

How Facebook Played an Active Role in
Bringing Democratization During the Arab Spring

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Abstract

The cry for democracy in the Arab world began in 2010, and in countries like Tunisia and Egypt, it quickly spread throughout the entire region. In the Middle East in 2010, governments primarily operated as utilitarian dictatorships. For the most part, these regimes evolved into considerably stable governments. The changes leading up to 2010 had a trans-regional effect almost simultaneously. Most of the Middle Eastern region, near the end of 2010, began to protest for change and call for democratization.

The key similarities between regimes were the fundamental development infrastructure and use of the internet, which became a primary mode of communication. By testing internet usage in Tunisia and Egypt, I traced and analyzed which mode of communication during the Arab Springs was most effective. Furthermore, based on specific uses of the internet, especially Facebook, I further tested whether Facebook had affected the exuberant call for democratization during the Arab Springs.

The results introduced in this thesis conclude that Facebook played an active role in bringing about democratization during the Arab Springs.

Frontispiece



Source: Sarahswig. (2013, Apr 29). Tulane University. "ICT4D @ Tulane." Retrieved August 12, 2022: <https://tulaneict4d.wordpress.com/author/sarahswig/>

Author's Biographical Sketch

As Arab American growing up in the digital age, I have always been fascinated with the Middle East's progression from 2010 during the Arab Spring. As a graduate student in the ALM program at Harvard Extension School, I recognized that this was my opportunity to research further, enlighten, and understand what happened during that time. By focusing my thesis study on social media and the Arab Spring, I can better understand what fueled such a call for democracy.

The subject of the Arab Spring has always conveyed optimism to me. But more specifically, I have family in the Middle East, and the ability to communicate with family via social media—especially with their enlightened and more democratic perceptions once they became acclimated to using social media—has always excited me. I regard this continual change within my family as a byproduct of open communication. With this project, I can test the effects of social media (specifically Facebook) on a censored or closed society.

Dedication

The Frontispiece (see p. iv) depicts Tunisian protesters who claim that Facebook is a tool in the revolution. It demonstrates how such tools can be employed to topple an administration. Facebook and other social media platforms may produce effects as comparable as weapons to overthrow governments.

Acknowledgements

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Chapter I

Research Problem

In 2010 the Arab world witnessed the start of democratization, which began with one man's actions and the protests he inspired, paving the way for civil unrest to become part of the mainstream. That man, Mohamed Bouazizi,

a 26-year-old with a university degree, set himself on fire when police in the central town of Sidi Bouzid confiscated the fruits and vegetables he was selling without a permit. Civil unrest became mainstream with the use of Facebook. Facebook functions as a virtual place for the youth to gather and discuss Mohamed Bouazizi's revolutionary actions. He later died in a hospital near Tunis, and his desperate act touched a nerve with educated and unemployed youth nationwide.¹

As word spread via Facebook of Bouazizi's self-immolation, so did the riots. On the street next to the cafe were charred buildings and boarded-up shop fronts. A *Los Angeles Times* article noted: "Bouazizi's suicide was a cry against the lack of jobs and opportunity during the country's years of stagnating under dictatorship. Tunisia's employment rate remains a punishing 15% or more—up to

¹ E. Ganley, and B. B. Bouazza. (2011). "Jobless youths in Tunisia riot using Facebook." <https://phys.org/news/2011-01-jobless-youths-tunisia-riot-facebook.html>

25% in Bouazizi's hometown."² Moreover, several protesters died on the street during clashes with police, witnesses said. "On the walls, graffiti voiced the angst of a generation: *'The City of Joblessness'* and *'Let us wage jihad to realize our demands.'*"³

Those actions captured the Middle East's entire interregional voice, giving birth to a movement that led to democratization, and signaling a social life transmutation as well. Transmutation is defined as technology advancement that is a catalyst for modernization. The effects of technological advancements such as modern communication tremendously accelerated the process for the call of democratization.⁴ Modern communication facets created an environment for Mohamed Bouazizi's action to transmute the Arab world into an uprising, which started this habituation for democracy on an inter-regional level. Bouazizi's actions enabled democracy to become legitimate ("the only game in town") in Tunisia.

² R. Addala, and L. King. (2013). "Tunisians air discontent at rallies marking the Arab Springs anniversary." *Los Angeles Times*. <https://www.latimes.com/world/worldnow/la-fg-wn-tunisia-arab-spring-anniversary-20131217-story.html>

³ S. Raghavan. (2011, Jan. 20). "A lost generation of young people of Tunisia discuss grievances that led to their revolution." *Washington Post*. https://www.washingtonpost.com/world/a-lost-generation-of-young-people-of-tunisia-discuss-grievances-that-led-to-their-revolution/2011/01/20/ABfCqOR_story.html

⁴ M. Hodgson. (1993). The Great Western Transmutation. In E. Burke (Ed.), *Rethinking World History: Essays on Europe, Islam and World History* (pp. 44-71). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511626104.006.

The Role of Facebook

I looked through Facebook postings during that period and from that research undertook an analysis of the correlation between Facebook's role and the growth of democratization. I found that Facebook played two roles:

1. The first connected the youth of the Middle East in a way that enabled them to speak their minds about frustrations without worrying about interference from their oppressive regimes.
2. The second gave youth a way to pass information during and after the protests.

Therefore, in my opinion, areas such as Tunisia and Egypt were able to find some form of democratic transition.

It can be argued that Tunisia and Egypt were the only countries to participate in the Arab Spring and to see some democratic transition as a result. I believe the reason is due to the integration of Facebook. Facebook's correlation to Tunisia and Egypt's internet infrastructure is why they did not return to authoritarian regression.

The research question in this thesis is: Has Facebook played an active role in bringing democratization forward during the Arab Spring? I used primary source data to analyze the Arab Spring. However, Facebook had its own internal

limits regarding keeping records of events from December 18, 2010 to December 2012. Thus, I found that newspaper articles from that period had to be sufficient in framing events through the eyes of primary sources. In addition, multiple reporting sources witnessing the conditions further ensured an accurate narrative.

To take the place of limited Facebook records between 2010 and 2013, I analyzed newspaper articles from that period as primary sources, seeking to present a more precise insight regarding Arab Spring events. Major news organizations in the United States, France, and the Middle East, featured numerous articles, as did Tunisian youth and independent intellectuals. With this range of resources, I was able to deliver a non-biased overview of Arab Spring events.

Moreover, my research presents how Egyptian and Tunisian youth hacked the Arab Spring using social media such as Facebook. I present data correlated with the timeline of events during the Arab Spring and generate analysis from interviews with participants.

