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Emily Thomas April 12, 2022

Insurgent Rulers in the Age of the Internet: The Emergence and Impact of Rebel Digital Governance in the Syrian Civil War

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Abstract

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By Emily Thomas

How do rebel organizations govern online? As insurgent groups increasingly exploit the internet and social media platforms, scholars suggest their digital behaviors constitute governance. Yet, little has been done to formally define and study rebel governance online. This thesis presents a novel conceptualization of digital rebel governance as well as investigates its effect on rebel territorial-bound governance outcomes. I argue that digital governance reduces insurgents' costs while still enabling them to accrue the same benefits that they had traditionally obtained from their territorial-bound governing operations. Moreover, by replacing rebels' reliance on the local population with external entities and donors, I contend that digital governance alters rebels' incentives to use violence against civilians. Focusing on evidence from the Syrian civil war, I use a mixed-methods approach to test these assumptions. I employ a 'reducing uncertainty' analysis on an original dataset (Thomas 2022), as well as, rely on observations from the Syrian Armed Groups, Alliances, and Actions (SAGAA) dataset (Gade et al. 2021) to conduct a case study of Hay'at Tahrir al-Sham (HTS). However, both quantitative and qualitative findings did not support the proposed logic of digital governance and point to an alternative causal mechanism instead. Evidence indicates that fluctuations in insurgent digital, territorial-bound, and coercive governance are all better explained by rebel group capacity.

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Section 1: Introduction

In August 2014, the Islamic State (ISIL) shocked the world when a video depicting its members beheading an American journalist, James Foley, went viral. Despite fading into obscurity after the American occupation in Iraq, ISIL, whose origins trace back to an Iraqi off-shoot of Al-Qaeda (AQI), re-emerged stronger than ever in 2012. In fact, ISIL seized over 100,000 square miles of territory across Iraq and Syria by 2014 ("MMP: Islamic State" 2021).

In the months following James Foley's assassination, ISIL gained notoriety for videotaping gruesome acts of violence and posting them online. Evenso, only a small fraction of ISIL's online content actually depicts extreme violence (Kraidy 2017). ISIL actually leverages a diverse digital portfolio which serves to increase fundraising, mobilize supporters, and facilitate recruitment.

By 2017, ISIL lost 95% of its territory ("Timeline: the rise, spread, and fall of the Islamic State" 2019). Yet, the group's online presence endures, evidenced by their continued ability to inspire attacks around the world. More recently, ISIL is making a comeback across Northwest Africa. Prompted by their reemergence, the United Nations called ISIL's expansion into Africa "the most alarming development in recent months," paying specific attention to the threat they pose online (Nations 2021).

ISIL's sophisticated online strategy highlights a growing concern among researchers and policy-makers alike: the internet has the potential to profoundly alter the nature of conflict. While ISIL's virtual network received the most international attention, they are not alone in exploiting online technologies. The internet has numerous conceivable implications for contemporary conflict, all of which merit further investigation. This thesis explores one: the role

that rebels' social media presence plays in shaping their behavior toward civilians living under their control.

1.1 Significance

Despite its novelty within conflict studies, rebel governance research exploded over the past two decades (Arjona 2016; Arjona, Kasfir, and Mampilly 2015; Kalyvas 2006; Mampilly 2011; Weinstein 2007). Previously, rebel governance was thought of as the collection of behaviors that maintain control over civilians and territory (Arjona, Kasfir, and Mampilly 2015). However, recognizing that rebel governance can take a myriad of different forms, sometimes unconventional, scholars expanded upon their previous conceptualization (Cunningham and Loyle 2021). Thorough research of these complex, dynamic behaviors has enormous academic and real-world implications. Understanding how and why rebels govern informs foreign policy decisions, humanitarian solutions, and even conflict outcomes. Heger and Jung (2015) find rebels who provide services are more likely to engage in negotiations and that these negotiations are less-likely to be disrupted by incidents of violence. Thus, rebel governance research not only apprises conflict-dynamics, but also has implications for peacebuilding.

The digital age only further complicates current paradigms of rebel governance. Insurgent groups are increasingly active on social media - Twitter, Facebook, Youtube, etc. - since these sites were conceived during the mid-2000s (Loyle and Bestvater 2019). While recent scholarship frequently alludes to rebels' online activities as governance, little has been done to formally conceptualize insurgent governance on the internet and social media. Thus, raising a fundamental question: what constitutes digital rebel governance? Rebels not only exploit

information technologies to improve communication, but also transfer governing objectives into the digital arena.

How, then, do the growing social media portfolios of rebel groups affect their territorial-bound governance operations? Conventional theories argue insurgents have material incentives to provide governance to civilians under their control (Cunningham, Huang, and Sawyer 2020; Flynn and Stewart 2018; Huang and Sullivan 2021; Stewart 2020). Does the internet alter those incentives? Recent literature suggests it may (Loyle et al. 2021; Walter 2017; Weidmann 2015). Digital governance has the potential to reduce an insurgent group's dependence on the local population as well as diminish the costs of territorial-bound governance. Without further inquiry, our understanding of rebel governance, both physical and digital, remains incomplete.

1.2 Contributions

This thesis uses the Syrian civil war as a lens to investigate the questions outlined above. First, I formulate and present a novel framework that conceptualizes rebel digital governance. Next, drawing on previous literature, I propose a theory to explain why rebels engage in digital governance and the consequences that follow. Based on quantitative observations from five prominent Syrian insurgent groups active from 2012 to 2017, I create the Syrian Rebel Governance dataset (Thomas 2022). I then conduct an in-depth qualitative analysis focusing on Hay'at Tahrir al-Sham's (HTS) governance between January 2017 and June 2018. Employing a mixed-methods approach, I test the impact that insurgent digital governance has on territorial-bound governance behaviors.

Section 2: Literature Review

2.1 Understanding Rebel Governance

Governance by insurgents during armed conflict is extensively documented. Earlier studies categorize (Arjona 2016; Kasfir 2015; Mampilly and Stewart 2021) and explain rebel governance behaviors (Arjona, Kasfir, and Mampilly 2015; Florea 2020; Huang and Sullivan 2021; Pizzichini 2019). Despite the abundant extant literature, scholars continue to redefine the concept. Previously, rebel governance only included behaviors that organize and manage civilian life during conflict. Kasfir (2015, 21) describes rebel governance as "the organizing of civilians for a public purpose." Indeed, early, influential research concentrated on insurgents with highly institutionalized structures of governance (Cunningham and Loyle 2021, 4).

Recent scholarship expanded upon traditional characterizations of rebel governance. Academics recognize rebel governance doesn't always present as a stable or organized system (Cunningham and Loyle 2021). Insurgent behavior is constrained by continuous armed threat, lack of sovereignty, and the resources an armed group has at its disposal (Loyle et al. 2021; Kasfir 2015). Some rebels can even achieve their military goals without any governance (Cunningham and Loyle 2021; Huang and Sullivan 2021). Rebels may be unwilling or unable to provide the same governance functions expected from states. Thus, contemporary research emphasizes the various ways insurgents govern during wartime. These include both tangible actions, such as policing, taxing, administering social services, and establishing political or judicial institutions (Arjona, Kasfir, and Mampilly 2015), as well as more abstract processes, like symbolic expressions, diplomatic relations, public outreach, and legitimacy-building efforts (Loyle et al. 2021; Mampilly 2015).

2.2 Why do Rebels Govern?

Not all rebels participate in governance. When they do, scholars view it as a strategic choice driven by an insurgent group's need for domestic and international support (Cunningham, Huang, and Sawyer 2021; Flynn and Stewart 2018; Huang and Sullivan 2021; Loyle et al. 2021; Stewart 2020). Extant literature recognizes rebel governance as an informal 'social contract' between insurgent rulers and civilians living under their control (Cunningham, Huang, and Sawyer 2021). Rebels maintain security and stability, and possibly even administer social services and in return, civilians provide rebel groups with resources necessary to their war efforts, such as food, shelter, personnel, funding, and military intelligence (Huang and Sullivan 2021; Kasfir 2015; Stewart 2020).

Some rebels implement governing procedures that are extractive, using coercion to collect taxes from civilians (Huang and Sullivan 2021). Although some coercion is expected in every conflict, an overreliance on coercive strategies can backfire (Huang and Sullivan 2021; Kasfir 2015). Thus, insurgents often establish governing operations to foster greater local legitimacy and popular support, like administering social services or holding elections. By engendering legitimacy and local support, rebels increase civilian compliance, or at least discourage deterrence. Resultantly, insurgents can efficiently extract necessary resources and recruit fighters from a pool of supportive civilians (Stewart 2020, 17). The influx of assets and supporters strengthens the rebel group to better contest their enemies. Thus, the potential benefits of increased domestic support encourages rebels to implement systems of governance

for civilians.[1] But how, then, does rebel infiltration into digital spaces affect their territorial-bound governance operations?

2.3 Insurgent Behaviors in the Digital Age

During their campaign in Iraq and Syria, ISIL transformed terrorist and insurgent recruitment, mobilizing about 42,000 foreigners from over 120 countries to join their cause ("MMP: Islamic State" 2021). Scholars attribute the unprecedented influx of external fighters to ISIL's strategic exploitation of the internet (Nations 2015). In particular, their sophisticated use of social media platforms confounded Westerners and enabled them to disseminate propaganda and radicalize individuals around the world (Alarid 2016). As many as 200,000 pro-ISIL tweets are posted everyday (Blaker 2015). The shocking success of ISIL's virtual recruitment directed international attention toward the online behaviors of terrorists and insurgents worldwide.

Rebels exploited the internet since it became publicly available in 1993. However, the explosion of social internet platforms in the early 2000s led to a dramatic increase in the presence of rebels online. Insurgents make use of numerous platforms, including Twitter, Facebook, Youtube, Whatsapp, as well as ideological sites, like jihadist forums (Azman 2014; Loyle and Bestvater 2019). Rebel expansion onto the internet and social media caused scholars to question its impact on conflict outcomes (Loyle et al. 2021; Walter 2017; Weidmann 2015). Previous literature demonstrates that insurgent adoption of online social platforms influences

[1] Similarly, rebel groups use governance to appeal to international audiences as well. Findings imply that cultivating international legitimacy is one of the driving forces of rebel governance (Cunningham, Huang, and Sawyer 2021; Flynn and Stewart 2018; Huang and Sullivan 2021; Steward 2018). Through governance operations, insurgents are able to generate foreign recognition and, subsequently, obtain external sponsorship.

rebel communication strategies (Loyle et al. 2021; Walter 2017; Weidmann 2015). Insurgents use online platforms to report on battles, troop movements or operational plans, disseminate propaganda, mobilize supporters, and more. Additionally, these sites allow rebels to broadcast their messages around the globe (Walter 2017; Weidmann 2015). Empirical findings indicate that the primary audience of rebel twitter accounts is international and rebel tweets often utilize international framing strategies (Loyle and Bestvater 2019). Despite the illusion that the internet facilitates free communication, a study focusing on social media networks of foreign fighters in Syria and Iraq revealed that rebels closely monitor outside communication and carefully construct their public narratives (Klausen 2015).

Scholars also point out that rebel online activity often goes beyond just communication, even suggesting insurgents govern in digital spaces (Loyle et al. 2021). Kilcullen (2006) argues that insurgents extend their operational locations into digital spaces where they expedite financial transfers, expand recruitment and training, and manage communication and planning. Social media allows rebels to circulate their messages worldwide, access previously off-limits global funding, and possibly even sustain themselves for longer (Walter 2017). Although scholars frequently allude to rebel governance within online spaces little has been done to conceptualize 'digital governance' or to systematically study it. Thus, these theoretical contributions lack supportive evidence. The remainder of this thesis explores how insurgents utilize social media for their governance aims.

Section 3: Theoretical Framework

3.1 Conceptualizing Digital Governance

Before insurgents' online governing behaviors can be systematically evaluated, they must first be delineated. In this section, I define and conceptualize *rebel digital governance.*

Rebel digital governance is the application of governing behaviors online or the use of information and communication technology to replicate the intended outcomes of traditional governance. While not every feature of traditional governance can be replicated virtually, insurgents find unique ways to transition aspects of their governance online. Additionally, insurgents are adept at exploiting both the public and private functions of the internet. For example, an insurgent organization might post on social media to disseminate propaganda publicly, but use private messaging features to directly contact potential recruits online (Alarid 2016; Understanding Violent Extremism 2019).

