A Systemic Functional Analysis of Selected American Presidential Tweets

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Abstract

This study carries out Systemic Functional Linguistic (Halliday and Matthiessen, 2014) and Critical Discourse (Fairclough, 1995; van Dijk 1993) Analyses of a corpus of tweets posted by the former American president Barack Obama, the 44th President of the United States (@POTUS44), while in office. The data is processed using a Corpus Linguistic tool called UAM CorpusTool (O'Donnell, 2008) to facilitate the process of generating quantitative results. This study focuses on how Obama, as an American president, utilizes social media tools, with focus on his presidential Twitter account. This study also aims at investigating how the president intends to maintain relations and exploit this type of discourse to exercise power over his audience (followers). Systemic Functional Grammar is utilized in this study to examine the verbal representations according to the functions each tweet performs. This framework is capable of analyzing texts in terms of: a) how relationships are maintained between the speakers and their audiences (interpersonal metafunction); b) how speakers express themselves metafunction); and c) how they organize such expressions and feelings in their texts in spoken/written form (textual metafunction). This study concludes that tweets posted by presidents, specifically Obama, tackle different topics: education, international affairs, society, healthcare, etc.

Keywords: Computer Mediated Discourse, Corpus Linguistics, Functional Grammar, Political Tweets

تحليل لغوي وظيفى لتغريدات رئاسية مختارة

ملخص

تقوم هذه الدراسة بالتحليل اللغوى الوظيفي (Halliday and Matthiessen, 2014) وتحليل الخطاب النقدي (Fairclough, 1995; van Dijk 1993) على مجموعة من التغريدات التي نشرها الرئيس الأمريكي السابق باراك أوباماً، الرئيس الرابع والأربعين للولايات المتحدة (POTUS44))أثناء توليه منصبه. تقوم هذه الدراسة بمعالجة التغريدات باستخدام منهجية علم المدونة اللغوي (Corpus Linguistics) بإستخدام برنامج يسمى UAM CorpusTool (O'Donnell, 2008) لتسهيل عملية إستخراج النتائج الكمية. تركز هذه الدراسة على كيفية استخدام أوباما، كرئيس للولايات المتحدة، لأدوات وسائل التواصل الاجتماعي، مع التركيز على حسابه الرئاسي على تويتر. تهدف هذه الدراسة إلى التعرف على الكيفية التي ينوى بها الرئيس الحفاظ على العلاقات واستغلال هذا النوع من الخطاب لممارسة القوة اللغوية على جمهوره (أتباعه). تُستخدم القواعد اللغوية الوظيفية في هذه الدراسة لفحص التمثيلات اللفظية وفقًا للأغراض التي تؤديها كل تغريدة. هذا النهج قادر على تحليل النصوص من حيث: أ) كيفية الحفاظ على العلاقات بين المتحدثين وجمهور هم (interpersonal metafunction)؛ ب) كيفية تعبير المتحدثون عن أنفسهم (ideational metafunction)؛ و ج) كيفية تنظيم هذه التعبيرات والمشاعر في نصوصهم سواء كانت منطوقة أو مكتوبة (textual metafunction). وتستنتج هذه الدراسة إلى أن التغريدات التي ينشرها الرؤساء (بالأخص أوباما) تتناول موضوعات مختلفة: التعليم، والشؤون الدولية، والمجتمع، والرعاية الصحية، وما إلى ذلك.

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1 Introduction

Nowadays, political discourse is verbally crafted on social media so as to reach a wide range of audience. The importance of language in political contexts is recognized by Schäffner (1997) who believes, "...any political action is prepared, accompanied, controlled and influenced by language" (p. 1). Although language is not the main goal per se, it gains its importance from the surrounding mediums, conditions and circumstances. "Language is not powerful on its own. It gains power by the use powerful people make of it" (Wodak, 2002, p. 10).

New media forms entail the crafting of discourse that enable this discourse to penetrate all aspects of political practices. For this purpose, activists and politicians are found to be using different social media platforms, i.e. Facebook, Twitter, Instagram, etc. to spread their ideologies to a large number of audience (Goldfarb, 2017; Harvey, 2014). Nevertheless, it is not until 2015 when former president Barack Obama first started tweeting officially. Following his footsteps, Donald Trump launched his Twitter account when he won the elections in 2017.

