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Of Algorithms and Autocrats:

A Case Study of Chinese Computational Propaganda Exploitation for Soft Power During Covid-19 Crisis

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Abstract

This study explores the Chinese computational propaganda exploitation during the Covid-19 crisis. By demonstrating the intricacies of this case of computational propaganda utilization, this research attempts to answer an even larger question: How do authoritarian countries incorporate computational propaganda to their soft power strategies. To that end, first; a theoretical bridge was formed between computational propaganda and soft power. This was achieved by explaining how computational propaganda works within the soft-power-enhancing-framework of strategic narratives. Secondly, a deliberately formed and projected strategic narrative was identified in the case of China during Covid-19. To do that, tweets by the Chinese Foreign Ministry Spokespeople were analyzed. Lastly, the employment of computational propaganda in this strategic narrative was examined through detecting political bots amplifying the reach of the analyzed tweets. Mundane tweets from the same accounts were also analyzed to form a comparison. This research found that there are significantly more political bots retweeting posts that are important to the identified strategic narrative. Hence, by providing empirical data that shows that political bots were tactically placed in tweets that are a part of the strategic narrative of China, and not randomly; this study connects computational propaganda to strategic narrative theory, in turn providing a mechanism of how computational propaganda is strategically used to enhance soft power capabilities of authoritarian states.

Keywords: *Covid-19, Computational Propaganda, Soft Power, Strategic Narrative, Political Bots*

Word Count: *9976*

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1. Introduction

1.1 Background

Humanitarian disasters, at the onset, present a vision of global cooperation. Remedying the human suffering caused by the crisis seems to be the focal point of global politics, with the rivalries taking a back seat. Yet, a crisis never goes unused.

In December of 2019, a new strand of the Coronavirus family was identified in the Hubei province of China (WHO, 2020). After its initial surfacing in the city of Wuhan, the virus has rapidly spread to populations across the globe, resulting in one of the worst pandemics the world has seen since the days of the Spanish Flu almost a century earlier (WHO, 2020). The virus sent shockwaves through the entire world, forcing many governments to quarantine their population, knocking the world economy down into a recession, and most importantly for this study, setting the stage for a power struggle between global powers (UNDP, 2020; OXPOL, 2020).

This global pandemic was indeed disruptive force, destabilizing the political climate (Institut Montaigne, 2020). As the Covid-19 crisis raged on, the world had to face a host of issues nestled in global politics. Potentially the most visible of these issues is the misinformation, disinformation, and fake news phenomena in social media platforms (BBC, 2020). The widespread proliferation of smartphone usage and access to real-time social media has exacerbated the prevalence of viral disinformation and manipulation as cases of Covid-19 have increased globally (UNESCO, 2020). False claims and conspiracy theories such as “drinking bleach could cure Covid-19”, “China engineered the Coronavirus”, or “The United States engineered the coronavirus and brought it to China.” echoed in social media platforms (BBC, 2020).

Another visible clash was the political stand-offs between China and the United States. President Trump has repeatedly referred to Covid-19 as the “Chinese virus”, the Chinese government expelled American journalists to stop them from reporting on Covid-19 cases in mainland China (AA, 2020; New York Times, 2020). Even the World Health Organization (WHO) was heavily politicized by these actors. WHO lavishly praised China throughout this crisis for its “openness for sharing information” even though Chinese officials cracked down on professional warnings on Covid-19 (DW, 2020). Furthermore, the WHO excluded Taiwan from its reports, per the Chinese policy of blocking Taiwan from international institutions (DW, 2020). These acts of WHO have been heavily criticized for being excessively “Sino-centric” (DW, 2020). These criticisms eventually culminated in Donald Trump, pulling the funding given to the organization by the United States (BBC, 2020).

These events show that, despite being far from the exclusive site of contemporary political tension between state actors, Covid-19 has become the most recent arena whereby the competing practices, politics, and ideologies of states engage in a political tug of war.

1.2 The Chinese Strategy

One of the most significant processes that took shape with this crisis was the Chinese attempt at increasing their influence in global politics. Since the beginning of the outbreak, China conducted heavily publicized aid campaigns to the countries affected by the Covid-19 (Foreign Policy, 2020). Critically needed test kits, sanitizers, and medical equipment were donated to authorities in many countries such as Italy, South Africa, and even to the United States (Foreign Policy, 2020). These donations were put on a grand spotlight with state-owned media channels providing wide coverage of the "selfless acts of the Chinese Nation" and the Chinese government officials taking to social media to explain how China leads the effort against Covid-19 (Foreign Policy, 2020). In the grand scheme, China was constructing a narrative in which it was the protagonist, the victim, and the savior.

A critical caveat is that it was not only conventional content creation and marketing that pushed the Chinese narrative globally. Indeed, China decided to conquer social media. This conquest, however, was going to be fueled with a selection of digital propaganda tools (ProPublica, 2020; Foreign Affairs, 2020; VOA, 2020). The exploitation of these digital tools by political actors is referred to as Computational Propaganda and understanding how this exploitation takes shape forms the core research interest of this study.

1.3 Conceptualization of the Study

Computational propaganda is the name given to both the practice and the academic field that analyzes the practice of utilizing digital tools of communication to achieve propaganda goals. These digital tools consist of combinations of social media platforms, big data, and automated algorithms (Woolley & Howard, 2019, pp. 3-5).

The public imagination was breached by computational propaganda following the scandals in the 2016 United States elections (Woolley & Guilbeault, 2019, p. 185). The aftermath of the election showed that companies such as Cambridge Analytica have used social media platforms, big data, and automated algorithms -the components of computational propaganda- in order to execute a so-called "marketing move" for the current president Donald Trump's election campaign (Woolley & Guilbeault, 2019, p. 186). However, despite having sparked a major interest in the western world and the academia after this affair, computational propaganda already had a place in political considerations of many prominent authoritarian governments. For example, following

the Arab Spring, many of the surviving autocratic governments of the region have created institutions to patrol the internet, censoring the anti-regime voices and identifying dissidents (Howard & Hussain, 2013; Lynch, 2011).

As computational propaganda proved its worth domestically, authoritarian governments looked towards its uses in the international arena (Deibert, 2015, pp. 68). After all, the platforms hosting this propaganda were already designed as international gateways to information. Computational propaganda methods were thus adopted as an offensive weapon, and the political consequences of these digital propaganda tools became far more pronounced globally. For instance, it is documented that the Beijing government targets supporters of pro-democracy and pro-independence civil society movements outside of China through denial-of-service[1] and malicious software attacks[2] (Deibert, 2015, p. 69). These persistent digital attacks fester self-censorship and undercut the networking advantages that international civil society organizations might otherwise reap from digital media networks (Deibert, 2015, p. 69).

To advance the academic understanding of this technical phenomenon, the consequences of it must be grounded in the established political science theories. Soft power appears as a suitable starting concept. This is because soft power can be traced throughout the channels in which computational propaganda operates. Soft power is a state's ability to persuade and attract other political actors (Nye, 1990). This ability can then be mobilized to achieve the outcomes the state actor prefers in world politics (Ibid). Consequently, by using soft power, such outcomes can be achieved either because the other political powers are convinced of the necessity of those outcomes, or because the state actor holding the soft power successfully represented itself as an attractive political leader (Ibid). However, a mechanism that explains how computational propaganda alters soft power capabilities is still needed.

To that end, this study utilizes the strategic narrative theory. According to the strategic narrative theory, political actors construct stories to realize their soft power potentials (Roselle, et al., 2014, p. 74). The theory claims that these stories are shaped as narratives, establishing a politically advantageous causal relationship between political events and actors (Miskimmon, et al., 2013, pp. 7-8). Furthermore, political actors use these narratives deliberately, or in other words; strategically (Ibid). One of the theory's most crucial additions to this study is the link that connects computational propaganda to political science conceptualizations: the projection stage of a strategic narrative. This compartment of the strategical narrative theory literature expands

[1] Denial-of-service (DDoS) attacks are designed to overload a website through swarming It with access requests.

[2] In this instance, malicious software attacks refer to digital attacks that redirect website requests so that the user attempting to access a certain website would download computer viruses instead.

upon the way narratives are projected around in old and new media platforms, social media belonging to the latter of the two (Miskimmon, et al., 2013, p. 14). The projection stage of a strategic narrative can be altered drastically with the exploitation of computational propaganda tools. Hence, using this bridge, this study connects computational propaganda to the concepts of strategic narrative and soft power.

To summarize, political actors use a strategical narrative to formulate an advantageous story to increase their soft power, and then project this story to the audience in an effort to persuade them. Computational propaganda radically enhances the projection stage of this process by hijacking the platform that the narrative is being projected upon, indirectly acting as an augmenter for soft power.

1.4 Significance, Aims and the Scope of the Research

According to Sustainable Development Goal 16, an independent platform in which information can be shared on plays a central role in the societal and political development (UNDP, 2020). Certainly, the decay of such an institution would lead to grave circumstances (UNESCO, 2020). This concern is possibly more pronounced than ever before. As seen in the 2016 elections, even established democracies are at risk of destabilizing (UNDP, 2020). Perhaps even more critical is the future of emerging states. The proliferation of the internet has been especially rapid in recent years, with the populations of developing countries being introduced to new information communication technologies (Ibid). Undoubtedly, the state of the social media platforms will have quite a considerable role when new societies integrate themselves and their politics to digital information networks. Computational propaganda offensives by certain states can potentially hijack this integration to digital networks, to increase the soft power capabilities of the aggressors. As such, understanding how, by whom, and to what ends the new media is being tainted with disinformation and propaganda, is paramount.

Although the understanding of political bots and computational propaganda has been expanded drastically, how the computational propaganda relates to grand strategies of autocratic countries remain mostly untouched by scholars (Keremoğlu & Weidmann, 2020, p. 6). Understanding the new paradigm that computational propaganda produces for the upcoming years is critical. Yet, this cannot be accomplished without grounding the study of computational propaganda with the actual strategic goals of states.

What this study hopes to accomplish, is to explain the place of computational propaganda exploitation in the soft power strategies of authoritarian states by giving a concrete example. The first aim is to explain how computational propaganda is being used during the projection of a strategic narrative. The second aim is to provide evidence that the authoritarian governments may deliberately incorporate computational propaganda into their soft power strategies.

The way this study will accomplish its aims is by examining the case of China during the Covid-19 crisis. To achieve the goals of the research, first; Twitter posts of the Chinese foreign ministry spokespeople will be analyzed to deconstruct the strategical narrative of China employed during the timeframe. Secondly, the extent of computational propaganda use in these Twitter posts will be determined. This will be done by detecting the number of automated algorithms retweeting the Twitter posts critical for the strategic narrative. This study will also incorporate a comparative work, contrasting the computational propaganda presence between the selected Twitter posts and the posts that present mundane information.

It is also critical to describe the boundaries of this study. A conscious decision was taken to decouple this research from studies on the politics of health crises, along with references to the literature on Chinese great power struggles, as much as possible. The reason for this limitation is that the ultimate goal of this study is to produce an understanding of computational propaganda strategies of authoritarian countries. As such, the particularities of the case that is being studied are tools, called upon to provide a real-life example.

2. Literature Review

2.1 Expanding the Computational Propaganda Conceptualization

The field of computational propaganda is technical and quite novel. Thus, a wider conceptualization is necessary to ground the discussion. To that end, in this section, a more comprehensive description of computational propaganda and the terminology related to the research at hand will be explained. This section of the literature review is structured so that the scope of the discussion is being continuously narrowed towards the core interests of this research.

2.1.1) A Wider Definition of Computational Propaganda

As described by Woolley & Howard (2019, p. 14), computational propaganda refers to the practice and the academic field that analyzes digital tools of communication that are employed for propaganda purposes. These digital tools consist of three components that work in tandem. Social media platforms serve as an outlet for automated algorithms to interact with genuine users of the internet, as well as a tool that creates massive data banks, in which political trends can be observed (Ibid). The big data part of the equation exists within these data banks, allowing for conscious decision making by actors utilizing computational propaganda, and it acts as an information source for the creation of automated algorithms (Shorey & Howard, 2016). Automated algorithms, in the end, are deployed within social media to further the political aims of the actor using them (Woolley & Howard, 2016).

2.1.2) Automated Algorithms

The definition of automated algorithms must be expanded as it is the object of analysis of this study. Automated algorithms, or bots as they are commonly named, are computer scripts that act autonomously based on data provided by the platform they operate on (Shorey & Howard, 2016, p. 5033). The bot types in computational propaganda methods are the ones that are active in social media platforms for political purposes. Howard & Woolley (2016, p. 4886) use the term "political bots" when defining these bots. This specific sub-group can be defined as "algorithms that operate over social media, written to learn and mimic real people to manipulate public opinion across a diverse range of social media and device networks." (Howard & Woolley, 2016, p. 4886). This study has selected political bots as the computational propaganda method that will be analyzed.