Moreover, rebels can achieve the same desired outcomes online that they accumulate from traditional governance structures. These include access to funding, resources, and recruits, but also greater international and domestic support. Social media platforms, in particular, are a vehicle for insurgents to broadcast their objectives and sovereign claims to a global audience. Additionally, contestation on the battlefield carries over to the internet, where rebel actors compete for legitimacy and resources. Online, insurgents monopolize the narrative to portray themselves as more capable than their competitors and codify their right-to-rule.

Rebel digital governance is made up of the following components: fundraising, recruitment, organization, propaganda, and symbolic processes. Table 1 provides examples of each digital governance component (see Appendix A). Although each represents a distinct

element of digital governance, in practice rebels levy a mixture of these strategies, often at the same time or in the same post.

Most rebel groups use social media to report news, accounts of battles or troop movements, and off-topic messages. This thesis is interested in how rebels govern, as opposed to communicate, in digital spaces, and thus focuses solely on explicit behaviors of governance online. Only operational reports that facilitate insurgents' narratives by using self-promotional and symbolic statements are treated as acts of digital governance.

3.1.1 Fundraising

A key benefit that rebels gain from digital governance is access to global funding streams otherwise unavailable to them (Walter 2017). Online, rebel groups engage in fundraising efforts both implicitly and explicitly. Social media represents an important tool for connecting insurgent groups with foreign donors (Dickinson 2013). Through disseminating propaganda online, rebels garner international legitimacy and create a network of external supporters (Walter 2017). These indirect digital pathways are significant in contemporary rebel fundraising, but explicit appeals to generate revenue on social media are rather infrequent. Nevertheless, in a few instances, both rebels and donors use social media to appeal directly for fundraising. In 2012, many Gulf-based donors of Syrian insurgents marketed their fundraising operations across Twitter and Facebook (Dickinson 2013). Upon receiving donations, rebels occasionally used their platforms to publicly thank their foreign patrons (Berman 2012).

I operationalize digital fundraising to include only explicit appeals made on social media or other public communication technologies for donations or funding. Since this thesis only observes digital behavior in public virtual spaces, I expect to find little evidence of insurgents

engaging in direct fundraising behaviors. Regardless, the ability of the internet to facilitate rebel fundraising, both directly through private channels, and indirectly on social media, necessitate that fundraising be included in the digital governance framework.

3.1.2 Recruitment

The digital age also created avenues for rebel groups to employ recruitment strategies online (Alarid 2016). Ideological and self-promotion statements online can indirectly facilitate rebel recruitment (Zeitzoff 2017). Notably, however, rebel social media posts making explicit calls to recruit new followers are uncommon (Loyle and Bestvater 2019, 586). A possible explanation for this, like fundraising, is that recruitment online primarily takes place in private spaces. Evidence from the Philippines shows extremist groups used Facebook's private messaging and closed special-interest forums to reach new members (Understanding Violent Extremism 2019). Despite this, some insurgents do engage in direct and public recruitment virtually. The Islamic State (ISIL) used social media to glamorize Sharia law, provide links to other extremist sites and recruiters, and even communicate travel and logistical information to recruits (Alarid 2016).

Only explicit appeals to enlist new combatants or supporters are measured as recruitment digital governance. Again, I do not anticipate finding many observations of insurgents using social media directly to recruit new members. Even so, scholars overwhelmingly acknowledge the role of the internet in promoting rebel recruitment (Alarid 2016; Klausen 2015; Lété 2016). Consequently, the intentional use of the internet for recruitment is an integral feature of rebel digital governance.

3.1.2 Organization

Insurgent and terrorist organizations also exploit the internet for operational purposes. Social media is a tool for insurgents to facilitate their diplomatic and governance engagements. Unlike states, rebel groups cannot access privileged diplomatic channels. Despite this, many insurgents still seek out strategic communication with foreign governments (Arjona, Kasfir, and Mampilly 2015). Modern digital technology removes some obstacles by granting rebels access to global audiences and allowing them to engage in diplomatic efforts, not only with foreign states but also with the international public sphere (Bos and Melissen 2019). Some insurgents craft and broadcast a group narrative internationally that indirectly serves to enhance their foreign relations (Jones and Mattiaci 2019). However, Bos and Melissen (2019) discover that two rebel groups in Mali engaged in more direct diplomatic endeavors by using social media to publicly lobby both foreign state officials and civil society groups.

Insurgents employ similar strategies online with respect to their governance activities. Al Qaeda in the Arabian Peninsula (AQAP) uses social media to maintain relations with local tribes, a strategy essential to their success (Kendall 2018). When operations against the Yemeni government caused tribesmen deaths, AQAP published formal apologies online (Kendall 2018).

Organization is distinguished from other elements of the digital governance framework because it serves to enhance rebel administrative functioning. This component only captures digital governance that intentionally facilitates or enhances diplomacy, governance, or other bureaucratic actions or processes. Posts that simply recount governance or diplomacy in order to increase popular support fall under propaganda.

3.1.4 Propaganda

A prominent way insurgents engage in digital governance is through posting self-promotional statements online. Propaganda has been around since the Ancient Mesopatanian Empire (Ingram 2016, 6). However, access to social internet platforms allows insurgents to spread propaganda more efficiently and to a wider audience (Walter 2017; Weidmann 2015). Latin America's oldest rebel movement, the Revolutionary Armed Forces of Columbia (FARC), is active online across various platforms, including its own website, which details the organization's history and ideology (Sánchez and Morrison 2014). The dissemination of propaganda across the globe allows rebel groups to garner legitimacy, solicit funding, and mobilize fighters (Kilcullen 2006; Walter 2017). ISIL's strategic social media presence facilitated the recruitment of an estimated 40,000 foreign members (Ward 2018). The internet also provides a space for rebels to attack their enemies outside of combat. In addition to statements of self-praise, FARC's website features scathing criticisms of the Colombian government (Sánchez and Morrison 2014).

The benefits that insurgents accrue from self-promotion and denouncing their rivals online makes propaganda a paramount aspect of rebel digital governance. Moreover, I expect that propaganda will comprise the majority of insurgent digital governance, especially on social media sites. Propaganda measures the online dissemination of self-promotional materials. Insurgent propaganda is distinctly self-aggrandizing or degrading of competitors, and often presents intentionally biased or misleading information.

3.1.5 Symbolic Expressions

Mampilly (2015) established the importance of symbolic processes in legitimizing insurgent authority and strengthening civilian sympathy toward rebel movements (76-77). Symbolic processes include organizing ceremonies (such as parades or memorials), wearing uniforms, adopting logos, and creating new currencies, but even more real-world examples abound (Mampilly 2015). Online, symbolic expressions play an equally influential role, especially as the internet widens and reinforces their effect (Mampilly 2015). The ability to spread pictures and videos on social media, gives insurgents novel methods to share content directly from the battlefield. While violent images illustrate a rebel group's power, insurgents post other symbolic expressions to portray their character and elicit emotional reactions. Posts of children dressed in Islamic State uniforms paint extremist life-styles as acceptable and relatable (Klausen 2015, 17-18).

Symbolic expressions are one of the most far-reaching behaviors of digital governance as rebels transition these emblematic devices onto internet platforms. In addition to propaganda, I anticipate that the bulk of insurgent digital governance observations will be symbolic expressions. My operationalization of digital symbolic expressions draws on Mampilly's (2015) definition: any virtual expression that evokes a sentimental reaction, habituates actions of members, or characterizes the group. Unlike propaganda, these expressions are not overtly self-promotional and instead use symbols to construct a shared identity between the insurgent group and its sympathizers.

3.2 The Logic of Digital Governance

Extant well-established theories contend that rebel governance is a strategic tool that insurgents use to gain legitimacy and necessary resources (Cunningham, Huang, and Sawyer 2021; Flynn and Stewart 2018; Huang and Sullivan 2021; Loyle et al. 2021; Stewart 2020). Most rebel groups are reliant on civilians for survival (Arjona, Kasfir, and Mampilly 2015). Through civilians, insurgents secure access to food, shelter, medicine, information, recruits, and funding streams. Therefore, civilian obedience, whether through persuasion or compulsion, is necessary for a rebel group's success. Accordingly, rebels employ various governance strategies, some coercive and others aimed at increasing popular support, in order to ensure civilian compliance.

While governance operations produce benefits, they also always generate costs for rebels (Stewart 2020). Regulating civilian life requires insurgents to expend resources toward creating and sustaining governance structures. Rebels must commit time, reallocate funding, and distribute personnel to govern civilians, making it an expensive investment. Moreover, governance that is fixed to territory, through infrastructure or institutions, leaves insurgents vulnerable to enemy attacks. Resultantly, rebels allot even more of their assets to continuously defend their territory.

In contrast, digital governance allows rebel groups to generate legitimacy and access to necessities while diminishing many of the costs of territorial-bound governance. Digital governance enables insurgents to reach broader audiences and gain recognition from international actors rather than domestic ones. In turn, greater external legitimacy provides rebels with access to global funding networks as well as foreign recruitment and mobilization (Walter 2017; Weidmann 2015). Simultaneously, rebels need not devote nearly as many

resources to create and sustain digital governance (Loyle et al. 2021). Insurgent online presence is also difficult for enemies to intercept (Loyle et al. 2021). By transitioning their governance into digital spaces, rebels are able to decrease their operational costs while still receiving necessary material support, through replacing their reliance on locals with external patrons. Thus, as rebels engage in more digital governance, they have less incentive to provide territorial-bound governance to local civilians.

H1: As a rebel group engages in a greater degree of digital governance, they will engage in less traditional territorial-bound governance.

Rebels' expanding internet presence can also alter insurgent-civilian interactions by inhibiting the restraints on rebel use of force. Previous research finds insurgents who obtain substantial external aid are more likely to exercise violence toward civilians (Salehyan, Siroky, and Wood 2014; Weinstein 2007). Keister and Slantchev (2014) assert rebels who receive foreign assistance face reduced penalties for using coercion against civilian populations. Contrastingly, civilian victimization decreases as rebels become more dependent on them for support and resources (Wood 2014). Scholarship also suggests information and communication technologies will reduce the reliance of insurgents on the local population and result in greater civilian abuse (Walter 2017).

Following this logic, insurgent digital presence can reshape the types of territorial-bound governance rebels choose to implement. Digital governance alters the war conditions for insurgents by providing outside resources so they no longer need to appeal for civilian support. Rather, having secured external funding, legitimacy, and recruits, rebels can use threats and

violence to sanction civilian compliance with their demands. Thus, insurgents who engage in extensive digital governance have greater incentives to trade persuasive strategies for coercive ones.

H2: As a rebel group engages in a greater degree of digital governance, their traditional territorial-bound governance structures will become more coercive in nature.

Section 4: Case Selection

4.1 Why Syria?

The ongoing Syrian civil war is arguably the most complex conflict to arise out of the Arab Spring uprising. The United Nations (2019) estimates the conflict is responsible for over 400,000 deaths, created at least 5.6 million refugees, and internally displaced 6.2 million Syrians ("Civil War in Syria" 2022). The Syrian war, itself, deserves further attention from scholars. Yet, two fundamental components of the conflict make it advantageous for studying rebel governance in both physical and digital spaces.

First, the conflict began in 2011, after the emergence of the internet and more importantly, social media platforms. The extensive use of social media by numerous rebel organizations separates the Syrian war from previous conflicts. Syrian insurgents' presence extended beyond the battlefields and into the digital spaces, where they produced abundant online materials detailing military operations, affiliations with other rebels, and even governing. Since a prerequisite for studying digital governance is access to and adoption of the internet, the Syrian civil war is an ideal case.

Second, unique conflict dynamics also make Syria an optimal focus for this study. Hundreds of rebel groups surfaced during the conflict, providing a view into rebel conduct across a diverse sample of groups. Additionally, the conflict experienced high territorial turnover. Many insurgents gained and lost territorial control, setting up the necessary conditions for territorial-bound governance. Lastly, the Syrian conflict is often described as a proxy war between both regional and world powers - primarily between the U.S. and Russia as well as between Saudi Arabia and Iran. Nearly every conflict actor receives assistance from entities abroad, and many Syrian civilian communities are international aid recipients as well. Consequently, many insurgents operating in Syria meet the threshold of capacity necessary to engage in governance. Due to the large proliferation of rebel groups, high territorial turnover, and extensive foreign involvement, the Syrian civil war offers an exceptional view into rebel digital and territorial-bound governing behaviors (For additional case context, see Appendix B).