Timeline of the Arab Spring

A timeline of events during the period identified as the Arab Spring is outlined below:

June 6, 2010: “A young Egyptian computer programmer, Khaled Said, is beaten to death by police after being arrested at a cybercafe. He will become Egypt’s revolutionary icon after ghastly post-mortem photos taken on his brother’s phone are posted to Facebook.”⁵

November 28, 2010: “WikiLeaks releases a trove of U.S. diplomatic documents. Tunisian dissidents set up a website to publicize the cables that document repression by their government.”⁶

December 17, 2010: “Mohamed Bouazizi, a poor vegetable seller, sets himself on fire, triggering the Tunisian revolution.”⁷

December 18, 2010: “Protests erupt in Sidi Bouzid. Protesters begin recording and uploading videos of the protests and police response to the Internet”.⁸

⁵ J. Pollock. (2011). “How Egyptian and Tunisian youth hacked the Arab Spring.” *Streetbook. MIT Technology Review*, September /October 2011: 78.

⁶ Pollock, “How Egyptian and Tunisian youth hacked the Arab Spring,” 78.

⁷ Pollock, “How Egyptian and Tunisian youth hacked the Arab Spring,” 78.

⁸ J. Lang, and H. De Sterck. (2012). “The Arab Spring: A Simple Compartmental Model for the Dynamics of a Revolution.” University of Waterloo, Iowa, October 8, 2012 : 9.

January 6, 2011: “The hacking group Anonymous announces Operation Tunisia and begins targeting government websites with denial-of- service attacks.”⁹

January 6, 2011: “Two weeks after attempting to hack into dissidents’ accounts on social networks, Tunisian authorities arrest several prominent activists.”¹⁰

January 8, 2011: “The regime intensifies its crackdown on social media accounts (Facebook); over the next five days, dozens of people are killed in protests.”¹¹

February 20, 2011: “Using Facebook to organize, Moroccan activists stage protests demanding constitutional reforms to break the autocracy of King Mohammed.”¹²

⁹ Pollock, “How Egyptian and Tunisian youth hacked the Arab Spring,” 78.

¹⁰ Pollock, “How Egyptian and Tunisian youth hacked the Arab Spring,” 78.

¹¹ Pollock, “How Egyptian and Tunisian youth hacked the Arab Spring,” 78.

¹² Pollock, “How Egyptian and Tunisian youth hacked the Arab Spring,” 78.

Chapter II

Background of the Arab Spring

Despite technological advancements in communication developing in the Middle East, the governments in that region did not prepare their cultures and sovereignties for the effects of open communication. Social media such as Facebook (modern technology) exposed standards of living in areas such as Tunisia. With the use of social media, the voice of the youth and the call for more democratic governance spread throughout the Middle East. Facebook gave Tunisians a place to gather and develop this bond for national unity, finally gaining the ability to evoke social change.

Facebook was the first social media platform to cover the entire story, unedited. All the initial articles, videos, blogs were written and shared by people who could provide a first-hand account. Facebook changed the rules of the game (social institutions) and paved the way for the people to communicate interregionally and develop their national identity—a classic sign of social life transmutation. According to the *New York Times*, in a 2011 article:

The desperate act of the vendor, Mohamed Bouazizi, who later died of his injuries, led to immediate protests in Sidi Bouzid. Video clips of those first protests recorded on mobile phones and posted on the

internet spread across Tunisia and the Arab world when they were shared on Facebook and eventually broadcast by satellite news channels like Al Jazeera.¹³

Through social media, Tunisia's civil society connected with the Middle East's entire inter-regional area through the snowballing effect.¹⁴ James L.

Gelvin, an American scholar of Middle Eastern history, states in his book *The*

Arab Uprisings:

The statement "Egyptians write books, Lebanese publish them, and Iraqis read them" rings true. There are regional associations, such as the Arab League and the Gulf Cooperation; regional development funds, such as the Arab Monetary Fund and the Arab Fund for Social and Economic Development; and few lingering pan-Arab political parties.¹⁵

However, Gelvin does not specifically introduce Facebook as a catalyst for change in Tunisia in the 2010 Arab Springs, as I do.

Gelvin refers to the shared modern communication facets and publications in neighboring states. He fails to examine how Facebook functioned in the Arab Springs, specifically in Tunisia. Moreover, he does not correlate how people in the

¹³ Video that triggered Tunisia's uprising. (2011). *New York Times*. Available at: <https://thelede.blogs.nytimes.com/2011/01/22/video-that-triggered-tunisias-uprising/>

¹⁴ Even though Samuel Huntington, a political scientist at Harvard, never examined the Arab Springs, his theory of "snowballing" does apply. He postulates that shared interregional countries will go through the process of socioeconomic change together. In political science, the "waves of democracy" are major surges of democracy that have occurred in history. Although the term "snowballing" appears as early as 1887, it was popularized by Huntington. See: S. P. Huntington, (1991). "Democracy's Third Wave." *Journal of Democracy*, p. 16. <https://www.ned.org/docs/Samuel-P-Huntington-Democracy-Third-Wave.pdf>

¹⁵ J. Gelvin. (2015). *The Arab Uprisings: What Everyone Needs to Know*. 2nd ed., Chapter 1, p. 3. ISBN-13: 978-0190222758 ISBN-10: 0190222751.

Arab Spring used these technological advancements during that time, or how the social media platform helped contribute to the efforts of people in the region who supported uprising. Instead, Facebook took on this role during the uprising, and it is harder to identify how technological communication aided the democratic revolution.

I focused my primary sources on Tunisia as it was the first region to begin the process for libertarian modernization with the region (democratization). Understanding this ideology of shared communication is deep-rooted inter-culturally and economically to their standard of living. We can begin to understand the linkage with the Arab Spring from 2008 to 2010 as it portrays the snowball effect toward democratization.

If industrialization is the engine that brings modernization, then technological advancements are the causation for industrialization. Therefore, considering modern societies' linkage and leverage using technological innovation, individuals can highlight modernization regarding human social institutions by achieving traditional accounts of history's modernization process related to technological advancement. Societies such as Tunisia in 2010 became increasingly dependent on technology for communication and therefore were

able to control their progression rate into a more modernistic liberal democratic region.

Western transmutation provides a better account of how democratic history transcends. The Middle East interregional area (Tunisia, Egypt, Yemen, Libya) was going through a great transmutation during the Arab uprising. It was evident that transmutation was the cause of this event, which led to democratization in the Arab Uprising in 2010.

