Working Paper: Why Do IGOs Tweet Differently?
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Synopsis

International Governmental Organizations (IGOs) increasingly use Twitter to reach out to the public, but some use Twitter more frequently than others, and they also use Twitter in different ways. Our goal is to understand these variations. Building on a study completed by Burson-Marsteller, we use variables based on IGO autonomy and capacity as factors to explain the social media behavior of IGOs. The evidence suggests that IGOs representing more countries, IGOs with larger staffs and budgets, and IGOs making decisions by weighted voting are all more active on Twitter. We also find that early adopters use Twitter more frequently, but little evidence that IGO Twitter use is shaped by what peer IGOs do. These findings suggest a digital divide in IGO social media use, and they suggest a need to focus further empirical study of IGOs on their differences in terms of resources as well as institutional design.

Twitter is a social media platform where celebrities and leaders can directly communicate with supporters and citizens using 140-character messages. While individuals quickly joined the platform, organizations generally were slower to see the utility of Twitter. The first major international governmental organization (IGO) to join the social media outlet was the United Nations in March 2008, two years after Twitter's launch. Other IGOs, ranging from the World Health Organization to the European Central Bank, followed in the UN's footsteps as it became increasingly clear that Twitter was an effective medium to disseminate information. As individuals like 2009's Iranian protestors began using Twitter for political ends, IGOs started utilizing Twitter to release information quickly: CERN (the European Organization for Nuclear Research) used the platform to announce its discovery of the Higgs boson in March 2013. In just a few short years, Twitter has become a legitimate means of disseminating information on news, programs, and policies.

IGOs have embraced Twitter with varying degrees of intensity; not all international organizations use Twitter equally. This can be seen empirically in the volume of tweets sent per day, the average number of retweets (tweets from the organization shared by followers on their own Twitter feeds), and the number of replies the organizations make to others' tweets. What is the correlation, if any, between an IGO's structure and focus and how it uses Twitter? Is it possible to understand why some IGOs use Twitter differently than others?

Our study aims to answer these questions, based primarily on the "Twiplomacy" data gathered by the global public relations and communications firm Burson-Marsteller. The Burson-Marsteller study (2013) tabulated the number of tweets per day, the average number of retweets, and the average number of replies to the tweets of a number of international organizations. We build on their project by providing independent variables that account for variations in Twitter usage based on a random sample of sixty-three IGOs. Gathering information from the organizations' websites as well as the Yearbook of International Organizations, we coded the number of member states, the organization's staff size, budget, level of autonomy, and whether the organizations address four primary issue areas: economics, human rights, environment, and security.

We evaluate the ability of IGOs to use Twitter for the transmission of information, the dissemination of information, and the creation of conversation. We find that those IGOs using Twitter in these fashions the most are frequently early adopters, and that they have larger staffs and budgets. We found evidence that those IGOs using weighted voting tweet more and make more replies, an argument consistent with their need to reassure member states and civil society alike. Other procedural measures of IGO independence did not affect how IGOs communicated on Twitter. These findings have two major implications: how we should measure IGO delegation from member states, and what IGOs can do to maximize their use of social media. We begin by further clarifying the types of behaviors we wish to understand, before turning to hypotheses and research design, and then closing with the findings and their broader implications.

What does it mean to say that international organizations "use" Twitter?
The use of social media by intergovernmental organizations is not by itself a puzzle that requires explanation. Many more international organizations have a social media presence than do not. In the original Twiplomacy study, the public relations and communications firm Burson-Marsteller found four IGOs with inactive Twitter accounts: the Collective Security Treaty Organization, the South Asian Association for Regional Cooperation, the Southern African Development Community, and the West African Economic and Monetary Union. In these cases, organizations created accounts but no longer used them. The fact that all of these organizations created these accounts, coupled with the costless nature of creating an account in the first place, tells us that there is minimal danger of selection bias as a result of omitting non-adopters.

