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DOI

[10.1080/13183222.2020.1794408](https://doi.org/10.1080/13183222.2020.1794408)

Publication date

2020

Document Version

Final published version

Published in

Javnost - The Public

License

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[Link to publication](#)

Citation for published version (APA):

Esteve Del Valle, M., Sijtsma, R., Stegeman, H., & Borge, R. (2020). Online Deliberation and the Public Sphere: Developing a Coding Manual to Assess Deliberation in Twitter Political Networks. *Javnost - The Public*, 27(3), 211-229. <https://doi.org/10.1080/13183222.2020.1794408>

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Javnost - The Public

Journal of the European Institute for Communication and Culture

ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/rjav20>

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To cite this article: Marc Esteve Del Valle , Rimmert Sijtsma , Hanne Stegeman & Rosa Borge (2020) Online Deliberation and the Public Sphere: Developing a Coding Manual to Assess Deliberation in Twitter Political Networks, Javnost - The Public, 27:3, 211-229, DOI: [10.1080/13183222.2020.1794408](https://doi.org/10.1080/13183222.2020.1794408)

To link to this article: <https://doi.org/10.1080/13183222.2020.1794408>



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Published online: 14 Aug 2020.



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ONLINE DELIBERATION AND THE PUBLIC SPHERE: DEVELOPING A CODING MANUAL TO ASSESS DELIBERATION IN TWITTER POLITICAL NETWORKS

Marc Esteve Del Valle, Rimmert Sijtsma, Hanne Stegeman and Rosa Borge

To what extent are elements of rational-critical debate present in Twitter political networks? And to what extent are the discursive practices in these networks constitutive of a public sphere online? This research presents the different phases of a coding manual we developed to assess deliberation in Twitter political networks. To exemplify the use and value of the coding manual, we manually annotated communications (N = 3657) in the Dutch MPs' mentions Twitter network. Our results show clear signs of positive empathy and cross-ideological interactions in the MPs' communications, yet they also point to low levels of internal justification, reflexivity and critique. Therefore, although communications in the Dutch MPs' mentions Twitter network exhibit important components of rational-critical debate, they cannot be considered full-fledged deliberative.

KEYWORDS public sphere; online deliberation; Twitter; political networks

Introduction

Social media have given rise to anxieties regarding the state of democracy (e.g. echo-chambers, slacktivism, extremism or political polarisation) which are detrimental to the democratic process (Dahlgren 2012, 37). But social media can also have perceived benefits for politics. Politicians, for instance, can use Twitter to surpass traditional journalistic gatekeepers in information provision to the electorate, to converse directly with citizens, to create a hype, or to campaign. However, the empirical evidence for either of these trends is rather incomplete and inconclusive (Margetts 2019, 116). To understand the implications of changes in communications for democracy, online political practices should be assessed as discursive actions that hint towards the possible existence of a public sphere, i.e. "the social sphere constituted of rational-critical discourse that enables the formation of public opinion" (Dahlberg 2001). This article presents one systematic way to examine the developments of politics in the online space; a code book to evaluate the prevalence of deliberative communications in Twitter political networks.

The debate about the presence of elements of a public sphere online has already found its reinforcement in the existing literature. While some (Dean 2003; Goldberg 2010) completely deny the existence of such an online public sphere, others present their arguments to support the existence of new types of public spheres (e.g. Benkler

2006; Bruns 2008; Castells 2008; Papacharissi 2002). These dichotomous views leave us wondering about the state of deliberation in online political networks. If key deliberative criteria (justification, reflexivity, critique, etc.) do not surface in empirical examinations this would have serious implications for our evaluation of the health of democracy. The code book presented here can function as one instrument to assess this in Twitter political networks.

The coding manual is based on a theoretical integration of interrelated concepts of ideal deliberation in public sphere theories, namely rational-critical debate. It is thoroughly informed by a variety of interpretations and operationalisations of public sphere theories (Habermas 1989; Dahlberg 2004; Kies 2010) and rigorously tested. The end product of this process could be adapted in future research to assess the extent to which deliberative communications take shape in other online spaces. In this way, our code book can aid to assess the deliberative quality of political debates occurring on social media.

To exemplify the use and value of this code book, we present a case study of Dutch MPs' communications on Twitter. We aim to answer the following questions: *To what extent are elements of rational-critical debate present in the communications of Dutch MPs on Twitter? And thus, to what extent do these communications display elements of the ideal Public Sphere?* The code book uses the concepts of rational-critical debate as indicators to test the presence of elements of an online public sphere. The case presented here deals with a sample of 3678 Dutch MPs' tweets in a mention network. This since we see that too little attention has been paid to the communicative practices of parliamentarians, i.e. key political officials in the construction of public debate.

The following sections will provide insight into the theoretical groundings of the code book. Then, the development and testing of the code book will be described. After this we move on to the case study of Dutch MPs. The results found here will be used to assess the quality of deliberation in the Dutch MPs' mention Twitter network. Finally, the discussion will integrate empirical findings with previous literature and provide some suggestions for further research.