4.2 Why Hay'at Tahrir al-Sham (HTS)?

Moreover, this thesis applies a deductive process tracing analysis on a single Syrian rebel group, Hay'at Tahrir al-Sham (HTS). HTS first emerged in early 2017, resulting from the blend of numerous militant organizations, most notably, Jabhat Fateh al-Sham and Ansar al-Din Front ("MMP: Hay'at Tahrir al-Sham" 2021). As of December 2021, HTS remains in control of the last rebel-held terrain in Idlib, Syria (Vohra 2021). This insurgent group offers an excellent opportunity to investigate the implications of digital governance for various reasons.

Forming from the merger of many insurgent groups, HTS captures the diverse religious, political, and territorial sentiments expressed throughout the Syrian conflict. Additionally, by mid-2017, HTS possessed approximately 20,000 fighters and acquired at least 60% of Idlib

("Syria regime's toughest foe in Idlib" 2018; Ali 2020). Thus the group makes for a highly representative case as well as achieved significant territorial control and military capacity. Unlike other Syrian insurgents, HTS's activities on social media are also accessible within the Syrian Armed Groups, Alliances, and Actions (SAGAA) dataset (Gade et. al 2022). Finally, HTS exhibits a high degree of within-case variation in its territorial-bound governance practices.

Section 5: Research Design and Methods

Investigating rebel governance in digital spaces creates a myriad of operational challenges for data collection and research design. Although my conception of digital governance includes both public and private rebel governing activities online, information about the private actions of rebels is neither accessible nor verifiable. Thus, I focus on public digital governance, namely the behavior of rebels on social media. Still, finding rebel groups' posts and accounts on social media is no easy task. Many countries designate insurgent groups, including those active in the Syrian conflict, as terrorist organizations. Social media sites, like Twitter, Facebook, and Youtube, attempt to prevent illicit activity on their platforms, through suspending group accounts, filtering posts, and even removing content (Alarid 2016). These actions are not successful in keeping terrorists or rebels off social media. Instead, insurgents immediately create new accounts, rely on individual supporters to post on their behalf, or transition to new platforms. However, these preventative measures create substantial barriers for collecting data on insurgent online behavior.

Given the various obstacles, I use a multi-method approach to test the core implications. First, I construct a small-n dataset with a sample of five prominent Syrian rebel actors operating

between 2012 and 2017. After creating the Syrian Rebel Governance Dataset (Thomas, 2022) (see Appendix C), I employ a reducing uncertainty approach (Drozdova and Gaubatz 2014) to quantitatively investigate the relationship between digital and territorial-bound rebel governance. Second, I conduct a case study focusing on the digital and territorial-bound governance behaviors of Hay'at Tahrir al-Sham (HTS). Individual insurgent groups constitute the main unit of analysis for both the quantitative and qualitative components of this thesis.

5.1 Operationalizing Key Concepts

5.1.1 Dependent Variables

Territorial-bound rebel governance is the dependent variable of interest in this thesis. It is measured as the presence of extractive, redistributive, or institutional governance that is tied to territory. *Extractive governance* includes systems of taxation, policing, and exploitation of natural resources. Social service provisions, like healthcare, education, or food distribution, fall under *redistributive governance*. *Institutional governance* measures whether an insurgent group established or co-opted political or judicial institutions.

Although this measure doesn't capture the full range of possible rebel governance strategies, I chose to limit the operationalization for two primary reasons. First, territorial-bound governance is often more institutionalized and therefore, more visible to observers. Consequently, media outlets are most likely to report on territorial-bound governance relative to other governing behaviors. Second, territorial-bound governance requires the most costly investments on the part of rebel groups.

Additionally, I include measures that capture the *coerciveness, exclusiveness*, and level of *civilian participation* within territorial-bound governance. Governance structures that compel

civilian compliance through the threat or use of force are treated as *coercive*. *Exclusive* governance refers to that which is only provided to a selective part of the civilian population. *Civilian participation* concerns governing structures that explicitly encourage or include civilian participants. Data comes from media, thinktank, and academic sources. These quantitative measures are detailed in the Syrian Rebel Governance dataset coding guide (see Appendix D).

Information on HTS's territorial-bound governance behaviors also comes from news, thinktank, and academic sources. Territorial-bound governance is still categorized as extractive, redistributive, or institutional, as well as coercive, exclusive, and by the level of civilian participation. However, the case study focuses on the degree to which governance is administered by HTS. Rather than simply quantifying the presence or absence of governance, I investigate the nature, scope, and timeframe of HTS governance. Consequently, I can more thoroughly evaluate how rebel digital governance affects territorial-bound governance.

5.1.2 Independent Variables

The independent variable of interest is rebel digital governance. The conceptualization of digital governance presented in this thesis encompasses both public and private aspects of rebel behavior online. However, I operationalize digital governance to include only the public online actions of rebels, particularly on social media. Resultantly, this thesis is unable to capture the full range of rebel digital governing activities. The reasons for this choice are twofold. First, evaluating digital governance in its entirety is infeasible due to logistical constraints on accessing data on insurgent internet activities. Second, rebel digital governance on social media is the primary area of interest for this thesis.

Digital rebel governance is measured by the presence of its components: fundraising, recruitment, organization, propaganda, and symbolic expressions. *Fundraising* comprises explicit appeals for donations or funding. Likewise, explicit appeals to enlist new combatants or supporters fall under *recruitment*. *Organization* includes posts that intentionally facilitate or engage in diplomacy, governance, or other bureaucratic actions or processes. *Propaganda* measures the online dissemination of self-promotional statements or materials. *Symbolic expressions* capture any virtual expression that evokes a sentimental reaction, habituates actions of members, or characterizes the group (see Appendix D).

I gathered information on the rebel groups' online behaviors from a combination of media, thinktank, and academic sources. The presence of each digital governance component was only marked when explicit evidence confirmed its use by a rebel group. In reality, I expect that each rebel group engages in all of these strategies to some extent. However, this thesis relies on the assumption that explicit evidence of a rebel group's engagement in a component of digital governance, which requires journalists or scholars to take notice, corresponds to a greater degree of actual engagement in that component.[2]

[2] Making the assumption that explicit evidence of a rebel group's engagement in a component of digital governance in the media corresponds to a greater degree of actual engagement in that component is potentially problematic as news reports may suffer from two forms of bias. First, description bias, or the inaccurate portrayal of events by the media, may lead to a misrepresentation of the rebel governance that is actually occuring (Earl et al. 2004). Second, news reports may include certain events but ignore others, a phenomenon known as selection bias, which has the potential to cause measurement error in data collection (Weidmann 2016). With these issues in mind, both logistical and ethical restraints of this project still necesitate that data collection draws on international media reports. Furthermore, the dual method approach employed by this thesis, acts as an additional robustness check to further validate any conclusions drawn.

HTS's digital governance information comes from the Syrian Armed Groups, Alliances, and Actions (SAGAA) dataset (Gade et al. 2022). The SAGAA dataset is made up of over 28,000 text-based references, collected from Facebook, Twitter, Telegraph, Youtube, local news sources, and reports provided by civilians or activists in the conflict zone, and translated by the Department of Defense. An advantage of the SAGAA dataset is it circumvents the aforementioned barriers to collecting information about insurgent digital governance behaviors on social media. The primary drawback is that in the process of coding claims of attack, all non-codeable observations were deleted from the dataset, except for those concerning HTS. While this makes it impossible to systematically compare digital governance across groups, it leaves over 3,000 highly-detailed observations, between 2017 and 2018, about HTS's online behaviors (see Appendix E).

I focus on observations that occurred between January 2017 and June of 2018, resulting in 2,147 hand-coded claims of HTS digital governance. For each, I measure the component of digital governance present using the same criteria outlined above. Additionally, I note the presence of the official Ebaa or HTS logo, as well as the use of religious and self-aggrandizing or derogatory language. Measures also capture the platforms digital governance claims were observed on and their composition (i.e. text, images, video, etc.). I include summary and trends columns, which briefly epitomize the content of the claim and note any recurring themes. These variables are further detailed in the HTS Digital Governance coding guide (see Appendix F). The coded data provides insight into the degree of HTS engagement in digital governance overtime, both in general and across numerous indicators. Furthermore, it allows me to discern patterns

in HTS's online behavior, develop a nuanced understanding of the digital governance components, and analyze HTS's digital governance on a macro and micro level.

5.1.3 Additional Variables and Measurements

Capacity

Extant literature established the positive relationship between rebel group strength and governance (Beardsley, Gleditsch, and Lo 2015; Huang and Sullivan 2021; Kasfir 2015; Loyle and Bestvater 2019; Wood 2010). Consequently, I expect higher-capacity rebels should engage in more digital and territorial-bound governance, making capacity a significant confounding variable.

Capacity is hard to define and difficult to measure. Previous research failed to account for the different elements that factor into rebel strength (Wood, 2010). Huang and Jung (2022) emphasize the importance of distinguishing various features of rebel capacity. I include measures in the Rebel Governance Dataset designed to capture two aspects of rebel capacity: material and military. I do not claim to capture the full range of insurgent group capacity in totality. However, by expanding the operalization, I am better able to control for capacity within my quantitative tests and understand its role in affecting insurgent governance.

Material capacity refers to the tangible resources that an insurgent group has at its disposal, including funding, weapons, and more. I use four variables intended to measure insurgent material capacity - *state sponsorship, non-state sponsorship, illicit activities,* and *natural resources*.

Military capacity concerns both the strength and effectiveness that an insurgent group wields when engaged in armed confrontation. I employ measures of *group size*, *operational location*, and *internal conflict* to account for military capacity (see Appendix D).

I also account for capacity in the case study of HTS. I direct my process-tracing analysis to determine if and how capacity influences digital governance and territorial governance.

Ideology

Recent research also highlights the importance of rebel group identity in shaping conflict processes (Arjona, Kasfir, and Mampilly 2015; Walter 2017). The positive relationship between Marxist ideology and social service provisions is well established (Huang and Sullivan 2021; Mampilly 2011), and Florea (2020) found Marxism was a key predictor across the entire spectrum of rebel governance institutions. To account for the influence of Marxism on rebel governance outcomes, I exclude any Syrian insurgent groups who espoused a Marxist ideology from my dataset.

Yet, I still must account for the potential effect of insurgents' religious, political, and territorial ideologies. First, I construct two variables to capture what post-conflict religious order the rebel group aims to create: *moderate religious order* and *strict religious order*. Variables capturing lesser degrees of religiosity were not included because the five insurgent groups sampled all espouse a high-level of religious ideology. I measure insurgent political ideology using three variables that assess what political order the rebel group aims to create. These are *democratic political ideology, hybrid political ideology,* and *authoritarian political ideology.*

Lastly, the *status quo* and *globalist* variables capture an insurgent organization's aspired boundaries (see Appendix D).

Furthermore, the case study also accounts for the potential influence of HTS's religious, political, and territorial ideologies. I use process-tracing tests designed to examine and disentangle the effects of rebel ideology, relative to other variables of interest, on territorial-bound governance.

5.2 Quantitative Tests

5.2.1 Design

This thesis employs a reducing uncertainty approach developed by Drozdova and Gaubatz (2014) based on information theory to analyze the Syrian Rebel Governance Dataset (Thomas 2022). Although this approach is leveraged across various academic disciplines, its application in political science research is notably absent. This methodology quantitatively orders and compares the effects of multiple factors of interest. It is particularly useful for small-n case studies where traditional statistics often fail. The information-theoretic approach is not limited by a small number of observations because it doesn't make assumptions about the distribution of data. It relies on the mutual information principle to measure how the observation of an explanatory variable "reduces the uncertainty" about the presence or absence of a dependent variable (Drozdova and Gaubatz 2014, 637).

This method isn't designed to determine causality and is unable to conclude the existence of confounding variables. Rather, it isolates the effect an individual variable has on predicting a binary dependent variable's value and calculates the relative explanatory power of various independent variables on an outcome. Thus, it can mathematically evaluate the effect

of digital rebel governance on explaining the presence or absence of territorial-bound and coercive governance.

The application of this method requires only four steps. First, I quantify the data by assigning ones and zeros to all observations. Next, I count each instance that the dependent and independent variable co-occur. Using the factor and outcome frequency counts, I estimate the conditional probabilities in R. Then, I calculate the information entropy (the baseline uncertainty of the dependent variable), the conditional entropy (the uncertainty of the dependent variable given knowledge of the independent variable), and the mutual information criterion (MIC) (the reduced uncertainty in the dependent variable due to knowledge of the independent variable). Finally, I compare the quantitative measures of uncertainty across the variables of interest and use the magnitude of their mutual information criterions to systematically evaluate their relative impact on an outcome.