The technological phenomenon in 2010, and the use of Facebook, helped to give the Middle East an interregional national unity. Sudarsan Raghavan, in a *Washington Post* article, quotes the youth of Tunisia:

“All of us know how he felt,” said Mehnez, also 26, seated in a cafe in Intilaka, a poor neighborhood in Tunis, with two unemployed friends, Ziad and Alla, who were university graduates. “For us, we call this the Revolution of Mohamed Bouazizi, not the Jasmine Revolution.” They spoke on the condition that their family names not be used for fear of reprisals from militias aligned with the former regime.¹⁶

I believe this phenomenon known as the Arab Springs happened in part due to technological advancements and the role played by that advancement in society, especially among youth. Technological advances in social media have united interregional cultures and formed a new interregional national identity as

¹⁶ Raghavan, “Lost generation of young people.”

social media gave people a space in which to speak about the injustices they suffered. Moreover, it united their voices and defended the actions of people such as Mohamed Bouazizi, signaling the first changes in economic life. Elaine Ganley and Bouazza Ben Bouazza wrote an article in 2011 which conveys the socioeconomic frustrations leading to the uprising.¹⁷ Joblessness paved Tunisia society, and the prices of rising food prices made it that “fathers could not feed their families, which fueled the protest, which led to the uprising in Tunisia.” The 74-year-old leader President Zine El Abidine Ben Ali (1936–2019),¹⁸ who came to power 23 years earlier with a bloodless coup, invoked generations of rule through fear, now faced rioting and protest calling for change. For example:

What has helped to break the barrier of fear that kept Tunisian anger bottled up for so long? Social networks like Facebook have helped organize protests and fuel online rage across this North African nation.

Even though police repeatedly fired on protesters in Kasserine, the site of the bloodiest confrontation, social media posts and video kept flooding in, even posts reporting Police killed a man carrying the coffin of a child, which only continued to add fuel for social change. For the first time in the Ben Ali regime, citizens had a voice, and the truth was no longer silenced.¹⁹

¹⁷ E. Ganley & B. Ben Bouazza (2011), “Demonstrators throw stones,” Jan. 10. <https://phys.org/news/2011-01-jobless-youths-tunisia-riot-facebook.html>

¹⁸ Army officer and politician who served as president of Tunisia from 1987 to 2011. <https://www.Britannica.com/biography/Zine-al-Abidine-Ben-Ali>.

¹⁹ Ganley & Ben Bouazza, “Demonstrators throw stones.”

The Ben Ali regime continued arresting bloggers and reporters:

Paris-based Reporters Without Borders said a journalist for Radio Kalima was carted off Tuesday from his home in the city of Sfax and a correspondent for the radio in the southern city of Gabes was sprayed with a Mace-like gas, pushed into a truck and taken to the Interior Ministry.²⁰

Social media posts and videos kept circling the protests and becoming more public over the following days. Social media such as Facebook led to a digital safe place where the Ben Ali regime could not control the people of Tunisia via fear and terror. Modern communication facets in Tunisia allowed Tunisian people to consider more factors that yielded an inclusive account of what is going on. In other words, they have given themselves the ability to write their history by using Facebook. Modern communication gives a more straightforward account of the history and an understanding of that period's cultural implications. Hence, in Tunisia, the people got a more transparent version of the standard of living's frustrations.

David Kirkpatrick and David Sanger convey the cooperation between young Tunisian and Egyptian activists that aided in the revolutions in their respective countries, where a violent police crackdown in March 2008 proved to be an essential event in the development of the Egyptian resistance movement

²⁰ Ganley & Ben Bouazza, "Demonstrators throw stones."

and created interregional linkages that aided in the escalation of the rebellion that led to the Arab Spring in 2010.²¹ In that incident, demonstrators climbed the walls of the Interior Ministry as thousands gathered outside to demand the resignation of President Zine el-Abidine Ben Ali. The protests that brought down Ben Ali that day began on Facebook.

In 2010 the protests in Tunisia led to a snowball effect in Egypt where protesters in Tahrir Square faced off against pro-government forces. Like in Tunisia, Egyptian protesters followed the same communication techniques and the same phenomenon developed: “The exchange on Facebook is part of a remarkable two-year collaboration that has given birth to a new force in the Arab world. This later became known as a pan-Arab youth movement dedicated to spreading democracy in a region without it.”²²

By reflecting on the societies of Tunisia and Egypt during the Arab Springs, the linkage and leverage became more apparent, especially when contemplating the effect that a technological innovation such as Facebook had on communication between individuals in which highlights modernization as

²¹ D. D. Kirkpatrick, and D. E. Sanger. (2011). “A Tunisian-Egyptian Link That Shook Arab History.” *New York Times*. <https://www.nytimes.com/2011/02/14/world/middleeast/14egypt-tunisia-protests.html>

²² Kirkpatrick & Sanger, “A Tunisian-Egyptian Link.”

causation regarding human social institutions such are libertarian ideologies developments postulates as a wave of democracy.

However, as Samuel Huntington wrote: “Snowballing alone is unlikely to bring about democratization. The democratization of countries A and B is not a reason for democratization in country C unless the conditions that favored it in the former also exist in the latter.”²³ In my opinion, Facebook made conditions in neighboring countries favorable, just as it did for Tunisia and Egypt.

When I took account of history’s modernization process and related technological advancements, it became clear that Tunisia’s youth movement, infused with social media, paved the way for modernistic liberal ideals to develop and perpetuate a more democratic governing apparatus. “Young Egyptian and Tunisian activists brainstormed using technology to evade surveillance, commiserated about torture, and traded practical tips on how to stand up to rubber bullets and organize barricades.”²⁴ The youth used Facebook in order to communicate various way to stand up for social and economic change to become united by their “secular expertise in social networks with a discipline culled from

²³ Huntington, “Democracy’s Third Wave,” 16.

²⁴ Kirkpatrick & Sanger, “A Tunisian-Egyptian Link.”

religious movements and combined the energy of soccer fans with the sophistication of surgeons.”²⁵

This phenomenon technology in communication helps perpetuate socio-economic change remedied by the youth to break “free from older veterans of the Arab political opposition, they relied on tactics of nonviolent resistance channeled from an American scholar through a Serbian youth brigade but also on marketing tactics borrowed from Silicon Valley.”²⁶

At the height of the Arab Springs, social media mobilized protests, but Facebook and other social networking platforms were allegedly blocked. However, Khaled Desouki,²⁷ conveys a different narrative. He posits that Facebook and other social media platforms played a role in the uprisings on both sides of the Arab Springs. Governments and youth both used Facebook, but in different ways. For example, Egypt’s youth “wanted to create a new way to communicate with Tunisians, that provides total transparency and instant information,” a spokesman for the ministry told Reuters on Friday. “We are very interested in the opinion of people on Facebook, and we are trying to listen to all

²⁵ Kirkpatrick & Sanger, “A Tunisian-Egyptian Link.”

²⁶ Kirkpatrick & Sanger, “A Tunisian-Egyptian Link.”

²⁷ “Leaders of Egypt, Tunisia set up Facebook pages.” (2011, Feb. 18). Agence France Presse Global Post.