The Public Sphere Online

Inspired by the Renaissance need for individuality and democracy, Jürgen Habermas (1989, 15) described the public sphere as a necessary condition of democracy. In essence, the public sphere housed inclusive and rational political discussions. A well-functioning public sphere gives rise to the expression of a filtered and general public opinion. Additionally, a healthy democratic system allows an inclusive, public claim to power through *öffentliches Rasonnement*—rational-critical debate within the public sphere (Habermas 1989, 28). This requirement, essentially, sees that public deliberation must take the shape of rational-critical debate (Graham and Witschge 2003, 175). This central conceptualisation of deliberation as rational-critical debate continues to be a constitutive element of the public sphere theory.

However, the basis upon which Habermas theorised and imagined the public sphere has changed drastically through a set of economic, social and technological developments (Friedland, Hove, and Rojas 2014, 13). Globalisation and the rise of the information economy, for instance, have triggered the emergence of a new social structure, namely the network society (Castells 2008, 79). The traditional description of the public sphere focussed on the move from feudalisation, through enlightenment to refeudalisation with the emergence of mass society (Habermas, 1989). The introduction of new types of

media have given rise to questions around the vitality of the public sphere in an online age. While the public sphere theory has been applied to an online context in a rather straightforward way (e.g. Janssen and Kies 2005; Rasmussen 2009) others saw the need to amend the theory. To them, the existence of an online networked society prompted the theoretical development of a revised type of public sphere, one that is based in the proliferation of information technologies and revolves around the idea of networks. Born out of this focus was the idea of the Networked Public Sphere (NPS) (Benkler 2006) or the Virtual Public Sphere (Papacharissi 2002). The NPS is characterised as a space, born from networked communications, for “public discourse, political debate, and mobilization” (Benkler et al. 2015, 596). In the NPS, the distinction between public, private and political erodes as the space is “diffused, decentralised and distributed across the network itself” (Bruns 2008, 69). On the other hand, the virtual public sphere envisions that the internet “could facilitate discussion that promotes a democratic exchange of ideas and opinions” (Papacharissi 2002, 11).

Whether the theories of the public sphere, or the NPS when focussing on power distributions in online networks (Benkler 2006), effectively represent a reality mediated online is contested. Habermas’ public sphere has been criticised for being reductionist (Lyotard 1984), restricted to the realm of privileged men (Fraser 1990) and media-centric (Carey 1995). Additionally, nowadays the possibilities of fragmentation (Sunstein 2001), hostility (Kiesler, Siegel, and McGuire 1984) and the economisation of political participation (Dean 2003; Goldberg 2010) in an online space all threaten the practical realisation of a public sphere online. Moreover, it has been noted that the online space might not be a suitable replacement of face-to-face interaction, or that a real sphere might be lost because of a cacophony of voices (Dean 2003, 98–99). When focussing on the dissemination of access and agency, critiques based on information overload and centralisation of power are countered online by simply contrasting the current situation with the mass media situation, which was far less equal and more centralised (Benkler 2006, 36). The above concerns all have reasonable grounds, but they can also be questioned. Online fragmentation has been shown to be less influential than it is perceived to be (Margetts 2019, 116), hostility depends on the social norms of the space in which discussion occurs (Maia and Rezende 2016) and political participation can be economised in an offline space too. The main issue with the realisation of the public sphere online lies with whether the traditional elements of rational-critical debate are effectively adapted in this new space. These are reflected in the code book developed here, making it a practical tool for examining the presence of elements of rational-critical debate in online political networks.

As is done in this article, the public sphere theory can be applied to study communications in online spaces. Recent studies have operationalised elements of the public sphere in this way. These studies, quite often, focus on citizens or (citizen) journalists. For instance, through survey research it has been found that the public sphere role of online citizen journalists in sub-Saharan African countries revolves around social responsibility (Mutsvairo, Columbus, and Leijendekker 2014). In a similar vein, Tanja Bosch (2010) employed case studies in South-Africa to discover a quasi-public sphere, lacking in ability to form public opinion. When it comes to online discussion contradictory findings on the existence of the public sphere surface. On the one hand, findings from a Polish Facebook sample do not prove hopeful, as they saw that few users were active, offline structures were recreated, and the public was divided into homogenous groups (Batorski and Grzywińska 2018). On the other, studies on online action through the use of a NPS theory did find the importance

of these spheres in decision making and the organisation of protests (Faris et al. 2015; Vatioti and Yörük 2016). However, the investigation of the rational-critical debate and deliberation among politicians outside of election season (Benkler et al. 2015; Bruns and Burgess 2011) appears to be limited (Borge Bravo, Balcells, and Padró-Solanet 2019). Hence, our research aims to fill this gap by providing a coding manual to assess the existence of elements of deliberation in the Dutch MPs' mentions Twitter network.