5.2.2 Results

I applied the information analysis approach to seven dependent variables: territorial-bound governance, coerciveness, civilian participation, exclusiveness, extractive governance, redistributive governance, and institutional governance. The effect of nineteen factors of interest - fourteen control variables and five independent ones - were measured for each dependent variable. This methodology requires variation in the observed explanatory variable being tested. Unfortunately, I had to exclude tests of one independent variable - propaganda - because every insurgent group in the dataset disseminated digital propaganda.

Furthermore, the results for territorial-bound, extractive, redistributive, and institutional governance were all indeterminate. This occurred because each insurgent group in the dataset

participated in these types of governance to some degree, resulting in no variation in the observations of these dependent variables. Consequently, the MIC calculated for each governance variable, regardless of the factor of interest, was 0 (see Appendix G). Thus, the method provided inadequate evidence to determine if rebels engage in less territorial-bound governance as they engage in more digital governance (H1) . The results of the analysis for coerciveness, exclusiveness, and civilian participation are presented in Table 2, Table 3, and Table 4, respectively (see Appendix G).

The findings are also insufficient to conclude that rebels who engage in greater digital governance develop more coercive territorial-bound governance (H2). The likelihood insurgents employed exclusive governance increased as they engaged in digital governance, across all strategies tested. Still, digital governance variables displayed lower predictive power when compared with other factors of interest. Infact, exclusive practices appear better predicted by the religious ideology of insurgents. This conclusion makes sense in the Syrian conflict context, where those excluded from the benefits of rebel governance were often religious minorities.

Similarly, all indicators of digital governance, except fundraising, corresponded to mild increases in the likelihood that insurgents implemented coercive governance structures. However, only two digital governance measures, recruitment and organization, had MICs comparable to the predictive power of some control variables. The results show a relatively strong negative association between every capacity measure, except illicit activities and natural resources, and coerciveness. These findings support existing studies which suggest increased capacity enables insurgents to better organize political projects and engender voluntary local support (Huang and Sullivan 2021; Kasfir 2015; Wood 2010).

Moreover, digital governance doesn't appear to have a meaningful impact on the degree of civilian participation encouraged within insurgent governance. The different digital governance types experience extreme variation in both the predictive power and direction of their effect. The evidence suggests civilian participation outcomes are better explained by components of rebel group identity and capacity, such as group size, sponsorship, and territorial ideology. Regardless, these findings are unable to significantly link civilian participation with any factor of interest, since so many have equal MICs.

The most surprising finding is that espousing a hybrid political ideology made coercive governance less likely, civilian participation more likely, and is the most prominent predictor in both cases. Despite that, the trend doesn't continue among related variables - democratic and authoritarian political ideology - in a logical manner. Thus, I attribute this perplexing result to an anomaly in the small number of observations.

Ultimately, the reducing uncertainty analysis provided inconclusive results. The findings suffered due to the limited number of observations and lack of variability in factors of interest. Since every rebel group in the dataset engaged in extractive, redistributive and institutional governance, I was unable to produce findings sufficient to determine if rebels engage in less territorial-bound governance as they engage in greater digital governance (H1). Additionally, there was little evidence to suggest a relationship between rebel digital governance and coerciveness (H2). Modest findings suggest diminished support for the proposed theory, and instead point to a competing explanation: capacity. Nevertheless, the results negatively associating capacity and coercive governance are insubstantial without additional supportive

evidence. Inorder to address the drawbacks of this approach and comprehensively assess the logic of digital governance, I turn to a case study of HTS.

5.3 Qualitative Tests

5.3.1 Design

This thesis employs a process-tracing examination of HTS's digital governing behavior and its effect on territorial-bound governance. First, I brainstorm the observable implications that would provide necessary and sufficient evidence to support or disprove my proposed hypotheses (Collier 2011). Then, I hand-code over 2,000 observations from the SAGAA dataset (Gade et al. 2022) of HTS's social media and online activity during 2017 and 2018. I collect supplemental information about HTS's territorial-bound governance using two strategies. I employ general searches across think tanks and search engines as well as use custom date search tools to limit my source collection to specific time periods of interest. I then combine the collected data, construct a timeline of HTS's territorial-bound and digital governance, and triangulate these observations with other relevant factors. I explore the implications of digital governance by evaluating the strength of evidence with formal process-tracing tests (Collier 2011). Thus, I deductively evaluate my theory, assess causal relationships between variables of interest, and identify mechanisms linking independent and dependent variables.

5.3.2 Results

The emergence of Hay'at Tahrir al-Sham (HTS) offers a special opportunity to examine the influence of rebel digital governance on territorial-bound governance and supplement many of the shortcomings of the information analysis approach. The first observable implication produced evidence counterintuitive to the H1, thus eliminating it.

The first expected observable implication is that as HTS engages in more digital governance, they should engage in less territorial-bound governance. Evidence linking increasing digital governance and decreasing territorial-bound governance is necessary to demonstrate the validity of H1, but not sufficient to determine the underlying causal processes at work. However, the opposite pattern emerged - as HTS engaged in more digital governance, they also expanded their territorial-bound governance operations.

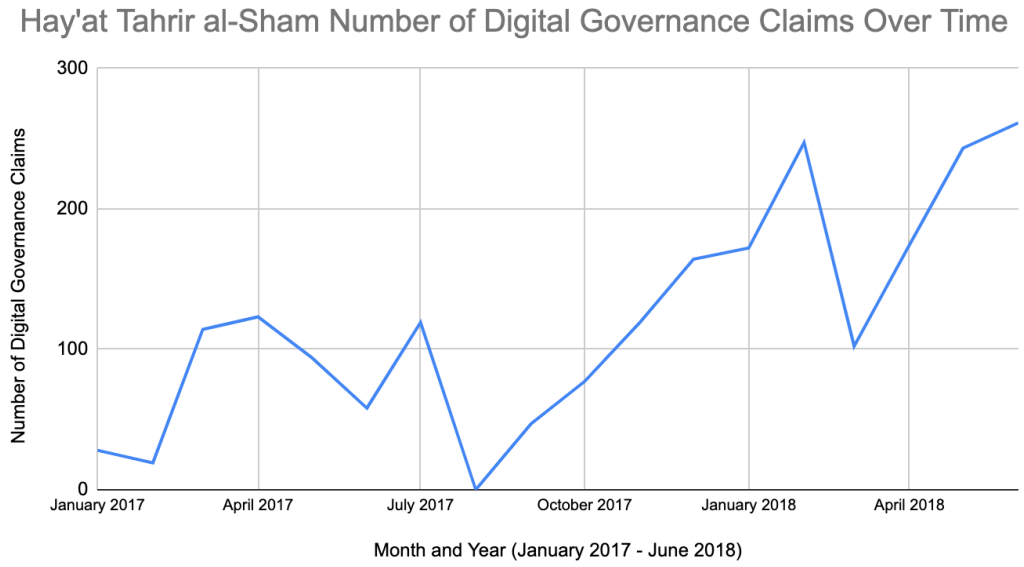

Figure 1: HTS Number of Digital Governance Claims Between January 2017 and June 2018

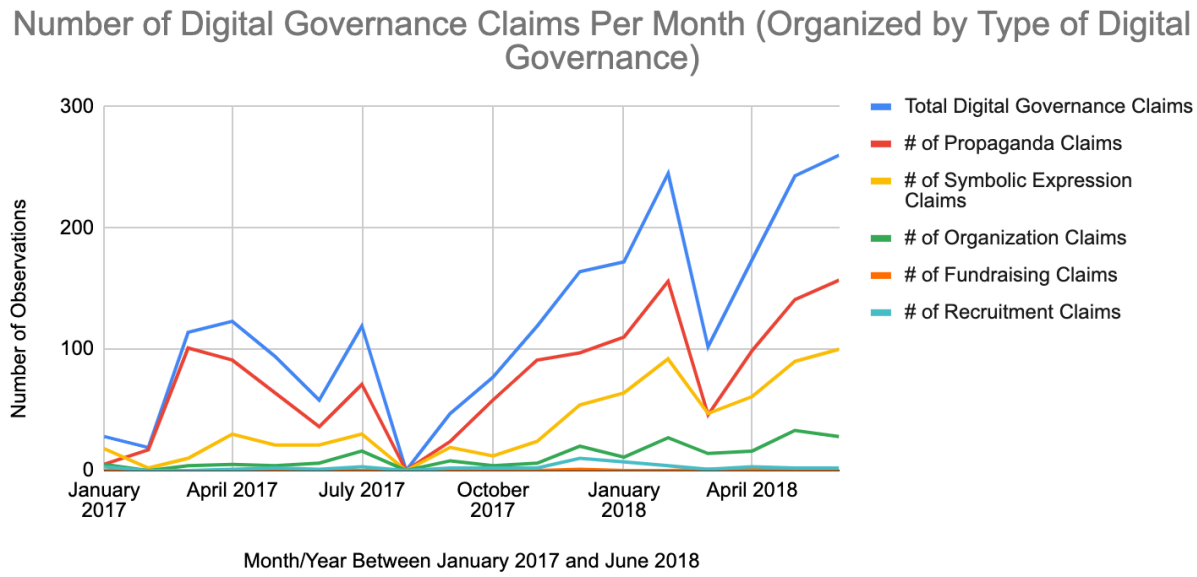

Figure 2: HTS Number of Digital Governance Claims Broken Down by Type of Digital Governance Between January 2017 and June 2018

Overtime HTS engaged in a greater degree of digital governance. In January 2017, when HTS first emerged, there were only 28 instances of digital governance. By June of 2018, however, their digital governance claims rose to 261 instances. While their digital governance observations fluctuated monthly, the overall trend demonstrates that HTS's digital governance increased dramatically over time. The three types of digital governance most used by HTS - propaganda, symbolic expressions, and organization - exhibited a similar tendency. Digital recruitment and fundraising showed a much more inconsistent pattern. This is attributed to their sporadic and infrequent use (see Appendix H). Figures 1 and 2 display these trends between January 2017 and June 2018.

Observations further indicate that HTS's online activity not only increased overtime but also grew more complex. During the period of observation, HTS expanded their digital governance onto numerous online platforms, increasing their virtual operational location and reach. From January 2017 - April 2017, 100% of SAGAA observations of HTS's digital governance came from Twitter. By the last four months of observations, HTS's digital governance surfaced on 8 different platforms: Amjad.com, Ebaa.com, Facebook, Jihadology.net, Syriansg.org, Twitter, Vimeo, and Youtube.

The composition of HTS's digital governance claims also evolved. During the first 6 months of their existence, HTS averaged 36 posts containing text, 26 containing images, and 24 containing video each month. However, only one year later, the number of HTS posts containing text grew to 140, images to 65, and video to 54, during an average month. Moreover, the percentage of claims that used multiple mediums of composition - that is both text and images, text and video, images and video, or text, images, and video together - doubled over the course of a year and a half. Thus, HTS's digital governance grew in both scope and complexity between January 2017 and June 2018.

Simultaneously, HTS's territorial-bound governance also increased. Throughout 2017 and 2018, HTS committed to expanding their governance efforts and created institutions to bolster their territorial-bound and digital governance. From their inception, HTS intended to develop an intricate system of governance and even established agreements with member factions "to develop a joint Islamic council and governing body, focused on developing laws, maintaining strong governance, and decreasing infighting" (Christie, Guadagno, and Maples 2017). HTS was created, in part, to centralize the various insurgent-run judiciaries and administrations under a

single authority (Jawad al-Tamimi 2017). Even with these intentions, HTS couldn't consolidate control over Idlib immediately. Instead, they had to adopt the governance systems of their predecessors and rely on the efforts of civilian and humanitarian organizations (Zelin 2017).

One of HTS's first major governance developments was the creation of the Ebaa News Agency (ENA) in March of 2019. The ENA resulted in a proliferation of HTS digital governance. Following its establishment, 75% of HTS digital governance observations either came from the Ebaa website or included an embedded official Ebaa logo. While Ebaa is presented as an independent organization, numerous sources recognize that ENA is directly linked to HTS (Haid 2019; Lakomy 2021). By distancing itself from the media outlet, HTS endeavored to disguise its biased advertising as neutral journalism. Yet, SAGAA observations found 67% of digital governance claims with an embedded official Ebaa logo were instances of propaganda and 55% used either self-aggrandizing or (toward rivals) derogatory language. Thus, ENA was critical to HTS's expansion of digital governance and in particular, propaganda. As a result, ENA was essential to cementing HTS legitimacy and sabotaging their adversaries.