Of the sixty-three IGOs in our study, most were early adopters of Twitter. This is shown in Figure 1 below. The United Nations was the first adopter in March 2008, and the UN agencies followed quickly thereafter. The UN Population Fund was the last UN agency in our sample to adopt Twitter, creating an account in September 2010.
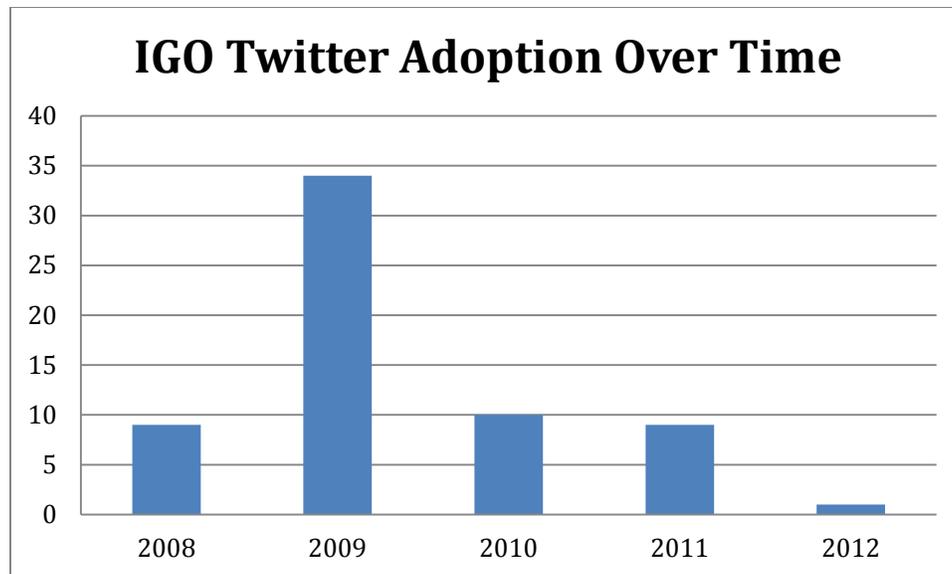
IGO Twitter Adoption Over Time

Figure 1

The use of Twitter, then, is a multidimensional concept. Rather than try to classify individual tweets by type—as Nah and Saxton (2013) do for nonprofit organizations—our concern is with the extensiveness of the organizations' usage of Twitter, their respective abilities to use the platform to disseminate information, and the extent to which they were able to use Twitter conversationally.

We want to understand three things from the Twiplomacy survey. To start, some IGOs tweet more than others. The mean number of tweets-per-day for the IGOs in our sample is 4.5, but there is considerable variation. Eighteen organizations in our study tweet less than once per day. By contrast, the UN and UNDP tweet more than eighteen times per day. So while almost all IGOs use Twitter to send information, some use it much more frequently than others.

IGOs in our sample also differ in their ability to disseminate information via Twitter. Some IGOs have their tweets retweeted by their followers more frequently than others. The median number of retweets in our sample is 4.72, however the tweets of some organizations are only retweeted about once (as in the case of the Organization of Eastern Caribbean States). By contrast, the tweets of other IGOs are frequently shared more than a hundred times (as in the case of UNICEF).

Finally, IGOs in our sample also vary in their use of Twitter in conversation. Some organizations send a large number of tweets that are replies to others' tweets (the UN and the International Maritime Organization do this about a third of the time). Other organizations do not reply at all to tweets (this includes UNCTAD, the WTO, and the Bank of International Settlements).

These three behaviors—Twitter usage per day, Twitter information dissemination, and conversational Twitter usage—are all distinct from each other. This is visible in the correlation matrix below. Note that the correlations of all three variables with one another are low.

TABLE 1 Correlation Matrix for Dependent Variables			
	Tweets per day	**Average of retweets**	**Replies per tweet**
Tweets per day	1.0000	–	–
Average of retweets	0.3400	1.0000	–
Replies per tweet	0.2431	0.2314	1.0000

How can we account for these variations?

As the preceding section suggests, the challenge is to account for the variations in IGOs' Twitter usage. We build on the extant empirical scholarship, which has focused on the use of social media by government and NGOs, as well as the existing theoretical work on IGOs. Our claim is that differences in IGO authority and capacity help to explain why they use Twitter differently.