2.1.3) Tying Political Bots to this Research

Why political bots were chosen as the core of the study compared to other variants of computational propaganda must be explained. Certainly, there are significantly less-automated computational propaganda methods relying on human labor. However, a conscious decision was taken to exclusively study the political bots.

The study of Sanovich (2019) claims that the way social media can be taken over for propaganda purposes is through employing bots. The reason he states for this claim is that a colossal amount of sustained digital action (content creation or cyber-attacks) in a very short period is necessary for this endeavor. Employing human labor for these easily automatable tasks is slow and counterproductive for these tasks. The entrenched literature on computational propaganda also accepts bots as the principal weapon of contemporary computational propaganda. (Bolsover & Howard, 2017; Shorey & Howard, 2016; Woolley & Howard, 2016). As such, political bots have been chosen as the object of study for this research.

2.1.4) Political Bot Typologies

Which duties do the political bots fulfill? Dubois & McKelvey (2019) categorized the 4 distinct typologies of political bots that exist in computational propaganda: dampeners, amplifiers, transparency bots and servant bots. Dampeners are bots aimed at suppressing target messages, channels, or voices (Dubois & McKelvey, 2019). Amplifiers are bots that seek to enlarge the interaction of, or the attention paid to particular messages on the internet (Ibid). Servant bots are automated services that help data collection, maintenance, and the process of data analysis (Ibid). Transparency bots, which are automated agents that use social media to draw attention to the behavior of political actors in government, either do not exist in authoritarian contexts or exist in quite a constrained fashion (Ibid).

2.1.5) Amplifier Bots

The political bot category this study will analyze is the amplifier bots since this research aims to understand how computational propaganda is utilized in projecting a strategic narrative to a wider audience. Hence, a comprehensive description of the amplifier bots is needed. These political bots work to increase the popularity, visibility, and reach of certain accounts and/or messages online. They function through pretending to be real accounts when liking, sharing, or even positively commenting on the content they are supporting (Sanovich, 2019; Dubois & McKelvey, 2019). Political actors may utilize these bots to fake a sense of public support, as well as generating general disinformation through increasing visibility of chosen content (Lynch, 2011; Woolley & Howard, 2016).

As a conceptualization of the computational propaganda terms and mechanisms is established, this literature review will move on to politically frame computational propaganda.

2.2) Placing Computational Propaganda in Authoritarian Contexts

This research focuses on authoritarian regimes, as their utilization of computational propaganda is more nuanced in international politics. This study takes authoritarian and/or autocratic as states that experience constraints on legitimate democratic political participation, that repress civil society, and that concentrates power in the hands of an unaccountable elite. Once assumed to be incoherent with today's media environment, authoritarian systems are showing not only resilience, but they are actively using online networks for their gains (Deibert, 2015, p.65).

This section will elaborate on historical and political processes that the authoritarian countries have gone through when adopting computational propaganda methods. The discussion will start with a brief background on the politicization of the internet in authoritarian countries, leading to the emergence of computational propaganda and how authoritarian countries have started to utilize it as an offensive weapon. This section will be concluded by discussing how the computational propaganda took shape in China.

2.2.1) Politicization of Internet in Authoritarian Countries

The internet's profound effects on politics were already being speculated as early as the late 20th century, as a way of promoting democracy in authoritarian countries. "Goliath of totalitarianism will be brought down by the David of the microchip." was the proclamation of US President Reagan in 1989 (New York Times, 1989). However, the optimistic tone of the early years of the internet was proven to be misled. As expected at the onset, the internet provided people with access to information, platforms to speak freely; catalyzing social unrest and even open revolt against autocratic regimes (Howard & Hussain, 2013; Lynch, 2011). For instance, the Arab Spring revolts were ignited by the expansion of communication among the dissident groups through the internet and social media (Howard & Hussain, 2013; Lynch, 2011).

However, the aftermath of those uprisings was drastically different from what the optimists expected. Several regimes were indeed toppled, including that of Egypt's Hosni Mubarak, one of those targeted by the Arab Spring revolts (Deibert, 2015, p.64). However, within less than half a decade, most of the toppled authoritarian governments were back on their feet, the government under military general Abdel Fattah al-Sisi of Egypt being a prime example (Ibid).

Not only that the autocratic regimes were far from being removed in many countries, they have now understood the political potential of the internet. Invoking mantras of antiterrorism and cybersecurity, many of the authoritarian governments now controlled their domestic internet networks. (Lynch, 2011, p. 305)

2.2.2) Emergence of Computational Propaganda Offensives

Consequent stages of weaponization of the internet by authoritarian states are identified by Deibert (2015). According to his research, there are three generations of internet control by autocratic political actors (Deibert, 2015). The first generation of internet controls is "defensive", created during and immediately after the initial turmoil the internet has caused for the autocratic states (Ibid). These internet controls involve erecting national cyber borders that limit citizens' access to information from abroad (Ibid). The archetypal example of this generation is the Great Firewall of China, an automated system for filtering keywords and websites to control what computer users within the country can see on the Internet (Bolsover & Howard, 2018, p. 2065).

The second generation of internet controls came from extending into society through laws, regulations, or requirements that force the private sector to do the state's bidding by policing privately owned and operated networks and social media platforms according to the state's demands (Deibert, 2015, pp. 66-68). This is also where computational propaganda starts taking shape in domestic internet control operations. These controls may start from the hardware end of the networks, with built-in surveillance backdoors in phone and internet infrastructure; but they do not stop there. Justified through laws and regulations, authoritarian states scour social media with automated algorithms to identify and suppress dissidents (Ibid).

Third-generation controls are the main concern of this study. They involve big-data-fueled surveillance efforts, targeted espionage, and other types of covert disruptions in international cyberspace (Deibert, 2015, pp. 68-71). While first-generation controls are defensive and second-generation controls probe deeper into society, third-generation controls are offensive, aims to stealthily challenge opposition to an authoritarian regime at home and for the first time, abroad. This generation is also where computational propaganda finds the most use. Autocratic governments may employ "electronic armies", swarms of political bots and digital propaganda manufacturers, to dominate domestic and international social media, subverting opposition activities in those platforms (Deibert, 2015, p.73). The authoritarian governments then distance themselves from these activities, to establish plausible deniability to deflect any blame (Woolley & Howard, 2016; Deibert, 2015). Examples include Venezuela's Chavista "communicational guerrillas," the Egyptian Cyber Army, the pro-Assad Syrian Electronic Army, the pro-Putin bloggers of Russia, Saudi Arabia's antipornography "ethical hackers," and China's notorious "fifty-centers" (Deibert, 2015, p. 74).

2.2.3) Chinese Computational Propaganda

The emergence of computational propaganda in China has, to a large extent, followed the steps that the previous section specified. Since the communist revolution, the media have been run on a Marxist model that puts the needs of the state above truth (Brady, 2015, p. 52). The case of the internet certainly did not produce any divergence from this ideology. The system that we today call the Great Firewall of China, which continuously blocked content that the Chinese Communist Party deemed dangerous for their regime, was set up immediately following the introduction of the internet to the country (Bolsover & Howard, 2018, p. 2064).

Following the expansion of social media in China, the first generation of internet controls made way towards the second-generation controls and computational propaganda. The Chinese government has installed backdoors in the social networks, such as the popular application Weibo, allowing them to monitor the content on the communication platform to censor those that seem to be unruly (Bolsover & Howard, 2018; Brady, 2015). These backdoors also allowed the Chinese state to identify, prosecute, and punish dissidents with accuracy, using computational propaganda methods.

Finally, the Chinese state developed third-generation controls to turn the internet into a propaganda weapon. In both domestic and international contexts, China has employed computational propaganda to strengthen their regime. For instance, in a 2016 study, Bolsover and Howard analyze how the Chinese state has attempted to hijack both Twitter and Weibo to tackle opposition groups and to promote Chinese foreign policy initiatives such as the Belt and Road[3] project (Bolsover & Howard, 2018). An analysis of networks of news dissemination found that retweeting by fake accounts occurred in a significant margin of news stories and that 30% of the accounts that acted as opinion leaders were fake (Ibid).

With the historical background specified, what is missing in the current academic discourse will be given.

[3] Belt and Road project refers to the Chinese foreign policy initiative that attempts to connect countries in Asia, Africa and Europe with massive infrastructure projects, the majority of which would be funded by China (EBRD, 2018).

2.3) The Research Gap

The literature that this study has reviewed clearly mapped the emergence of computational propaganda, and the inner workings of the concept. Although far from complete, the academic effort now has a variety of precedent when explaining computational propaganda activities from a diverse set of countries, including the autocratic ones (Keremoğlu & Weidmann, 2020, p.6). Yet, there are still steps that need to be taken.

Perhaps the most visible of these steps is on the empirical assessment part of computational propaganda. The impact of computational propaganda exploitations is rather blurry. In the field of computational propaganda, when attempting to understand what happened; we have a wide selection of tools to utilize and an increasing body of scholarly work to refer to. However, the studies lack a system of deducing the effects of computational propaganda.

However, potentially more pressing than the previous gap are the theoretical ones. The first question that needs addressing is the question of a coherent digital strategy. Most of the research in computational propaganda confines itself to analyzing a single tactic utilized in a single instance, rather than examining it in combination with other digital strategies (Keremoğlu & Weidmann, 2020, p.7). As such, we have yet to understand what coherent strategies autocratic governments adopt to fend off challenges to their rule.

The second theoretical gap is also what this study aims to remedy. We lack an understanding of how computational propaganda works in tandem with conventional political goals and strategies of autocratic governments. This research attempts to provide a perspective on computational propaganda strategies used in international contexts, by introducing the concept to the theories of soft power and strategic narrative.

3. Theoretical Framework

3.1) From Soft Power to Strategic Narrative

Power, in a nutshell, is to be able to do things and to get other actors to do things that they otherwise would not be inclined to (Nye, 1990, p. 154). As the ability to control others is often associated in political science with the possession of certain resources; political actors most commonly define power as the possessions of several factors; territory, population, natural resources, economic size, and political stability; but perhaps most emphasized factor was the prowess of the military forces (Ibid). Today, however, the definition of power has drastically lost its emphasis on military strength that marked earlier eras.

The historical trends have led international politics to a secondary way of exercising power, in direct contrast to the traditional ways. This second aspect of power is aptly titled soft power by Nye (1990) when he introduced the concept at the concluding years of the Cold War. According to Nye, soft power occurs when one country gets other countries to want what it wants (Ibid, p. 157). This could be because other states want to follow the soft power holder or have agreed to a situation that produces such effects. In this sense, it is just as important to set the agenda and structure the debate in world politics to force others to change their stances. This concept has been widely accepted by state actors, as in the past decade, a major state without a soft power strategy, in practice if not in name, has become the exception (Antoniades, et al., 2010, p. 7).

As the focus of this study dictates, the soft power utilization in the new media platforms is the subject of inquiry. This is because the new media platforms also bring the potential of computational propaganda exploitation within them to the table. What these new media platforms and specifically social media add to the equation of soft power is to provide a platform to the state actors to realize their soft power strategies in a much wider level, whether through culture-exporting private sector, state-sponsored news coverage or simply through their citizens interacting with the world. This is especially important as messages can reach to all who has access to social media platforms, sidelining governments and old media institutions who acted as the middleman in previous cases (Miskimmon, et al., 2013, p.17).

Granted with the potential to spread their message to a global audience, what do the political actors do? They tell a story. To be more precise, they tell their version of the current political story, attempting to persuade and to attract. It is this exercise in the retelling of the political story, that connects the concept of soft power to the core theoretical framework of this study, the strategic narrative theory[4].

[4] The connection between strategic narrative and soft power is taken to the extreme by the proponents of the strategic narrative theory as they claim that soft power in the 21st century is strategic narrative (Roselle, et al., 2014).

3.2) Strategic Narrative Theory

3.2.1) Definition

In their abstract form, narratives are frameworks that allow humans to build connections through causal transformation between phenomena that appear unrelated (Roselle, et al., 2014, p. 73). The goal of this transformation is to bestow meaning upon all parts of the proposed sequence, leading to a unified understanding of the overall story (Ibid). Narratives form the conceptual world we operate in and decide the boundaries of our behavior (Miskimmon, et al., 2013, pp. 12-14). We, humans, nurture narratives to influence and structure the responses to events, by presenting a story of what happened, where it happened, how it happened, why it happened and who caused it (Roselle, et al., 2014, p.72). Compelling narratives can be a power source, as people may be drawn to certain explanations that describe the history of a country, or the specifics of a policy, for example (Antoniades, et al., 2010).

