [21]. According to Creswell and Creswell [21], a combination of both methods is highly recommended to develop a comprehensive understanding and analysis of the research problem. By adopting this approach, it is possible to closely examine the usages and functions of the popular social media site Twitter and draw meaningful conclusions from the results.

The study performed a content analysis of individual tweets with the hashtag #jan25 to identify and interpret the usage and functions of Twitter in times of social unrest. The methodology adopted was both exploratory and interpretive in nature. As explained by Miller (2000), a qualitative inquiry ultimately "produces an understanding of the problem based on multiple contextual factors" (p. 14). In fact, both quantitative and qualitative approaches are complementary rather than mutually exclusive [27].

3.1. Data Gathering Methods

The observation period for this study covered a timeframe from January 25 to February 11, 2011. Given that Twitter no longer allows free public access to old tweets starting from 2012, the dataset containing tweets was provided by two researchers on social media studies, namely Cornelius Puschmann of the Humboldt-University Berlin and Dr. Marco Bastos of the University of California [28]. Both the two researchers tracked the hashtag #jan25 which was widely used during the Egyptian uprising. The original population consisted of 414 040 tweets stored in an excel spreadsheet. The original dataset file was in CSV format which was later imported into Microsoft Excel spreadsheet. In order to be able to read the tweets written in Arabic, the researcher converted the encoding file from Latin to UFT-8 format. As most of the tweets were in Arabic and some in other languages than English, a web-based translation tool (Google Translate) was used along with the researcher's knowledge of Arabic and French to provide an accurate translation of the tweets.

3.1.1. Data Sampling and Analysis

Having outlined what a CA is and why it was selected as an analysis method for this study, this subsection provides an overview of how this method was applied to analyze twitter dataset. This exploratory analysis was conducted on an archive of tweets posted from January 25 to February 11, 2011. The tweets with the hashtag #jan25 were chosen based on a top Twitter trends analysis which revealed that these hashtags were trending during the period of study. The data representing a sample of 1837 tweets with the hashtag #jan25 over the span of eighteen days were mined. This particular hashtag was chosen for analysis because of its popularity and the wide circulation it enjoyed online.

The sample dataset was collected and organized into an Excel spreadsheet representing the broad topics of the variables: (a) timestamp, (b) username, (c) type of tweet (tweet, link, retweet, reply, and mention), (d) tweet category (e) tweet language, and (f) tweet URL. Classification for relevance excluded tweets that were not complete or non-relevant.

Once the content analysis was complete, descriptive statistical analyses were performed on the data sample. Data were categorized, tabulated, and analyzed in Microsoft Excel. The collected data were analyzed based on the theoretical framework suggested in this dissertation. Most of the tweets forming the corpus for the manual content analysis were in English. Tweets in other languages were translated into English using Google translator service.

4. Results

This section outlines findings of the content analysis performed on the #jan25 tweets. It also presents a detailed classification of Twitter messages based on their content. The content analysis conducted on the random sample of the population helps understand how Twitter is used in times of unrest and collective action. Salient categories

and patterns were identified on the basis of content analysis. Methods of both quantitative and qualitative data analysis were performed to identify emerging themes.

In the process of data analysis, the tweets from the sample were classified by their content type and manually coded into themes by a single coder using a coding format. Retweets were not excluded from the final dataset. Once the content analysis was complete, descriptive statistical analyses were performed on the data sample.

4.1. Tweet Categories

This subsection presents the findings obtained from the content analysis of tweet categories. The results, ranked in descending order, are as follows: *citizen journalism*, *agenda setting and framing*, *organization and mobilization*, and *political humor*. *Figure 1* below provides descriptive statistics for the identified categories:

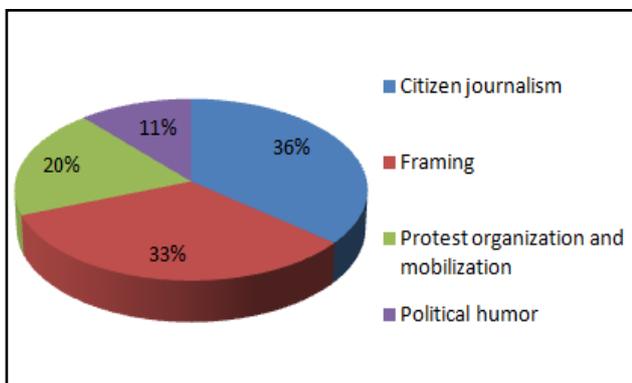


Figure 1. Tweet categories

As shown in the pie chart and in the table below (Table 1), the top three identified categories were (a) citizen journalism (35%), Framing and agenda setting (32%), and (c) organization and mobilization (19%). Political humor made up a low percentage of the overall tweet volume (11%).