The extant scholarship, which focuses on the use of Twitter by government and NGOs, produces several alternative explanations. First, variations in use of social media across NGOs are explained by differences in organizational capacity. Nah and Saxton (2013) argue that NGOs with larger staffs and larger boards should be more likely to embrace social media. Second, timing matters as well, as studies of social media use claim that differences in technology use exist between early and late adopters. Nah and Saxton (2013) argue that social media use is more likely in those non-profits that have older websites. Those organizations that created websites earlier are more likely to have figured out how to use social media effectively. Similarly, Mergel and Bretschneider (2013) note that for government offices, social media use inevitably occurs in a gray area marked by experimentation before written policies are developed and disseminated. Those IGOs that use Twitter first, then, are likely to figure out how best to use the medium. Finally, Twitter use is shaped by network effects. Mergel (2013) finds in a study of social media adoption by the US federal government that departments moved to embrace social media when similar departments did so. While these last two factors of timing and networks are control variables in our study, claims about resources have a direct theoretical connection to the IGO scholarship, and this merits a sustained discussion below.

An extensive literature focuses on the differences in the design of international organizations. Quite obviously, not all IGOs are the same. Koremenos, Lipson, and Snidal (2001) framed IGOs as tools created by states to solve problems, an idea that found its expression in earlier functionalist theorizing (Keohane 1984; Abbott and Snidal 1998). They focus on five dimensions of organizational design: the membership rules, the scope of issues addressed by the organization, the degree of centralization of tasks, rules for making decisions, and the flexibility of arrangements. Since that time, there have been numerous attempts to better conceptualize and measure the amount of authority delegated to IGOs by member states (Haftel and Thompson 2006; Bradley and Kelley 2008; Koremenos 2008; Brown 2010; Hooghe and Marks 2015). We build on measures of both IGO capacity and IGO autonomy below.

As suggested by the extant literature on social media use by NGOs and governments, organizational capacity matters. Countries might delegate authority in a given area to IGOs, but might at the same time blunt the impact of those IGOs by not delegating sufficient resources.

Those IGOs with larger staffs and budgets are able to support a dedicated social media team, and we would expect more extensive Twitter usage in these organizations.

One of the key insights of the principal-agent approach to IGOs is that variations in delegation make a difference in how the IGO works. We build on this to focus on how variations in an IGO's level of autonomy can affect their use of social media platforms like Twitter. Because agents—IGOs in this instance—are given some level of autonomy to do their jobs, they might take actions not approved by the great power principals that created them. As this level of autonomy increases, risk also increases, meaning that the IGO needs to reassure not only states but also civil society of its intentions. Just as the existence of trans-sovereign problems gives rise to form IGOs in the first place, those organizations with more autonomy need to take steps, like using social media to communicate, to safeguard their autonomy.

By coupling these two threads we expect to see measures of IGO capacity and autonomy positively correlate with volumes of Twitter usage, Twitter usage in dissemination, and Twitter usage in conversation. It bears stressing that this approach brings theoretical as well as empirical value. Given that the field does not have a standard measure for delegation, we include different measures that address the multidimensionality of the concept. Some of our measures reflect differences across IGOs in terms of resources, reflecting the outcomes of delegation, while others measures are procedural, reflecting differences in institutional rules.

For measures of resources, we include three variables: the number of states that are full members of the organization, the size of the IGO's permanent full-time paid staff, and the size of the annual budget. While staff size and budget make sense as measures of resources, we also include the number of member states to assess the conjecture by Koremenos, Lipson, and Snidal (2001) that the degree of centralization increases with the number of states. We include four measures of autonomy: the degree of IGO independence in staff hiring, the IGO's funding mechanism, whether the IGO uses weighted voting, and whether certain states have disproportionate influence on the IGO's executive board. These last two measures also test the Koremenos, Lipson, and Snidal (2001) conjecture that asymmetry in control increases with asymmetry among contributors.

We also control for two additional factors: whether or not the IGO is part of the UN system, and the type of issues the IGO addresses. These factors address whether there are incentives to emulate IGOs either within the UN system or within the same issue area. Controlling for the type of issues each IGO addresses allows us to ascertain whether a focus on different issue areas inherently causes IGOs to use Twitter differently. In so doing, these variables address the findings connecting social media adoption to peer IGO behavior.

Variable Operationalization and Sources
Our independent variables are operationalized as follows. First, in terms of our measures of resources, the number of states that are members refers to the total number of countries that are currently full members of the organization. It does not refer to the number of countries on the organization's Executive Board. The variable of staff size refers to the total number of full-time paid staff. The variable for Size of Budget refers to the total annual amount of the IGO's budget.