In the summer of 2017, HTS experienced strategic financial, logistical, and military developments that advanced their territorial-bound governance operations. In May, HTS secured the region's hawala network, an informal banking system relying on trust and connections, and created the General Monetary Agency for Cash Management and Consumer Protection (Al-Zaraee and Shaar 2021; Christie, Guadagno, and Maples 2017). These advancements allowed HTS to establish authority over the financial sector, exploit charities operating in their territories, and acquire international recognition (Al-Zaraee and Shaar 2021; Christie, Guadagno, and Maples 2017). Following battles with Ahrar al-Sham (ASIM) in June, HTS

seized a strategic border crossing with Turkey, the Bab al-Hawa crossing. Revenue collected from the crossing provides HTS with approximately 10-15 million USD per month (Al-Zaraee and Shaar 2021). HTS solidified their victory against ASIM in July. After defeating the considerable rival, HTS's Civil Administration of Services issued various mandates and established numerous bureaucracies to ensure their exclusive control over civilian life (Jawad al-Tamimi 2017).

The most significant development of HTS's territorial-bound governance came in the fall of 2017, when the Syrian Salvation Government (SSG) was formed. Its origins began in the September Syrian General Conference, when the Idlib University President, Mohammed al-Sheikh, was appointed to create a government for supervision of the liberated territories ("'Power' Race between the 'Salvation' and 'Interim' Governments" 2017). SSG was officially announced on November 2nd 2017. It consists of 11 ministries: interior, justice, awqaf, education, higher education, agriculture, economy, societal affairs and displaced persons, residence and building, local administration, and health (Al-Wasl 2017). SSG's first objective was to increase its legitimacy while simultaneously delegitimizing its main competitor, the Syrian Interim Government (SIG). HTS's military dominance in Idlib, acquisition of critical economic resources, and monopoly over civilian social service provisions, allowed SSG to quickly defeat SIG for authority over Northwestern Syria ("'Power' Race between the 'Salvation' and 'Interim' Governments" 2017). By mid-december, SSG issued a 72 hour deadline to SIG demanding it terminate all operations or "be held responsible" (Nassar, Rahal, and Clark 2018). While SIG's leadership publicly condemned the threat, SSG took swift action against many of their local councils, severely weakening SIG (Nassar, Rahal, and Clark 2018).

In early 2018, HTS experienced its first major military decline. Its three remaining rebel rivals - ASIM, Nour al-Din al-Zenki (NADZM), and Suquor al-Sham (SAS) - formed an alliance, known as the Syrian Liberation Front (SLF), to combat HTS expansion and succeeded in taking significant amounts of their territory throughout February 2018 (Petkova 2018). Simultaneously, the Syrian Islamic Council called for revolts against HTS and several anti-HTS protests surfaced across Idlib, Homs, and Aleppo (Taskomur 2018). Despite the threat to their military power and control, HTS continued to grow their digital and territorial-bound governance efforts. The SAGAA dataset shows HTS experienced a dramatic increase in its digital governance activity during January and February 2018. Concurrently, HTS created the Watad Petroleum Company, which monopolized fuel distribution in SSG-controlled areas (Al-Zaraee and Shaar 2021; Hagedorn 2019). Fuel import disruptions, which threatened the closure of essential services and forced residents to burn their clothing for warmth, prefaced the creation of Watad Petroleum (Hagedorn 2019). Both HTS's digital and territorial-governance operations served a similar purpose, increasing their political and military legitimacy.

Throughout March and April of 2018, HTS was entangled in military conflict with SLF, culminating in a temporarily successful cease-fire agreement on April 24th (a-Noufal and Adely 2018). The skirmishes consumed HTS resources and personnel, causing their digital and territorial-bound governance to decline. In March 2018, HTS propagated nearly 150 less digital governance claims compared to February. Their digital governance activity resurged slightly in April, although it still lagged far behind February's numbers. Concurrently, while SSG and other HTS institutions continued to operate, no evidence indicates their territorial-bound governance expanded during this period.

By the beginning of summer, however, HTS's digital and territorial-bound governance experienced a revival. There were 243 and 260 HTS digital governance observations in May and June 2018, respectively. Additionally, the number of propaganda claims promoting governance activities, as opposed to military strength or anti-regime sentiments, increased substantially. While propaganda is not necessarily authentic, it appears HTS did reinvest into its territorial-bound governance, having temporarily pacified the SLF. The SSG is described as having continued political influence even in "territories that escaped its military control" ("Al-Nusra Front (Hayat Tahrir al-Sham)" 2022).

HTS spent this time establishing new governance institutions and reformulating their foreign relations goals. Abu Muhammad al-Jawlani, HTS's leader, began forming the Tribal and Clan Council in coordination with Syrian Tribal and Clan leaders during May and officially established the entity in June (Zelin 2021). HTS also created institutions to consolidate their financial control over the region. The Sham Bank took form in June, after HTS transformed al-Waseet, its previous informal money lending system, into an official bank (Al-Zaraee and Shaar 2021). It became one of HTS's most central economic institutions (Al-Zaree and Shaar 2021). The same month, HTS's General Shar'i Council released a statement concerning diplomacy with foreign states, titled 'Jihad and legitimate politics between the constants and variables' (Heller 2017). Primarily, it authorized diplomatic relations with foreign nations "as long as it advanced the interest of jihad, and was not clearly forbidden by law" (Heller 2017).

Despite facing setbacks in the spring of 2018, the overall pattern shows HTS gradually grew their governance efforts over the course of a year and a half. In early 2017, HTS was viewed as incapable of "setting up an all-encompassing totalitarian order" with governance that

was “complimentary to other opposition civilian structures” (Zelin 2017). However, by the end of 2018, HTS was perceived as a dominant force, having “managed to take control of significant portions of Idlib and of the strategic Bab al-Hawa crossing” (Soliman 2021). At the same time HTS’s territorial-bound governance expanded, their digital governance grew in scope and complexity as well.

Monthly observations also demonstrate that HTS’s digital and territorial-bound governance varied in tandem. Periods of high digital governance activity often directly preceded or immediately followed territorial-bound governance efforts. In December of 2017, subsequent to the creation of SSG, HTS disseminated more digital governance than any other month that same year. Conversely, HTS appeared to also experience simultaneous declines in both its digital and territorial-bound governance, such as in March of 2018.

Thus, when taken as a whole and in parts, the evidence laid out above doesn’t support H1, that as a rebel group engages in more digital governance, they will engage in less traditional territorial-bound governance. Infact, the pattern appears to be the exact opposite. Comprehensive trends of both HTS’s digital and territorial-bound governance increased overtime. A more micro-level inspection revealed that HTS’s territorial-bound and digital governance seems to grow and contract together. These findings suggest that both digital governance and territorial-bound governance are reflections of a rebel group's military capacity. As HTS control in Idlib increased, their engagement in digital and territorial-bound governance did as well. However, reductions in both governance types corresponded with HTS military setbacks.

I now turn to the second and third observable implications, which pertain to H2. Although the second observable implication confirms the relevance of the proposed hypothesis, evidence of the third implication was not found. Thus, I also fail to find support for H2.

The second expected observable implication is that as HTS engages in more digital governance, their territorial-bound governance should become more coercive and authoritarian. In order to demonstrate the validity of H2, it is necessary to find evidence associating increased digital and coercive territorial-bound governance. However, this alone is not sufficient to ascertain the underlying causal processes at work and prove H2.

SAGAA observations confirm that HTS's digital governance increased in both size and complexity between January 2017 and June 2018. Simultaneously, HTS's territorial-bound governance structures appeared to grow more coercive and authoritarian. Initially, though, HTS didn't try to dominate civilian life in Idlib unilaterally. The group first attempted to win local support through social services and sharing power with civilian leaders (Alami 2017; Almousa 2017; MMP: Hay'at Tahrir al-Sham 2021; Yee 2019).

However, HTS made a major shift toward authoritarianism following their military victory over ASIM in the summer of 2017. Having secured the Bab al-Hawa crossing and weakened their greatest rival, HTS began consolidating control over civilian affairs in Idlib (Haid 2017). They increased demands on civil society groups and local councils, ordering "that they submit periodic reports on their work, activities and services, as well as submitting financial reports, and revealing which organizations support them" (Almousa 2017). Local councils and service providers feared cooperating with HTS could mean losing essential international support but were alarmed by the threat of force that backed HTS's demands. Nevertheless, many civil

groups issued strong statements condemning HTS's actions and called for an independent civilian-run government (Almousa 2017). Resultantly, HTS adapted their strategy and focused their attention on forming SSG.

Despite being advertised as an independent civilian government, SSG is widely recognized as an HTS-controlled body that allowed "the group to monopolize authority in northwestern territories" (Haid 2019, 16). Immediately following its formation, SSG contested SIG and relied on the threat of HTS military force to compel SIG's local councils to disband (Özkizilcik 2018). These actions coincided with HTS's highest observed digital governance for all of 2017. By the year's end, SSG proved effective in replacing SIG's influence and HTS dominated Idlib both militarily and politically.

In early 2018, SSG expanded its authoritarian takeover by more strictly regulating civilian life. The International Crisis Group reports that SSG is responsible for enforcing gender segregation in schools, baring women from political engagement, and even torturing HTS critics ("The Best of Bad Options for Syria's Idlib" 2019). SSG faced criticism in January for mandating Universities in liberated territories subordinate themselves to their Higher Education Council (Rasmussen 2018). When students began protesting, SSG responded by closing dozens of Universities, including Aleppo Free University campuses ("'Salvation Government Continue Closing down Aleppo Free University'" 2018). HTS also amplified their religious police presence, known as Sawaed al-Khair, across the territories under its control (Abu al-Khair 2018). Previously, HTS's religious police made a concerted effort to engender civilian support, allegedly providing children with candy for memorizing the Quran (Rasmussen 2018). However, throughout spring 2018, the Sawaed al-Khair began enforcing strict Shariah law and handing out

harsh punishments to civilians for minor transgressions. Civilians recounted receiving public floggings or being incarcerated for wearing jeans, using makeup, smoking hookah pipes, and socializing in mixed-gendered groups (Abu al-Khair 2018; Rasmussen 2018). Furthermore, HTS's undertaking disproportionately affected women living under their control. In addition to implementing austere dress-codes and barring them from politics, SSG required all widows to move in with a close male relative (Edwards and Ibrahim 2017; Shami 2018). Even for a conservative society like Syria, residents of Idlib expressed that these measures were extreme (Rasmussen 2018).

Late 2017 until early 2018 was a time of reconfiguration for HTS. They formed a new government, usurped control away from SIG, and enforced strict Sharia law over civilians. The majority of these developments occurred between December 2017 and February 2018, when HTS also experienced its greatest growth in digital governance. However, the spring of 2018 delivered HTS military setback, when it became embroiled in clashes with SLF, and subsequently their digital governance faltered during March and April. Simultaneously, widespread discontent over Sawaed al-Khair policies forced HTS to temporarily halt their activities (Pierret and Alrefaai 2021). Thus, HTS's digital and coercive governance contracted concurrently as well.

The overall and monthly trends show HTS digital governance and coercive practices both increasing and decreasing in tandem. Yet, this by itself is inadequate proof that HTS's digital governance is responsible for the observed increases in their coerciveness. Therefore, I turn to a third observable implication to ascertain the underlying relationship between digital governance and coercive practices: As HTS engages in more digital rebel governance, they should replace reliance on the local population with external resources from outside patrons. In

addition to the aforementioned observation, evidence that digital governance alters insurgents' incentives to use coercion against civilians would provide sufficient support for the causal mechanisms outlined in my theory.

Yet, this expected implication was not observed. Rather, evidence shows a paradoxical result - as HTS increased their digital governance campaign, the group became more dependent on economic assets tied to the local population. During the summer of 2017, HTS seized the region's hawala network and strategic Bab al-Hawa crossing. Al-Zaree and Shaar (2021) view these acquisitions as HTS's first shift toward "generating sustainable streams of revenue beyond donations, looting, war spoils, ransoms, and enforcing zakat on the public." HTS's commitment to controlling the local economy continued into 2018. In January, they created the Watad Petroleum Company to monopolize fuel distribution in its territories. By June, HTS transformed the hawala network into the Sham Bank, an investment that allowed "the group to control much of NW Syria's financial services" (Al-Zaraee and Shaar 2021).