Table 1. Frequency and Percentage of Tweets Categories

Tweets categories	Frequency (N)	Percentage
Citizen Journalism	621	35%
Agenda setting and framing	571	32%
Organization and mobilization	327	19%
Political humor	193	11%
Other	20	1%

4.1.1. Citizen Journalism

The first major category can be classified as Citizen Journalism. The overwhelming majority of the tweets falling under this category were retweets (78%). Additionally, 65% of the tweets were posted in English while 35% in Arabic. These included messages that were intended to inform others of events or updates regarding the uprising. This broad category can be divided up into two subcategories. The first subcategory was news update including updates from news organizations and agencies such as CNN, Reuters, Al Jazeera, or other traditional media organizations that covered the Egyptian uprisings. The second subcategory included eyewitness reports of

protest activity. The focus here was on providing instant reports on the developments on the ground to reach both fellow Egyptians and the outside world.

4.2. Timeline of Twitter Activity

This subsection tracks the timeline of Twitter activity of the #jan25 hashtag. The line graph below depicts the timeline of Twitter activity as well as the total volume of tweets posted throughout the 18 days of the uprising (Figure 2). Early tweet activity was relatively minimal and involved activists coordinating action on the ground. The missing dates indicate the time during which the Egyptian authorities shut down the Internet. The drop in the number of tweets is an indicator of the decline in Internet activity. Despite the suspension of Internet service in Egypt, the majority of Twitter activity came from users outside the country.

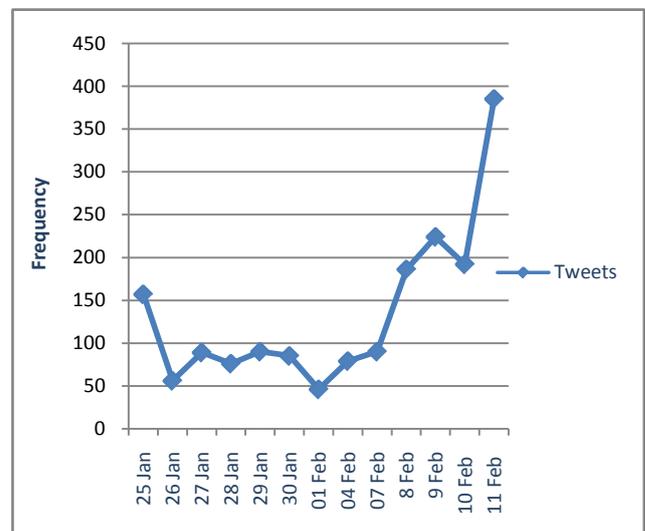


Figure 2. Timeline of Twitter Activity

Soon after the Internet was restored, activity on Twitter regained its momentum as activists on the ground resumed their practice of providing instant reports to the whole world waiting for updates on what was happening inside Egypt. Large groups of sympathizers from abroad turned to twitter to retweet, curate, and comment on the events in Egypt. The stream of activity reached its maximum level on February 11, the day which coincided with the announcement of Mubarak's resignation (385 tweets). Analysis of text tweets shows that the amount of messages sent via Twitter varied across multiple phases of the uprising and that tweets peaks were concurrent with significant developments on the ground.

4.3. Language Distribution of Tweets

The current subsection presents the language distribution of tweets. It is worthwhile noting that colloquial Egyptian language and English are considered the two major languages of Egypt. The #jan25 tweets were mainly written in English, Arabic, Colloquial Egyptian Dialect or a combination of two languages. The pie chart below depicts the language distribution of the #jan25 tweets. As shown in Figure 3, tweets posted in English dominated the #jan25 tweet set (56%) while Arabic

constituted the second largest language category (23%). Tweets in English and Arabic made up a relatively small proportion of the overall tweets (09%) while tweets in colloquial Egyptian constituted a very small percentage of the total number of tweets (07%). French and Spanish were equally distributed (2%) while the category of Other including languages such as German, Portuguese and Danish made up a disproportionate percentage of the overall tweets (1%).