As noted above, we include four procedural measures of IGO autonomy. Staffing independence is based on a measure following Volgy, Fausett, Grant, and Rodgers (2008). This is a dichotomous measure, coded (1) if the IGO can make decisions on staff hiring independently from other IGOs and states and (0) if the IGO is dependent on another IGO or a state to provide its staff. This refers purely to staff hiring and not to executive positions, which are politicized in many IGOs. The Funding Mechanism measure comes from Brown (2010). This variable is scaled 0–6, reflecting how the IGO is funded. IGOs receive a base score of 0–3 points, depending on whether member states are merely reimbursed for providing services (0), if the IGO is funded by voluntary contributions (1), if the IGO is funded by member assessments or dues (2), and if the IGO is funded by legally obligatory assessments such as quotas or subscriptions (3). To this base score, we add an additional point if the IGO has the authority to charge for services; an additional point if the IGO has the authority to accept voluntary contributions in excess of member assessments, dues, quotas, or subscriptions; and a final point if the IGO has the authority to externally fundraise. The measures for Weighted Voting and Influence on Executive Board are both dichotomous measures from Hooghe and Marks (2015). The weighted voting measure is coded (1) if the IGO uses a system of weighted voting to make decisions, or (0) if it relies on simple majority voting or consensus. Executive Board Influence is coded (1) if the IGO's executive board guarantees seats to certain states, and (0) if all state members are equally eligible to join the IGO's executive board.

Finally, we control for three additional measures. We created a dummy variable for whether or not the IGO is part of the UN system. All of the specialized agencies are coded (0) under this measure, since they have their own procedures for staff recruitment and the oversight of ECOSOC, the General Assembly, or the Security Council is minimal. We include a measure for date of Twitter adoption, which is the date on which the IGO first joined Twitter, to control for any influence that early versus late adoption of the medium might have on the organization's Twitter use. We also created a measure of IGO issues, which is a series of four dummy variables for whether the IGO's activities address international security, the environment, human rights, and economics. This allows us to further disaggregate the UN system dummy to see if those IGOs that address specific issues have incentives to use Twitter differently.

Members of the project team have coded each of these variables for each IGO in our survey using information from the Yearbook of International Organizations, IGO Annual Reports, the respective IGOs' websites, and the Twiplomacy data set created by Burson-Marsteller. All data has been reviewed to ensure accuracy.

Data and Analysis
This project uses findings from the Burson-Marsteller Twiplomacy project. We use the version of the study published in November 2013, which analyzed 223 Twitter accounts from 101 international organizations. Burson-Marsteller included both IGOs and NGOs in their study. In order to keep our focus on institutional design variables that are common to IGOs, we drop the NGOs from the study. This allows us to make the project more manageable. We also change the unit of analysis from the individual Twitter account to the IGO itself. Thus, in the Burson-Marsteller data, the International Monetary Fund's four different Twitter accounts are separate cases (one personal account for Managing Director Lagarde, and separate institutional accounts that tweet in English, Arabic, and Spanish respectively). In our study, these four accounts are treated as one case. Some IGOs tweet in multiple languages, and some have a distinct account for

the head of the organization. We leave the explanation of these design choices to subsequent research.

From the Twiplomacy dataset, we have selected a random sample of sixty-three international organizations and coded independent variables as noted above. Information from the Twiplomacy project serves as the source for many of our variables. The Twiplomacy team gathered information on the Twitter activity of various IGOs. Each IGO was reviewed for an average of 828 days. Having such a lengthy window for data gathering ensures the total Twitter activity reported below is an accurate reflection of the organization's social media output. As noted above, we use three different dependent variables in this project: the mean number of tweets sent by the IGO per day, the average number of retweets per IGO tweet, and the percentage of IGO tweets that are replies. These measures capture the IGO's actual activity, and, as noted above, represent three conceptually distinct types of behavior: sending information via social media, using social media to disseminate the IGO's information effectively, and using social media to foster dialogue. It is also worth stressing that, according to the correlation matrix presented in Table 1, the correlations between these three variables are low, suggesting that each measure captures a different behavior worthy of explanation.