2 Computer Mediated Communication

'Communication' is a term used to refer to two or more people interacting through spoken, written or visual means (Catherine, 2015; Greiffenstern, 2010; Herring et al., 2013; Thurlow, 2006). Due to the widespread use of computers in the 20th century, people resorted to different types of social media forms, such as Facebook, Twitter, WhatsApp, Viber, Facebook Messenger, imo, etc. The previously mentioned applications serve a massive number of participants who either communicate through texting (written discourse), talking (spoken discourse), or through video calling (visual discourse) (Greiffenstern, 2010; Herring et al., 2013).

In this sense, the term 'Computer Mediated Communication' (CMC) "is a neutral term referring to any kind of language" (Greiffenstern, 2010, p. 56). People used to mistake CMC to be either for spoken or written discourse, not knowing that it can contain both (Herring et al., 2013, p.3). It is thought that CMC is now increasing in a fast pace to add all other sorts of technological means. This includes mobile phones and gadgets as

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"[c]ommunication technologies are increasingly moving beyond computers" (Herring et al., 2013, p. 5). Some language-focused publications use other terms to describe CMC, like 'digital media' and 'new media,' while others use the term 'digital discourse' as a more precise term (Herring et al., 2013, p. 5). For the breadth of these terms, CMC still remains to be the most commonly used term amongst communication researchers till now.

Computer Mediated Discourse (CMD) is characterized by being a form of virtual written communication which is telegraphic and abbreviated in nature (Thurlow, 2006) where Thurlow believes that

[b]y itself, this metaphoric framing of CMD might be passed off as journalistic license; however, the combination of a series of rhetorical devices establishes this as a more dominant theme. Regardless of whether CMD was explicitly labeled revolutionary, a similar rhetoric of uniqueness and distinctiveness was evident throughout. (Thurlow, 2006, p. 673)

Computer Mediated Discourse Analysis (CMDA) is an analytic approach to any computer-based discourse, whether spoken or written. CMDA is a new means of communicational analysis rather than the old, classical ways used in the past. One approach to analyzing internet content that extends the traditional notion of what [Content Analysis] CA is and how it should be applied is computer-mediated discourse analysis (CMDA)" (Herring, 2010, p. 238). CMDA is an approach rather than a theory or method (Herring, 2004). In that sense, Herring also states that it is a "language focused content analysis" (p. 4). Another important remark about CMDA in Herring's point of view is that it is a very useful approach when it comes to comparing any discourse feature with standalone psychological, social or technical phenomena. Therefore, it is important to know that not all types of online discourse can be examined equally.

Twitter is a type of CMC that has come into use since 2006 (Catherine, 2015), but is now widely spread among different varieties of communicators. It is crucial to consider its importance in conveying short and precise texts in order to deliver messages due to the "limitations of the Twitter platform of 140 characters" (p. 93). Twitter is recently used by all different social classes, by children, teenagers, grown-ups, males, females, politicians, economists, scientists, etc. In that sense, Fitzpatrick and Donnelly (2010) believe that "[w]hilst many tools available to education today may be used in CMC, such as social

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networking, bookmarking sites, and Twitter to name a few, the evaluation of the technology seems to be mixed" (p. 4). It is the new trend in giving abrupt and focused information to other users of the same application. The good thing about Twitter is that "[it] is a medium used by millions of people daily and growing" (Shapp, 2014, p. 2). Another point about Twitter according to Hodgkin (2017) is that it is considered a new type of language use which helps in "expressing our intentions and interests" (p. 1).

3 Literature Review

The discourse of tweets, as a CMD, has been the concern of various studies. Some studies focus on the pragmatic function of the tweets, and their constituents (Browning, 2017), while others focus on the quantitative-qualitative approach to investigating this type of discourse as a political tool (Altoaimy, 2028; O'Hallarn, 2016; Graham, 2021). This section reviews some of the literature of the computer-mediated discourse analysis of tweets.

To begin with, Browning (2017) adopted a corpus-based approach to analyze the pragmatic functions of hashtags related to the tweets of abuse survivors in a campaign called #whyIstayed. The study concludes that hashtags have a pragmatic role where they can perform a number of functions, namely reveal the speaker's attitude, clarify tweet content and emphasize the motivation of those who use Twitter in particular and CMC in general.