Online Deliberation and Rational-critical Debate

To test our code book, we have chosen to study whether communications between MPs on Twitter display elements of rational-critical debate. If this is the case, these exchanges would indicate the presence of deliberation. This, since deliberation, in the form of Habermas rational-critical debate, is seen as a prerequisite for the existence of the public sphere—and thus a healthy democracy. Especially, when pursuing a normative idealisation of deliberative democracy such a type of deliberation is a *conditio sine qua non* (Gimmler 2001, 23). Deliberation as rational-critical debate, is a key element of the public sphere (Calhoun 1993, 27). Since “there exists no scholarly consensus about what even the most basic characteristics of deliberation are” (Coleman and Moss 2011, 5), the choice was made to theorise and later operationalise the concept here largely on the basis of rational-critical debate. This rational-critical argumentation combined with equality and egalitarian principles form some basic conceptualisation of deliberation (Halpern and Gibbs 2013, 1160).

As theories of the public sphere moved online so did theories of deliberation, focussing on the qualities, existence and prevalence of online deliberation. This type of deliberation can be divided into three distinct dimensions (Friess and Eilders 2015, 320); (I) the institutional dimension (platform design), (II) the communicative dimension (the process of deliberation) and (III) the outcome dimension (the results of deliberation). The focus for the code book presented here is with the communicative dimension as this is represented through rational-critical debate (Graham and Witschge 2003). This is also supported by two additional rationales. First, Twitter is generally seen as an easily accessible (Draucker and Collister 2015; Esteve Del Valle and Borge Bravo 2018) platform and its institutional design (i.e. dimension I) reflects deliberative criteria (Gutmann and Thompson 2009; Janssen and Kies 2005; Stromer-Galley and Martinson 2009; Wise, Hamman, and Thorson 2006; Borge Bravo, Balcells, and Padró-Solanet 2019). Second, the sample and focus of this research (political officials) do not allow for an examination of the results of deliberation (dimension III). Future research could, using our code book, focus on a different sample and thus add a focus on this third dimension of deliberation. Rational-critical debate will thus serve here as the ideal type of deliberation in the communicative dimension.

A similar focus on the communicative dimension of online deliberation has been adopted by previous studies. Hendriks and colleagues, for instance, by theoretically anchoring their research on Habermas's conceptualisation of the public sphere used interviews combined with evaluation reports to review deliberative capacity and legitimacy in German fora (Hendriks, Dryzek, and Hunold 2007). The use of the Index for Quality of Understanding (Klinger and Russman 2015) for a content analysis of a Zurich political forum revealed that social characteristics such as gender and education, despite having an important effect on self-selected participation, had little effect on the quality of deliberation. In a similar vein of research, a combined quantitative and qualitative content analysis revealed

deliberative communicative practices among the most active users in the “Money Saving Expert” forum; the super-posters (Graham and Wright 2014). As for the online political realm, European political parties’ online fora have been examined through content analysis showing high levels of justification and reciprocity (Kies 2010; Borge Bravo and Santamarina Sáez 2016; Borge Bravo, Balcells, and Padró-Solanet 2019). And Rowe (2015) assessed online deliberation by comparing the comment sections discussing political news on Facebook to those of the news websites (Rowe 2015). This revealed that comments of web site users exhibited greater deliberative quality than those of Facebook users.

Our code book incorporates categories and elements of online deliberation from previous works on the topic. We ground our code book mainly on the following categories used in Borge Bravo and Santamarina Sáez (2016) and Borge Bravo, Balcells, and Padró-Solanet (2019) based on a previous study by Kies (2010, 42). These categories are inclusion, discursive equality, reciprocity, justification, reflexivity, empathy, sincerity, plurality, and external impact. These categories overlap largely with the indicators outlined by Dahlberg (2004, 29). The indicators of these categories were adapted by Borge Bravo and Santamarina Sáez (2016) and Borge Bravo, Balcells, and Padró-Solanet (2019) to fit the context of political fora in Spain. This adaptation served as the point of departure for our code book. In doing so, additional attention was paid to the inclusion of elements of rational-critical debate.

As this code book assesses the deliberative practices of politicians, particular consideration was paid to the normative expectations for rational-critical debate within formal political spaces. Habermas (2006) argues that the political public sphere has the normative role of mobilising and pooling relevant issues and required information, and to specify the interpretations of that information. This discourse of actors such as politicians, lobbyists, pressure groups and actors of civil society is shaped by media professionals and disseminated to a wider public through mass communication channels (Habermas, 2006, 415–416). The way in which this form of political communication is shaped, differs across the arenas of political communication (Habermas 2006, 415), and consequently how the normative role of the political public sphere is adhered to, does too.