Strategic narratives portray a chain of events and communal identities as a communicative tool (Miskimmon, et al., 2013, p. 7)This tool, at the hands of political actors, are used to give meaning to the past, present, and future for political means. Hence, strategic narratives integrate the interests of the political actors using them, as well as suggestions on how to achieve those interests as a society (Ibid, pp. 8-10). Getting others to subscribe to your strategic narrative can structure their interests, their understanding of politics, and even their identity. As such, political actors use strategic narratives to establish and influence in the political system and to reshape the system itself (Antoniades, et al., 2010).

3.2.2) Stages of Strategic Narrative

The literature identifies three stages of strategic narrative utilization: formation, projection, and reception. By identifying these stages, this study will build the groundwork in examining how computational propaganda can be utilized when a political actor constructs a strategic narrative.

The formation stage is the deliberate act of creating or reshaping the story of a political structure (Miskimmon, et al., 2013, p. 15). Included in this stage is the consideration of actors' goals and the type of communication. Goals could be categorized as agenda-setting, legitimation, diverting attention, securing acquiescence, enhancing popularity, and mobilization (Ibid). Types of communication are the pathways for actors to implement their goals. These are persuasion and rhetorical coercion (Ibid, pp. 16-17). Persuasion is utilized when the aim is to achieve a consensus through communicative action whereas rhetorical coercion is a political strategy that calls upon the sociolinguistic identity of the target to make it conform to narratives it previously rejected or did not consider (Ibid).

The medium in which the message is delivered is at the center of the projection stage (Miskimmon, et al., 2013, p.121). The questions that this stage asks are "Who does narrate the strategic narrative?" and "In which media setting does the narration take place?". This medium of projection can be identified as the dominant media ecology of the day (Ibid, p.14). This being the case, we must look at contemporary media platforms. Undoubtedly, new media forms, most importantly social media, altered the ecology of political speech drastically. The realities of communication in the 21st century increased the reach of political messages, increased interactivity, and accelerated and distorted time horizons. Furthermore, there are no longer intermediaries of the established media institutions that dilute and scrutinize the political messages for the public (Miskimmon, et al., 2013; Roselle, et al., 2014). This being the case, political actors have a much freer reign over their messages compared to previous media eras.

Lastly, the reception stage presents the conclusion of a strategic narrative. It is in this stage we ask the question of "What is the impact of the strategic narrative on the receivers?". Admittedly, identifying the 'effects' of news media or narrative strategies on the audience is quite cumbersome. To identify the effect of a narrative on audiences; analysis of their attitudes, opinions, and behavior before and after that narrative reaches them must be given (Miskimmon, et al., 2013, p. 17). Making matters more complicated, far from being passive recipients of narratives from above, most audiences hold nuanced understandings of the strategic narratives already circulating in their media ecology (Ibid. 18)

Although the academic work on strategic narrative thoroughly discusses how the new media altered the way strategic narratives function, computational propaganda, or any digital interference has been left touched. The next section will attempt to establish a theoretical framework that allows us to observe how computational propaganda can alter a strategic narrative.

3.3) Strategic Narrative and Computational Propaganda

The effect of computational propaganda in the formation stage is limited and potentially nonexistent in the reception stage. Possibly, the only use of computational propaganda in the formation stage is that social media platforms could be used to identify the existing strategic narratives and how the public reacts to these narratives. This can inform political actors which goals and types of communication to pursue when forming their strategic narrative.

The projection stage, on the other hand, can be drastically altered by computational propaganda. By using computational propaganda, instead of convincing a population of a strategic narrative, political actors can manufacture a convinced majority. Using fake and stolen accounts, many corners of social media can be penetrated with content supporting the narrative. Political bots can amplify selected posts and dampen any voices that attack the proposed story by swarming whatever content is being targeted. When used to its full extent in an ideal setting, computational propaganda can ensure that a political actor's strategic narrative is the only narrative that explains the political story that is present on social media. Consequently, the chances of an ordinary citizen to engage with other conceptualization of the politics is very slim, especially since alternative strategic narratives will not be able to find a place on the social media platforms.

Certainly, such an ideal setting is sparsely possible in the real world. Opposition actors can fight back using the same tactics, international social media platforms can limit computational propaganda exploitation in the software side and so forth. These reactions do happen, meaning that computational propaganda, if left unchecked, poses a significant alteration of social media platforms. As such, one can claim that computational propaganda alters the social media ecology, interfering with the projection stage of the strategic narrative, according to the designs of the political actors using it.

4. Research Design

4.1) Research Questions

This study will attempt to understand and analyze the Chinese computational propaganda exploitation in the form of political bots, as it was utilized during the Covid-19 crisis for strategic narrative projection. In doing so, a depiction of the strategical narrative that the Chinese government employs and the explanation of the role that computational propaganda fills in this strategy will be given. Consequently, the findings will then be used to define the place of computational propaganda in Chinese soft power strategies.

Hence, the overarching question this research aims to answer is:

> *How does China utilize computational propaganda in its soft power strategies during the Covid-19 crisis?*

To answer this research question, this study needs two separate pieces of evidence.
Firstly, the soft power strategy that works in combination with computational propaganda must be found. This task will be undertaken using the strategic narrative theory. Secondly, the fact that political bots are actively involved in this strategy ought to be solidified. This will be done in a quantitative study measuring the prevalence of political bots in strategic narrative projection on the social media platform Twitter.

Therefore, a division of the main research question into two sub-questions is possible. These questions are:

> *(1) How does the Chinese government use strategic narrative during the Covid-19 crisis?*
>
> *(2) How does the Chinese government use political bots on Twitter to further this strategic narrative?*

4.2) Motivation Behind This Case Study

First and foremost, this case has been chosen due to practical reasons. The posts by Chinese officials target the international arena, as such they are in English, and are easily accessible on a public social media platform. This is crucial as the author does not possess the skillset to conduct the research in other languages. The accessibility of the content, due to its public nature, was also a strong motivator. Furthermore, bot usage is quite prevalent and quantifiable in this case. This is due to the design of the social media platform Twitter, as software infrastructure of it gives way to both exploitation by bots and easy detection of the said bots.

This incident also contains the years of development of computational propaganda practices. Authoritarian government has reportedly used computational propaganda in numerous occasions and have streamlined their usage of them with each iteration (Deibert, 2015). Thus, being the latest example of political bot exploitation, this case provides a more comprehensive study.

The chance to study a quite recent phenomenon also contributes to the motivation. By the time of writing, no academic work was conducted on the case of computational propaganda during Covid-19 apart from several journalistic articles.

Lastly, but perhaps most importantly, this study presents a very public display of political bots employed in a soft power strategy of an authoritarian government. Strategic narrative projection by its nature must be public, and the chosen platform, Twitter, allows for a comprehensive detection of political bots. Thus, this specific case fits the research interest of this study quite well.

5. Methodology

This research will incorporate both quantitative and qualitative methods, each used for distinct sections of the study. The data gathering took place in three stages. Firstly, the impactful posts by prominent accounts on Twitter that are aimed at constructing a Chinese narrative about Covid-19 were identified. Several mundane posts by the same accounts were also chosen as an object of comparison. Secondly, a narrative analysis was conducted on these posts to explain the strategic narrative being pushed by China. Lastly, the accounts commenting on and retweeting these posts were categorized by their possibility of being political bots. The same categorization process took place for the chosen mundane posts, to show the potential inequality in the number of total political bots.

5.1) Why Twitter?

This research will collect its empirical data from the social media platform Twitter. The choice of Twitter as the selected platform is purely pragmatic for this study. Twitter allows for a more thorough data collection and hosts a wide range of official correspondence regarding the case that is being studied.

5.2) Twitter Post Collection Scheme

This research aims to gather data from as much as content as possible. However, due to practical concerns, the posts were prioritized according to four different categories.

Practicality: Taking into consideration the limitations of the study, the content was chosen by its language, the platform it resides in, and the accessibility of it.

Actor: As this study aims to understand the narrative pushed by the Chinese government, the content was taken from the Twitter posts by those who have the official capacity to speak for the Chinese government.

Importance: The content which challenges the narrative established by the United States and Western countries, self-promotes the Chinese aid initiatives, and generally pushes a controversial agenda were prioritized. As explained earlier, several mundane posts were also be chosen as an object of comparison with high-importance posts.

Timeline: The analyzed posts followed the timeline of Covid-19 crisis, as it was reported by the WHO.

5.3) Narrative Analysis

To establish a framework of analyzing the gathered content that is coherent with the rest of the study, components of narratives in the strategic narrative theory literature were used. These components served as a theory-based coding mechanism to organize the content that was analyzed. The narrative components are action -the event sequence taking place in the narrative, actors -those who have agency in the narrative-, setting -the context in which the action takes place in-, and resolution -the actual or suggested resolution of the narrative- (Roselle, et al., 2014).

The method in which the analysis of these components is to be pursued is defined as "narrative analysis" by Bryman (2012, pp. 582-586). Narrative analysis is an approach to the analysis of qualitative data that emphasizes the stories that people employ to account for events (Ibid). This method then, elicits and analyses data by attempting to understand the perception of temporal sequence of events by the providers of accounts (Ibid). Although this method is traditionally used in communicating samples that have a larger content than tweets, it fits the theoretical frame of this study. Narrative components of each tweet will be disclosed and organized. Consequently, the organized data will be used to provide a depiction of the Chinese strategic narrative.

5.4) Bot Detection

Bot detection and mapping is the quantitative aspect of this study. Botometer tool designed by Indiana University Network Science Institute will be utilized as the basis of automated bot detection. Botometer uses the Twitter application programming interface to take the public information from the website and run its own algorithms on it to detect bots. The algorithm then attributes a score out of 5, with 0 being the most human-like and 5 being the most bot-like, to each examined variable. The variables in consideration are briefly explained.

User-based features: The features extracted from the user meta-data, such as the number of friends and followers, the number of tweets produced by the user, profile description and settings (Davis, et al., 2016; Varol, et al., 2017).

Friends features: An account's statistics on retweeting, mentioning, being retweeted, and being mentioned according to language, local time, and popularity (Ibid).

Network features: Political astroturfs examined by retweet, mention, and hashtag co-occurrence (Ibid).

Temporal features: Temporal increase in user activity over various politically critical time periods (Ibid).

Content and language features: The anomalies in length and entropy of the language used in the posts (Ibid).

Sentiment features: Anomalies in emotions conveyed by the Twitter posts, and the political attitudes of accounts (Ibid).

The choice of this tool is made consciously with compatibility with computational propaganda research in mind as the utilization of this tool is one of the standard methods of the field.

Admittedly, even by its designers, although this is possibly the most comprehensive academic bot detection tool that this research can reasonably reach, it is prone to false-positives and may ignore accounts that have all the marks of being a political bot. As such, the entire bot detection phase will be double checked manually, taking the Botometer detection categories as basis. As it was not possible for this study to manually attribute scores in the line with Botometer scoring, the manual scoring is limited to a binary system. In this binary system, 1,00 refers to the analyzed variable being suspicious and 0,00 refers to the contrary.

The aim is to randomly select 50 retweeting accounts from each of the tweets. However, this sample size may slightly decrease depending how many of these accounts that Botometer can measure. It is worth noting that Botometer rejects accounts if they do not have any original content (original posts or retweets with commentary) on their Twitter profile. These accounts, quite often, are bots. Nevertheless, to keep a conservative estimate, and to be in line with Botometer tool, these rejected accounts will not be included in the final analysis. As such, the real prevalence of bots could be slightly higher than the concluding data set shows.

After the data collection is done, the findings will be quantitatively mapped according to the bot prevalence. The results will be compared between controversial posts and mundane posts to establish and analyze a pattern for Chinese computational propaganda.

5.5) Limitations

Potentially the biggest limitation of this research is the fact that it cannot analyze the entirety of the accounts that interact with the chosen Twitter posts. This is due to practical reasons, as the total interaction numbers range in tens of thousands. As such, random representative samples will be used.

Another limitation is that this study cannot trace the reception stage of the Chinese strategic narrative. In other words, this study will discuss the question of “How?”, yet not the question of “To what effect?”. This is because the complexity of doing such research is far beyond the means of this study.

Lastly, an attribution problem exists within researching political bots. Due to the anonymity of the internet, one cannot trace with certainty the usage of political bots to specific actors (Keremoğlu & Weidmann, 2020, p.15). However, this study asserts that to stop pursuing research simply because attribution of phenomena is slightly blurry is to sit idle. Political bots do not appear out of nowhere, they are consciously and strategically utilized. Hence, a calculated deduction of the ownership of political bots is necessary, desirable, and practical.

5.6) Ethical Concerns

Researching social media platforms bring itself important ethical considerations. These ethical considerations, for this research, culminate in the problems of privacy, anonymity, and informed consent for the authors of analyzed content.