Tunisians.”²⁸ Then the Egyptian Supreme Council of the Armed Forces set up a page following the example of the Egyptian Interior Ministry, which set up its Facebook page “to counter public accusations of corruption, lack of transparency, and widespread anger over the way it treated protesters at the outbreak of the demonstrations last month.”²⁹

The French press would have us believe that technology played a role in communication, which may be why Tunisia and Egypt both undertook a democratic process where other countries in the Arab Springs did not. I also believe that the French press’s first-hand account shed light on the integration of Facebook within government. As it had already become integrated publicly, this integration created higher transparency in government and helped generate trust in the governing apparatus in Tunisia and Egypt.

Jose Antonio Vargas, in a *New York Times* article, conveyed how Facebook helped connect youth via social groups on Facebook. In the article, Vargas noted: “The Middle East is home to roughly 100 million people ages 15 to

²⁸ “Leaders of Egypt, Tunisia set up Facebook pages.”

²⁹ “Leaders of Egypt, Tunisia set up Facebook pages.”

29. Many are educated but unemployed, and the number of Web users in the country increased from 1.5 million in 2004 to 13.6 million in 2008.”³⁰

A Facebook group named “We Are All Khaled” developed a political rebirth and call to action that began to exacerbate the process of democratization. W. Ghonim writes in *Revolution 2.0*, his fast-paced and engrossing new memoir of political awakening: “Khaled Said was a young man just like me, and what happened to him could have happened to me, All young Egyptians had long been oppressed, enjoying no rights in our homeland.”³¹

The increase of internet users, coupled with the number of people frustrated with the current quality of life, gave the Facebook function a home, a place for people to gather safely from government oppression. The result was an uprising or, rather, a call to action for more democratic governance, it seems apparent to me when contemplating the success of Ghonim’s Facebook page. Moreover, with the limitation of Facebook keeping a record of the event, it would have been nice to explore Ghonim’s post. I chose to use this article because it talks about the activist, Ghonim, who tapped into the frustrations of youth within

³⁰ J. A. Vargas. (2012). “Spring Awakening.” *New York Times*. <https://www.nytimes.com/2012/02/19/books/review/how-an-egyptian-revolution-began-on-facebook.html>

³¹ W. Ghonim. (2012). *Revolution 2.0: The Power of the People Is Greater Than the People in Power, A Memoir*. Open Road Integrated Media. ISBN9780547774046. <https://www.scribd.com/book/488352516/Revolution-2-0-The-Power-of-the-People-is-Greater-Than-the-People-in-Power-A-Memoir>

the Middle East. It is interesting to note that two minutes after launching the Facebook group “We Are All Khaled,” 300 people had joined. “Three months later, that number had grown to more than 250,000.”³²

What initially bubbled up online inevitably spilled onto the streets, beginning with a series of “Silent Stands” that culminated in a massive and historic rally at Tahrir Square in downtown Cairo. “ ‘We Are All Khaled’ helped ignite an uprising that led to the resignation of President Hosni Mubarak and the dissolution of the ruling National Democratic Party.”³³ Ghonim’s story connected to the youth on two levels: it encapsulated the coming-of-age of a young Middle Eastern generation raised in the digital age (Facebook) and turned that voice (via Facebook) into influential activists who sought monumental change within their society.³⁴

³² J. A. Vargas. (2012). “Spring Awakening.”

³³ J. A. Vargas. (2012). “Spring Awakening.”

³⁴ J. A. Vargas. (2012). “Spring Awakening.”

Chapter III

Research Data and Methodology

To answer the question, how did Facebook play an active role in bringing democratization during the Arab Spring, I conducted a cross-reference analysis between a mathematical analysis identifying key assumptions, such as citizen engagement within revolution via the use of social media (Facebook), and articles published during the Arab Springs. However, due to restrictions on Facebook records kept between 2008 and 2012, I also had to use sources such as newspaper articles on the topic of Arab Spring from around the world. I found that by including newspaper articles as well as data collected from internet usage during the Arab Springs, and from different reporting sources revolving around the events, I could ensure an accurate account.

I selected articles from major news outlets in the United States, France, and the Middle Eastern region, as well as articles written by the youth of Tunisia and independent scholars. In doing so, I captured a wide range of varied opinions, hoping to present a more detailed, first-hand account of Arab Springs. My goal is to shed light like previous scholars have done, such as James Gelvin in

his book *The Arab Uprisings, What Everyone Needs to Know*.³⁵ His work addresses why there was an Arab Springs, but it fails to address Facebook's active role in striving for democracy. Then Mohamed Bouazizi's self-immolation triggered a chain of events that culminated in the Arab Spring uprisings.

The data provided below demonstrates the importance of the Internet and social media in the rise and success of the protests that led to the overthrow of Egypt's and Tunisia's regimes. How the transparency of this new access to social media influenced the course of event remains unknown, so the data attempts to shed some light on this key influence.

³⁵ Gelvin, J. (2015). "The Arab Uprisings."

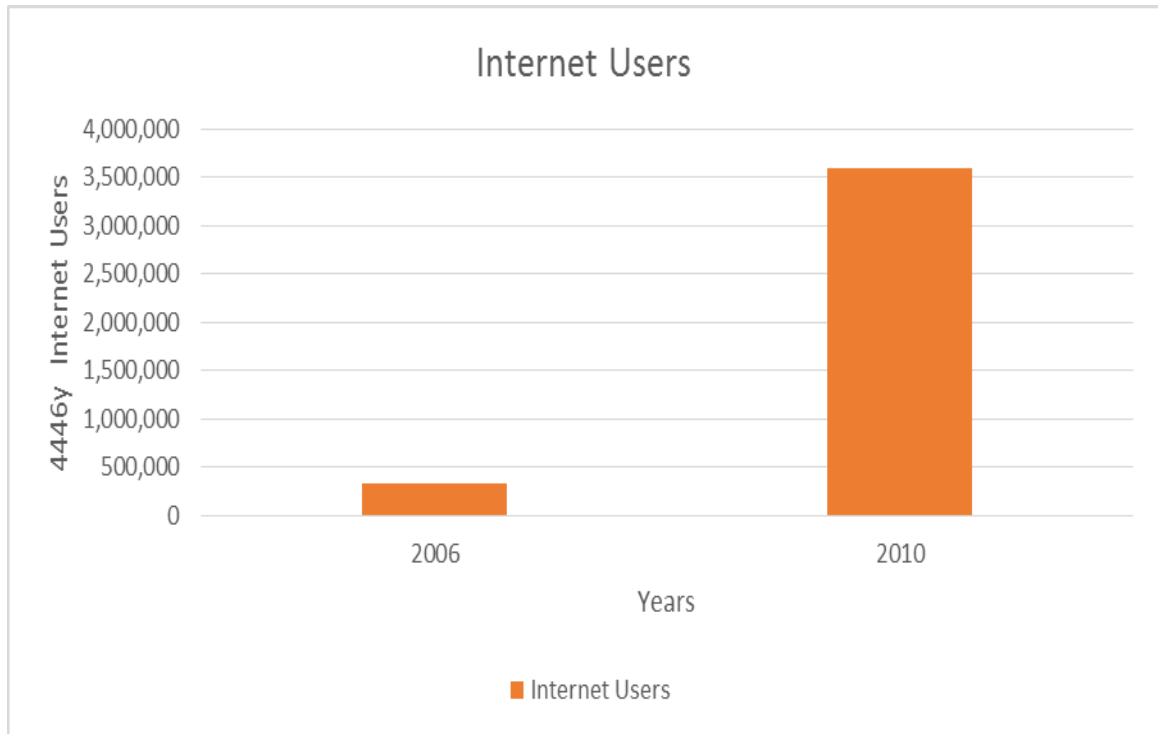


Figure 1. Internet Users in Tunisia.