Each of these events coincided with periods of dramatic growth in HTS digital governance. Instead of boosting their external sponsorship, peaks in HTS's digital governance corresponded to increased reliance on the local economy and population. Therefore, the findings are counterintuitive to H2.

Additionally, attempts by HTS to impose coercive and authoritarian rule often followed strategic military or political victories over rivals. After defeating a major adversary in the summer of 2017, HTS solidified "its military dominance in the north-west and to organize governance and economic life in the insurgent enclave" (Heller 2017). December 2017 - February 2018 marked another period of HTS growing coerciveness and authoritarianism.

Similarly, these developments arose following the political success of SSG over SIG's local councils. Observations also support this pattern in reverse. HTS's only observed reduction in coercive institutions, temporarily disbanding their religious police, coincided with a considerable military setback in spring 2018. Pierret and Alrefaai (2021) suggest that infighting with SLF made HTS vulnerable and contributed to their decision to freeze Sawaed al-Khair activities.

These findings point to an alternative explanation. Yet again, capacity appears to be a key factor affecting both rebel digital and coercive governance. As HTS eliminated competition, they were able to increase their military control over Idlib and resultantly, dominate political, economic, religious, and social life. But when adversaries succeeded in diminishing HTS strength, the group's authoritarian rule and coercive institutions also waned.

Section 6: Conclusion

As insurgent groups become increasingly active on the internet, it is important to understand what implications their online presence has for conflict. This thesis set out to describe and explain rebel digital governance as well as investigate its consequences on rebel territorial-bound governance outcomes. I argued that rebel digital governance diminishes insurgents' incentives to provide territorial-bound governance and decreases their reliance on the local population resulting in more coercive and authoritarian practices.

Both quantitative and qualitative evidence from the Syrian conflict did not support these claims. A reducing uncertainty approach quantitatively ordered and compared the effects of various factors of interest on governance outcomes. Data limitations yielded inadequate

evidence to ascertain whether increasing digital governance corresponds to decreasing territorial-bound governance (H1). Quantitative results were also unable to conclude if rebels who engage in greater digital governance develop more coercive territorial-bound governance (H2). Although digital governance indicators had limited predictive power over exclusive and coercive practices, they didn't have a meaningful effect on civilian participation. Overall, exclusiveness, coerciveness, and civilian participation were all better explained by factors of rebel identity and capacity.

The HTS case study reiterated a lack of evidence favoring the proposed logic of digital governance. Contrary to theoretical expectations, as HTS's digital governance grew, so did their territorial-bound governance, suggesting little support for H1. Simultaneously, increases in HTS digital governance coincided with increases in their coerciveness and authoritarianism. Although this indicates support for H2, additional findings demonstrated a separate causal process was responsible for observed digital and coercive governance outcomes. Infact, evidence suggests the same alternative mechanism - capacity - explains both the unexpected findings. When HTS achieved greater military capacity and control, their digital and territorial-bound governance flourished. Similarly, increased digital and coercive governance observations were often preceded by HTS military or political victories. Once they defeated their competition for civilian support, HTS could implement their political vision for Syria and dominate civilian affairs, both on and offline. Thus, capacity facilitated HTS's digital and physical governance.

Furthermore, the case study indicates the proposed theory places too much emphasis on digital governance's role in generating external as opposed to internal support. Although

social media accrued HTS greater global legitimacy, especially among the Arab world, their posts were framed toward securing local approval as well. An increasingly large proportion of HTS propaganda was devoted to displaying governance projects. Often, ENA recorded promotional interviews with civilians discussing HTS administrative services. Such efforts serve to generate legitimacy on the ground. Additionally, digital governance didn't lead HTS to outsource their needs externally and replace their reliance on locals. Instead, as HTS expanded its domination of Idlib, their economic focus shifted away from foreign sources of revenue (Al-Zaraee and Shaar 2021). Resultantly, HTS became financially dependent on infrastructure within Idlib, had incentives to invest locally, and developed governance as an administrative front to exploit economic assets. Therefore digital governance doesn't simply replace traditional territorial-bound governance systems. Rather, digital and territorial-bound governance are complementary strategies which both grow out of and reinforce rebel group capacity.

Although I failed to find support for my theory of digital governance, insurgent online behaviors necessitate additional research. More robust data on rebels' virtual and physical activities is needed to untangle the consequences of rebel digital governance on conflict. Such data-collection would also allow for cross-national quantitative investigations of rebel digital governance. Future studies should compare the application, outcomes, and effectiveness across digital governance strategies. Not only will this research improve scholarly understanding of rebel digital governance, but it will also inform policy to best curtail and react to it.

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Section 8: Appendices

8.1 Appendix A: Digital Governance Examples (Table 1)

Table 1: Examples of each Digital Governance Component

Fundraising	At 1418 GMT on 26 May, Twitter user "Shabakat Akhbar al-Ma'arik" (@BNN_2016; user ID 751129653889404928) tweeted two embedded images bearing the Iba' News Agency logo and depicting food supplies and cash. The images are captioned: "A campaign to donate blood, food supplies, and cash in the eastern Dar'a countryside to benefit the 'Death Not Humiliation Battle."
Recruitment	Twitter user "Dr. Ismat Basha Ughlu" (@shamy5090; user ID 882604261699354624) tweeted an embedded image of a poster bearing the Tahrir al-Sham Corps logo titled "Announcing the Inauguration of a Tahrir al-Sham Corps Recruitment Camp." It announces the "command in the south" is starting the camp, emphasizes the importance of "mobilizing the youth to join the fronts" and includes a recruitment phone number.
Organization	At 1320 GMT on 26 May, Twitter user "Hashim Muhammad" (@morasel_thch; user ID 867450811915190272) tweeted an embedded image of a statement bearing the Tahrir al-Sham Corps logo and issued by the group's "Islamic Police" that sets guidelines during the month of Ramadan, including "prohibiting firing gunshots in weddings or disputes," "prohibiting non-fasting publicly," as well as "prohibiting playing music and songs in public places" during that month.
Propaganda	At 1917 GMT on 27 February, Twitter user "Hazim" (@moaedgazxc1; user ID 831197620374745088), tweeted an embedded 4-minute 10-second video bearing the logo of the Tahrir al-Sham Corps, along with a link to access it. In the video, titled "Military Statement on the Homs Security Operation by Conqueror Shaykh Abu-Muhammad al-Jawlani, Overall Military Commander," Al Jawlani says five of the group's "courageous heroes" were able to "penetrate the enemy's highly-secured lines," killing "50 enemies of God" including the "commander of the military security branch Hasan Da'bul and the head of the state security branch [Ibrahim Darwish]." Al-Jawlani says that this was to "avenge our people who have endured all sorts of torture and oppression by these two branches." He says he hopes it will teach a lesson to "politicians defeated in Geneva and in Astana,"

	and he asks them to "step aside," adding that the operation had proven the regime's "fragility" and that "more is to come."
Symbolic Expressions	At 1631 GMT on 29 January, Twitter user "Hay'at Tahrir al-Sham" (@ho990090; user ID 825374257404379136) tweeted: "A popular parade celebrates the founding of #Tahrir_al-Sham_Body," along with an embedded 41-second video featuring a pickup truck and a car loaded with fighters brandishing the new group's banner in an unidentified urban area to a background soundtrack of jihadist chanting.

8.2 Appendix B: Syrian Conflict Context

This appendix consists of additional case context about the Syrian conflict. The Syrian civil war is a complex ongoing conflict between a number of rebel groups (including both pro-democratic insurgents as well as ideologically motivated insurgents) and the Bashar al-Assad regime. Prior to the conflict, a devastating drought combined with pre-existing economic inequalities under the Assad government led to non-violent protests during the Arab Spring uprisings in 2011 (Britannica 2020). These tensions were exacerbated by disparities between the country's majority Sunni population and the Alawite elite in power (Britannica 2020). The regime's choice to use military force to suppress protesters further escalated hostilities and led some to join armed insurgencies against the government. By September of 2011, the situation in Syria evolved into a full scale civil war.

The organized defection of Syrian Security Forces, who formed the Free Syrian Army (FSA), spurred the onset of the insurgency in the summer and fall of 2011 (Laub 2017). The Free Syrian Army, advertised as a moderate faction and originally made up of 22 armed militia groups across Syria, was the main group to emerge from the protests (Laub, 2017). Despite FSA's ultimate inability to consolidate authority over their diverse member brigades, many poorly organized opposition groups still managed to seize strategic areas in Northern Syria, including Aleppo (Yacoubian 2021). In early 2013, the military intervention of the Lebanon Hezbollah and Iranian Revolutionary Guard Corps (IRGC) on behalf of the Syrian government saved the Assad regime from demise (Britannica 2020).

Around the same time, the Islamic State and the Levant (ISIL) joined the war and switched the concentration of the conflict away from opposing the Assad regime toward

factional contestation between the different rebel groups (Yacoubian 2021). The growth of ISIL and other insurgent groups espousing extremist ideologies further challenged FSA, which was defunct in all but name by 2014 (“Civil War in Syria” 2022). Meanwhile, the creation of an Islamic State Caliphate, which managed to control approximately a third of Syrian territory, left the Assad regime on the brink of collapse for a second time as well as prompted international attention and U.S. military intervention (Britannica 2020). Resultantly, this period of the conflict signified the obscuring of moderate opposition groups by radical insurgents (Yacoubian 2021).

In the following years of war, foreign involvement deepened, particularly in support of the Assad regime. Although initially, the U.S. and coalition forces expanded their sponsorship of moderate Syrian rebels, by 2016 western states substituted their previous assistance for anti-government opposition groups with strategies centered on the defeat of ISIL (“Civil War in Syria” 2022). Throughout 2015 and 2016, following a request from the Syrian government, Russia initiated and grew its military intervention, deploying airstrikes against moderate opposition forces (“Civil War in Syria” 2022). Simultaneously, Iranian and Hezbollah presence in the conflict, on behalf of the Assad regime, intensified as well (Yacoubian 2021). ISIL, confronted by the western-backed Kurdish forces, pro-Assad military units, and a coalition of insurgent groups, began to fall apart in 2016 (Britannica 2020).

Between mid-2016 and the summer of 2018, the Assad regime managed to retake the majority of rebel-held territory and consolidate power over most of the country (Yacoubian 2021). The combination of Russia’s intense military campaign and the reduction in foreign support devastated the western-backed rebels (Britannica 2020). Their ultimate demise was all but secured by the end of 2016, when the Syrian government recovered Aleppo, the rebel’s

most strategic territorial acquisition (Civil War in Syria). In January 2017, Hay'at Tahrir al-Sham (HTS) formed from the unification of remaining insurgent groups, in part due to pressure to centralize opposition power following Assad's military revival ("MMP: Hay'at Tahrir al-Sham"). Over the next year and a half, HTS consolidated its control within Idlib, as well as maintained operations in the Aleppo, Damascus, Hama, and Daraa provinces (Newlee 2018). During the same period of time, more critical rebel-controlled locations along the west and south of Syria fell back into the control of the Assad government (Yacoubian 2021). At the beginning of 2019, the withdrawal of the remaining U.S. troops from Syria left the majority-Kurdish Syrian Democratic Forces (SDF) vulnerable to Turkish offensives and consequently, forced sectors of the SDF to cooperate with the Assad regime (Britannica 2020).

While the Assad regime appears to have come up mostly victorious, certain pockets of Syria, like the Northwestern Idlib province, are still in rebel control ("The Syrian Civil War's Never-Ending Endgame" 2022). In early 2020, fighting broke out, following an unsuccessful government campaign to retake the rebel-held areas of Idlib, serving as a warning that the war could still reignite and intensify ("The Syrian Civil War's Never-Ending Endgame" 2022). Regardless of the continued skirmishes, Syria was ravaged by the conflict. Pro-Assad fighters are now warlords ruling over regions of the country; civilians lack access to essential resources, such as food, medicine, electricity, and fuel; and hundreds of billion dollars are needed for rebuilding (Sherlock, Neuman, and Homsi 2021). The levels of violence and instability may have decreased, but the conflict is far from over and the consequences of the war will be long lasting.

8.3 Appendix C: Syrian Rebel Governance Dataset

This appendix provides access to the Syrian Rebel Governance Dataset (Thomas 2022). This dataset contains information on the digital and territorial-bound governance activities of 5 Syrian insurgent organizations operating between 2012 and 2017: the Islamic State, Ahrar al-Sham, Jaysh al-Islam, Nour al-Din al-Zenki, and Jabhat al-Nusra. Access the Syrian Rebel Governance dataset here.