There are two general approaches to ethical discussions regarding these problems, as shown by Fuchs (2018). The first approach claims that the content posted on social media platforms is intended to be public, and as such; adhering to standard research ethics of anonymity is enough (Fuchs, 2018, p. 391). This line of reasoning also acknowledges that acquiring informed consent from owners of social media posts is counterproductive, if not outright impossible, given the amount of effort needed to contact and await a response from each of them (Ibid).

The second approach stresses that despite the posts are on a seemingly public platform, they are addressed to a closed social network (Fuchs, 2018, p. 392). Hence, assuming automatic consent because these posts are on a public platform is simply not acceptable (Ibid).

While acknowledging the general validity of both arguments, this study belongs to the former school of thought. The posts this study will analyze belong to public announcement accounts. Even in the off chance that due to false positives, genuine private accounts are being interacted with, any information that has not been made publicly available; will not and, due to the Twitter infrastructure, cannot be used. Finally, getting informed consent from each of the analyzed accounts is not practical, especially when considering that automated accounts are quite unlikely to respond to such a request.

This being the case, this study considers keeping the analyzed accounts anonymous sufficient, following the first line of reasoning presented.

6. Analysis

This research has identified and analyzed 8 tweets by Chinese Foreign Ministry Spokesperson accounts[5]. 6 of these tweets are what this study considers contentious tweets, due to their outspoken and assertive nature against critics of Chinese government. 2 of these tweets are considered mundane tweets, as their purpose is to outline bland information.

6.1) Analysis of Tweets

In this section, firstly, the tweets will be individually discussed starting from contentious tweets, disclosing their narrative components. Secondly, a depiction of the strategic narrative pushed by these controversial tweets will be given.

6.1.1) Contentious Tweet 1

"While China is helping others in our fight against the pandemic, the US is sending aircraft and vessels frequently to the South China Sea, violating China's sovereignty. We urge the US to put the priority on the outbreak response at home." (Twitter, 2020)

> **Actors:** China, United States and the countries receiving aid from China.
>
> **Setting:** Pandemic stage of the Covid-19 crisis. The international system is depicted as countries which are dependent on and willing to receive aid in order to thwart the outbreak. (As this is the setting of many other tweets, majority of them will refer to this setting.)
>
> **Conflict:** China is in an effort to alleviate the suffering caused by Covid-19 in other countries. United States on the other hand is taking advantage of the Chinese government as they are distracted by Covid-19 in order to seize military gains, in expense of the sovereignty of China. The actions of the US are depicted as both illegitimate, and irresponsible to its own citizens.
>
> **Suggested Resolution:** United States should stop its military incursion into South China Sea and prioritize their outbreak response at home.

There is a significant number of political bots retweeting this content. Botometer score average of the samples was 2,897. Manual examination of the accounts averaged at 0,6333 out of 1,00.

[5] These accounts were taken from the official Chinese Foreign Ministry website (Foreign Ministry of People's Republic of China, 2020).

6.1.2) Contentious Tweet 2

"It is immoral and irresponsible to sow discord when we need solidarity. We urge the US to focus on #COVID19 at home & stop driving a wedge between China and Africa." (Twitter, 2020)

Actors: China, United States and African countries.

Setting: Same as Tweet 1, with an extended focus on an existing cooperation between China and African countries.

Conflict: United States is acting immoral and irresponsible when it attempts to drive a wedge between the Chinese government and their African counterparts.

Suggested Resolution: United States government should stop its political interference between China and Africa; and focus its efforts at their domestic Covid-19 response.

This study detected a considerable percentage of retweets being made by potential political bots. The average Botometer score for was 2,9286. Manual examination presented the average at 0,6905.

6.1.3) Contentious Tweet 3

"China is going all out and racing against time to fight with the epidemic at home and abroad. We have no time nor interest in any kind of disinformation campaign." (Twitter, 2020)

Actors: China and critics claiming that China engages in a disinformation campaign

Setting: Same as Tweet 1.

Conflict: There are critics claiming that China conducts a disinformation campaign. The tweet disavows such remarks, asserting that China is already way too busy fighting the pandemic both at home and abroad.

Suggested Resolution: Beliefs that China is executing a disinformation campaign should be taken aside.

The political bots are very prevalent in this tweet. Botometer score average for these samples was 3,3548. Manual examination of these accounts averaged at 0,7634.

6.1.4) Contentious Tweet 4

"China's efforts and sacrifice have bought precious time for the world. Some people are attempting to make China the biggest scapegoat for their own epidemic response. Mission Impossible." (Twitter, 2020)

Actors: China, governments critical of China, and the world states whom China "bought precious time for".

Setting: Same as Tweet 1.

Conflict: There are governments that failed in their epidemic response (likely referring to the US government) who are wrongfully blaming China. This blame is wrong as China sacrificed itself in order to protect the entire world from an even bigger catastrophe.

Suggested Resolution: Although not explicitly stated, the narrative calls for the acknowledgement of the Chinese effort, and recognition that countries who blame China are covering their own failed epidemic responses.

There is a considerable number of political bots sharing this tweet. Botometer score average for the sample was 3,0909. Manual examination of the accounts revealed the average at 0,6717.

6.1.5) Contentious Tweet 5

"China is practicing "mask diplomacy"? Do those speaking ill of China rather want us to stand by while other countries suffer? NO. It is our tradition to reciprocate kindness and help those in need. This is all we do: help others to the best of our ability." (Twitter, 2020)

Actors: China, countries receiving aid from China, and critics

Setting: Same as Tweet 1.

Conflict: China engages in aid initiatives throughout the pandemic. However, there are critics who claim that China attempts to gain diplomatic leverage through these aid initiatives. The narrative claims that this understanding is flawed as China provides aid due to the benevolent nature of the Chinese culture.

Suggested Resolution: Critics should change their minds about the Chinese goals when providing aid.

Once more, there is a substantial concentration of political bots. Botometer score average was at 2,9216. Manual examination of these accounts averaged at 0,6306.

6.1.6) Contentious Tweet 6

"Over the past two months, China has been timely updating the US on COVID-19. Our efforts bought precious time for the whole world in this battle. But as US media and experts said, the time has been regrettably wasted by the US." (Twitter, 2020)

Actors: China, US, and the other afflicted countries.

Setting: Same as Tweet 1.

Conflict: China acted responsibly when it came to presenting knowledge in a timely manner. This responsible action helped the global response, however, US wasted precious time.

Suggested Resolution: This narrative calls for recognition of the responsible acts of China, and to blame the US government for wasting time.

The political bots are very prevalent in this tweet as well. Botometer score average for these samples was 2,7371. Manual examination of these accounts averaged at 0,7000.

6.1.7) Mundane Tweet A

"The G20 Finance Ministers and Central Bank Governors held a video conference yesterday and agreed to suspend debt service payments for the world's poorest countries starting on May 1 until the end of the year." (Twitter, 2020)

Actors: G20 Finance Ministers and Central Bank Governors

Setting: The pandemic stage of the Covid-19 crisis.

Conflict: A financial agreement that benefits the world's poorest countries has been reached by leading financial decision makers of the world.

Suggested Resolution: A spirit of solidarity among nations during this crisis is emphasized.

The prevalence of political bots is limited in this mundane tweet compared to controversial ones. Botometer score average was at 1,8000. Manual examination average was at 0,4868.

6.1.8) Mundane Tweet B

"China has held about 20 video conferences on #COVID19 with more than 100 countries and shared experience on diagnosis & treatment." (Twitter, 2020)

Actors: China and the other 100 countries

Setting: The pandemic stage of the Covid-19 crisis.

Conflict: China has shared its own experiences with other countries regarding outbreak management.

Suggested Resolution: The narrative also calls for a spirit of solidarity.

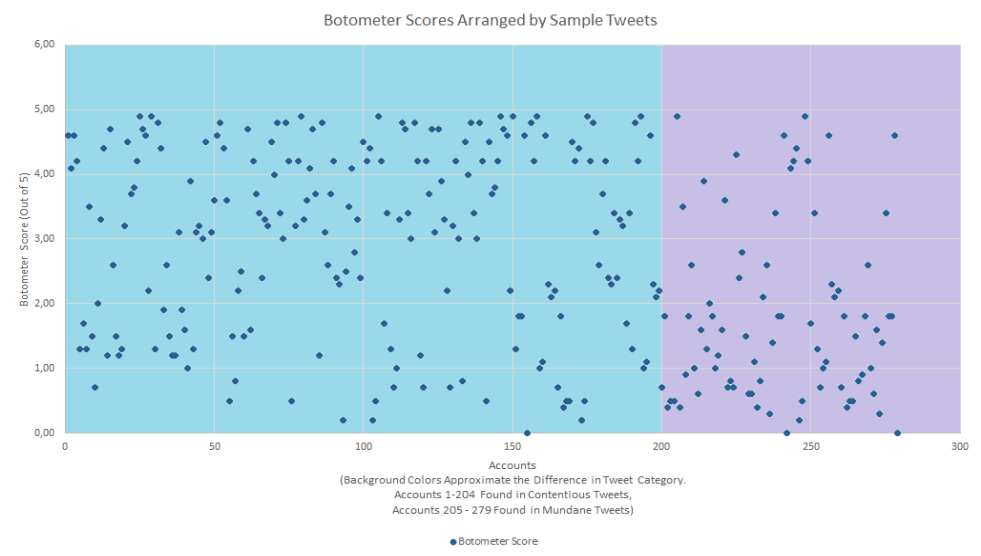
The political bot possibilities are still relatively lesser in this tweet. Botometer score average for these samples was 1,9162. Manual examination of these accounts averaged at 0,4369.

6.2) Analysis of the Narrative & Bot Detection

The contentious tweets in themselves contain a unified strategic narrative. China in all but two of the chosen tweets is portrayed as a selfless helper throughout the crisis. In the two tweets that stray from this theme, China is either acting very responsibly (Contentious Tweet 6) or has established relations that are being threatened by the pandemic with less-developed geographical regions (Contentious Tweet 2).

Furthermore, the strategic narrative is also used as an offensive tool, targeting the United States either directly or indirectly in all the analyzed tweets. United States government is portrayed as irresponsible, as it allegedly failed in responding to the Covid-19 outbreak in their home country, and immorally opportunistic as they attempt to undermine China, while the Chinese government is distracted by providing aid to the countries struggling in this pandemic. This being the case, one can argue that a deliberate strategic narrative was formed by the Chinese government that attempts to put China in the spotlight as the hero of the Covid-19 crisis and the US as an incapable and a selfish antagonist. This strategic narrative is then projected, in this instance, to Twitter.

What is more important for this study, however, is the number of political bots used in this strategic narrative projection effort, as it ties computational propaganda to strategic narrative and soft power.



Graph 1: Scatter Graph of Botometer Scores

As can be seen in Graph 1, the overall Botometer scores of the accounts retweeting contentious tweets are mostly grouped in the higher score levels, whereas the contrary is true for accounts retweeting mundane tweets.

To illustrate more clearly, the average Botometer score of mundane retweets is 1,8573, while the average Botometer score of contentious retweets is 2,9735. Furthermore, 73 out of 204 individual accounts scored higher than 4,0 in contentious tweets (around 36%). In very sharp contrast, only 10 out of 75 accounts have scored above 4,0 in mundane tweets (around 12%). Approximately the same statistics can be seen in a manual bot detection of this study. Perhaps by coincidence, the number of accounts in contentious tweets that have scored a perfect 1,00 in the manual bot detection phase is also 73 out of 204. The number of accounts scoring the manual detection's 1,00 in mundane tweets is 9 out of 75. The rest of the dataset (which can be seen in the Appendix) also falls in line with these statistics on all the other variables in bot detection.

How many of these accounts are bots? Although it is not possible to clarify with absolute certainty, one can deduce a reasonable percentage from the data gathered. Even with the conservative estimates of the Botometer scores, this study surmises that roughly 40% of the accounts analyzed under contentious tweets show strong signs of being political bots. This rate of political bots is very significant. In the mundane posts, this percentage falls to approximately 15%.

It is important to note that these tweets were posted in the same timeline, with less than a month between all of them. Except one of the contentious tweets that was sent from the official account of the Zhao Lijian (Chinese Foreign Ministry spokesperson), all the tweets were sent from the official joint account of Chinese Foreign Ministry spokespeople. As such, the only variable that differentiates the contentious tweets from mundane ones are the contents of each tweet.

This being the case, one can strongly infer that political bots are not randomly utilized, but they are deliberately placed in critical pieces of political communication. As these critical pieces of political communication (in this case they were contentious tweets) form the backbone of strategic narrative projections, it can be concluded that political bots and therefore computational propaganda can be and is being used in projecting these strategic narratives to the world. Hence, computational propaganda is one of the strategies of conducting soft power operations, at least for an authoritarian state such as the one governing People's Republic of China.