This data was synthesized from Freedomofthenet.com, opennet.com, social media achieve, Alchetron.com, and www.Social_media_af_daily_map.com and focuses the research on specific periods during the period December 17, 2010 and January 8, 2011.

Source: <https://alchetron.com/Internet-in-Tunisia>

The data in Figure 1 is a cross-reference analysis between internet users compared to the general population of Tunisia. According to Tunisia's 2006 census, the population was 10,619,469 civilians; approximately 1,061,947 citizens used the internet. In four years, a 24.6% increase led to internet use of 3,600,000

individuals compared to 9.3% of internet use in 2006. This analysis paints a clear picture of the growth of the internet and active Tunisian users.

By using preliminary data from 2006 compared to 2010, I could map how the increase in internet use corresponded to greater dissemination of information. From that, I could form a hypothesis about the growth of the general population of Tunisia's activists and calls for social, economic, and regime change.

In Figure 2 below, the data breaks down the numbers of internet users based on their access points. The three access points where users accessed the Internet were home, work, and public internet cafes. The figure shows that the percentage of internet users accessing the Internet at home (84%) was slightly higher than at work (75.8%) and significantly higher than at public internet cafes (24%). The figure shows an overlap of internet users accessing the Internet at multiple locations during 2010. Due to overlapping percentages, it is apparent that internet users accessed the Internet in multiple locations and many used Facebook as their access portal.

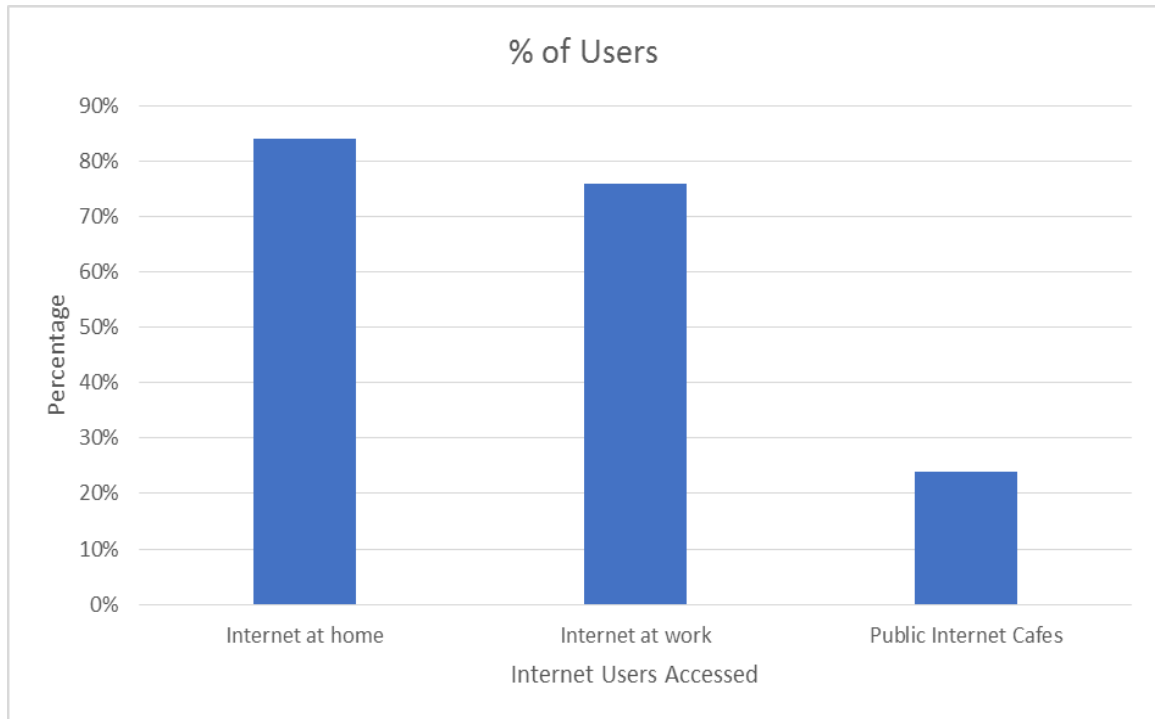


Figure 2. Internet User Access Points

This data was synthesized from Freedomofthenet.com, opennet.com, social media achieve, Alchetron.com, and www.Social_media_af_daily_map.com and focuses the research on specific periods during the period December 17, 2010 and January 8, 2011.

Source: <https://alchetron.com/Internet-in-Tunisia>

By doing a cross-reference between an access point and the total amount of internet users (3.6 million) in Tunisia in 2010, the following becomes apparent about the data in Figure 2:

- 84% of people accessing the Internet at home represents 3,024,000 people

- 75.8% of people at work accessing the Internet represents 2,728,800 people,
- 24% of people accessing the Internet at public internet cafes represents 864,00 people.