Below we present a series of Ordinary Least Squares (OLS) regressions for our IGO variables against the number of tweets-per-day and the average number of retweets. Because the data on replies is a percentage (and therefore censored at zero) we estimate these models using Tobit. The models for tweets per day and the average number of retweets are estimated using HC3 standard errors (following Long and Ervin 2000), and the Tobit model for replies is estimated using robust standard errors. We estimate these models in increasing complexity below. Owing to high collinearity between the IGO's budget and staffing level, we estimate these regressions separately.

As shown in Table 2 below, these regression models were all highly statistically significant and explained between 48 and 51 percent of the variance in the dependent variable. We found four significant factors that influence the number of tweets an IGO disseminates each day. The number of IGO member countries, the IGO's budget, the use of weighted voting, and the adoption date were statistically significant at a .05 level or better in all four models we constructed. Those IGOs with more member states tweet more frequently. A higher number of member states typically implies increased funding, support, and importance in the international community. The IGO budgets also positively correlated with the number of tweets, suggesting that better funded IGOs can provide greater support for public outreach. Controlling for other variables in the model, IGOs employing weighted voting sent more tweets. This could reflect a need to use social media to reassure civil society. We also found a negative relationship between adoption date and tweet frequency. Those IGOs that adopted Twitter earlier were more likely to use it.

Turning to the substantive significance of these coefficients, it is worth recalling that the frequency of tweets-per-day ranges from .09 to more than 18. Adding an additional member state to an IGO increases its Twitter output by about .02. Each additional dollar of an IGO's budget also increases its Twitter output by a very small, but statistically significant amount. IGOs with weighted voting tweet three to four more times per day compared to IGOs that treat all member

countries as equal. Finally, each additional year of delay in adopting Twitter reduces the frequency of Twitter usage by approximate 1.5 tweets-per-day.

None of the other independent variables were statistically significant. In terms of other measures of capacity, there was no difference in the frequency of Twitter usage between IGOs with larger or smaller staff sizes. Regarding measures of autonomy, IGOs' differences in funding, staffing, or country influence on the executive board had no effect on the frequency of Twitter usage. Finally, there were no differences in Twitter usage between those IGOs based within the UN system and those outside of it, and no differences in Twitter usage between IGOs based on issue area.

	Model 1	Model 2	Model 3	Model 4
TABLE 2				
Determinants of IGO Twitter Behavior: Tweets Per Day				
Number of IGO Members	0.0183** (0.00621)	0.0181** (0.00630)	0.0144* (0.00644)	0.0196* (0.00896)
IGO Staff Size	0.000189 (0.000166)		0.000157 (0.000172)	0.000162 (0.000172)
Funding Mechanism	-0.194 (0.354)	-0.202 (0.348)	-0.0433 (0.331)	-0.0933 (0.454)
Staffing Independence	-2.661 (1.675)	-2.328 (1.601)	-2.124 (1.929)	-2.245 (1.759)
Weighted Voting	3.293** (1.131)	2.868** (1.031)	3.561** (1.197)	2.970* (1.377)
Executive Board Influence	-0.212 (1.579)	0.383 (1.379)	-0.0283 (1.615)	-0.623 (1.707)
Adoption Date	-0.00418** (0.00137)	-0.00456*** (0.00130)	-0.00401** (0.00145)	-0.00445* (0.00167)
Budget		9.52e-10* (4.50e-10)		
UN System			1.685 (1.673)	
Security				-0.112 (1.468)
Environmental				1.018 (1.288)
Human Rights				0.787 (1.053)
Economics				1.157 (1.521)
Constant	79.97** (25.72)	86.47*** (24.22)	76.03** (27.34)	82.79** (30.70)
R-Squared	0.4833	0.4899	0.4978	0.5145
F Test	0.0000	0.0000	0.0000	0.0000
N	62	63	62	62

Note: HC3 Standard Errors in Parentheses. + $p<.10$, * $p<.05$, ** $p<.01$, *** $p<.001$.

Our next empirical assessment tests these independent variables against the average number of times an IGO's tweet is retweeted. These findings appear in Table 3 below.