Habermas (2006, 415) positions the public sphere as “an intermediary system between formally organised and informal face-to-face deliberations in arenas at both the top and bottom of the political systems.” These two forms can communicate through the formation of public opinion(s) by media professionals and politicians, who are both co-author as well as addressee of these public opinion(s) (Habermas 2006, 416). Twitter, and social media more broadly, bypass this distribution of roles and allow politicians to control parts of the translation of formal deliberations into public opinion(s) without the intervention of media professionals (Skovsgaard and Van Dalen 2013; Graham, Jackson, and Broersma, 2016). This seems to bear the consequence that the contribution of the political public sphere to separate state and society to form public opinion(s) (Habermas 2006, 412) is troubled. Thus, the dependency of the political public sphere on media professionals to disseminate formal deliberations is in decline, while that of politicians is on the increase.

This change in the relationship between politicians and the public brings about questions as to how the formation of public opinion(s) has changed. Habermas (2006, 421) states that the political public sphere needs citizens to input their concerns and respond to issues discussed in elite discourses. As previously argued, politicians on Twitter can shape issues and “broadcast” them to the public without the intervention of media professionals (Skovsgaard and Van Dalen 2013; Graham, Jackson, and Broersma 2016). The dialogue between elite and public discourse, then, could take place directly on a social media platform such

as Twitter where the public (Twitter users) is able to input and voice concern via tweets that respond to MPs' communications in this space. However, Twitter users should not be considered representative of the whole of internet users in the Netherlands. Indeed, Lee (2005, 421) argues that intensive users of electronic media have lower trust in politics and consequently seem to be more cynical towards politics. Taking this into account, and following Habermas' theoretical postulates, what is clear is that MPs' discussions in this political sphere should adhere to normative standards for deliberation to be indicative of a rational-critical debate. Essentially, in this public sphere, standard requirements of rational-critical debate, as embodied through different deliberative criteria (justification, reflexivity, critiques, etc.) must be followed. Crucial here is, however, that "parties, parastatal agencies and bureaucracies of all sorts must themselves be internally democratized and subjected to critical publicity" (Calhoun, 1992, 28). Politicians' communications on Twitter may thus be especially critiqued for not adhering to the following criteria of rational-critical debate.

A central element of rational-critical debate (Friess and Eilders 2015, 329) is that of argumentation (Stromer-Galley and Martinson 2009), including where argumentative material is sourced (externally or internally). This is operationalised by Dahlberg as "[t]hematization and reasoned critique of problematic validity claims" (2004, 29). Moreover, according to Witschge and Graham (2003), rational-critical debate requires three central elements: reciprocity, reflexivity and time. These elements reveal that rational-critical debate is based not on immediate reactions, but rather on thought out arguments and reflections. Rational-critical debate is adapted and operationalised here on the basis of Kies (2010) and Dahlberg (2004) who identify: justifications (validity claims), reciprocity, reflexivity, empathy (ideal role-taking), sincerity, plurality (inclusion), equality, autonomy and external impact as characteristics of rational-critical debate. The latter two of these had to be dropped because of the nature of communications by politicians. External impact, as discussed above, does not fit the intended sample of the code book. As for the autonomy, Kies (2010, 40) points out that this criterion is not often operationalised in empirical investigations. Moreover, since this criterion concerns freedom from monetary or state powers, it is argued not to be easily fulfilled (Dahlberg 2004, 35). This is, precisely, the case of our sample where MPs are not autonomous from external forces, such as party programmes, internal power struggles or lobbies' pressures. In short, disentangling instrumental-strategic reasons and non-instrumental-strategic reasons from parliamentarians' debates on Twitter becomes a complex task which falls outside the scope of our research. However, we expect future investigations to consider politicians' (lack of) autonomy from instrumental-strategic reason in their evaluation of politician's online communication practices.

Data and Methods

The sample for this research was collected using COOSTO, a social media management software. It consists of all tweets by Dutch MPs, between November 3rd, 2015 and November 3rd, 2016, that mention another Dutch MP. We considered that mentions are the minimum indicator of request for dialogue or call upon another parliamentarian to start a conversation that can be assessed with our set of deliberative criteria. The sample had two main advantages. Firstly, nearly all Dutch MPs (96%, $N = 144$) were Twitter users. As this is such a large portion of all the Dutch MPs, this addresses exclusion concerns, as

nearly all MPs were Twitter users. Secondly, the 2015–2016 time period contained no election and was therefore not strongly affected by campaigning.

Content analysis, using the code book developed here, was employed for the examination of our sample. Naturally, content analysis is not a flawless method for the examination of online deliberation; simplifying complex theoretical concepts to quantifiable categories (Dahlberg 2004, 32) can be an arduous task. Indeed, qualitative work could be very useful for an in-depth interpretation of the quality of rational-critical debate in this context, (Janssen and Kies 2005, 40). Here, however, as our focus lies with the presence rather than the in-depth understanding of rational-critical debate elements, the use of content analysis is suitable for several reasons. First, content analysis allows for “making inferences by objectively and systematically identifying the characteristics of the messages” (Holsti 1969, 14). Second, the method has also been identified to be suitable for research on (online) deliberation (thus rational-critical debate) by Russmann and Klinger (2015) and Borge Bravo and Santamarina Sáez (2016), and Borge Bravo, Balcells, and Padró-Solanet (2019) for its focus on message content. This also allows the possibility of removing debates from personal and context, thus creating a real inquiry into the message and its meaning (Spears and Martin 1994).

