



Analyzing Crowd Discussion

Towards a more complete model to measure and explain online deliberation

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Abstract

This article proposes an empirical model for the analysis of online deliberation. While most empirical studies exclusively focus on measuring the degree of deliberativeness in a given text, this paper adopts a more comprehensive perspective on online deliberation by considering the conditions and outcomes of deliberation in addition to the measurement of deliberativeness. The empirical model of online deliberation draws on existing theoretical and empirical work. It includes assumptions on three levels: the conditions fostering deliberation (institutional input level), the parameters of the communication process itself (communicative throughput level) and the expected benefits of deliberation (productive outcome level). Every level addressed in the model is both rooted in deliberative theory and complemented by empirical findings. For every level a set of empirical dimensions is developed accordingly. The model is intended to serve as a framework for experimental research investigating relationships between input, throughput and outcome of deliberation.

Keywords: Deliberative Theory, Online Deliberation, Measurement, Empirical Research.

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Introduction

Democratic policy-making processes are met with skepticism in terms of the acceptance of policies. This is often reflected to as a crisis of democracy. In reaction to this crisis political elites and institutions have started to provide new possibilities of participation for affected stakeholders. Hence Zittel (2005) is correct when he states that “political elites usually do not acknowledge a crisis without having a cure ready at hand. Consequently, policies that would provide new opportunities for political participation are up on the political agenda as an answer to this perceived crisis of democracy.” (Zittel 2005: 2). Formerly closed decision systems are opened to establish communicative connections by providing opportunities of public participation. It is expected that legally binding norms could be vest with more legitimacy, acceptance and quality than in the previous, strictly representative mode. These expectations reflect ideas constantly formulated by theorists of deliberative democracy during the last three decades (e.g. Dryzek 2000; Gutman & Thompson 1996; Habermas 1992). Theorists argue that even under conditions of entrenched conflict and uncertainty not only mutual understanding could be reached, but consensual rational solutions could emerge from deliberation (Landwehr 2012: 355). Therefore, deliberation is a political mode for generating legal norms and it potentially provides the solution for the smoldering legitimacy crisis (Habermas 1975; Habermas 1992).

As internet technologies have gained more attention during the last two decades, possibilities for new large-scale public deliberation became increasingly popular in academia and in practice. The internet has often been presented as the healer providing the infrastructure for the public sphere which deliberative advocates have dreamed of (Graham & Witschge 2003: 173). Accordingly, deliberative democracy is one of the most influential theoretical concepts in the ongoing debate on the relationship of democracy and internet technology (Chadwick 2009). Empirical research on online deliberation has experienced a sharp increase in recent years and a massive body of theoretical and empirical literature is available now (e.g. Black et al. 2011; Davis 2010; Gerhards & Schäfer 2010; Davies & Gangadharan 2009; Dahlberg 2001). Thus large numbers of suggestions have been presented on how to assess online communication by using deliberative theory as a yardstick (e.g. Stromer-Galley & Martinson 2009; Stromer-Galley 2007; Trénel 2004; Graham & Witschge 2003). However, the field of online deliberation is still “under construction” (Coleman & Moss 2012). Thus, we have to investigate issues of design, research and practice of online deliberation normatively (how things should be ideally), descriptively (how things are empirically) and prescriptively (how we can change things for progress) (Davies & Gangadharan 2009: 7).

This article aims to contribute to these questions introducing an *empirical model* of deliberation. Our model is based on most fundamental assumptions from deliberative theories. Starting from these basic ideas of deliberation helps us to overcome the fuzziness of the concept which is a major problem of empirical deliberation research (Mutz 2008). The objective of the paper is to suggest how online crowd communication could be analyzed in a deliberative perspective. While most empirical studies exclusively focus on measuring the degree of deliberativeness in a given text (e.g. Black et al. 2011; Xiang, Yuen-Ying & Zhen-Mei 2008; Monnoyer-Smith 2006) this paper adopts a more comprehensive perspective on online deliberation. We argue that scholars of online deliberation have to discuss three aspects of deliberation. The institutional conditions of a given communication space, the quality of the communication itself and the outcomes of deliberation. These aspects are considered as levels in our empirical model: the conditions fostering de-

liberation (*institutional input level*), the parameters of the communication process itself (*communicative throughput level*) and the expected benefits of deliberation (*productive outcome level*).