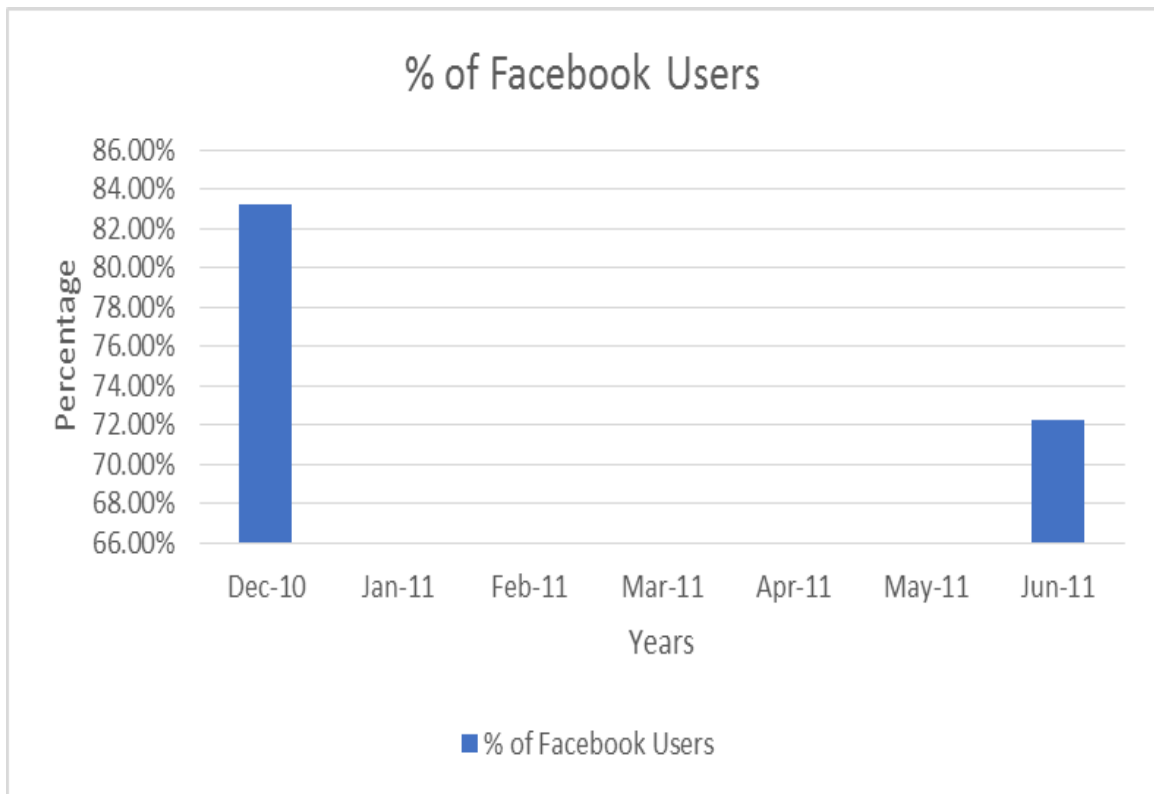


Figure 3. Active Facebook Accounts.

This data was synthesized from Freedomofthenet.com, opennet.com, social media achieve, Alchetron.com, and www.Social_media_af_daily_map.com and focuses the research on specific periods during the period December 17, 2010 and January 8, 2011.

Source: <https://alchetron.com/Internet-in-Tunisia>

The data in Figure 3 compares the number of Facebook users in different months from December 2010 to June 2011. It shows there was a significant decrease in Facebook users from December 2010 to June 2011. In December 2010, there were 83.3% active Facebook users compared to 72.2% in June 2011.

During the Arab Spring (December 2010), there were 2,997,360 active accounts in Tunisia, representing 83.26%. Six months later (June 2011), the number of active Facebook users dropped to 2,599,200, representing 72.2%. This was a decrease of 398,160 Facebook users, or a decrease of 11.06% in Facebook user activity.

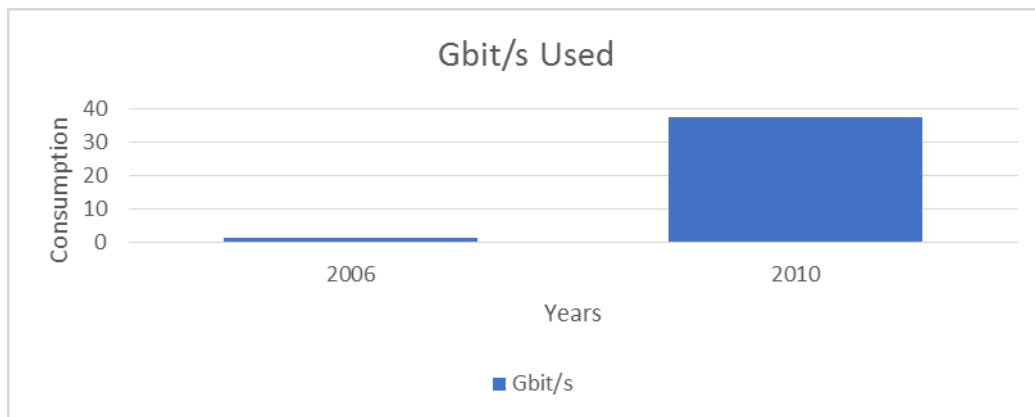


Figure 4. Internet Data Consumption.

This data was synthesized from Freedomofthenet.com, opennet.com, social media achieve, Alchetron.com, and www.Social_media_af_daily_map.com and focuses the research on specific periods during the period December 17, 2010 and January 8, 2011.

Source: <https://alchetron.com/Internet-in-Tunisia>

The data in Figure 4 compares internet data consumption by gigabits per second (Gbit/s)³⁶ between 2006 and 2010. The figure represents the amount of internet data consumed in Tunisia compared to the rest of the world. The figure shows an increase of nearly 36 times in the data consumed in 2010.

For years prior to the Arab Spring, it is apparent that Tunisia's underdeveloped internet infrastructure resulted in a lack of access to the internet; also, that internet usage via a social media platform was not in mainstream use in Tunisia. In 2006, 1.3% Gbit/s of internet data per second data consumption compared to 37.5% of data consumption in 2010. In the buildup to the Arab Springs, Tunisia's bandwidth usage of 36.2% of Gbit/s was higher than in previous years, crossing the threshold into high internet usage compared to the amount shown in Figure 1.

³⁶ One gigabit is 1 billion bits of data per second..

Chapter IV

Statement of the Model³⁷

“The function $r(t)$ represents the fraction of *protesters* or *revolutionaries* in the population at time t . The model which we use to describe the dynamics of the revolutions in Tunisia and Egypt is given by a single differential equation for $r(t)$,”

$$\dot{r} = \underbrace{c_1 v(r; \alpha) (1 - r)}_{g(r)} - \underbrace{c_2 p(r; \beta) r}_{d(r)},$$

“where parameters $\alpha, \beta \in (0, 1)$ and $c_1, c_2 > 0$,

where \dot{x} denotes the time derivative of x , and

where the functions $g, d : [0, 1] \rightarrow \mathbb{R}^+$ are called the *growth* and *decay* terms,

respectively, since they model the growth and decay of the fraction of protesters.”

³⁷ Lang & DeSterck, “The Arab Spring,” 4.

Subject to the *visibility term*:

$$v(r; \alpha) = \begin{cases} 1 & \text{if } r > 1 - \alpha \\ 0 & \text{otherwise.} \end{cases}$$

“The growth term is proportional to $(1 - r)$. We call the proportionality constant, c_1 , and the parameter, α , the *enthusiasm* and *visibility* of the protesters, respectively. The visibility term is modeled as a step function, which shuts off the growth term when the fraction of protesters is below the *visibility threshold* $1 - \alpha$: In the model, the fraction of protesters can only grow when the protest movement is sufficiently large to be visible to the general population.”