The Islamic State, Ahrar al-Sham, Jaysh al-Islam, Nour al-Din al-Zenki, and Jabhat al-Nusra were selected for the following reasons. First, each of these groups achieved substantial capacity and territorial control during the Syrian conflict, both of which are considered prerequisites for territorial-bound governance. Second, they all follow relatively strict religious ideologies and do not espouse Marxism. Thus, not only are these rebel groups quite comparable, but their selection intentionally controls for potential confounding factors.

8.4 Appendix D: Syrian Rebel Governance Coding Manual

This appendix consists of more information about the operalization and coding processes used to collect data for the Syrian Rebel Governance Dataset (Thomas 2021). Detailed descriptions of every variable and data-collection process can be found in the Syrian Rebel Governance Dataset Coding Manual. Below, I include additional information and examples concerning the key dependent, independent, and control variables that were collected for the quantitative portion of this thesis.

Dependent Variables:

The quantitative measures of each of these territorial-bound governance variables are detailed in the Syrian Rebel Governance dataset coding guide. While combing through various media, thinktank, and academic sources, any reports that a group engaged in territorial-governance were recorded. The presence of extractive, redistributive, or institutional governance structures were only marked when explicit evidence was found describing them. Additionally, the start and (if found) end dates, locations, exact text describing, and coder-decision notes were also documented for each instance that a type of territorial-bound governance occured. Similarly, if any of the reports indicated the presence or absence of coercion, exclusiveness, or civilian participation, the categories were marked accordingly, and the corresponding exact text and coder-decision notes rows were filled out.

For example, a report from the Institute for the Study of War reports that the Islamic State (ISIS) implemented various infrastructure projects within Syrian territories under its control, such as repairing water mains, fixing power lines, operating bread factories, and more

(Caris and Reynolds 2014, 20). Since these activities would be considered a form of social services, under the Islamic State's redistributive governance column, I would mark a 'yes' (or '1'). The report goes on to explain that inorder to carry out their infrastructure projects, the Islamic State relied on local skilled laborers, who were "threatened" or "forced into service" (Caris and Reynolds 2014, 21). Since the evidence indicates that the Islamic State used threats and force to compel civilian compliance and reinforce its governance structures, the coercion column would be filled out accordingly.

Independent Variables:

Information concerning insurgents' online activities was compiled from a combination of media, thinktank, and academic sources. The presence of each digital governance component - fundraising, recruitment, organization, propaganda, and symbolic expressions - was only marked when explicit evidence was found that a rebel group engaged in that online behavior. Additionally, the internet platforms, exact text describing, and coder-decision notes were also documented for each instance that a type of digital governance occured.

Continuing with the previous example of the Islamic State, Klausen (2015, 10-11) notes that a large proportion of tweets posted on the pro-ISIS accounts of Western-origin fighters in Syria include some form of religious instruction, such as references to fatwas, religious edicts, scripture quotes, and pictures of prominent jihadists or religious figures. Tweets with religious content serve to epitomize the character of the Islamic State and elicit an emotional reaction from ideological sympathizers around the world. These religious-oriented tweets indicate that

one function of the Islamic State's digital governance is the use of symbolic processes and therefore, I would mark the appropriate column with a 'yes' (or '1').[3]

Control Variables:

This thesis attempts to control for two phenomena using a wide range of variables: capacity and ideology. Capacity is measured using a series of criteria designed to assess a group's material and military resources. Additional variables capture insurgents' economic, religious, political, and territorial ideologies. Furthermore, each variable had to be made binary for the reducing uncertainty approach. Below describes the variables and how they were constructed in greater depth.

State and non-state sponsorship measure the presence of the sponsorship of a rebel group by foreign governments and non-governmental entities (such as individual donors), respectively. Sponsorship can take the form of financial resources, weapons, training, verbal support, territory, and intelligence. *Illicit activities* indicates whether an insurgent group raises capital by engaging in illegal behavior, such as kidnapping, drug smuggling, or human trafficking. *Natural resources* captures whether a rebel organization has access to natural resources, for example diamond minds or oil reserves.

Group size enumerates the number of members within a rebel group. Since estimates of group size often vary from year to year, when multiple estimates are found, the lowest and highest are recorded to create a range. For the purposes of measuring capacity, I averaged the

[3] Note that this example does not encompass the full extent of the Islamic State's digital governing, but rather illustrates the methodological process I used in creating the Syrian Rebel Governance Dataset.

high and low end of the range to create a single value for group size for each rebel actor. Inorder to turn this into a binary variable, the median value of group size was calculated across all the rebel groups in the sample. Only the insurgent organizations whose group size value was equal to or exceeded the median value were assigned a positive value of '1'. *Operational location* lists each province where the insurgent group was active. I construct *operational location* into a binary variable by applying a method similar to the one used for group size. For this variable, there is no need to average, as the measurements are already single values - the number of provinces that the insurgent group was active in. Just as before, I calculated the median value for operational location across each rebel actor in the dataset and assigned a '1' to any insurgent group whose operational location value was equal or exceeded the median value. *Internal conflict* captures the presence of within group discord such as purges of high-ranking officials, major defections, ousting of leaders, and tension or disagreement among group leaders. Unlike the previous variables, a positive value for internal conflict indicates diminished military capacity because it signals the rebel organization lacks group cohesion.

Religious Ideology is an ordinal variable that captures what religious order the rebel group aims to create post-conflict. This variable measures insurgent religiosity on a spectrum: (1) secular but group is not bound by religious goal; (2) secular but religion is important to membership; (3) moderate religious order; (4) strict religious order. Once I had finished collecting this information for all five of the rebel groups in the dataset, I had to construct additional binary variables that conveyed the same information. Since the insurgent groups in the dataset all espouse a high degree of religious ideology, I only had to construct two additional binary variables: *moderate religious order* and *strict religious order.* Only insurgent

groups that aimed to install laws with a basis in religious text but demonstrated flexibility in private conduct are assigned a '1' for *moderate religious order.* On the other hand, rebels are assigned positive values for *strict religious order*, when they prioritized order governed by religious law in all aspects of life.

I captured what political order the rebel group aims to create post-conflict in the ordinal variable, *political ideology*. For this variable, there were only three possible inputs. *Democratic political ideology* captures insurgent groups who prioritize representative governments through elected officials. Insurgents fall under a *hybrid political ideology* when their vision combines features of democratic and authoritative regimes. Finally, rebels who prioritize concentrated and centralized power under a single leader or small cohort receive positive values for *authoritarian political ideology.* Since all three of these political ideologies were included in the dataset, I made a binary variable for each one following the same process as above.

Territorial ideology - an insurgent organization's aspired boundaries - can be measured as (1) *status quo*; (2) bounded-autonomy; (3) seperatist; (4) global. However the rebel groups in this dataset only encompassed two of the territorial ideologies and thus, just those ones were turned into binary variables. The *status quo* variable ecompasses insurgents who wish to maintain the original physical borders of the state they are contesting, but desire to institute a different governmental order. Rebel groups who are trying to actively take over new territory and/or found their own empire are considered *globalist*.

8.5 Appendix E: Syrian Armed Groups, Alliances, and Actions (SAGAA) dataset

This appendix consists of information about the Syrian Armed Groups, Alliances, and Actions (SAGAA) dataset (Gade et al. 2022), from which data about HTS's digital governance was collected. The SAGAA dataset comprises six data elements and this thesis primarily draws on a single component, an event-based dataset based on militant social media posts. The event-based component of the dataset is made up of over 28,000 text-based references, which were collected from Facebook, Twitter, Telegraph, Youtube, local news sources, and reports provided by civilians or activists in the conflict zone, and translated by the Department of Defense. Consequently, access to the raw data is limited and cannot be publicly distributed at this time. From this collection, I examined 2,196 claims of HTS online activity between January 2017 and June 2018.

While the SAGAA dataset was essential to evade the barriers to collecting data on rebel digital governance, it suffers from a few limitations. First, in the process of coding claims of attack, all non-codeable observations were deleted from the dataset, except for those concerning HTS. This, in part, explains the motivation to limit the process-tracing analysis to focus only on HTS. Second, the dataset produced no observations of HTS activity for the entirety of August 2017. I attribute this to an error when the date section was originally coded and believe that some observations may have been mis-coded under the date August 2018. Still, it was impossible to distinguish which claims had been misassigned and thus, I left the observations for August 2017 at 0. Nevertheless, I do not believe this is a drastic concern given that the observations only appear to be affected for this one month and the project produced null findings anyway.

8.6 Appendix F: HTS Digital Governance Coding Manual

This appendix consists of more information about the coding processes and methodology used to analyze the HTS Digital Governance from the Syrian Armed Groups, Alliances, and Actions (SAGAA) Dataset (Gade et al. 2021). Detailed descriptions of every variable and data-collection process can be found in the HTS Digital Governance Coding Manual.

8.7 Appendix G: Reducing Uncertainty Results (Tables 2 - 8)

This appendix consists of the findings for each 'Reducing Uncertainty' Analysis. The results for coerciveness, exclusiveness, civilian participation, territorial-bound governance, extractive governance, redistributive governance, and institutional governance are presented in the tables below in that order. The factors of interest affecting the outcome variables are delineated in the left column. The (MIC) expresses the relative impact of the explanatory variable on the outcome variable. Larger MICs represent greater influence over the explanatory variable. "D" indicates the direction of the effect. When D = 1, the explanatory variable had a positive impact on the outcome, while D = -1 corresponds to a negative impact.

Table 2: Results from "Reducing Uncertainty" Analysis of Coercive Governance

	Ent of Y	Conditional Ent	Mutual Information	D
State Sponsors	0.9709506	0.8000332	0.17091738	-1
Non State Sponsors	0.9709506	0.8000332	0.17091738	-1
Illicit Activities	0.9709506	0.8000332	0.17091738	1
Natural Resources	0.9709506	0.8000332	0.17091738	1
Group Size	0.9709506	0.8000332	0.17091738	-1
Operational Location	0.9709506	0.8000332	0.17091738	-1
Internal Conflict	0.9709506	0.8000332	0.17091738	-1
Strict Religious Order	0.7219281	0.6490557	0.07287238	1
Moderate Religious Order	0.7219281	0.6490557	0.07287238	-1
Democratic Political Ideology	0.7219281	0.6490557	0.07287238	-1
Hybrid Political Ideology	0.9709506	0.6490557	0.32189488	-1
Authoritarian Political Ideology	0.9709506	0.8000332	0.17091738	1
Status Quo	0.9709506	0.8000332	0.17091738	-1
Globalist	0.9709506	0.8000332	0.17091738	1
Fundraising	0.9709506	0.8000332	0.17091738	-1
Recruitment	0.9709506	0.8000332	0.17091738	1
Organization	0.9709506	0.8000332	0.17091738	1
Symbolic Expressions	0.7219281	0.6490557	0.07287238	1
Other Digital Governance	0.7219281	0.6490557	0.07287238	1

Table 3: Results from “Reducing Uncertainty” Analysis of Exclusive Governance

	Ent of Y	Conditional Ent	Mutual Information	D
State Sponsors	0.9709506	0.8000332193	0.17091738	-1
Non State Sponsors	0.9709506	0.6490557188	0.32189488	1
Illicit Activities	0.9709506	0.8000332193	0.17091738	1
Natural Resources	0.9709506	0.8000332193	0.17091738	1
Group Size	0.9709506	0.6490557188	0.32189488	1
Operational Location	0.9709506	0.6490557188	0.32189488	1
Internal Conflict	0.9709506	0.6490557188	0.32189488	1
Strict Religious Order	0.7219281	0.0001660964	0.72176200	1
Moderate Religious Order	0.7219281	0.0001660964	0.72176200	-1
Democratic Political Ideology	0.7219281	0.0001660964	0.72176200	-1
Hybrid Political Ideology	0.9709506	0.8000332193	0.17091738	1
Authoritarian Political Ideology	0.9709506	0.8000332193	0.17091738	1
Status Quo	0.9709506	0.8000332193	0.17091738	-1
Globalist	0.9709506	0.8000332193	0.17091738	1
Fundraising	0.9709506	0.6490557188	0.32189488	1
Recruitment	0.9709506	0.8000332193	0.17091738	1
Organization	0.9709506	0.8000332193	0.17091738	1
Symbolic Expressions	0.7219281	0.0001660964	0.72176200	1
Other Digital Governance	0.7219281	0.6490557188	0.07287238	1