Twitter is also observed to be used as a socio-political tool as stated in Altoaimy's (2018) study. According to Altoaimy, the discourse of tweets reflected the representation and support given to Saudi women by users' in-between the months October to December, 2015. This study was carried out after the permit of women to drive in Saudi Arabia. Altoaimy first compiled a corpus of 5876 tweets all written in Arabic, then he analyzed it by using a combination of Critical Discourse Studies and Corpus Linguistic approaches. One of Altoaimy's findings was that Twitter succeeded to prove itself among Saudis to be a platform for exchanging opinions about the issue raised.

O'Hallarn (2016) studied Twitter hashtag impacts on participants after the former Major League player was fired because of inappropriate content he shared on his Facebook account. O'Hallarn's study included three main chapters where the public sphere model was chosen as an analytical tool for qualitative and quantitative analyses. The data comprised 5000 tweets containing the hashtag #CurtSchilling. O'Hallarn (2016) investigated the instances where participants used public sphere-like

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language. The study sheds light on the importance of online interaction through hashtags.

Graham (2021)the investigated hashtags of the #BlackLivesMatter and its countermovement #BlueLivesMatters. This study analysed 6081 tweets from both movements in summer 2020. The study analyzed the linguistic choices and the discursive strategies of the Twitter interactants to support the two movements. One of Graham's findings is that #BlackLivesMatter tend to share more information in their tweets and they seem to be trying to spread the word, whereas #BlueLivesMatter do not share as much because to Graham, they do not have a purpose or a real message that they need to spread. Another finding is that #BlackLivesMatter were more organized and there was more unity between its users than #BlueLivesMatter users. The last finding was that both movements used a language that is "unsurprisingly, very closely linked to race, dominance, and power" (p. 101).

4 Methodology

This study pursued a triangulation approach of research. Both quantitative and qualitative methods were utilized in the analysis of the tweets. This study used a Corpus Linguistic approach to extract statistical records of the lexico-grammatical choices used in the presidential tweets. The UAM CorpusTool (UAMCT) (O'Donnell, 2008) is the software chosen to process the data at hand. UAMCT was especially chosen due to its capability of parsing, creating layers (system networks), automatically manually/automatically segmenting sentences/phrases, annotating sentences/phrases and generating statistical results. This study was capitalized on selected tweets posted by Barack Obama, the former US president. The data underwent an analysis of the transitivity system where participants, process types and circumstances were highlighted to uncover the power relations and the ideological backgrounds of the tweeter.

4.1 Data Collection

The data collection was based on adopting the sampling technique with the tweets (selecting the first six months in office or a minimum of 3500 words) posted via the former American president's official Twitter account: Barack Obama (@POTUS44). The initial decision was to examine the first three months since the president's official tweet. Then, three more months were added to the corpus for the purpose of having enough tweets for investigating the recurrent patterns. The collected tweets were classified into themes according to their topics. A general preview of the tweets showed that some of the classifications are: internal affairs, foreign affairs, economic and political issues, etc. After such classification process, the tweets underwent both micro and macro

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analyses. Table 1 shows the number of tweets and words annotated in the corpus.

President	Number of Tweets/Words Annotated
Barack Obama	125 tweets / 2550 words

Table 1: Number of Tweets and Words in Corpus

The selected data of tweets was processed using UAMCT. Such computerized tool was used to annotate the segmented units assigning any requested statistics for lexico-grammatical queries. Based on the resulting statistics, a Critical Discourse analysis was carried out and the results were qualitatively interpreted, accordingly.

4.2 Theoretical and Analytical Frameworks

This study brings in the Hallidayan Systemic Functional Grammar (SFG) framework of text analysis which is utilized for the analysis of the selected tweets (Halliday and Matthiessen, 2014). Besides, the theoretical framework of Critical Discourse Analysis (CDA) suits the task at hand for interpreting the results of the SFG analysis of the tweets. This entails the analysis of both ideology and power relations manifested in computer mediated discourse.

That is, while SFG, with its three metafunctions, represents a micro-level analysis of the lexico-grammar, CDA is a particularly useful tool for analyzing discourse at a macro-level (Fairclough, 1995, 2006; Wodak and Meyer, 2009). These two approaches are capable of carrying out a thorough description, interpretation and explanation of the presidential tweets under investigation. It is worth noting that in the targeted analysis, CL tools are used with SFG as a core for corpus annotation.