7. Conclusion

Internet and consequently social media have introduced a new dimension of political communication for all global powers. Social media platforms have proliferated the global population and brought with them an extended array of political tools and strategies, one of them being computational propaganda. Ever-on-the-look-out for ways to protect and stabilize their rule, authoritarian governments have adopted computational propaganda to different ends. Recently, the authoritarian employment of computational propaganda broke domestic barriers and turned its aim towards the international arena. This research attempted to understand how this novel authoritarian strategy of using computational propaganda was utilized for an established political goal, soft power.

To that end, firstly, a theoretical mechanism had to be crafted. This was achieved by connecting computational propaganda to the strategic narrative theory through narrative projections. Secondly, an instance in which an authoritarian country utilized a strategic narrative was identified and analyzed. Lastly, computational propaganda in this strategic utilization was identified through detecting political bots that are amplifying the projection of the strategic narrative. Through a comparative analysis, it was explained that political bots were specifically targeted at a strategic narrative and not randomly spread, to strengthen the reasoning that connected computational propaganda to strategic narratives and then to soft power. The case made by this study appears to be solid, as the quantitative analysis showed that there were significantly more political bots in political communication pieces that serve a strategic narrative. Furthermore, this research showed that Chinese government is using computational propaganda in an attempt to change the narrative on the politics of Covid-19.

7.1) Future Studies

This study was a limited attempt at understanding how computational propaganda is being used for conventional political strategies in authoritarian contexts. As such, further research is necessary. First and foremost, this study focused exclusively on the social media platform Twitter and computational propaganda type of amplifier political bots. Using only these variables is perhaps sufficient to provide an understanding of a general mechanism as it was in this case, but nowhere enough to satisfy an academic curiosity of the phenomena at hand. Hence, it is beneficial to conduct studies that combine more platforms with more computational propaganda methods.

Connecting computational propaganda to conventional political strategies through the strategic narrative is also a single theoretical framework. By analyzing different platforms and different types of computational propaganda, more sophisticated theoretical frameworks can be reached.

Lastly, the state of academia currently lacks a comprehensive method to study the impacts of computational propaganda. Despite portraying roughly how much computational propaganda is being used in the case at hand, this study nevertheless could not show how this computational propaganda affected the targeted audience. The same is also true in the context of studies on the strategic narrative theory.

Nevertheless, the new paradigm posed by the politicization of the internet and computational propaganda is shifting the way states conduct their soft power operations both domestically and internationally. To adapt and accurately explain how this new world functions, the academic research has to both cover more empirical ground and build more robust and expansive theoretical frameworks.

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9. Appendix

Tweet 1 – Descriptive Statistics

	Cases	Minimum	Maximum	Mean	Std. Deviation
Content Score (Botometer)	40	,40	4,90	3,6825	1,27398
Sentiment Score (Botometer)	40	,30	4,80	3,3275	1,36513
Friend Score (Botometer)	40	,80	4,60	2,8025	1,25136
Network Score (Botometer)	40	,60	4,60	2,6675	1,48175
Temporal Score (Botometer)	40	,40	4,80	3,4600	1,44361
User Score (Botometer)	40	,40	4,80	2,9825	1,43203
Total Score (Botometer)	40	,70	4,90	2,8975	1,43106
Content Score (Manual)	40	,00	1,00	,8000	,40510
Sentiment Score (Manual)	40	,00	1,00	,7250	,45220
Friend Score (Manual)	40	,00	1,00	,5000	,50637
Network Score (Manual)	40	,00	1,00	,5000	,50637
Temporal Score (Manual)	40	,00	1,00	,6250	,49029
User Score (Manual)	40	,00	1,00	,6500	,48305
Total Score (Manual)	40	,00	1,00	,6333	,35042
Number of Cases	40				

Tweet 2 - Descriptive Statistics

	Cases	Minimum	Maximum	Mean	Std. Deviation
Content Score (Botometer)	28	,50	4,80	3,5679	1,38859
Sentiment Score (Botometer)	28	,60	4,80	3,9000	1,03459
Friend Score (Botometer)	28	,30	4,70	2,9179	1,26522
Network Score (Botometer)	28	,40	4,80	2,4714	1,44193
Temporal Score (Botometer)	28	,30	4,80	3,3571	1,49355
User Score (Botometer)	28	,30	4,70	2,5036	1,14971
Total Score (Botometer)	28	,50	4,80	2,9286	1,25635
Content Score (Manual)	28	,00	1,00	,7500	,44096
Sentiment Score (Manual)	28	,00	1,00	,8571	,35635
Friend Score (Manual)	28	,00	1,00	,7143	,46004
Network Score (Manual)	28	,00	1,00	,4643	,50787
Temporal Score (Manual)	28	,00	1,00	,6786	,47559
User Score (Manual)	28	,00	1,00	,6786	,47559
Total Score (Manual)	28	,00	1,00	,6905	,33858
Number of Cases	28				

Tweet 3 - Descriptive Statistics

	Cases	Minimum	Maximum	Mean	Std. Deviation
Content Score (Botometer)	31	,40	4,80	3,8484	1,17697
Sentiment Score (Botometer)	31	,20	4,70	3,6161	1,20336
Friend Score (Botometer)	31	,60	4,70	2,9774	1,09414
Network Score (Botometer)	31	,50	4,80	2,7935	1,56885
Temporal Score (Botometer)	31	,40	4,80	3,8419	1,50150
User Score (Botometer)	31	,10	4,90	3,3161	1,25780
Total Score (Botometer)	31	,20	4,90	3,3548	1,20107
Content Score (Manual)	31	,00	1,00	,8710	,34078
Sentiment Score (Manual)	31	,00	1,00	,8387	,37388
Friend Score (Manual)	31	,00	1,00	,7742	,42502
Network Score (Manual)	31	,00	1,00	,6129	,49514
Temporal Score (Manual)	31	,00	1,00	,6774	,47519
User Score (Manual)	31	,00	1,00	,8065	,40161
Total Score (Manual)	31	,00	1,00	,7634	,30664
Number of Cases	31				

Tweet 4 - Descriptive Statistics

	Cases	Minimum	Maximum	Mean	Std. Deviation
Content Score (Botometer)	33	,30	4,80	3,5727	1,31465
Sentiment Score (Botometer)	33	,30	4,80	3,3515	1,58708
Friend Score (Botometer)	33	,50	4,70	2,7606	1,30957
Network Score (Botometer)	33	,30	4,80	2,7394	1,46606
Temporal Score (Botometer)	33	,50	4,80	3,4091	1,55450
User Score (Botometer)	33	,40	4,90	3,0697	1,50010
Total Score (Botometer)	33	,20	4,90	3,0909	1,52241
Content Score (Manual)	33	,00	1,00	,8485	,36411
Sentiment Score (Manual)	33	,00	1,00	,6970	,46669
Friend Score (Manual)	33	,00	1,00	,6061	,49620
Network Score (Manual)	33	,00	1,00	,6061	,49620
Temporal Score (Manual)	33	,00	1,00	,6364	,48850
User Score (Manual)	33	,00	1,00	,6364	,48850
Total Score (Manual)	33	,00	1,00	,6717	,35718
Number of Cases	33				

Tweet 5 - Descriptive Statistics

	Cases	Minimum	Maximum	Mean	Std. Deviation
Content Score (Botometer)	37	,40	4,90	3,4162	1,42195
Sentiment Score (Botometer)	37	,40	4,80	3,2027	1,31772
Friend Score (Botometer)	37	,50	4,60	2,9135	1,37379
Network Score (Botometer)	37	,40	4,80	2,8757	1,60821
Temporal Score (Botometer)	37	,30	4,80	3,1270	1,79376
User Score (Botometer)	37	,30	4,90	2,8811	1,68075
Total Score (Botometer)	37	,00	4,90	2,9216	1,70002
Content Score (Manual)	37	,00	1,00	,7838	,41734
Sentiment Score (Manual)	37	,00	1,00	,6486	,48398
Friend Score (Manual)	37	,00	1,00	,5676	,50225
Network Score (Manual)	37	,00	1,00	,5405	,50523
Temporal Score (Manual)	37	,00	1,00	,6486	,48398
User Score (Manual)	37	,00	1,00	,5946	,49774
Total Score (Manual)	37	,00	1,00	,6306	,38114
Number of Cases	37				

Tweet 6 - Descriptive Statistics

	Cases	Minimum	Maximum	Mean	Std. Deviation
Content Score (Botometer)	35	1,10	4,80	3,7171	1,14519
Sentiment Score (Botometer)	35	,30	4,80	3,4429	1,32472
Friend Score (Botometer)	35	,50	4,70	2,9000	1,32421
Network Score (Botometer)	35	,30	4,80	2,5771	1,53816
Temporal Score (Botometer)	35	,30	4,80	2,9771	1,62952
User Score (Botometer)	35	,30	4,80	2,8543	1,54355
Total Score (Botometer)	35	,20	4,90	2,7371	1,53720
Content Score (Manual)	35	,00	1,00	,8571	,35504
Sentiment Score (Manual)	35	,00	1,00	,7143	,45835
Friend Score (Manual)	35	,00	1,00	,6857	,47101
Network Score (Manual)	35	,00	1,00	,5714	,50210
Temporal Score (Manual)	35	,00	1,00	,6571	,48159
User Score (Manual)	35	,00	1,00	,7143	,45835
Total Score (Manual)	35	,00	1,00	,7000	,35654
Number of Cases	35				

All of the Contentious Tweets - Descriptive Statistics

	Cases	Minimum	Maximum	Mean	Std. Deviation
Content Score (Botometer)	204	,30	4,90	3,6373	1,28365
Sentiment Score (Botometer)	204	,20	4,80	3,4544	1,32941
Friend Score (Botometer)	204	,30	4,70	2,8578	1,25733
Network Score (Botometer)	204	,30	4,80	2,6824	1,50031
Temporal Score (Botometer)	204	,30	4,80	3,3613	1,58500
User Score (Botometer)	204	,10	4,90	2,9466	1,45742
Total Score (Botometer)	204	,00	4,90	2,9735	1,45490
Content Score (Manual)	204	,00	1,00	,8186	,38627
Sentiment Score (Manual)	204	,00	1,00	,7402	,43961
Friend Score (Manual)	204	,00	1,00	,6275	,48467
Network Score (Manual)	204	,00	1,00	,5441	,49928
Temporal Score (Manual)	204	,00	1,00	,6520	,47752
User Score (Manual)	204	,00	1,00	,6716	,47080
Total Score (Manual)	204	,00	1,00	,6757	,34788
Number of Cases	204				

Mundane Tweet A - Descriptive Statistics

	Cases	Minimum	Maximum	Mean	Std. Deviation
Content Score (Botometer)	38	,20	4,90	2,7526	1,67392
Sentiment Score (Botometer)	38	,20	4,80	2,9789	1,70613
Friend Score (Botometer)	38	,70	4,60	2,5868	1,41329
Network Score (Botometer)	38	,40	4,60	1,9947	1,33517
Temporal Score (Botometer)	38	,30	4,80	2,4763	1,79586
User Score (Botometer)	38	,20	4,80	1,8368	1,44192
Total Score (Botometer)	38	,00	4,90	1,8000	1,28652
Content Score (Manual)	38	,00	1,00	,5789	,50036
Sentiment Score (Manual)	38	,00	1,00	,6053	,49536
Friend Score (Manual)	38	,00	1,00	,5263	,50601
Network Score (Manual)	38	,00	1,00	,2895	,45961
Temporal Score (Manual)	38	,00	1,00	,5789	,50036
User Score (Manual)	38	,00	1,00	,3421	,48078
Total Score (Manual)	38	,00	1,00	,4868	,32967
Number of Cases	38				

Mundane Tweet B - Descriptive Statistics

	Cases	Minimum	Maximum	Mean	Std. Deviation
Content Score (Botometer)	37	,20	4,80	2,8541	1,50676
Sentiment Score (Botometer)	37	,30	4,80	2,8054	1,55277
Friend Score (Botometer)	37	,50	4,60	2,2973	1,39034
Network Score (Botometer)	37	,40	4,80	2,2054	1,48342
Temporal Score (Botometer)	37	,30	4,80	2,3622	1,64052
User Score (Botometer)	37	,20	4,80	1,9189	1,53855
Total Score (Botometer)	37	,00	4,90	1,9162	1,46903
Content Score (Manual)	37	,00	1,00	,6216	,49167
Sentiment Score (Manual)	37	,00	1,00	,4595	,50523
Friend Score (Manual)	37	,00	1,00	,4324	,50225
Network Score (Manual)	37	,00	1,00	,4054	,49774
Temporal Score (Manual)	37	,00	1,00	,4054	,49774
User Score (Manual)	37	,00	1,00	,2973	,46337
Total Score (Manual)	37	,00	1,00	,4369	,33645
Number of Cases	37				