	Model 1	Model 2	Model 3	Model 4
TABLE 3 **Determinants of IGO Twitter Behavior: Average Retweets**				
Number of IGO Members	-0.00919 (0.0595)	-0.00453 (0.0623)	-0.00917 (0.0530)	-0.0206 (0.0737)
IGO Staff Size	0.00128+ (0.000654)		0.00128* (0.000632)	0.00134+ (0.000734)
Funding Mechanism	-1.633 (1.658)	-1.843 (1.717)	-1.634 (2.017)	-1.138 (2.688)
Staffing Independence	3.827 (5.084)	6.969 (4.975)	3.825 (5.024)	2.192 (4.969)
Weighted Voting	-4.613 (4.344)	-5.276 (4.649)	-4.614 (4.584)	-2.873 (4.385)
Executive Board Influence	-4.664 (5.212)	-0.689 (4.781)	-4.665 (5.333)	-3.841 (5.865)
Adoption Date	-0.0226 (0.0138)	-0.0256* (0.0125)	-0.0226 (0.0143)	-0.0213 (0.0137)
Budget		4.01e-09 (2.78e-09)		
UN System			-0.00614 (7.733)	
Security				0.743 (6.669)
Environmental				-2.579 (5.616)
Human Rights				1.540 (5.081)
Economics				-5.159 (7.824)
Constant	424.5 (259.9)	476.6* (236.2)	424.6 (271.7)	405.5 (268.5)
R-Squared	0.3237	0.2619	0.3237	0.3339
F Test	0.0127	0.0523	0.0269	0.0558
N	62	63	62	62

Note: HC3 Standard Errors in Parentheses. + p<.10, * p<.05, ** p<.01, *** p< .001.

These models are less powerful than the ones above, as noted by the lower scores for the F test significance. IGO staff size is positive and significant, although at a .10 level in Models 1 and 4 in Table 3. Those IGOs with larger staffs are retweeted more frequently, which reflects more effort spent in generating a social media presence as well as greater public awareness of the organization. The only other variable that was statistically significant was the adoption date, suggesting that those organizations that adopted Twitter earlier had more retweets as a result of their prolonged presence.

None of the other variables measuring IGO capacity or autonomy were statistically significant. Moreover, there were no differences in the number of retweets comparing UN vs non-UN IGOs, nor were there differences in the number of retweets between IGOs with differing issue areas.

The final series of models tests our independent variables against the final dependent variable, the percentage of IGO tweets that are replies. This variable measures the last type of behavior that we want to capture: the use of Twitter as a conversational tool. To estimate this model appropriately, we needed to address the issue of censoring in this dependent variable. As the variable is a percentage, it cannot go below zero. In five cases, this variable has a value of zero, and one-quarter of the cases have a value of either .01 (meaning 1 percent of the tweets sent by the IGO are replies) or zero (meaning that none of the tweets are replies). In order to ensure robust estimates, the models below were estimated using Tobit, an industry standard statistical model for addressing issues of censored dependent variables. The coefficients are interpreted in the same manner as OLS, though the model does not report an R-squared statistic. These findings appear in Table 4 below.

	Model 1	Model 2	Model 3	Model 4
TABLE 4 **Determinants of IGO Twitter Behavior: Replies Per Tweet**				
Number of IGO Members	.02019+ (.01023)	.02364* (.01036)	.01617 (.01257)	.02225+ (.01267)
IGO Staff Size	.000415* (.000196)		.000384+ (.0002)	.000469** (.000154)
Funding Mechanism	-1.4333+ (.845)	-1.3961+ (.8135)	-1.2879 (.8492)	-.9817 (.7345)
Staffing Independence	-1.1541 (2.155)	-.2945 (2.102)	-.5909 (2.200)	-.6116 (2.142)
Weighted Voting	4.9039 (3.383)	4.0358 (3.115)	5.1934 (3.398)	5.1619+ (2.952)
Executive Board Influence	.04463 (2.094)	.6164 (1.946)	.2485 (2.122)	-.3062 (1.997)
Adoption Date	.002241 (.00212)	.0000396 (.00222)	.002407 (.00215)	.004097 (.00250)
Budget		7.51e-10 (1.10e-09)		
UN System			1.6841 (2.033)	
Security				2.4188 (2.324)
Environmental				1.9371 (1.608)
Human Rights				-1.6725 (2.322)
Economics				-3.1589 (2.264)
Constant	-34.6811 (39.144)	4.7066 (40.342)	-38.6002 (39.512)	-69.2757 (45.780)
F Test	0.0480	0.1935	0.0366	0.0393
N	62	63	62	62

Note: Robust Standard Errors in Parentheses. + p<.10, * p<.05, ** p<.01, *** p< .001.