4.3 Procedural Steps

This study commences with creating system networks that include selected components of the three metafunctions of language: ideational (transitivity), textual (thematic choices) and interpersonal (clause types). Using CL-based statistics, the SFG analysis of the tweet discourse was then conceptualized in terms of CDA concepts, power relations and ideologies.

The procedural steps seek to answer the following research questions:

- 1. How does Obama linguistically structure his first presidential tweets to represent the world, interact and show deference and/or maintain relations with his followers?
- 2. How does Obama use the discourse of tweets to achieve his political goals?

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5 Results

Despite the fact that Twitter used to restrict its messages to 140 characters only (until 2018 when it became 280), it proved itself to be used by various social classes in order to reach the largest amount of audience in a wide and fast range. Although being a character-limited social media platform, Twitter is now a tool that is even used by presidents of the biggest countries in the world. It is shown to be a means of communication that not only helps the presidents reach their audiences, but also gives them the chance to deliver a brief and specific message that stays in their peoples' minds. It also gives the audience the opportunity to interact with their presidents; a nonexistent option in many other media tools that give one-sided information.

Barack Obama is the first American president to use Twitter officially. His use of Twitter shows how he managed to realize the generation's media needs and interests which helped him reach all age groups. Obama's tweets contain verbal and non-verbal aspects, yet for the purpose of this study, only the verbal features will be examined in the coming sections using Halliday's SFG framework. The tweets will be categorized according to the topics which the president posted about as in the following examples. Table 2 is a representation of the process type frequencies which Obama opted for while tweeting.

Clause Type	Obama (O)		
	No.	%	
Material	172	45.5	
Relational	111	29.4	
Mental	57	15.1	
Verbal	32	8.5	
Existential	6	1.6	
Total:	378	100.0%	

Table 2: Process Type Choices by Obama

As seen in Table 2, Obama used five process types: material, relational, mental, verbal and existential. His reliance on the material processes was the most as he used it 172 times (45.5%). Relational processes were also utilized by Obama in 111 times (29.4%). Moreover, mental processes were deployed by the president where Obama used them in 57 tweets (15.1%). Additionally, 32 (8.5%) of Obama's tweets contained a verbal process as its core process type. The final process type chosen by the former president is the existential process which Obama used in 6 tweets (1.6%). The following section provides examples along with clearer explanations to some of the tweet topics as posted by Obama and also

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carries out an SFG analysis to each. It is worth mentioning that the tweets are represented as print screens for an easier contextualization of each tweet and not for the purpose of carrying out a visual analysis.

Education:





Example 1

Check out my newest science advisors! These kids are fearless in using science to tackle our toughest problems. Thanks for the inspiration.

Check out	my newest science advisors!
Material process	Goal

These kids	are	fearless	in using science to tackle our toughest problems.
Carrier	Relational process	Attribute	Circumstance

Thanks	for the inspiration.
Mental process	Circumstance

Every year since Obama's inauguration, he invites students to share their science projects at the White House. These children, in the image in example 1, joined in the 'Kids Science Advisor' campaign among more than 2,500 participants that discussed science and STEM education. Among the 2,500 participants, only these few won and had effective projects. The idea of 'science advisor' was that of Jacob Leggette's, who is a nine year old child that participated in the White House science fair. Jacob met the president in the White House and asked him if he has a child science advisor who can give the president feedback on how kids like science. Obama liked the idea and applied it later on by forming a 'Child Science Committee'. In this sense, the ideational metafuntion used

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in the first sentence of the tweet above shows how Obama expresses the young scientists and his point of view about them in just six words. In normal cases, a sentence usually starts with a subject (actor), but Obama here chose to use the material process 'Check out' at the beginning of his tweet. This process carries an imperative mood to urge all his followers to actually 'check out' what these little ones did. The phrase 'my newest science advisors' is the goal of this sentence. The use of these six characters reflects Obama's pride and enthusiasm about what they did as well as the new campaign he just launched. Calling them 'newest science advisors' arouses his Twitter followers' curiosity to know more about what these little scientists did. Therefore, he seems to succeed in attracting his audience's attention in knowing more information about a topic that could have been ignored on other media forms. Moreover, the textual metafunction here is shown as the president tends to thematize the imperative verb 'check out'. This signifies how Obama is keen on showing these little scientists to the world and how he is emphasizing their achievements. In the second clause of the tweet above, he uses a relational process where the carrier is 'these kids', the process is 'are' and the attribute is 'fearless' as he attributes the children to be fearless kids and also the circumstance 'in using science' is used to indicate reason. The material process 'tackle' is used in the same tweet and has the goal 'our toughest problem'. This means that in Obama's sense, one of the goals of his presidency is to solve USA's toughest problems.