Table 4: Results from “Reducing Uncertainty” Analysis of Civilian Participation

	Ent of Y	Conditional Ent	Mutual Information	D
State Sponsors	0.9709506	0.5510439390	0.41990666	1
Non State Sponsors	0.9709506	0.9509775004	0.01997309	-1
Illicit Activities	0.9709506	0.5510439390	0.41990666	-1
Natural Resources	0.9709506	0.5510439390	0.41990666	-1
Group Size	0.9709506	0.5510439390	0.41990666	1
Operational Location	0.9709506	0.9509775004	0.01997309	-1
Internal Conflict	0.9709506	0.5510439390	0.41990666	1
Strict Religious Order	0.7219281	0.5510439390	0.17088416	1
Moderate Religious Order	0.7219281	0.5510439390	0.17088416	-1
Democratic Political Ideology	0.7219281	0.5510439390	0.17088416	-1
Hybrid Political Ideology	0.9709506	0.0001660964	0.97078450	1
Authoritarian Political Ideology	0.9709506	0.5510439390	0.41990666	-1
Status Quo	0.9709506	0.5510439390	0.41990666	1
Globalist	0.9709506	0.5510439390	0.41990666	-1
Fundraising	0.9709506	0.9509775004	0.01997309	-1
Recruitment	0.9709506	0.5510439390	0.41990666	-1
Organization	0.9709506	0.9509775004	0.01997309	1
Symbolic Expressions	0.7219281	0.5510439390	0.17088416	1
Other Digital Governance	0.7219281	0.5510439390	0.17088416	1

Table 5: Results from “Reducing Uncertainty” Analysis of Territorial-Bound Governance

	Ent of Y	Conditional Ent	Mutual Information	D
State Sponsors	0.9709506	0.9709506	0	1
Non State Sponsors	0.9709506	0.9709506	0	1
Illicit Activities	0.9709506	0.9709506	0	-1
Natural Resources	0.9709506	0.9709506	0	-1
Group Size	0.9709506	0.9709506	0	1
Operational Location	0.9709506	0.9709506	0	1
Internal Conflict	0.9709506	0.9709506	0	1
Strict Religious Order	0.7219281	0.7219281	0	1
Moderate Religious Order	0.7219281	0.7219281	0	-1
Democratic Political Ideology	0.7219281	0.7219281	0	-1
Hybrid Political Ideology	0.9709506	0.9709506	0	-1
Authoritarian Political Ideology	0.9709506	0.9709506	0	-1
Status Quo	0.9709506	0.9709506	0	1
Globalist	0.9709506	0.9709506	0	-1
Fundraising	0.9709506	0.9709506	0	1
Recruitment	0.9709506	0.9709506	0	-1
Organization	0.9709506	0.9709506	0	-1
Symbolic Expressions	0.7219281	0.7219281	0	1
Other Digital Governance	0.7219281	0.7219281	0	1

Table 6: Results from “Reducing Uncertainty” Analysis of Extractive Governance

	Ent of Y	Conditional Ent	Mutual Information	D
State Sponsors	0.9709506	0.9709506	0	1
Non State Sponsors	0.9709506	0.9709506	0	1
Illicit Activities	0.9709506	0.9709506	0	-1
Natural Resources	0.9709506	0.9709506	0	-1
Group Size	0.9709506	0.9709506	0	1
Operational Location	0.9709506	0.9709506	0	1
Internal Conflict	0.9709506	0.9709506	0	1
Strict Religious Order	0.7219281	0.7219281	0	1
Moderate Religious Order	0.7219281	0.7219281	0	-1
Democratic Political Ideology	0.7219281	0.7219281	0	-1
Hybrid Political Ideology	0.9709506	0.9709506	0	-1
Authoritarian Political Ideology	0.9709506	0.9709506	0	-1
Status Quo	0.9709506	0.9709506	0	1
Globalist	0.9709506	0.9709506	0	-1
Fundraising	0.9709506	0.9709506	0	1
Recruitment	0.9709506	0.9709506	0	-1
Organization	0.9709506	0.9709506	0	-1
Symbolic Expressions	0.7219281	0.7219281	0	1
Other Digital Governance	0.7219281	0.7219281	0	1

Table 7: Results from “Reducing Uncertainty” Analysis of Redistributive Governance

	Ent of Y	Conditional Ent	Mutual Information	D
State Sponsors	0.9709506	0.9709506	0	1
Non State Sponsors	0.9709506	0.9709506	0	1
Illicit Activities	0.9709506	0.9709506	0	-1
Natural Resources	0.9709506	0.9709506	0	-1
Group Size	0.9709506	0.9709506	0	1
Operational Location	0.9709506	0.9709506	0	1
Internal Conflict	0.9709506	0.9709506	0	1
Strict Religious Order	0.7219281	0.7219281	0	1
Moderate Religious Order	0.7219281	0.7219281	0	-1
Democratic Political Ideology	0.7219281	0.7219281	0	-1
Hybrid Political Ideology	0.9709506	0.9709506	0	-1
Authoritarian Political Ideology	0.9709506	0.9709506	0	-1
Status Quo	0.9709506	0.9709506	0	1
Globalist	0.9709506	0.9709506	0	-1
Fundraising	0.9709506	0.9709506	0	1
Recruitment	0.9709506	0.9709506	0	-1
Organization	0.9709506	0.9709506	0	-1
Symbolic Expressions	0.7219281	0.7219281	0	1
Other Digital Governance	0.7219281	0.7219281	0	1

Table 8: Results from “Reducing Uncertainty” Analysis of Institutional Governance

	Ent of Y	Conditional Ent	Mutual Information	D
State Sponsors	0.9709506	0.9709506	0	1
Non State Sponsors	0.9709506	0.9709506	0	1
Illicit Activities	0.9709506	0.9709506	0	-1
Natural Resources	0.9709506	0.9709506	0	-1
Group Size	0.9709506	0.9709506	0	1
Operational Location	0.9709506	0.9709506	0	1
Internal Conflict	0.9709506	0.9709506	0	1
Strict Religious Order	0.7219281	0.7219281	0	1
Moderate Religious Order	0.7219281	0.7219281	0	-1
Democratic Political Ideology	0.7219281	0.7219281	0	-1
Hybrid Political Ideology	0.9709506	0.9709506	0	-1
Authoritarian Political Ideology	0.9709506	0.9709506	0	-1
Status Quo	0.9709506	0.9709506	0	1
Globalist	0.9709506	0.9709506	0	-1
Fundraising	0.9709506	0.9709506	0	1
Recruitment	0.9709506	0.9709506	0	-1
Organization	0.9709506	0.9709506	0	-1
Symbolic Expressions	0.7219281	0.7219281	0	1
Other Digital Governance	0.7219281	0.7219281	0	1

8.8 Appendix H: Inductive Digital Governance Findings

This appendix consists of a brief discussion of what I observed that fits within my framework as well as what I learned inductively about digital governance through the data analysis process. Over the course of this project, I read through 2,196 distinct claims of HTS online activity between January 2017 and June 2018. Of these, only 2,147 captured instances of digital rebel governance. Although these observations indicated that HTS engaged in each digital governance component to some extent, as expected, the degree varied considerably by type.

Fundraising

The first component of the digital governance framework was fundraising. However, not unexpectedly, across all types of digital governance HTS engaged in the least amount of fundraising. Only four observations over the course a year and a half included explicit appeals for donations or funding. HTS started campaigns that aimed to raise funding, food, supplies, and even blood donations on Twitter and Whatsapp. These findings suggest that rebel fundraising on social media is both extremely infrequent and targeted toward locals. While this doesn't confirm that HTS does not engage in private digital fundraising or have access to foreign patrons, it does call into question whether social media is truly a vehicle for HTS to reach a global audience or simply enhances their communication with the civilian population.

Recruitment

The second component of the digital governance framework, recruitment, was also anticipated to be relatively less observed compared to other types of digital governance. Infact, observations of recruitment were the second least common HTS digital governance strategy.

Yet, HTS engaged in 45 instances of online recruitment, drastically more than fundraising. Observations of digital recruitment were disseminated on Twitter, Facebook, Youtube, the Ebaa News Agency (ENA) website, and the official Salvation Government website (syriansg.org). Most HTS appeals for recruits featured virtual enrollment posters that included information about requirements, training courses, and contacts. Nearly two-thirds of the recruitment observations occurred during the last seven months of observations, which corresponds to the period of time that HTS was engaged in fierce military clashes with rival opposition groups. Additionally, around 15 percent of digital appeals for recruitment were for non-combatant roles, including police force officers, truck drivers, military administration managers, and even photo editors. These findings illustrate that rebel groups adapt their digital governance strategies to address their immediate needs and highlight the significant but understudied rebel recruitment of nonviolent personnel (Huang and Jung 2021).

Organization

There were 203 claims of HTS digital governance that fell within the organization component. The majority of instances of digital organization included attempts by HTS to engage in public governing. By this I mean HTS disseminated statements for the purpose of providing the local community with crucial information, directives, and even updates on regulations and punishments. Examples include official announcements of new government institutions, statements instituting civilian curfews, prohibitions on civilian activities, and even guidelines from the HTS Islamic police on acceptable behavior in the liberated territories. A second common theme from HTS's digital organization observations was their engagement in public diplomacy. Public diplomacy comprises policy statements from HTS's political affairs

administration, official announcements, such as the formation of new alliances, and even explicit appeals to other actors to engage in diplomatic relations. Overwhelmingly, when HTS engaged in public diplomacy, these claims also included elements of either propaganda or symbolic expressions. Although HTS used public diplomacy to both criticize and promote a wide range of international actors and events, one recurring pattern was sentiments condemning the Astana peace talks. These observations reveal that HTS used their digital organization activity to communicate both with civilians living under their control as well as the greater international community.

Propaganda

HTS propaganda accounted for the vast majority of digital governance observations, by far. Instances of HTS propaganda typically fell into three main categories: 59% (797/1354) of propaganda claims promoted HTS military strength and accomplishment, 50% (677/1354) comprised the denigration of HTS adversaries, and 32% (427/1354) advertised HTS administration of the liberated territories. Often, instances of HTS military propaganda and the use of derogatory sentiments directed against HTS enemies co-occurred in the same online posts. For example, it was commonplace for a single observation to describe a successful military campaign by HTS as well as the weakness of its rivals. More than anything else, this kind of propaganda relied on the use of prejudiced language. 81% of HTS military propaganda featured self-aggrandizing language, such as 'mujahideen,' and 86% of anti-adversary propaganda included derogatory terms, like 'kharijites' or 'nuyasari'. Media depicting HTS governance projects, such as social service provisions, infrastructure projects, and security, as well as promotional civilian interviews expressing support for the group fall under HTS

administration propaganda. Additionally, unlike military propaganda, which grew steadily over the course of a year and a half, HTS administration propaganda experienced an explosive growth in the first half of 2018. The majority of HTS administration propaganda was observed in the final six months of data analysis and 79% of those claims were generated solely between April 2018 and June of 2018. The increase corresponds to the tail-end of fighting and the successful ceasefire negotiation between HTS and its rival opposition groups. This period marked a crucial time for HTS to establish its domination over the liberated territories, suggesting that administration propaganda plays a strategic role in legitimizing rebel rule to civilians.

Symbolic Expressions

The final component of the framework, symbolic expressions, accounted for 692 observations of HTS digital governance, making it the second most utilized. The large majority of symbolic expression claims served to evoke emotional reactions from viewers and strengthen sympathy for the rebel group cause. These include reports on civilian targeting, airstrikes, and the use of chemical weapons by HTS adversaries, images of those 'martyred' and wounded as well as destroyed buildings, depictions of civilians protesting against the regime, and accounts of the dire situation in the displacement camps. HTS also frequently used digital symbolic expressions to distinguish and legitimize themselves. Examples are the creation of new governing bodies, the production of motivational and religious speeches by HTS leaders, quotations from the Koran, the organization of celebrations and parades, and endorsements from popular leaders. Additionally, the use of religious language pervaded nearly one third of all the observations of HTS symbolic expressions. During April, May, and June of both 2017 and

2018, HTS grew their production of digital symbolic expressions, mainly due to Ramadan festivities. Moreover, although measured as distinct variables, embedded official ENA or HTS logos are technically also instances of digital symbolic expressions. Infact, more than 2,000 of the 2,147 observations of digital governance coded had an embedded ENA or HTS logo within the claim. Thus, symbolic expressions represent one of the most omnipresent elements of digital governance.