In Models 1 and 2 in Table 4, we once again confronted the same issue of collinearity between staff size and budget. This necessitated running separate models. Four independent variables were statistically significant at a .10 level or better: the number of IGO members, the staff size, the funding mechanism, and weighted voting. Those IGOs with more member states and larger staffs were more likely to reply to tweets sent by others. This reflects a greater organizational capacity to use Twitter conversationally, as well as a greater level of public awareness of the IGO, so that individuals would want to send tweets to it in the first place.

The variable for IGO funding mechanism was negative and significant in the first two models in Table 4. In these models, those IGOs with greater financial autonomy were less likely to use Twitter conversationally. This could reflect less of a need to reassure principals and the public among those IGOs that are more financially autonomous. We should be careful of reading too much into this account, though. As we added additional regressors, this variable remained negative, but dropped below even the .10 threshold for significance. Weighted voting was positive, but only significant in Model 4, and even there at a .10 level. This suggests that those IGOs that have weighted voting use Twitter more conversationally (that is, that they make more replies) than those IGOs that rely on simple majority voting or consensus.

None of the other independent variables were statistically significant. In terms of other measures of capacity, there was no difference in the frequency of Twitter usage between IGOs with larger budgets and those with smaller budgets. For measures of autonomy, IGOs' differences in staffing or country influence on the executive board made no difference in the frequency of Twitter usage. There were no differences in the frequency of replies between those IGOs that were early Twitter adopters and those who adopted later. Finally, there were no differences in Twitter usage between those within the UN system and those outside of it, and no differences in Twitter usage between IGOs with different issue areas.

In the table below, we summarize our findings across these models. If an independent variable was statistically significant in one of the models in the table, we denoted it as such and indicate its sign. Those variables that were not significant across multiple models were labeled 'NS'.

	Dependent Variable		
TABLE 5 **Overall Findings**			
Independent Variable	**Tweets Per Day**	**Average of Retweets**	**Replies/Tweet**
Number of Member Countries	+/Signif	NS	+/Signif
IGO Staff Size	NS	+/Signif	+/Signif
Funding Mechanism	NS	NS	-/Signif
Staffing Independence	NS	NS	NS
Weighted Voting	+/Signif	NS	+/Signif
Executive Board Influence	NS	NS	NS
IGO Budget	+/Signif	NS	NS
Adoption Date	-/Signif	-/Signif	NS
UN System	NS	NS	NS
IGO Issues	NS	NS	NS

We began this paper attempting to explain the use of Twitter by IGOs, and there are four key lessons from the findings in Table 5. First, the evidence suggests the existence of a digital divide in Twitter usage by IGOs. The findings linking high IGO membership, large staffs and large budgets to greater levels of Twitter usage pose a challenge, since this means that smaller IGOs will not be able to establish an equivalent social media presence. In an age in which IGOs' activities are increasingly scrutinized, the inability to reach out to civil society is a problem. In addition, those IGOs that adopted Twitter earlier also used it more frequently, suggesting that early innovation pays off as the organization develops procedures for how best to use social media.

We also found evidence that the variables explaining IGO autonomy also account for variations in *how* IGOs use Twitter. The one variable that came up repeatedly across these models was weighted voting. Those IGOs that use weighted voting tweet more than those that do not, and this is after controlling for other factors. A rationale for why this is the case is reassurance. In an attempt to justify the existence of voting procedures that advantage some states over others, these IGOs might use social media to more frequently highlight what they are doing. Greater use of social media, then, is an attempt to draw public attention away from the IGO's rules that favor stronger countries.

This in turn suggests is that we need to think about states' delegation to IGOs as encompassing both capacity and autonomy. Future research needs to take both of these factors seriously. After all, just as states create different procedural rules, which can lead to delegating authority to an IGO, they also choose to empower those same organizations with resources. Of course, we found stronger support for capacity explanations than for autonomy-based ones, with only weighted voting and the funding mechanism variables being statistically significant, and the latter only in initial models in Table 4.