Economy:



Example 2

Nearly 1 in 3 American families struggle to afford diapers. We're working with the private sector to help fix this.

Nearly	1 in 3 American families	struggle	to afford diapers
Circumstance	Actor	Material process	Circumstance

We	are working	with the private sector	to help fix this
Actor	Material process	Circumstance	Circumstance

The tweet in example 2 was tweeted because low-incomed families in the US had reached a point where they cannot afford to buy diapers for their

new-borns. For that, the White House suggested a partnership between the government, Jet, Cuties diapers and nonprofits across the country to manufacture and give out diapers for 25% less than their actual purchase price. The tweet above briefly expresses the economic problem which the US might have been facing at the time. Former president Obama starts his tweet with the manner circumstance 'nearly' which may serve as an attempt for mitigation. No president in his case would like to bluntly admit that his country is witnessing a major economic problem to the extent that people cannot afford to buy diapers for their children. The president then uses the material process 'struggle', having the actor '1 in 3 American families' and the goal 'diapers'. This use of material process signifies how crucial the case is and how troublesome the situation has become for low and even high-incomed families. Obama began his tweet with a declarative mood and he thematized the two phrases 'nearly 1 in 3 American families' and 'we are working' in two different clauses which both show how the president stated the problem at the beginning of his tweet, then gave a solution for it at the end of the same tweet.

Employment:





Example 3

Paid leave shouldn't be a luxury. It's a basic necessity that we should secure for every working American.

Paid leave	shouldn't be	a luxury
Carrier	Relational process	Attribute

It	is	a basic necessity
Carrier	Relational process	Attribute

we	should secure	for every working American.	
Actor	Material process	Beneficiary	

The tweet in example 3 illustrates another problem in the American employment rights system. Unfortunately, the government does not require payment for unworked time, like vacations, sick leaves or any

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other type of holidays. It is a matter of agreement between an employer and an employee, but there is no law for it. For that, the US employees are the least around the world in taking their paid leave rights. In 2016, Obama decided to give all Americans three paid leave weeks, believing that when an employee is given the right to recharge, he/she will be of more benefit to their jobs. The tweet in example 3 has the three phrases 'paid leave', 'it is a basic' and 'that we should secure' as the theme of the clauses they come in. The use of the inclusive plural person pronoun 'we' is to signify that for Obama, paid leaves are the government's responsibility. The tweet includes both; negative (shouldn't) and positive polarities. Moreover, in the tweet above, Obama uses two relational processes and one material process. The two relational processes are to show that he is aware of the employees' problem and is seeking a solution for it. As for the material process at the end of the tweet, Obama tries to emphasize his role in securing the peoples' needs by using a process of doing rather than a process of saying, for instance. It is also worth noting that this tweet was posted on the 1st of October, 2016, which is the time when Obama was ending his 8-year ruling period as president of the USA. Being a president for 8 years, this problem should have been solved long before, and for that, it seems as if he is changing the American law right before the following presidents over.

Health care:



President Obama @ @POT... 01 Dec 16
Today, we honor those who are leading
the fight against HIV/AIDS. Because of
them, an AIDS-free generation is now
within our reach.



Example 4

Today, we honor those who are leading the fight against HIV/AIDS. Because of them, an AIDS-free generation is now within our reach.