In order to develop this model step by step we will start with a theoretical definition of deliberation based on five fundamental assumptions of the tradition. We then propose a very simple understanding of deliberation which can be transferred into an empirical model to be used for the analysis of deliberation online. In the next step we introduce empirical dimensions and develop the empirical model. We apply the model to a case study on an online discussion about new PhD guidelines. Here we exclusively focus on the measurement of deliberativeness. Finally, we will discuss the findings and the proposed model.

A common ground in deliberative theory?

In the last 30 years deliberative theories have become extremely popular prompting Dryzek (2000) to state that a “strong deliberative turn” within political theory has taken place. Reviewing the history of deliberative theory Chambers (2003) notes that deliberative democracy has matured from a ‘theoretical statement’ into a ‘working theory’ (Chambers 2003: 307). Beside the massive attention within political theory, additionally, the advent of the internet contributed to the boost of deliberative theory. Authors like Pateman (1970), Barber (1984) and Habermas (1992) provided the theoretical framework for intellectual reflections how the internet could foster democracy. Chadwick (2009) points out that the debate on the relationship of internet technologies and democracy has been highly inspired by ideas of deliberative and participatory democracy. The ideal of the deliberative public sphere presented by Habermas “is probably the most influential concept in the scholarly writing on e-democracy.” (Chadwick 2009: 14).

However, due to the widespread interest deliberative theories have received during the last years the concept itself is rather fuzzy. Thus, there is no consensus on what deliberation exactly is or should be (Delli Carpini, Cook & Jacobs 2004). Beyond the minimal agreement that democratic processes should involve communication rather than aggregation and voting, there is hardly any consensus on the details of the concept of deliberation (Bächtiger & Pedrini 2010: 10). Dahlberg (2007) points out that definitions and criteria of deliberation used within the scientific field vary as authors rely upon readings of a wide range of deliberative theories. Especially the growing body of empirical literature on deliberation has stretched the concept, which means that many authors define almost every type of communication as deliberation (Bächtiger et al. 2010). Accordingly, it remains unclear which conditions are necessary or sufficient for the concept of deliberation. Gonzalez-Bailon, Kaltenbrunner and Banchs (2010: 3) state that “without these conditions, deliberation is a moving target: it is difficult to match with any particular instance of public discussion and it can always be argued that some crucial element is missing that disqualifies the entire empirical approach. The problem with this lack of conceptual clarity is not only that it goes against the basic principle of scientific refutability, hampering the development of the theory, but also that it blurs the boundaries between the definition of deliberation and its evaluation.” To overcome the fuzziness of the concept we propose a definition, which is based on five shared and recognized assumptions of deliberative theory.

Firstly, deliberative theory starts with *turning away from liberal or economic theories* and voting-centric views of democracy, towards a more talk-centric view of democracy. “Voting-centric views see democracy as the arena in which fixed preferences and interests compete via fair mechanisms of aggregation. In contrast, deliberative democracy focuses on the communicative processes of opinion and will-formation that precede voting.” (Chambers 2003: 308). Accordingly, deliberative theories are rooted in the tradition of the *Frankfurt School* established by theorists like Theodor Adorno, Max Horkheimer, Walter Benjamin or Jürgen Habermas. Critics on the current representative mode of democracy are a kind of standard part of deliberative theories, but theorists vary how critical they are of representative institutions. However, most of them standing in strong opposition to liberal or elitist theories of democracy like Schumpeter or Downs have presented them.

The second feature is the *rationalizing potential of human communication* which is seen as a key source of legitimacy. Authors like Habermas (1992) emphasize that the only “legitimated order is one that could be justified to all those living under its laws” (Chambers 2003: 308). Any act of power has to be publicly articulated, explained and justified within the normative framework of the “forceless force of the better argument” (Habermas 1975: 108). Thus the medium for legitimacy is human communication.

The third feature regards the *rules which have to be observed in the communication process*. Even though, scholars agree that deliberation is a demanding type of communication, which have to follow certain rules, the exact rules are matter of academic disputes (Bächtiger & Pedrini 2010: 10). But even if divergences persist among political theorists about the main features or standards of deliberation, they all agree that deliberation can be distinguished from other types of communication (Monnoyer-Smith 2006). However, there is some sort of consensus that deliberation is a rational, interactive and respectful form of communication.