Finally, while the literature also suggested a role for IGOs learning from peers, we found little evidence to support this claim. In none of the models was the dummy variable for UN system significant, suggesting that Twitter usage was not different in those IGOs within the UN umbrella and those outside of it. Moreover, we found no differences across IGOs by issue. Based on this evidence, IGOs behave on Twitter as if they are identical in function to one another.

CONCLUSIONS

While these findings suggest a digital divide in IGO Twitter usage, they raise the question of what can be done to address it. Overcoming the staff size and budget handicaps in order to bolster a social media team is a daunting challenge, but smaller IGOs, with the knowledge that they face a digital divide challenge, could prioritize their Twitter presence by placing it on a level with more traditional forms of information sharing. In this way, smaller IGOs could increase their Twitter productivity and compete with larger IGOs. Additionally, smaller IGOs could look for an alternative method to increase social media output without hiring or reallocating workloads. Hiring interns does not require salary considerations. Furthermore, interns will bring experience and familiarity with Twitter to their employer, as it is the younger generation which makes the most use of social media in general.

The findings showed that smaller IGOs face an impediment to effectively using Twitter, as evidenced in fewer tweets-per-day, fewer retweets, and a lower percentage of replies. Moreover, those IGOs that use weighted voting seem to use Twitter more effectively to communicate with civil society. While these findings bear certain implications for how we should empirically consider delegation moving forward, they also raise an important question: does IGO social media use even matter? In an age in which the activities of IGOs are increasingly scrutinized, is the use of social media a means to address concerns about the democratic deficit, and shape public opinion, or simply a generator for more noise that critics can readily tune out? Answering this question takes us further afield, but discovering that variations in IGO Twitter use can be explained by their institutional roots is an important first step.

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Appendix: List of Cases

African Development Bank (AfDB)	International Fund for Agricultural Development (IFAD)	United Nations (UN)
African Union (AU)	International Labour Organization (ILO)	United Nations Children's Fund (UNICEF)
African, Caribbean and Pacific Group of States (ACP)	International Maritime Organization (IMO)	United Nations Conference on Trade and Development (UNCTAD)
Asian Development Bank (ADB)	International Monetary Fund (IMF)	United Nations Development Programme (UNDP)
Asia-Pacific Economic Cooperation (APEC)	International Organization for Migration (IOM)	United Nations Educational, Scientific and Cultural Organization (UNESCO)
Association of Southeast Asian Nations (ASEAN)	International Organization for Standardization (ISO)	United Nations Environment Programme (UNEP)
Bank for International Settlements (BIS)	International Telecommunication Union (ITU)	United Nations Framework Convention on Climate Change (UNFCCC)
Council of Europe	Interpol	United Nations Habitat (UN-HABITAT)
Council of the Baltic States	L'Organisation internationale de la Francophonie (OIF)	United Nations Human Rights Council (UNHRC)
Economic and Social Council (ECOSOC)	Nordic Council (NORDEN)	United Nations Industrial Development Organization (UNIDO)
European Bank for Reconstruction and Development (EBRD)	Nordic Investment Bank (NIB)	United Nations Office for Disaster Risk Reduction (UNISDR)
European Central Bank (ECB)	North Atlantic Treaty Organisation (NATO)	United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA)
European Free Trade Association (EFTA)	Office of the United Nations High Commissioner for Human Rights (OHCHR)	United Nations Office on Drugs and Crime (UNODC)
European Organization for Nuclear Research (CERN)	Office of the United Nations High Commissioner for Refugees (UNHCR)	United Nations Population Fund (UNFPA)
European Patent Organization	Organisation for Economic Co-operation and Development (OECD)	United Nations Programme on HIV/AIDS (UNAIDS)
Food and Agriculture Organization of the United Nations (FAO)	Organisation for Security and Co-operation in Europe (OSCE)	United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)

Inter-American Development Bank (IADB)	Organisation of Eastern Caribbean States (OECS)	United Nations Women
International Atomic Energy Agency (IAEA)	Organization of American States (OAS)	United Nations World Food Programme
International Criminal Court (ICC)	Organization of Islamic Cooperation (OIC-OCI)	World Health Organization (WHO)
International Energy Agency (IEA)	The Commonwealth	World Meteorological Organization (WMO)
International Finance Corporation (IFC)	Union for the Mediterranean	World Trade Organization (WTO)