All of the Mundane Tweets - Descriptive Statistics

	Cases	Minimum	Maximum	Mean	Std. Deviation
Content Score (Botometer)	75	,20	4,90	2,8027	1,58370
Sentiment Score (Botometer)	75	,20	4,80	2,8933	1,62359
Friend Score (Botometer)	75	,50	4,60	2,4440	1,40012
Network Score (Botometer)	75	,40	4,80	2,0987	1,40467
Temporal Score (Botometer)	75	,30	4,80	2,4200	1,71030
User Score (Botometer)	75	,20	4,80	1,8773	1,48083
Total Score (Botometer)	75	,00	4,90	1,8573	1,37144
Content Score (Manual)	75	,00	1,00	,6000	,49320
Sentiment Score (Manual)	75	,00	1,00	,5333	,50225
Friend Score (Manual)	75	,00	1,00	,4800	,50296
Network Score (Manual)	75	,00	1,00	,3467	,47911
Temporal Score (Manual)	75	,00	1,00	,4933	,50332
User Score (Manual)	75	,00	1,00	,3200	,46962
Total Score (Manual)	75	,00	1,00	,4622	,33172
Number of Cases	75				

Data Set of the Study*

Tweet	Account Number	Content Score	Sentiment Score	Friend Score	Network Score	Temporal Score	User Score	Overall Score	Content Score Manual	Sentiment Score Manual	Friend Score Manual	Network Score Manual	Temporal Score Manual	User Score Manual	Overall Score Manual
1	1	4,60	3,40	4,50	4,10	4,80	3,10	4,60	1,00	1,00	1	1,00	1,00	1,00	1,00
1	2	4,80	4,60	2,80	2,90	4,80	4,20	4,10	1,00	1,00	0,00	1,00	1,00	1,00	0,83
1	3	4,80	4,80	2,20	4,00	4,30	4,50	4,60	1,00	1,00	0,00	1,00	1,00	1,00	0,83
1	4	4,20	4,20	3,60	4,60	4,60	3,30	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
1	5	2,00	1,90	1,80	1,10	3,80	4,10	1,30	1,00	1,00	0,00	0,00	1,00	1,00	0,67
1	6	4,70	4,80	3,20	1,90	1,70	2,10	1,70	1,00	1,00	1,00	0,00	0,00	0,00	0,50
1	7	4,50	3,30	2,10	0,90	4,60	4,00	1,30	1,00	1,00	1,00	0,00	0,00	1,00	0,67
1	8	4,70	4,50	1,40	4,40	4,70	3,40	3,50	1,00	1,00	0,00	0,00	1,00	1,00	0,67
1	9	1,80	0,80	2,30	2,00	2,50	1,70	1,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	10	0,40	0,30	1,20	0,90	0,60	0,40	0,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	11	4,60	4,30	1,60	1,80	4,70	4,40	2,00	1,00	1,00	0,00	0,00	1,00	1,00	0,67
1	12	4,40	3,60	3,40	1,30	4,70	3,40	3,30	1,00	1,00	1,00	0,00	1,00	1,00	0,83
1	13	4,60	4,20	2,10	3,10	4,70	4,70	4,40	1,00	1,00	0,00	0,00	1,00	1,00	0,67
1	14	2,40	1,50	1,40	1,70	0,60	0,40	1,20	1,00	1,00	1,00	1,00	0,00	0,00	0,67
1	15	4,40	4,00	3,60	4,50	4,50	4,80	4,70	1,00	1,00	1,00	1,00	1,00	1,00	1,00
1	16	4,70	4,80	2,50	1,60	1,20	1,70	2,60	1,00	1,00	0,00	1,00	1,00	0,00	0,67
1	17	3,90	4,70	2,40	1,00	3,40	1,30	1,50	1,00	1,00	1,00	0,00	1,00	1,00	0,83
1	18	2,70	2,60	1,20	1,30	3,50	1,40	1,20	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	19	2,50	4,10	3,20	0,60	2,30	1,80	1,30	1,00	1,00	1,00	0,00	1,00	1,00	0,83
1	20	2,20	2,70	4,60	1,60	4,80	4,80	3,20	0,00	0,00	1,00	0,00	1,00	1,00	0,50
1	21	4,80	4,60	4,60	4,60	4,60	3,60	4,50	1,00	1,00	1,00	1,00	1,00	1,00	1,00
1	22	4,40	4,00	3,70	2,20	3,70	3,20	3,70	1,00	1,00	1,00	1,00	1,00	1,00	1,00
1	23	4,70	2,20	4,60	4,20	4,80	2,90	3,80	1,00	0,00	1,00	1,00	1,00	1,00	0,83
1	24	4,40	3,20	1,50	4,30	4,70	3,20	4,20	1,00	1,00	0,00	1,00	1,00	1,00	0,83
1	25	4,80	4,80	4,60	4,60	4,70	4,80	4,90	1,00	1,00	1,00	1,00	1,00	1,00	1,00
1	26	4,70	3,00	4,30	4,50	4,50	4,80	4,70	1,00	1,00	1,00	1,00	1,00	1,00	1,00
1	27	4,40	4,20	4,60	4,50	4,70	4,80	4,60	1,00	1,00	1,00	1,00	1,00	1,00	1,00
1	28	2,00	2,20	4,60	4,10	4,30	3,30	2,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
1	29	4,90	2,20	4,60	4,60	4,70	4,80	4,90	1,00	0,00	1,00	1,00	1,00	1,00	0,83
1	30	2,10	2,90	2,00	0,70	0,40	0,80	1,30	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	31	4,90	4,80	4,60	4,50	4,70	4,70	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
1	32	4,50	3,00	3,00	1,90	3,50	4,60	4,40	1,00	1,00	1,00	1,00	1,00	1,00	1,00
1	33	3,30	4,10	2,30	1,10	2,50	2,60	1,90	1,00	1,00	0,00	0,00	0,00	0,00	0,33
1	34	4,70	4,80	2,50	1,60	1,20	1,70	2,60	1,00	1,00	0,00	0,00	0,00	0,00	0,33
1	35	3,90	4,70	2,40	1,00	3,40	1,30	1,50	1,00	1,00	0,00	0,00	0,00	0,00	0,33
1	36	2,70	2,60	1,20	1,30	3,50	1,40	1,20	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	37	3,50	0,80	1,00	2,80	2,20	1,10	1,20	1,00	0,00	0,00	0,00	0,00	0,00	0,17
1	38	1,30	1,40	1,80	3,60	1,20	1,80	3,10	0,00	0,00	0,00	1,00	0,00	0,00	0,17
1	39	3,30	4,10	2,30	1,10	2,50	2,60	1,90	1,00	1,00	0,00	0,00	0,00	1,00	0,50
1	40	1,10	0,40	0,80	4,20	1,80	1,80	1,60	0,00	0,00	0,00	1,00	0,00	0,00	0,17
2	41	3,50	4,30	2,20	0,40	1,00	0,80	1,00	1,00	1,00	1,00	0,00	0,00	1,00	0,67
2	42	4,60	4,70	4,60	3,40	4,80	3,20	3,90	1,00	1,00	1,00	1,00	1,00	1,00	1,00
2	43	0,50	3,00	0,30	2,10	3,80	3,00	1,30	0,00	1,00	0,00	0,00	1,00	0,00	0,33
2	44	4,50	4,30	1,30	1,90	4,00	3,10	3,10	1,00	1,00	0,00	1,00	1,00	1,00	0,83
2	45	3,90	3,80	2,90	3,40	3,80	1,80	3,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
2	46	4,50	4,70	4,10	3,00	4,20	2,00	3,00	1,00	1,00	1,00	1,00	0,00	1,00	0,83
2	47	4,70	4,80	4,60	3,50	4,50	3,70	4,50	1,00	1,00	1,00	1,00	1,00	1,00	1,00
2	48	4,20	4,10	4,60	1,10	4,10	3,30	2,40	1,00	1,00	1,00	0,00	1,00	1,00	0,83
2	49	4,80	4,50	3,50	3,90	4,60	3,10	3,10	1,00	1,00	1,00	1,00	1,00	1,00	1,00
2	50	0,50	4,50	2,60	1,00	0,90	1,20	3,60	1,00	1,00	1,00	0,00	0,00	0,00	0,50
2	51	4,30	4,70	3,30	4,80	4,50	3,70	4,60	1,00	1,00	1,00	1,00	1,00	1,00	1,00
2	52	4,70	4,60	4,70	4,70	4,50	3,50	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
2	53	4,60	4,10	4,60	4,50	4,80	3,20	4,40	1,00	1,00	1,00	1,00	1,00	0,00	0,83
2	54	4,80	4,70	4,60	4,80	4,80	3,70	3,60	1,00	1,00	1,00	1,00	1,00	1,00	1,00
2	55	2,20	1,80	1,10	1,70	0,30	3,20	0,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2	56	1,80	3,50	1,70	0,60	1,40	1,40	1,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2	57	0,90	2,00	2,50	0,60	1,30	0,80	0,80	0,00	0,00	1,00	0,00	0,00	0,00	0,17
2	58	2,60	4,60	2,30	1,50	4,30	1,80	2,20	0,00	1,00	0,00	0,00	1,00	0,00	0,33
2	59	4,40	3,40	0,70	2,00	4,50	2,50	2,50	1,00	1,00	0,00	0,00	1,00	1,00	0,67
2	60	3,20	3,40	2,80	0,70	2,40	0,50	1,50	1,00	1,00	1,00	0,00	1,00	1,00	0,83
2	61	4,70	4,80	3,70	3,50	4,80	4,70	4,70	1,00	1,00	1,00	1,00	1,00	1,00	1,00
2	62	1,70	0,60	1,70	2,00	0,80	0,30	1,60	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2	63	2,90	3,00	2,20	2,50	3,10	3,30	4,20	0,00	1,00	1,00	0,00	0,00	1,00	0,50
2	64	4,70	4,70	2,30	1,00	4,40	2,60	3,70	1,00	1,00	0,00	0,00	1,00	0,00	0,50
2	65	4,50	4,60	3,30	0,90	3,30	1,00	3,40	1,00	1,00	1,00	1,00	1,00	1,00	1,00
2	66	4,70	4,40	3,10	3,70	4,70	3,30	2,40	1,00	1,00	1,00	0,00	1,00	1,00	0,83
2	67	3,50	3,70	2,80	4,10	2,40	2,90	3,30	1,00	1,00	1,00	1,00	0,00	1,00	0,83
2	68	4,00	3,90	3,60	1,90	2,00	2,50	3,20	1,00	1,00	1,00	0,00	1,00	1,00	0,83
3	69	3,60	4,00	3,80	3,90	4,80	3,00	4,50	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	70	2,90	1,50	4,10	4,50	4,50	4,80	4,00	1,00	0,00	1,00	1,00	1,00	1,00	0,83
3	71	4,70	4,70	4,50	3,80	4,70	4,90	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	72	4,50	4,00	2,80	2,40	4,70	3,70	3,40	1,00	1,00	0,00	0,00	1,00	1,00	0,67
3	73	3,90	4,50	2,60	4,40	3,90	1,30	3,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	74	4,50	3,90	3,60	4,80	4,70	4,70	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	75	4,20	4,60	2,30	4,50	4,70	4,80	4,20	1,00	1,00	0,00	0,00	1,00	1,00	0,67
3	76	0,70	1,70	1,80	0,80	0,40	0,30	0,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00
3	77	3,90	3,80	2,90	3,40	3,80	1,80	3,20	1,00	1,00	1,00	1,00	0,00	0,00	0,67
3	78	4,40	4,40	2,50	3,50	4,50	4,10	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	79	4,70	4,50	4,50	4,80	4,80	4,40	4,90	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	80	4,70	2,60	3,90	0,60	4,30	3,30	3,30	1,00	1,00	1,00	1,00	1,00	0,00	0,83
3	81	4,50	4,00	3,10	4,60	4,80	4,10	3,60	1,00	1,00	1,00	1,00	1,00	1,00	1,00