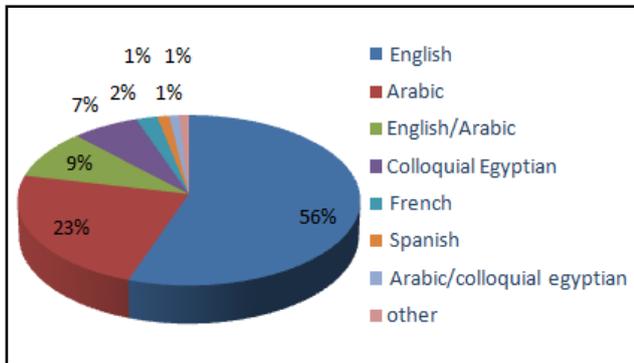


Figure 3. Language Distribution of Tweets

In the Table 2 below, the frequency values and percentages of language distribution of tweets are arranged in descending order.

Table 2. Language Distribution of Tweets

Language	Frequency (N)	Percentage
English	1105	56%
Arabic	463	23%
English/Arabic	186	9%
Colloquial Egyptian	136	7%
French	43	2%
Spanish	24	1%
Arabic/colloquial Egyptian	20	1%
Other	20	1%

As demonstrated in the table, the majority of tweets were written in English, although Arabic is the second most widely spoken language by the Egyptian public. Activists also tweeted and posted on Twitter switching between English and Arabic.

4.4. Tweets Types

The #jan25tweets showed a significantly higher number of retweets (46%) in the dataset (Figure 4). Retweeting can be understood as "an instrument of information diffusion given that the original tweet is propagated to a new set of audiences, while the content of the message remains unaltered" [28]. Retweets with a URL link made up 15% of the total number of the #Jan25 tweets. As for tweets with a URL link, they constituted 10 % of the analyzed data set.

The retweeting activity amplified messages across Twitter and extended the reach of a single message to additional users. The high levels of retweeting activity may reflect high levels of activism among users.

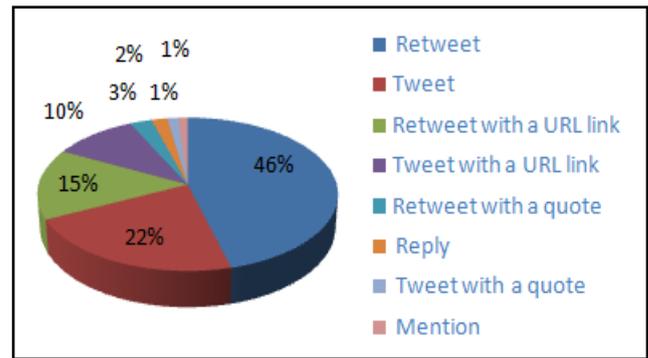


Figure 4. Tweets Types

5. Discussion

This section sets out to explain and interpret the results obtained as well as drawing conclusions based on the data. It discusses major findings in detail including implications of the findings for research. The section outlines major categories derived from the content analysis of the #jan25 tweets and presents conclusions and recommendations for future research.

Drawing on findings from content analysis of the subset of #jan25 tweets, citizen journalism (CJ) was by far the most common trending topic during protest activity. This broad category can be divided into three subcategories. The first subcategory includes eyewitness reports of protest activity and provides instant reports on developments on the ground to reach both fellow Egyptians and the outside world. The second subcategory describes Twitter as a liberating force for the oppressed. The last subcategory addresses the use of Twitter as a reporting tool for breaking news, including updates from news organizations and agencies such as CNN, Reuters, Al Jazeera, or other traditional media organizations that covered the Egyptian uprisings.

The findings are in accordance with previous studies suggesting that news on Twitter is being co-constructed by users and activists alongside journalists [9]. The emergence of blogging tools and micro-blogging platforms like Twitter has expanded the potential of Web 2.0 for information circulation. This is significant in that Twitter enables distributed conversation among participants and that journalism has become a form of conversation in the age of social media. This also supports the notion that news no longer emerges from a single set of sources, but from a hybrid and dynamic information network, leading to the emergence of a new form of online press [9].