Today,	we	honor	those who are leading the fight against HIV/AIDS.
Circumstance (time)	Senser	Mental process	Phenomenon

those who	are leading	the fight	against HIV/AIDS.
Actor	Material process	Goal	Circumstance (contingency)
	(intentional)		

Because of them	an AIDS-free generation	is	now	within our reach.
Circumstance	Carrier	Relational	Circumstance	Circumstance
(cause)		process	(time)	(manner)

On December 1st, 2016, president Obama recognized World's AIDS Day to spread awareness against AIDS and its horrendous consequences (See example 4). Obama has formed HIV/AIDS testing sights and care centers to help those with AIDS. He also asked for developing a technique to help all Americans search for testing clinics or any health centers to help them. That service is existent online and is called Service Provider Locator. On the World's AIDS Day, Obama chose to use mental, material and relational processes in his tweet. The mental process 'honor' is used with the senser 'we' along with the phenomenon 'those who are leading the fight' in order to give a sense that having AIDS, according to the president and his government, is not a massive problem like it is in other societies. The clause 'those who are leading the fight' contains the actor 'those who', the material process 'are leading' and the goal 'the fight' to stress the fact that people with AIDS are considered fighters instead of people who have committed a sin, as other cultures see them. A relational process is used in the final clause in the tweet above to express his desire to have an AIDS-free generation. He believes he can reach that because of those who already have HIV. In the tweet above, Obama thematizes three phrases; 'today we honor', 'those who' and 'because of them'. The three thematized phrases refer to those having AIDS; which shows their importance and how concerned he is about their case. A positive polarity is used throughout the tweet to give a sense of hope for the HIV victims.

Internal Affairs:





Example 5
Voted early today. Make sure you vote too: Vote.gov

		, our + our toot + our go +
[I]	Voted	early today.
Actor	Material process (intentional)	Circumstance (time)

Make sure	you vote too:
Mental process	Phenomenon

you	vote	too
Actor	Material process (intentional)	Circumstance (manner)

In example 5, Obama uses material and mental processes. The material process has an elided actor (I) where Obama chose to substitute the actor 'I' with the process 'voted', causing it to be the theme of the sentence. This declarative substitution signifies the president's adoption of an informal way while addressing the American citizens and urging them to vote as well. As for the mental process used in the tweet above, the president is seen to use an imperative mood by thematizing the mental process 'make sure'. This use shows how the president is advising everyone to vote. This might be an indication of his flexibility, as he is aware that a new president is to be elected and that his ruling period is over. The hyperlink 'vote.gov' at the end of the tweet takes the followers to the official website where citizens can register to vote for their new president. This hyperlink makes it easier and faster to get to vote with just a click.

6 Conclusion

This study investigated the lexico-grammatical patterns in Barack Obama's tweets for six months since his first official tweet. The analysis answered the questions about: (1) Obama's lexico-grammatical choices opted for structuring his presidential tweets; (2) Obama's expression of his ideological background to the audience so as to win their sides.

In computer-mediated discourse, there are some kinds of negotiations of social relationships/social roles of participants in their context of situation. By analyzing the verbal structures that realize mood, modality, tense, aspect, pronouns, and vocatives, it was observed that such interpersonal meanings realize the tenor of the text. The use of such structures manifested interpersonal relations between the president and his audience. The analysis of the mood choices used in the tweets showed that the president did not haphazardly use declaratives, interrogatives or imperatives. Rather, the tweets carefully considered the appropriate choices which enabled the president to sustain relationships with his audience.

The analysis of the tweets uncovered the ideological manifestations reflected by the lexico-grammatical elements chosen by the president. Using the structures available in the ideational metafunction, points of view and opinions were conveyed and what was going on in the surrounding world was expressed. This study carried out a statistical analysis and uncovered how presidents utilize national, religious, political or even economic ideologies. For example, in the sample analysis, the exploitation of both mental and material processes revealed that presidential tweets reflected the potentiality as well as the sentimental aspects of the presidents. These types of processes, among others, showed

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actions, attitudes and feelings. By analyzing process types in texts, participants and the surrounding circumstances reflected how the president attempted to portray the world he lived in.

By analyzing the structures that realize Theme and flow of information, this study revealed how textual organization of the tweets was maintained. The analysis focused on thematic choices to present the president's viewpoints from distinct angles. The content of the theme was also analyzed to show how linguistic structures were formulated and how this helped in conveying the intended messages.

To conclude, the use of Systemic Functional Grammar in the analysis of Obama's presidential tweets, demonstrates that grammar is an integrated part of the social institutions and practices we are part of. Utilizing computer mediated discourse, Obama seeks to accomplish his goals and convey his messages to a large scale of users.

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