We used the coding manual presented here to carry out the content analysis. This manual was developed through the operationalisation of theoretical concepts and was tested in three rounds. Over a year the development and testing of the manual were guided by weekly meetings between all researchers (two professors and two students discussing issues, results and improvements). To provide insights into the development of, what we argue to be, an adequate code book for the analysis of rational-critical debate on Twitter political networks, the three separate development rounds are discussed below.

Development Phase I

The first development phase was aimed at adapting the coding manual proposed by Borge Bravo and Santamarina Sáez (2016) and Borge Bravo, Balcells, and Padró-Solanet (2019) to a Twitter sample. This, since their manual was used for analysis of several political fora with different affordances. The categories of their manual were largely adopted in this first phase. These categories are outlined in the theoretical section of this paper. Moreover, we felt these categories could be suitable for a Twitter context. Some minor changes were made to their wording (e.g. focussing on tweets and mentions). However, what is notable in the adaptation of the coding manual is the decision to remove the category sincerity from the manual. Sincerity essentially sees that “participants must make a sincere effort to make known all relevant information and their true intentions, interests, needs, and desires” (Kies 2010, 42). Thus, it seemed impossible to us to judge this deliberative criterion within a tweet (then still of 140 characters). Moreover, like the case of autonomy (see page 10), the intentions of politicians are likely to be altered by party motives or incentives. We want to emphasise that our coding manual does not aim at identifying the existence of a public sphere online, but it should be employed to determine the presence of rational-critical debate elements in Twitter political networks.

This phase of adaption was centred around meetings in which all researchers discussed the wording of the categories. These conversations were aimed at developing clear definitions and boundaries for the categories. The preliminary results of the initial coding phase ($N = 737$) signalled that the coding manual was far from being reliable. The

pairwise-agreement scores were continuously $>87\%$, and the Krippendorff's Alpha scores were generally extremely low (usually <0.2). These results mirrored the experience of the coders, who felt that the number of categories did not fit with a unit of analysis of 140 characters. In discussions after this first coding phase, it became clear that the overlap between categories obscured the clarity of the manual. This led us to decide upon "removing unreliable distinctions from the data, recoding or lumping categories, or dropping variables that do not meet the required level of reliability" (Krippendorff 2004, 430). The second phase of our coding manual addressed these issues, which mainly entailed limiting the number of categories in the manual while still representing the elements of a public sphere online as outlined in the theory.

Development Phase II

In the process of limiting categories, special attention was paid to the categories external and internal justification, reflexivity, empathy and plurality. All these categories either lost some variables, or their variables were merged into single categories. For example, justification consisted of seven indicators, empathy of four and plurality of two. While all valid characteristics of rational-critical debate, they had to be described and identified more concisely. The amount of coding variables was diminished drastically. One aid in this process was the "lumping" of various variables. Whereas in phase I justification was assessed by continuously coding (for example) links—yes/no, data—yes/no, etc. in the second scheme the question in coding became: "how was this statement justified?" answers took the shape of; not at all/ through linking/through data/etc. This significantly lowered the number of separate variables. In this process, nuances related to criteria of rational-critical debate were lost. Dahlberg (2004, 31) warned against the narrowing of categories to make them quantifiable. However, we narrowed these categories to ensure that they would be reliably coded across the sample. What was won in this process, was clarity on how these categories can be identified in a transparent manner.

This process was rather time intensive. Throughout a month, meetings were held to discuss possible amendments to the manual. The two coders discussed their experience of coding and discovered slight differences in how they had interpreted certain variables. All of this was considered in revisions of the coding manual. The new coding manual was not taken into use until both coders had agreed upon the wording and the categorisation presented.

This iteration of the scheme was tested by coding 20% of the total sample ($N = 1,474$). For most categories of rational-critical debate Krippendorff's α increased (e.g. external justification went from 0.326 to 0.784) as a result of the new scheme. However, the scheme was not quite satisfactory yet. Some variables still revealed unsatisfactory α scores (e.g. reciprocity: 0.283). More importantly, in discussions held after this new coding phase, both coders expressed that clarity in definitions of the latent variables was missing. In the final development phase attention was paid to detail, definition and the addition of original categories.

Development Phase III

The final phase of the codebook took into account the discussions, results and drawbacks experienced in previous rounds. Ambiguities related to the latent variables were removed. Rather than just describing categories, we focussed on providing specific

definitions of the variables. This included describing variables in more practical terms such as “the tweet contains a question mark”. Internal justification, as one of the more latent categories, was defined by using a list of Dutch signal words for justification (e.g. “Omdat”-because-, “namelijk”-namely-, “daaron”-thereon-).