Citizen journalism takes "the symbiosis between activists and the media to a higher level as ordinary people themselves become the media when they record and disseminate images of public action through mobile phones and the Internet" [7]. The new media avenues create ample opportunities for CJ. Twitter provides forums for ordinary citizens to document protests, spread the word about ongoing activities, document evidence of incidents of police misconduct, and disseminate content to the outside world through both regional and transnational media. As such, users can engage in a communication

struggle to tell their side of the story, allowing them to assert their will and exercise their agency [6].

Citizen journalism was a leading news source over the course of the 2011 uprising as the Egyptian government attempted to bar journalists from reporting on the protests. The 2011 Egyptian movement is a prime example of network-based social movements in terms of not only organization, but also its potential to contest power within the cyberspace. As Rheingold (2000, p.212) observed, the affordances of technology enable individuals to create networks of communication instantly as a result of their "perpetual connectivity." Tools like Twitter give rise to an environment where information, regardless of who posted it, can spread and gain popularity. This is clearly evident in the significantly higher proportion of retweets with the #jan25 hashtag. Castells [29] observed that, in a world of networked mass communication, "one message from one messenger can reach out to thousands, and potentially hundreds of thousands as it proliferates through the network of society" (cited in Eaton, 2013). This form of networked distribution is an important aspect of online communication in that the receiver identifies the shared information as coming from a known and trusted source. As such, the wireless communication network is transformed into a network of trust, making it likely for the receiver to show faith in the information being imparted [29].

The structure of information flow in Twitter's network is based on connectivity between accounts that represent social actors. By using the @mention function to address or reference other users, conversation is enabled throughout a network of interconnected actors described as "a public interplay of voices that gives rise to an emotional sense of shared conversational context" [30]. The use of Twitter in political protest helps bring disparate voices into a common conversation and connect diverse social networks, making it possible for users to enlarge their personal network [26].

Tweets provide an awareness of what others in a user's network are reading and deem it worthy of attention. The link-based nature of tweets and the conversational aspect of re-posting links as a retweet create a shared conversation in that retweets are not bound by physical space or time. This aspect creates what Boyd et al. [30] describe as a "distributed conversation" which enables users to be informed about the content without having to be actively part of it [22]. In other words, twitter messages keep users peripherally informed of the ongoing discussions without being contributors. This conversational and awareness system helps engender information interactions and develop a shared culture among users distributed across geography [28].

Twitter is quickly developing into a platform for news storytelling, enabling co-creating, collaborative filtering and "curating" of news content. Such practices work in a manner congruent with the logics of news production and consumption. This resonates with what Bruns [26] describes as "produsage," defined as a "collaborative creation and extension of information that blurs the line between audiences and journalists" (Papacharissi, 2015, p. 34). The news feeds collectively produced by individuals can provide a promising alternative to the dominant news economy. This is particularly evident in times when access to mainstream media is restricted or in times when this type of media coverage becomes biased (Papacharissi,

2010). The computer-mediated communication system of Twitter facilitates the instant, online dissemination of short fragments of information from a variety of sources, leading to a considerable shift in the consumption of news and information [22].

This in line with Harlow and Johnson's (2011) study of the media portrayal of protesters during the Egyptian uprising which found that online alternative media opened new possibilities for covering demonstrations [19]. Twitter and online citizen journalism contested mainstream reporting on protests by transforming users into commentators and actors in the unfolding events [19]. Twitter is credited for creating a counter sphere for public discourse in which excluded groups can articulate their own identities and debate ideas.

The nature of political discourse circulating on Twitter is shaped by the bricolage of messages and media objects shared by individual users [28]. This helps produce an assembly of networking meaning made up of dispersed actors referencing each other and offers an opportunity for public negotiation of meaning in times of political protest. This implies a gradual reallocation of political meaning-making from mass media to a networked public sphere [28]. Meaning-making is an important facet of social movement mobilizations. The focus here is on the activists' agency to create meaning-making, collectively contest dominant symbols and institutions of society, dispute mainstream interpretations, along with creating alternative views [28].