Data Set of the Study*

3	82	4,50	3,80	3,40	2,40	4,70	2,60	4,10	1,00	1,00	1,00	0,00	1,00	1,00	0,83
3	83	4,30	4,50	4,30	4,10	4,50	2,90	4,70	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	84	1,90	4,00	0,90	1,10	4,80	2,70	3,70	0,00	1,00	0,00	0,00	0,00	1,00	0,33
3	85	2,30	0,90	1,80	0,70	2,50	2,10	1,20	0,00	0,00	0,00	0,00	0,00	0,00	0,00
3	86	4,80	4,70	4,20	4,50	4,80	4,20	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	87	4,30	4,30	3,00	1,50	4,70	3,80	3,10	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	88	2,70	3,30	2,40	1,10	0,40	3,90	2,60	1,00	1,00	1,00	0,00	0,00	1,00	0,67
3	89	4,70	4,30	3,60	4,70	4,60	4,70	3,70	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	90	4,70	3,00	4,70	3,90	4,80	4,30	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	91	4,70	4,70	2,60	2,50	1,70	1,80	2,40	1,00	1,00	1,00	1,00	0,00	1,00	0,83
3	92	2,60	2,20	2,80	0,50	2,00	4,00	2,30	1,00	0,00	1,00	0,00	0,00	1,00	0,50
3	93	0,40	0,20	0,60	0,50	0,60	0,10	0,20	0,00	0,00	0,00	0,00	0,00	0,00	0,00
3	94	4,40	2,90	4,10	1,80	4,60	3,30	2,50	1,00	1,00	1,00	1,00	0,00	1,00	0,83
3	95	4,10	4,70	2,80	2,80	4,60	3,30	3,50	1,00	1,00	1,00	1,00	1,00	1,00	1,00
3	96	4,30	4,70	2,40	2,80	4,60	3,90	4,10	1,00	1,00	0,00	0,00	1,00	1,00	0,67
3	97	4,70	4,40	0,70	4,00	4,80	2,90	2,80	1,00	1,00	1,00	1,00	0,00	1,00	0,83
3	98	4,10	3,90	3,20	1,00	4,80	3,50	3,30	1,00	1,00	1,00	0,00	1,00	1,00	0,83
3	99	4,60	3,40	2,40	0,70	1,00	3,60	2,40	1,00	1,00	1,00	0,00	1,00	0,00	0,67
4	100	3,60	4,00	3,80	3,90	4,80	3,00	4,50	1,00	1,00	1,00	1,00	1,00	1,00	1,00
4	101	4,60	4,80	3,70	3,50	3,50	3,70	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
4	102	4,80	4,50	4,50	4,80	3,80	4,70	4,40	1,00	1,00	1,00	1,00	1,00	1,00	1,00
4	103	1,10	0,40	1,40	1,70	1,20	0,40	0,20	0,00	0,00	0,00	0,00	0,00	0,00	0,00
4	104	2,90	0,30	0,90	0,30	0,70	0,90	0,50	1,00	0,00	0,00	0,00	0,00	0,00	0,17
4	105	4,80	4,80	4,70	4,80	4,60	4,60	4,90	1,00	1,00	1,00	1,00	1,00	1,00	1,00
4	106	4,80	4,80	4,60	3,30	4,60	4,80	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
4	107	3,40	2,40	4,70	2,80	1,00	3,70	1,70	1,00	0,00	1,00	1,00	1,00	1,00	0,83
4	108	4,60	4,80	4,20	3,20	4,60	3,80	3,40	1,00	1,00	1,00	1,00	0,00	1,00	0,83
4	109	4,10	3,70	1,60	1,10	1,70	1,70	1,30	1,00	1,00	0,00	0,00	0,00	1,00	0,50
4	110	2,00	0,40	0,70	0,40	0,70	1,00	0,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00
4	111	4,20	2,70	2,80	0,50	1,60	2,20	1,00	1,00	1,00	1,00	0,00	0,00	0,00	0,50
4	112	2,90	1,50	4,10	4,50	4,80	3,90	3,30	1,00	0,00	1,00	1,00	1,00	1,00	0,83
4	113	4,70	4,70	4,50	3,80	4,70	4,90	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
4	114	4,50	4,50	4,40	4,60	4,80	4,10	4,70	1,00	1,00	1,00	1,00	1,00	1,00	1,00
4	115	4,50	4,00	2,80	2,40	4,70	3,70	3,40	1,00	1,00	1,00	0,00	0,00	1,00	0,67
4	116	3,90	4,50	2,60	4,40	3,90	1,30	3,00	1,00	1,00	1,00	1,00	1,00	0,00	0,83
4	117	4,50	3,90	3,60	4,80	4,70	4,70	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
4	118	4,20	4,60	2,30	4,50	4,70	4,80	4,20	1,00	1,00	0,00	1,00	1,00	0,00	0,67
4	119	0,30	0,90	0,50	1,00	0,50	1,30	1,20	0,00	0,00	0,00	0,00	0,00	0,00	0,00
4	120	0,70	2,40	0,80	0,90	1,80	1,10	0,70	0,00	1,00	0,00	0,00	0,00	0,00	0,17
4	121	3,50	1,90	2,70	3,10	3,40	2,50	4,20	1,00	0,00	1,00	1,00	1,00	1,00	0,83
4	122	1,70	3,90	2,50	1,90	1,00	2,70	3,70	1,00	1,00	1,00	1,00	0,00	1,00	0,83
4	123	4,60	4,70	1,40	2,20	4,50	4,80	4,70	1,00	1,00	0,00	1,00	1,00	1,00	0,83
4	124	3,30	4,80	2,70	0,50	4,50	2,80	3,10	1,00	1,00	1,00	0,00	1,00	1,00	0,83
4	125	4,70	4,50	3,80	3,60	4,60	4,50	4,70	1,00	1,00	1,00	1,00	1,00	1,00	1,00
4	126	4,80	4,80	2,30	3,80	4,70	3,10	3,90	1,00	1,00	1,00	1,00	1,00	0,00	0,83
4	127	4,60	4,70	2,40	2,50	4,60	4,90	3,30	1,00	1,00	0,00	0,00	1,00	1,00	0,67
4	128	3,40	2,60	1,90	1,70	4,50	4,10	2,20	1,00	0,00	0,00	0,00	0,00	0,00	0,17
4	129	1,40	1,30	0,80	1,30	1,90	0,60	0,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00
4	130	3,90	3,80	2,90	3,40	3,80	1,80	3,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
4	131	4,40	4,40	2,50	3,50	4,50	4,10	4,20	1,00	1,00	0,00	1,00	1,00	1,00	0,83
4	132	2,50	0,60	2,00	1,70	3,10	1,10	3,00	1,00	0,00	0,00	0,00	1,00	0,00	0,33
5	133	0,40	0,40	0,80	0,90	0,60	1,40	0,80	0,00	0,00	0,00	0,00	0,00	0,00	0,00
5	134	3,60	4,00	3,80	3,90	4,80	3,00	4,50	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	135	2,90	1,50	4,10	4,50	4,50	4,80	4,00	1,00	0,00	1,00	1,00	1,00	1,00	0,83
5	136	4,70	4,70	4,50	3,80	4,70	4,90	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	137	4,50	4,00	2,80	2,40	4,70	3,70	3,40	1,00	1,00	0,00	0,00	1,00	1,00	0,67
5	138	3,90	4,50	2,60	4,40	3,90	1,30	3,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	139	4,50	3,90	3,60	4,80	4,70	4,70	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	140	4,20	4,60	2,30	4,50	4,70	4,80	4,20	1,00	1,00	0,00	0,00	1,00	1,00	0,67
5	141	0,70	1,70	1,80	0,80	0,40	0,30	0,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00
5	142	4,80	4,60	4,60	4,60	4,60	3,60	4,50	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	143	4,40	4,00	3,70	2,20	3,70	3,20	3,70	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	144	4,70	2,20	4,60	4,20	4,80	2,90	3,80	1,00	0,00	1,00	1,00	1,00	1,00	0,83
5	145	4,40	3,20	1,50	4,30	4,70	3,20	4,20	1,00	1,00	0,00	1,00	1,00	1,00	0,83
5	146	4,80	4,80	4,60	4,60	4,70	4,80	4,90	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	147	4,70	3,00	4,30	4,50	4,50	4,80	4,70	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	148	4,40	4,20	4,60	4,50	4,70	4,80	4,60	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	149	2,00	2,20	4,60	4,10	4,30	3,30	2,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	150	4,90	2,20	4,60	4,60	4,70	4,80	4,90	1,00	0,00	1,00	1,00	1,00	1,00	0,83
5	151	2,10	2,90	2,00	0,70	0,40	0,80	1,30	0,00	0,00	0,00	0,00	0,00	0,00	0,00
5	152	0,60	0,40	1,90	0,80	0,70	0,90	1,80	0,00	0,00	1,00	0,00	0,00	0,00	0,17
5	153	3,60	4,70	1,90	1,90	0,80	3,70	1,80	1,00	1,00	0,00	0,00	0,00	0,00	0,33
5	154	4,30	4,80	4,20	2,80	0,90	4,30	4,60	1,00	1,00	1,00	0,00	0,00	0,00	0,50
5	155	1,10	3,10	3,10	1,10	0,90	0,40	0,00	1,00	1,00	0,00	0,00	0,00	0,00	0,33
5	156	4,50	3,90	3,60	4,80	4,70	4,70	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	157	4,40	4,40	2,50	3,50	4,50	4,10	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	158	4,70	4,50	4,50	4,80	4,80	4,40	4,90	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	159	4,20	2,70	1,60	2,20	2,80	0,50	1,00	1,00	0,00	0,00	1,00	0,00	0,00	0,33
5	160	4,40	4,30	0,90	1,30	2,60	2,40	1,10	1,00	1,00	0,00	0,00	1,00	1,00	0,67
5	161	4,70	4,60	4,30	4,30	4,70	4,30	4,60	1,00	1,00	1,00	1,00	1,00	1,00	1,00
5	162	1,40	1,80	0,60	0,70	1,50	1,60	2,30	0,00	0,00	0,00	0,00	1,00	0,00	0,17
5	163	1,60	2,30	3,10	0,40	0,40	0,50	2,10	0,00	0,00	1,00	0,00	0,00	0,00	0,17