This manual presented here produced more reliable alpha scores (communication strategy = 0.934; mentions = 0.964; questions = 0.951; external justification = 0.774; internal justification = 0.297; reflection = 0.862; moderation = 0.207; positive empathy = 0.486; negative empathy = 0.274; critique = 0.27; other party = 0.896; gender = 0.967; language = 0.681). Through the many iterations of development and testing the theoretical concepts have been adapted to a practical context. This codebook allows for the examination of communications between politicians in Twitter political networks, but it could be adapted to other actors and social media platforms, we believe.

Review of the Phases

For each development phase we examined the pairwise-agreement and the Krippendorff's α to analyse the reliability of the variables. The progression of both the percentage of pairwise-agreement and Krippendorff's α throughout the different phases can be found in the following Table 1.

As can be observed in Table 2, throughout the different phases we increased the pairwise-agreement of both internal and external justification to 98.3% and 91%, respectively. The lumping of the justification categories yielded no satisfactory results immediately, as the pairwise-agreement of internal justification became 80.9% and that of the external justification 64.9%. After the second phase, however, we decided to use the structure of subjective arguments (<debatable argument> + <reference word> + <supporting argument>). This means that we only considered a tweet for justification if it followed that argumentative structure. The result was that the pairwise-agreement of internal (98.3%) and external justification (91%) reached acceptable levels. By narrowing these categories, we employed a less ambiguous identification of the presence of the components of rational-critical debate in political tweets, but we lost some granularity on understanding the multiple facets that deliberation takes in Twitter political networks.

There are several variables that had lower scores for Krippendorff's α in the last phase compared to previous phases, those being *internal justification*, *positive empathy*, *plurality (critical)* and *diversity (language)*. We argue that this is related to low variance in our dichotomous variables. In other words, we only found a few cases for these variables, indicating that there is little variance in the sample. As the number of cases increased, the difference between the expected variance and actual variance lowered, especially if those cases that do vary are not coded equally by the coders (Krippendorff 2004, 427).

Results

The deliberative criteria of *equality*, *empathy* and *plurality* were employed to analyse Dutch MPs' communications. The Dutch parliament is made up of 60% male MPs and 40% female MPs and the authors of the tweets in the mention Twitter network are 59.2% male and 40.8% female. This indicates that both genders are confidently communicating in this networked communication space. Moreover, we found that MPs portray positive empathy

TABLE 1
Coding manual (Phase III)

Variable	Operationalisation	Explanation
Communication strategy	<ol style="list-style-type: none"> When the tweet solely mentions MPs When the tweet mentions MPs + general public 	<ol style="list-style-type: none"> The tweets only mentions accounts that are part of the mention network of Dutch MPs. The tweets mentions accounts of both MP's present in the mention network and accounts foreign to the network, thus belonging to the general public.
Reciprocity—I (mentions)	<ol style="list-style-type: none"> The tweet mentions just <i>one</i> MP. The tweet mentions <i>more than one</i> MP. 	<ol style="list-style-type: none"> In the tweet no more than one of the mentioned accounts belongs to an MP present in the Twitter mention network. More than one of the accounts mentioned in the tweet belongs to an MP, part of the mention network.
Reciprocity—II (questions)	<ol style="list-style-type: none"> The tweet is not a question. The tweet is a question. 	<ol style="list-style-type: none"> The tweet does not contain a question mark. The tweet does contain a question mark. NOTE: there has to be a '?' in the tweet.
External justification	<ol style="list-style-type: none"> The tweet contains no external justification. The tweet is justified by another MP's opinion. The tweet is justified by data and/or facts. The tweet is justified by link(s). 	<ol style="list-style-type: none"> Statement contains no form of external justification as mentioned below. The tweet clearly mentions the opinion of other MPs and supports/disproves a point based on this opinion. The tweet contains data (or references to data) to support/disprove a point. The tweet contains one or more links.

(Continued)

TABLE 1
(Continued)

Variable	Operationalisation	Explanation
Internal justification	<ol style="list-style-type: none"> 1. The tweet contains no internal justification. 1. The tweet is justified by personal experience(s). 2. The tweet is justified by values. 3. The tweet is justified by feelings. 	<ol style="list-style-type: none"> 1. Statement contains no form of external justification as mentioned below. 1. The tweet contains a signal word and contains explicit anecdotal evidence to support/disprove a point. 2. The tweet contains a signal word and supports/disproves an argument based on personal or party values. 3. The tweet contains a signal word and a description of emotion used to express personal / party feelings.
Reflexivity—I (reflection)	<ol style="list-style-type: none"> 1. The tweet does not reflect on thoughts. 1. The tweet does reflect on thoughts. 	<ol style="list-style-type: none"> 1. No reference to own/others thought(s). 1. The tweet explains a standpoint, or critically examines a standpoint based on own/others opinion.
Reflexivity—II (moderation)	<ol style="list-style-type: none"> 1. The tweet does not moderate conversations. 1. The tweet moderates conversations. 	<ol style="list-style-type: none"> 1. The tweets contains no signs of moderation as described below. 1. Accepts disagreement and aims for reconciliation, and/or lightens the tone of the conversation.
Positive empathy	<ol style="list-style-type: none"> 1. The tweet does not contain positive empathy. 1. The tweet contains positive empathy. 	<ol style="list-style-type: none"> 1. The tweet does not contain positive empathy. 1. The tweet contains at least one of the following: a ‘thank you’, acknowledgement, admiration, enthusiasm or agreement.