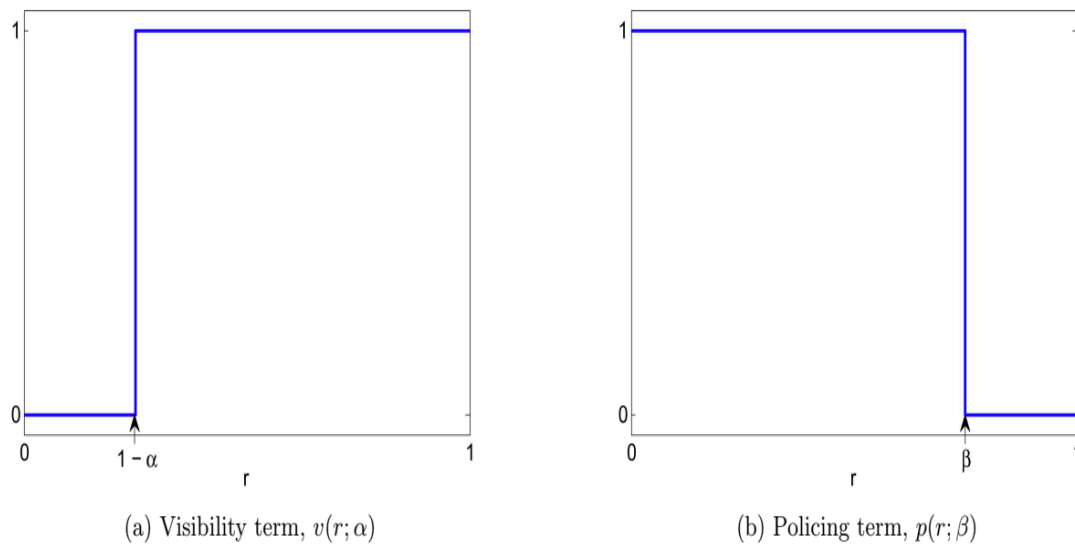
Similarly, subject to the *policing term*,

$$p(r; \beta) = \begin{cases} 1 & \text{if } r < \beta \\ 0 & \text{otherwise.} \end{cases}$$

the decay term proportional to r is called the proportionality constant, c_2 (the *policing capacity*);

the threshold parameter, β , (the *policing efficiency*).

The policing term is also modeled as a step function, that is, it shuts down the decay term when the fraction of protesters is above the policing capacity threshold, β . The visibility and policing terms are illustrated in Figure 5.



: Visibility ($v(r; \alpha)$) and policing ($p(r; \beta)$) terms.

Figure 5. Visibility and Policing Terms.

Source: Lang & DeSterck, “The Arab Spring.”

“The sum of both compartments is a constant and the dynamics of one compartment completely determines the dynamics of the other, so it suffices to consider a one-compartment model. . . . the population participating in the

revolution is a fraction of the total population, $r(t)$. Note that the fraction of the population available to join the revolution at one time t is $1 - r(t)$.³⁸

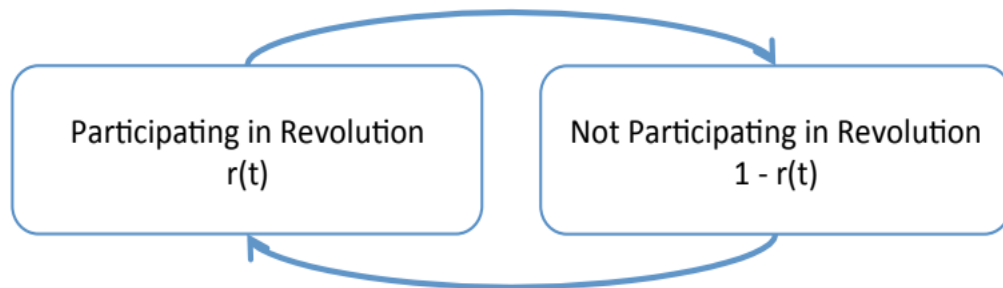


Figure 6. Simple Compartmental Model for the Dynamics of a Revolution.

Source: Lang & De Sterck, “The Arab Spring.”

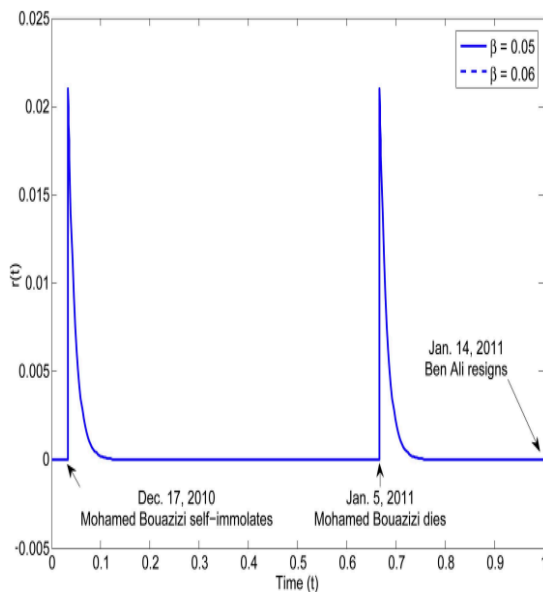
“By assuming that the regime is capable of arresting and dispersing protesters at a rate proportional to the size of the revolution, r ;

and provided that the number of protesters does not exceed the regime’s finite policing capacity, β ;

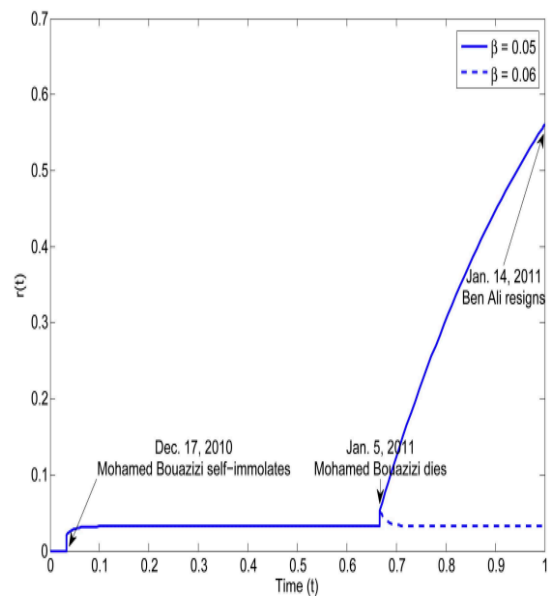
and provided that no new protesters join the revolution ($v = 0$) and that the number of protesters does not exceed the regime’s policing capacity ($p = 1$), this corresponds to exponential decay in the number of protesters with the timescale determined by the policing efficiency, c_2 .