Data Set of the Study*

5	164	3,60	3,00	3,50	2,20	4,60	3,30	2,20	1,00	1,00	1,00	0,00	1,00	0,00	0,67
5	165	1,60	0,60	2,10	1,30	1,10	0,40	0,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00
5	166	2,90	2,60	1,60	3,10	2,80	2,10	1,80	1,00	1,00	0,00	1,00	1,00	0,00	0,67
5	167	3,80	3,90	1,40	0,70	2,60	0,40	0,40	1,00	1,00	0,00	0,00	0,00	1,00	0,50
5	168	2,20	2,50	0,50	0,50	0,90	0,30	0,50	1,00	0,00	0,00	0,00	0,00	0,00	0,17
5	169	2,20	1,80	1,10	1,70	0,30	3,20	0,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00
6	170	3,60	4,00	3,80	3,90	4,80	3,00	4,50	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	171	4,60	4,80	3,70	3,50	3,50	3,70	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	172	4,80	4,50	4,50	4,80	3,80	4,70	4,40	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	173	1,10	0,40	1,40	1,70	1,20	0,40	0,20	0,00	0,00	0,00	0,00	0,00	0,00	0,00
6	174	2,90	0,30	0,90	0,30	0,70	0,90	0,50	1,00	0,00	0,00	0,00	0,00	0,00	0,17
6	175	4,80	4,80	4,70	4,80	4,60	4,60	4,90	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	176	4,80	4,80	4,60	3,30	4,60	4,80	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	177	4,80	4,70	4,20	4,50	4,80	4,20	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	178	4,30	4,30	3,00	1,50	4,70	3,80	3,10	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	179	2,70	3,30	2,40	1,10	0,40	3,90	2,60	1,00	1,00	1,00	0,00	1,00	1,00	0,83
6	180	4,70	4,30	3,60	4,70	4,60	4,70	3,70	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	181	4,70	3,00	4,70	3,90	4,80	4,30	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	182	4,70	4,70	2,60	2,50	1,70	1,80	2,40	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	183	2,60	2,20	2,80	0,50	2,00	4,00	2,30	1,00	0,00	1,00	0,00	0,00	1,00	0,50
6	184	4,50	4,60	3,30	0,90	3,30	1,00	3,40	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	185	4,70	4,40	3,10	3,70	4,70	3,30	2,40	1,00	1,00	1,00	0,00	1,00	1,00	0,83
6	186	3,50	3,70	2,80	4,10	2,40	2,90	3,30	1,00	1,00	1,00	1,00	0,00	1,00	0,83
6	187	4,00	3,90	3,60	1,90	2,00	2,50	3,20	1,00	1,00	1,00	0,00	1,00	1,00	0,83
6	188	3,40	2,40	4,70	2,80	1,00	3,70	1,70	1,00	0,00	1,00	1,00	1,00	1,00	0,83
6	189	4,60	4,80	4,20	3,20	4,60	3,80	3,40	1,00	1,00	1,00	1,00	0,00	1,00	0,83
6	190	4,10	3,70	1,60	1,10	1,70	1,70	1,30	1,00	1,00	0,00	0,00	0,00	1,00	0,50
6	191	4,50	3,90	3,60	4,80	4,70	4,70	4,80	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	192	4,40	4,40	2,50	3,50	4,50	4,10	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	193	4,70	4,50	4,50	4,80	4,80	4,40	4,90	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	194	4,20	2,70	1,60	2,20	2,80	0,50	1,00	1,00	0,00	0,00	1,00	0,00	0,00	0,33
6	195	4,40	4,30	0,90	1,30	2,60	2,40	1,10	1,00	1,00	0,00	0,00	1,00	1,00	0,67
6	196	4,70	4,60	4,30	4,30	4,70	4,30	4,60	1,00	1,00	1,00	1,00	1,00	1,00	1,00
6	197	1,40	1,80	0,60	0,70	1,50	1,60	2,30	0,00	0,00	0,00	0,00	1,00	0,00	0,17
6	198	1,60	2,30	3,10	0,40	0,40	0,50	2,10	0,00	0,00	1,00	0,00	0,00	0,00	0,17
6	199	3,60	3,00	3,50	2,20	4,60	3,30	2,20	1,00	1,00	1,00	0,00	1,00	0,00	0,67
6	200	1,60	0,60	2,10	1,30	1,10	0,40	0,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00
6	201	2,90	2,60	1,60	3,10	2,80	2,10	1,80	1,00	1,00	0,00	1,00	1,00	0,00	0,67
6	202	3,80	3,90	1,40	0,70	2,60	0,40	0,40	1,00	1,00	0,00	0,00	0,00	1,00	0,50
6	203	2,20	2,50	0,50	0,50	0,90	0,30	0,50	1,00	0,00	0,00	0,00	0,00	0,00	0,17
6	204	2,20	1,80	1,10	1,70	0,30	3,20	0,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00
a	205	4,90	2,20	4,60	4,60	4,70	4,80	4,90	1,00	1,00	1,00	1,00	1,00	1,00	1,00
a	206	3,60	4,40	1,80	0,60	4,10	0,20	0,40	0,00	0,00	0,00	0,00	0,00	0,00	0,00
a	207	4,70	4,70	4,60	3,00	4,50	2,80	3,50	1,00	1,00	1,00	1,00	1,00	0,00	0,83
a	208	4,50	4,40	2,80	3,00	4,40	0,20	0,90	1,00	1,00	1,00	1,00	1,00	0,00	0,83
a	209	0,80	1,50	1,60	0,90	0,60	0,60	1,80	0,00	0,00	0,00	0,00	0,00	0,00	0,00
a	210	4,50	4,30	1,30	1,90	4,00	3,10	2,60	1,00	1,00	0,00	0,00	1,00	1,00	0,67
a	211	2,30	3,10	0,70	1,30	1,20	0,20	1,00	1,00	0,00	0,00	0,00	0,00	0,00	0,17
a	212	0,60	1,50	1,60	2,50	0,80	0,60	0,60	0,00	1,00	0,00	1,00	0,00	0,00	0,33
a	213	1,30	0,70	1,40	3,30	3,40	0,90	1,60	0,00	0,00	0,00	1,00	1,00	0,00	0,33
a	214	4,70	4,60	4,60	4,20	4,80	4,10	3,90	1,00	1,00	1,00	1,00	1,00	1,00	1,00
a	215	3,30	3,00	2,30	1,30	0,60	1,80	1,30	1,00	1,00	0,00	0,00	0,00	0,00	0,33
a	216	2,90	4,50	2,90	1,30	2,30	0,40	2,00	1,00	1,00	1,00	0,00	1,00	0,00	0,67
a	217	0,40	0,60	0,80	1,30	0,50	1,50	1,80	0,00	0,00	1,00	0,00	1,00	0,00	0,33
a	218	4,60	4,50	4,60	1,70	4,50	2,60	1,00	1,00	1,00	1,00	0,00	1,00	1,00	0,83
a	219	1,70	2,40	1,40	0,90	1,90	4,80	1,20	0,00	1,00	0,00	0,00	0,00	1,00	0,33
a	220	4,30	4,70	2,20	1,10	4,30	1,00	1,60	1,00	1,00	0,00	0,00	1,00	0,00	0,50
a	221	3,70	2,20	4,60	4,60	4,70	2,20	3,60	1,00	0,00	1,00	1,00	1,00	1,00	0,83
a	222	4,30	4,20	1,90	1,30	4,40	2,70	0,70	1,00	1,00	0,00	0,00	1,00	0,00	0,50
a	223	0,30	0,20	1,00	1,50	0,70	0,60	0,80	0,00	0,00	0,00	0,00	1,00	0,00	0,17
a	224	2,50	4,50	2,80	1,70	1,00	1,80	0,70	0,00	1,00	1,00	0,00	0,00	0,00	0,33
a	225	4,40	4,60	4,40	3,90	4,70	3,90	4,30	1,00	1,00	1,00	1,00	1,00	1,00	1,00
a	226	4,00	4,60	4,60	3,10	4,80	2,00	2,40	1,00	1,00	1,00	1,00	1,00	0,00	0,83
a	227	4,70	4,50	4,20	0,80	4,30	1,80	2,80	1,00	1,00	1,00	0,00	1,00	0,00	0,67
a	228	0,60	0,60	2,10	0,60	0,50	0,30	1,50	0,00	0,00	1,00	0,00	0,00	0,00	0,17
a	229	1,40	1,80	1,20	0,40	0,30	1,00	0,60	0,00	0,00	0,00	0,00	0,00	0,00	0,00
a	230	0,30	0,40	0,70	0,70	0,50	0,40	0,60	0,00	0,00	0,00	0,00	0,00	0,00	0,00
a	231	1,70	1,10	1,00	0,50	0,40	1,90	1,10	0,00	0,00	0,00	0,00	0,00	1,00	0,17
a	232	0,40	0,30	1,00	1,10	1,30	0,40	0,40	0,00	0,00	0,00	0,00	0,00	0,00	0,00
a	233	3,00	4,10	3,00	1,30	1,60	1,20	0,80	1,00	1,00	1,00	0,00	0,00	0,00	0,50
a	234	3,80	4,80	2,30	1,80	3,50	1,80	2,10	1,00	1,00	1,00	0,00	1,00	0,00	0,67
a	235	4,60	4,60	4,60	4,60	4,60	4,30	2,60	1,00	1,00	1,00	1,00	1,00	1,00	1,00
a	236	0,20	0,40	0,80	0,50	0,70	0,20	0,30	0,00	0,00	0,00	0,00	0,00	0,00	0,00
a	237	1,80	2,20	4,60	4,00	4,70	1,70	1,40	0,00	0,00	1,00	1,00	1,00	1,00	0,67
a	238	4,20	4,00	3,20	3,90	1,50	2,70	3,40	1,00	1,00	1,00	0,00	1,00	1,00	0,83
a	239	0,60	0,40	1,90	0,80	0,70	0,90	1,80	0,00	0,00	1,00	0,00	0,00	1,00	0,33
a	240	3,60	4,70	1,90	1,90	0,80	3,70	1,80	1,00	1,00	0,00	0,00	1,00	1,00	0,67
a	241	4,30	4,80	4,20	2,80	0,90	4,30	4,60	1,00	1,00	1,00	0,00	1,00	0,00	0,67
a	242	1,10	3,10	3,10	1,10	0,90	0,40	0,00	1,00	1,00	0,00	0,00	0,00	0,00	0,33
b	243	3,40	2,20	4,60	4,80	4,80	4,40	4,10	1,00	0,00	1,00	1,00	1,00	1,00	0,83
b	244	4,60	4,80	3,50	3,70	3,70	3,50	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
b	245	4,80	4,50	3,80	4,70	4,50	4,80	4,40	1,00	1,00	1,00	1,00	1,00	1,00	1,00

Data Set of the Study*

b	246	1,10	0,40	1,20	0,40	1,40	1,70	0,20	0,00	0,00	0,00	0,00	0,00	0,00	0,00
b	247	2,90	0,30	0,70	0,90	0,90	0,30	0,50	1,00	0,00	0,00	1,00	0,00	0,00	0,33
b	248	4,80	4,80	4,60	4,60	4,70	4,80	4,90	0,00	1,00	1,00	1,00	1,00	1,00	0,83
b	249	4,80	4,80	4,60	4,80	4,60	3,30	4,20	1,00	1,00	1,00	1,00	1,00	1,00	1,00
b	250	3,40	2,40	1,00	3,70	4,70	2,80	1,70	1,00	1,00	0,00	0,00	1,00	1,00	1,00	0,67
b	251	4,60	4,80	4,60	3,80	4,20	3,20	3,40	1,00	1,00	1,00	1,00	1,00	1,00	1,00
b	252	4,10	3,70	1,70	1,70	1,60	1,10	1,30	1,00	1,00	0,00	1,00	0,00	0,00	0,00	0,33
b	253	2,00	0,40	0,70	1,00	0,70	0,40	0,70	1,00	1,00	0,00	0,00	0,00	0,00	0,00	0,17
b	254	4,20	2,70	1,60	2,20	2,80	0,50	1,00	1,00	1,00	0,00	0,00	1,00	0,00	0,00	0,33
b	255	4,40	4,30	0,90	1,30	2,60	2,40	1,10	1,00	1,00	1,00	0,00	0,00	1,00	1,00	0,67
b	256	4,70	4,60	4,30	4,30	4,70	4,30	4,60	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
b	257	1,40	1,80	0,60	0,70	1,50	1,60	2,30	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,17
b	258	1,60	2,30	3,10	0,40	0,40	0,50	2,10	0,00	0,00	0,00	1,00	0,00	0,00	0,00	0,17
b	259	3,60	3,00	3,50	2,20	4,60	3,30	2,20	1,00	1,00	1,00	1,00	0,00	1,00	0,00	0,67
b	260	1,60	0,60	2,10	1,30	1,10	0,40	0,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
b	261	2,90	2,60	1,60	3,10	2,80	2,10	1,80	1,00	1,00	1,00	0,00	1,00	1,00	0,00	0,67
b	262	3,80	3,90	1,40	0,70	2,60	0,40	0,40	1,00	1,00	1,00	0,00	0,00	0,00	1,00	0,50
b	263	2,20	2,50	0,50	0,50	0,90	0,30	0,50	1,00	1,00	0,00	0,00	0,00	0,00	0,00	0,17
b	264	2,20	1,80	1,10	1,70	0,30	3,20	0,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
b	265	1,80	3,50	1,70	0,60	1,40	1,40	1,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
b	266	0,90	2,00	2,50	0,60	1,30	0,80	0,80	0,00	0,00	0,00	1,00	0,00	0,00	0,00	0,17
b	267	4,50	4,40	2,80	3,00	4,40	0,20	0,90	1,00	1,00	1,00	1,00	1,00	0,00	0,00	0,83
b	268	0,80	1,50	1,60	0,90	0,60	0,60	1,80	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
b	269	4,50	4,30	1,30	1,90	4,00	3,10	2,60	1,00	1,00	0,00	0,00	1,00	1,00	0,00	0,67
b	270	2,30	3,10	0,70	1,30	1,20	0,20	1,00	1,00	1,00	0,00	0,00	0,00	0,00	0,00	0,17
b	271	0,60	1,50	1,60	2,50	0,80	0,60	0,60	0,00	1,00	0,00	1,00	0,00	0,00	0,00	0,33
b	272	1,30	0,70	1,40	3,30	3,40	0,90	1,60	0,00	0,00	0,00	1,00	1,00	0,00	0,00	0,33
b	273	0,20	0,40	0,80	0,50	0,70	0,20	0,30	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
b	274	1,80	2,20	4,60	4,00	4,70	1,70	1,40	0,00	0,00	1,00	1,00	0,00	0,00	0,00	0,33
b	275	4,20	4,00	3,20	3,90	1,50	2,70	3,40	1,00	1,00	1,00	0,00	0,00	0,00	0,00	0,50
b	276	0,60	0,40	1,90	0,80	0,70	0,90	1,80	0,00	0,00	1,00	0,00	0,00	0,00	0,00	0,17
b	277	3,60	4,70	1,90	1,90	0,80	3,70	1,80	1,00	1,00	0,00	0,00	0,00	0,00	0,00	0,33
b	278	4,30	4,80	4,20	2,80	0,90	4,30	4,60	1,00	1,00	1,00	0,00	0,00	0,00	0,00	0,50
b	279	1,10	3,10	3,10	1,10	0,90	0,40	0,00	1,00	1,00	0,00	0,00	0,00	0,00	0,33

*The data set is seperated into two sections. The left side highlighted by the blue color refers to data gathered using the Botometer tool. The right side highlighted by the color red refers to data gathered manually in order to check Botometer results.
As it was not possible for this study to manually attribute scores in the line with Botometer scoring, the manual scoring is limited to a binary system. In this binary system, 1,00 refers to the analyzed variable being suspicious and 0,00 refers to the contrary.
The variables in which a significant suspicion is detected, both by Botometer detection and manual detection, are highlighted by a red marking. The color of the mark gradually fades to black as the significance of the data lowers.