(Continued)

TABLE 1
(Continued)

Variable	Operationalisation	Explanation
Negative empathy	1. The tweet does not contain negative empathy. 1. The tweet contains negative empathy.	1. The tweet does not contain negative empathy. 1. The tweet contains at least one of the following: accusations, ironies, jokes or insults.
Plurality—I (criticism)	1. The tweet does not contain criticism. 1. The tweet contains criticism.	1. The tweet contains no criticism on another MPs actions, statements and/or work. 1. The tweet contains criticism on an explicitly specified object, related to politics.
Plurality—II (parties)	1. The tweet only mentions (members of) sender's own party. 1. The tweet mentions (members of) another party.	1. The tweet mentions no other party or MPs from another party. 1. The tweet mentions another party or MPs from another party.
Diversity—I (gender)	1. Male 1. Female	
Diversity—II (language)	1. Dutch 1. English 2. Other	

TABLE 2
Progression of Krippendorff's α and pairwise-agreement (Phase I, II and III)

Variable	Phase I Krippendorff's α	Phase II Krippendorff's α	Phase III Krippendorff's α
Inclusivity	–	–	0.934 (97.5%)
Reciprocity (mentions)	0.789 (91.7%)	0.969 (98.8%)	0.964 (98.5%)
Reciprocity (quotes)	0.049 (91.6%)	–	–
Reciprocity (questions)	0.797 (96.1%)	0.951 (98.9%)	0.951 (98.9%)
Reciprocity (answers)	–	0.283 (86.2%)	–
External justification	–	0.363 (64.9%)	0.774 (91%)
Ext. just. (data)	0.326act (95.7%)	–	–
Ext. just. (facts)	0.134 (93%)	–	–
Ext. just. (comparisons)	–0.004 (99.1%)	–	–
Ext. just. (links)	0.147 (98.4%)	–	–
Ext. just. (proposals)	0.119 (84.5%)	–	–
Internal justification	–	0.345 (64.9%)	0.297 (91%)
Int. just. (personal exp.)	0.423 (98.9%)	–	–
Int. just. (values)	0.068 (96.9%)	–	–
Reflexivity (reflection)	–0.001 (99.6%)	0.124 (97.4%)	0.862 (97.7%)
Reflexivity (refl. on others)	–	0.28 (84.6%)	–
Reflexivity (moderation)	–	0.246 (99.2%)	0.207 (99.2%)
Positive empathy	–	0.567 (89.6%)	0.486 (87%)
Empathy (recognition)	0.499 (99.7%)	–	–
Negative empathy	–	0.265 (92.5%)	0.274 (91.3%)
Neg. empathy (accusation)	0.125 (98.1%)	–	–
Neg. empathy (irony)	0.55 (90.2%)	–	–
Neg. empathy (insults)	0.195 (89.7%)	–	–
Plurality (approval/disapproval)	0.114 (87%)	–	–
Plurality (criticism)	0.187 (90.7%)	0.431 (90%)	0.27 (91.9%)
Plurality (parties)	–	–	0.896 (95.3%)
Diversity (gender)	0.831 (92.3%)	0.794 (90.4%)	0.967 (98.4%)
Diversity (language)	0.499 (99.7%)	0.699 (99.7%)	0.681 (99.8%)

in 14.8% of the tweets and negative empathy in 5.5% of the tweets. Thus, the mentions between MPs do not seem to create a hostile communication environment.

To see whether MPs Twitter mention networks is reflective of a plural communication environment, we coded the cross-party mentions and the critical stances existing in the mentions. 63.4% of mentions show some sign of cross-party mentions, where the author of the tweet mentions one or more MPs from another party, while the existence of critical stances was observed in 6.5% of the mentions. This means that the debate among Dutch MPs shows high levels of plurality (high number of cross-party interactions) but low levels of critical communicative behaviour.

Following the theoretical framework, deliberation should take the form of rational-critical debate (Habermas, 1989) via the elements of *justification*, *reciprocity* and *reflection*. We found that in 26.8% of the cases MPs' arguments were justified using external sources. When MPs use external justification, references to data or facts (12.7%) were most common. Followed by providing links (11.7%) and using the opinion of other MPs (2.3%). However, internal justification was only used in 1.2% of the cases. MPs showed little examples of using personal experience (.3%), values (.7%) or feelings (.2%) to justify their statements.

Our data shows that 27.2% of the tweets involved more than two MPs. MPs seem to actively communicate and engage in discussions with their peers. MPs also pose questions to other MPs in 12.8% of the cases. This shows that MPs do not just feature the exchange of statements, but they engage in conversations through questioning. Therefore, by actively involving and questioning multiple peers in conversation, MPs seem to facilitate the reciprocal level necessary for the existence of a rational debate.