³⁸ Lang & De Sterck, “The Arab Spring,” 4.

We make the further simplifying assumption that the regime loses all ability to punish protesters once the number of protesters exceeds the regime’s policing capacity. These assumptions determine the form of $p(r; \beta)$ as a switching function, which describes the process by which citizens engage in revolution, with the specific goal of gaining insight into the effect of enhanced communications technologies”³⁹



(a) Stable police state (region III0) with $\alpha = 0.96$.



(b) Meta-stable police state (region IIIe) with $\alpha = 0.98$

Figure 7. Police states.

Source: Lang & De Sterck, “The Arab Spring.”

³⁹ Lang and De Sterck, “The Arab Spring,” 4.

“The effect of increasing α on the behavior of solutions to (1) with $\beta \in \{0.05, 0.06\}$, $c_1 = 2.30, c_2 = 30 \log(10)$, and subject to shocks $\Delta r_1 = \Delta r_2 = 0.021$ occurring at $t = 1/30$ (December 17, 2010) and $t = 20/30$ (January 5, 2011). Panel (b) with $\beta = 0.05$ corresponds qualitatively to Figure 2.”⁴⁰

As conveyed in Figure 3, regions with softer policing developed in metastable protesting regions yielded a higher “ $r(t)$ ” participation score and more inclusion over a longer time. In contrast, regions with stable policing had a spike of participation “ $r(t)$ ” of protesting on key events but snuffed out in a shorter time(t). By “policing,” I refer to the restrictive actions of governments blocking access to the use of social media.

⁴⁰ Lang & De Sterck, “The Arab Spring,” 13.

Chapter V

Results

The hypothesis that Facebook actively promoted democracy during the Arab Spring sustains the fact that the usage of internet-specific social media responded to the cry for democracy in the Arab world in countries like Tunisia (Facebook). As evidenced by the newspaper articles, images, data, Facebook posts, Facebook groups, and testimony from Tunisia's active protestors, the widespread use of Facebook promotes more significant organizational opportunity, faster and safer communication, culture evolution, and a safe space for protestors to put their beliefs into action. Governments in the Middle East primarily functioned as utilitarian dictatorships in 2010.

Since these regimes were generally relatively stable administrations before 2010, the changes that occurred in the years preceding 2010 had a transregional impact virtually simultaneously. Near the end of 2010, demonstrations for change and calls for democratization took place in most Middle Eastern areas. The use of the internet as the primary form of communication and the basic infrastructure for development were the main commonalities between the regimes. Analyzing internet usage in Tunisia and

Egypt, we can identify the most successful form of communication during the Arab Spring. Furthermore, we may further investigate if Facebook impacted the fervent cry for democracy during the Arab Spring based on the unique usage of the internet, particularly Facebook.

The conclusion that Facebook actively contributed to democracy during the Arab Spring can thus be drawn from the test findings presented in this study. Figure 2's data demonstrates that Tunisians who used Facebook did so in more private, less conspicuous areas.

From December 2010 to just six months later, in June 2011, there were 2,599,200 active Facebook users in Tunisia, down from 2,997,360 active accounts. According to internet users, figure 1 clearly shows that about one-third of the population was engaged on Facebook in December 2010.

Tunisian civilians numbered 10,619,469 in 2006, and 1,061,947 used the internet. Four years later, 3,600,000 people were using the internet—a 24.6% increase. Figure 4 demonstrates that between 2006 and 2010 the amount of internet bandwidth consumed increased significantly. Tunisia's bandwidth utilization, at 36.2% of Gbit/s, was more than in prior years and during the run-up to the Arab Spring, crossed the line into heavy internet usage.

I consider the Arab Spring a historical phenomenon partly influenced by technological improvements and their role in social-economic society, particularly among young people. Social media's technological advancements have brought together interregional cultures and created a new interregional national identity by providing individuals with a platform to speak out against injustice.

Chapter VI

Discussion

With the help of sources such as newspaper articles from Tunisia, and referencing Lang and De Sterck's "Statement of the Model," I examined Arab Springs in a new light. Articles from regions in Tunisia and Egypt with stable or meta-stable policing were cross-referenced to the mathematical compartmental model to test Facebook's role in perpetuating the Arab Spring uprising transition to democracy. As a result, I could shed light on advancements in technology that had an impact on democracy, and Facebook's functions prior, during, and after the uprisings.

To be transparent, I took a first-hand account of multiple sources and then applied my finding to the point of origin of the Arab Spring. By applying social media platforms (Facebook), I could understand the effects of technological advancements on human, social, and economic moves toward modernization. By examining Tunisia from 2008 to 2010, I could fully conceptualize the effects of shared modern communication.

Assertions made by scholars tend to associate with small government and individual freedoms rather than representative democracies. Considering that the

federal government is the biggest employer in most Middle Eastern states, and subsidies are critical subsistence, you would be hard-pressed to find a libertarian movement. Then why did we see the Arab Springs bring forth a more democratic system in Tunisia and Egypt? Did technological communication advancements such as Facebook play a role? To fully understand this phenomenon (Arab Springs), I will analyze the Arab Spring's origin, specific to Tunisia and Egypt. Tunisia was the first country to start this democratization process, and Egypt was the second country within the region to partake in this phenomenon.

Therefore, by tailoring my research to 2010 - 2013, I can convey how technology further exacerbated the pivot or rather the process to a more democratic governing apparatus. To be more specific, how the use of Facebook correlated to social change within the region. Since technological advancement in communication (Facebook) functioned in a way that helped ensure an individual's right to voice their own political opinions, modern technology has worked hand to hand with the media and communities to speed up this modernization process, where societies can urbanize into more liberal institutions.

My research illustrates history through the scope of technological advancements in communication rather than a linear phenomenon. The events

during the Arab Spring draw upon similarities to the radio, tv, internet, and the printing press as a critical coefficient variable for democratization in the past. For this reason, social media's role in impacting modern communication affects the process of developing a more democratic system in underdeveloped interregional areas.

Finally, because my Arabic is not fluent, I translated all articles into English. In addition, reports and analyses of local groups operating in that region will also be translated regardless of publications' origins. However, there is plenty of information and reports accessible on the Arab Springs through both state and non-state newsgroups, so the research can still be complete without collecting reports in other languages than English.

Chapter VII

Research Limitations

While conducting my thesis work, I did not use any unpublished material. However, I did use non-written material such as pictures taken during the event of the Arab Springs.

Due to restrictions on Facebook records between 2010 and 2012 regarding records kept or kept open to the public, I used newspaper articles from that period, but from different reporting sources following the events in order to ensure an accurate account. I selected articles from major news outlets in the United States, France, and the Middle East, as well as articles by the youth of Tunisia and independent scholars. This research complies with all of Harvard University's IRB policies. <https://cuhs.harvard.edu/>

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