The importance of citizen journalists needs to be understood against the backdrop of the state-controlled media in a country like Egypt. A distinguishing feature of the Egyptian uprising was the progressive undermining of state TV and newspapers, with more people questioning the credibility of mainstream media's reports on events. This is supported by findings from the survey indicating that social media helped provide a counter-narrative to biased mainstream media and bypasses state media censorship. Additionally, a sizable proportion of responses indicated that traditional media outlets were biased in their coverage of the 2011 Egyptian uprising

Micro-blogging platforms like Twitter help create inclusive communication networks, allowing anyone interested in the movement to be informed about its activities and contribute to the discussion on the protest activity [5]. Microblogging is a form of "electronic word-of-mouth" for disseminating information and sharing news in times of conflicts [26].

A distinctive characteristic of this category is the remarkable presence of a large number of retweeted messages (403 retweets). This is indicative of the high level of "spreadability," "virality," and "conversability" of the stream [26]. This also could be interpreted as an indication of the active participation of people in the stream, resulting in a co-creation of a story about the event. It is interesting how citizen leaders were crowdsourced to prominence via retweets and mentions. Twitter users with a high number of message exchanges are in a position to exert strong, selective influence on the information passed within the network [28]. Twitter users with high follower counts are identified as "network hubs," being the reason for the spreading of a message due to their specific connectivity in the network According to Gregory, (2010),

members of a network can assume different roles depending on their position. [28]. Active Twitter users can be called "influencers" in that they have the potential to provoke other people within the network to react in certain ways and influence their attitudes [28].

Egypt's cyberactivists and citizen journalists in particular reshaped the informational landscape through means of witnessing and engaging in political symbolic struggles as an attempt to illustrate the daily fight against social injustice, harassment and censorship which fall under the broader scope of political reform. Elaborating on this point, Pierre Bourdieu (1998) points out that the "simple report, the very fact of reporting, of putting on record as a reporter, always implies a social construction of reality that can mobilize (or demobilize) individuals or groups" [28]. The micro-blogging platform of Twitter is becoming a larger focus in the newsroom, as technology has improved the processes of identifying stories that are newsworthy. Feeds from SNSs provide a snapshot of events unfolding around the world through personal accounts of first-hand witnesses. As such, social networks reshape how news is told and how it is shared.

This study provided insight into the usage of social media in social movements. More specifically, the study examined how Twitter was utilized in the 2011 Egyptian uprising as an organizing and a mobilizing force as well as a platform for citizen journalism. Based on findings from the content analysis of the #jan25 hashtag, this research showed how users employed the microblogging platform Twitter to inform people about the uprising and motivate them to join the protest movement.

Our analysis of the #jan25 hashtag enables us to move beyond simplistic arguments about whether or not the events of the 2011 Egyptian uprising can amount to a Twitter revolution. The substantial level of tweets in the case of the #jan25 hashtag points to the central role played by Twitter in informing, organizing, and reporting protest activities in Egypt. Future research may uncover whether Twitter, along with other online and social media networks, will become established tools for political communication in Arab countries like Egypt.

6. Limitations of the Study

Using the #jan25 tweet set as a sample for analysis has one important limitation. In fact, there is no reliable method for determining if the tweet dataset is complete. The large size of the data set, however, is sufficient to compensate for any missed tweets. It is unlikely then that the missed tweets would significantly impact results. Equally important, without feedback from a second coder, the content analysis performed within the scope of this study may limit the reliability of the coding results. To verify the results, the tweet dataset needs to be coded by a second coder to rule out any bias and to test the replicability of the results.

7. Recommendations for Future Research

The purpose of this study was to contribute to the academic understanding of social movements' usage of

social media in the digital age. However, further research is warranted to explore this issue in more depth, particularly in the Arab region. There is a need for further empirical study on the use of digital media in protest movements. Twitter's growth as a new source of news and information in times of social and political unrest will likely to continue to grow to meet the increasing demands of users. With this in mind, it is important to understand how this microblogging platform is utilized amongst social movement activists. Although several Western scholars have theorized about the impact of cyberactivism on the 2011 Arab Uprisings, more research is needed to look at the issue in depth, particularly from the perspective of writers directly affected by these events.

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