Conversations in the Dutch MPs' Twitter mention network show minimal signs of reflexivity. Specifically, we only found signs of reflection in 8.8% of the sampled mentions. Further, signs of moderation among Dutch MPs only occurred in .5% of the cases.

Lastly, we found that 24% of the cases in the inclusivity dimension were mentioned solely between MPs. Most of the cases consist of three actors: the author (MP) of the tweet, the MP who is mentioned and a third party also mentioned by the MP. The mentions could be divided into two clusters; mentions solely between MPs and mentions between MPs and actors from beyond the parliamentary network.

To sum up, the debate between MPs (and actors from beyond the network) show contradictory findings. While we observe the existence of deliberative criteria in the Dutch MPs' mention Twitter network, notably *equality*, *empathy*, *plurality* and *external justification*, we also observe an important lack of *reflexivity*, *internal justification* and *critical stances*. Thus, our data are not indicative of a rational-critical debate in the Dutch MPs' Twitter communications, but it shows important proportions of external justification, plurality, equality and empathy.

Discussion

Our research presents a coding manual intended to assist scholars in assessing deliberation on Twitter political networks. Through three phases, our coding manual was adapted to, and specialised for, coding tweets to identify the elements of a public sphere online, through a focus on rational-critical debate (Habermas 1989).

We have applied our coding manual to analyse 3678 Dutch MPs' Twitter mentions. The analysis of the Dutch MPs' mentions shows the existence of some deliberative traits, such as high levels of external justification, reciprocity, civility, cross-party interactions and equality between men and women. On the other hand, our study reveals low levels of internal justification, critical stances and reflexivity. These low levels of reflexivity are commonly found in other political fora whose participants belong to political factions or parties (Borge Bravo and Santamarina Sáez 2016). Indeed, internal justifications are not so common in partisan fora in comparison to other online fora open to citizens (Stromer-Galley 2007). Altogether, it seems that some key elements of rational-critical debate are present in the Dutch MP's Twitter mention network.

Our code book can thus be used to determine which deliberative criteria surface in the communications of politicians on Twitter. This sets our approach apart from other previous iterations of coding manuals focussing on the public sphere online. For instance, while the work of Graham and Witschge (2003) presents a coding manual focussing on the extent to which online fora reach normative thresholds for rational-critical debate, reciprocity and reflexivity, our coding manual—following Dahlberg (2004) and Kies (2010)—operationalises reciprocity and reflexivity as dimensions of rational-critical debate. In doing so, our coding manual allows scholars to identify these elements within tweets, rather than as network artefacts that follow rational-critical debate. In another work, Strandberg (2008) argues

that focussing on studying citizens' communications during election periods yields better insights into the actual quality of citizen discussions due to their heightened interest in politics. However, since the focus of our study is on parliamentarians, and MPs' communications can be highly affected by party interests during campaign periods, we argue that a better way to capture the quality of the political debate on Twitter is to analyse parliamentarians' communications during non-campaign periods.

Beyond the study of online parliamentary networks, our coding manual could be employed in the scrutiny of discursive practices amongst citizens and between politicians and citizens in other political networks. Indeed, comparisons between these different networks could help gaining an understanding on the diverse deliberative components of these networks.

Moreover, we believe that our coding manual could be easily adapted to study other platforms. Since the unit of analysis of our coding manual is a single mention, and this interactional unit appears to be similar to those offered by other social media platforms (e.g. Instagram mentions or Reddit comments), the interactions in these platforms could be analysed by doing minor changes to the coding manual we propose. This would allow for cross-platform studies of elements of rational-critical debate online.

Our coding manual could also be used to assess the quality of online deliberations transcending the "borders" of the Dutch digital public space. A future direction, then, could be to contrast the findings presented here with those found in the networked political realms of other countries. This would allow for cross-national studies of the public sphere elements in Twitter political networks.

Overall, we think that our coding manual captures the communicative dimension of online political social media spaces. It managed to gain insights into the deliberative components present in the discussions of Dutch MPs' Twitter mention network. However, we expect future research to improve our coding manual by, for instance, taking into account the topic of the tweets—see Honeycutt and Herring's (2009)—or refining the operationalisation of those variables (e.g. internal justification) which, in our analysis, score low Krippendorff's α results.

As networked communications become more and more present in daily communication routines, it becomes increasingly relevant to understand whether forms of deliberation manifest in the spheres of interaction in the online political spaces. The discussions related to the presence of rational-critical elements of debate among Dutch MPs on Twitter networks can help us further comprehend the characteristics of the communicative practices occurring in the digital space. The coding manual presented in this article proposes a systematic analysis to make sense of these interactions and sheds light on some of the discursive practices occurring in Twitter political networks.

ACKNOWLEDGEMENTS

We thank Arnout Ponsioen for his assistance in collecting the data and Tom Haeussler for his comments and suggestions.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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