Fourthly, deliberative theories assume *beneficial outcomes of deliberation*. While all theories agree that the process of deliberation is going to produce salutary outcomes, there is little consensus on the specific results (e.g. stronger sense of political efficacy, public-spirited attitudes, willingness to compromise, more informed citizens, increase of perceived legitimacy) (Mutz 2008: 523).

The premises of talk centrism, the legitimizing power of communication and the standards of the communication as well as the beneficial outcomes of the deliberation process are important assumptions shared among deliberative theorists. However, those criteria are not crucial for the theories about *deliberative democracy*. Deliberative democracy puts the *focus on the public sphere* and the question concerning *who* should be included in the process of deliberation. Gutmann and Thompson (2004) pointed out that “what makes deliberative democracy democratic is an expansive definition of who is included in the process of deliberation – an inclusive answer to the questions of who has the right (and the effective opportunity) to deliberate [...]” (Gutmann & Thompson 2004: 9f.) While *deliberation* refers to a specific type of communication, which is characterized by certain rules and distinguished from other types of communication, *deliberative democracy* also includes assumptions on the institutional setting where deliberation should take place and who should be included. Thus, the specific communication modus of deliberation is a necessary but not a sufficient condition for deliberative democracy. Accordingly, theories on deliberative democracy not only make demanding assumptions about the communication process itself,

they are also making demanding claims on the inclusiveness of the public sphere where deliberation should take place.

To sum up, these five assumptions shared by most scholars of deliberation constitute a common basis of deliberative theory. Accordingly, we *define deliberative democracy* as a talk-centric political modus rooted in the critical tradition of the Frankfurt School where political discourse is perceived as the source of legitimacy. In order to unfold its legitimizing power and producing democratically beneficial outcomes, communication has to follow certain rules which make deliberation a demanding type of communication. Additionally, deliberative democracy requires a high level of egalitarian inclusion within the public sphere.

A basic Model of Deliberation

The five features above provide the framework necessary to develop a very simple model of deliberation. While deliberative theories are very different in detail, all of them address a relationship between certain *conditions* for communication, a specific type of *communication* and the *outcomes* that are produced due to such a communicative process. Considering this, Wessler (2008) developed a normative model of deliberation for comparative empirical analysis of political media content. His model distinguishes three dimensions. The *input* dimension focuses on the equal opportunities for topics, ideas and arguments (Wessler 2008: 3). The *throughput* dimension approaches the “questions of how public deliberation should be conducted” (Wessler 2008: 4). He points out the three important criteria of justification, rebuttal and civility. Finally, the last dimension considers the *outcomes* of deliberation (Wessler 2008: 5). Wessler draws on an analytical heuristic introduced by Ferree, Gerhards and Rucht (2002a/200b) in their comparative study on the US and German discourses on abortion. They discuss normative criteria of public sphere concepts from different theoretical traditions by asking four questions: *Who* should speak? In *what* sort of process? *How* should ideas be presented? And finally, what is the relationship between discourse and decision-making *outcomes*? (Ferree, Gerhards & Rucht 2002b: 316). In order to conduct a systematic review of empirical deliberation research Bächtiger and Wyss (2013) introduced an empirical model, which distinguish between *conditions* for deliberation, the *process* of deliberation and the normatively desirable *outcomes*. Bächtiger and Wyss also sketch out empirical indicators for each level, which makes this model workable for empirical research.

While other authors presented remarkable ideas for the empirical analyses of mediated deliberation (e.g. Maia 2012; Wessler 2008; Ferree, Gerhards & Rucht 2002a) or the comparative analyses of political systems (Bächtiger & Whyss 2013; Steiner et al. 2004), the field of *online deliberation* lacks such sophisticated approaches which provide ground for empirical research. Even if the body of literature on online deliberation has grown fast during the last two decades, the different studies neglect the broader context of deliberation. In order to overcome this problem we sketch a simple idea of deliberation by pointing out that all deliberative theories draw a relation between certain conditions for deliberation, specific standards for the process of communication and the desirable outcomes claimed by normative theory. Accordingly, our model includes three levels: the conditions fostering deliberation (*institutional input level*), the standards of the communication

process itself (*communicative throughput level*) and the expected benefits of deliberation (*productive outcome level*).

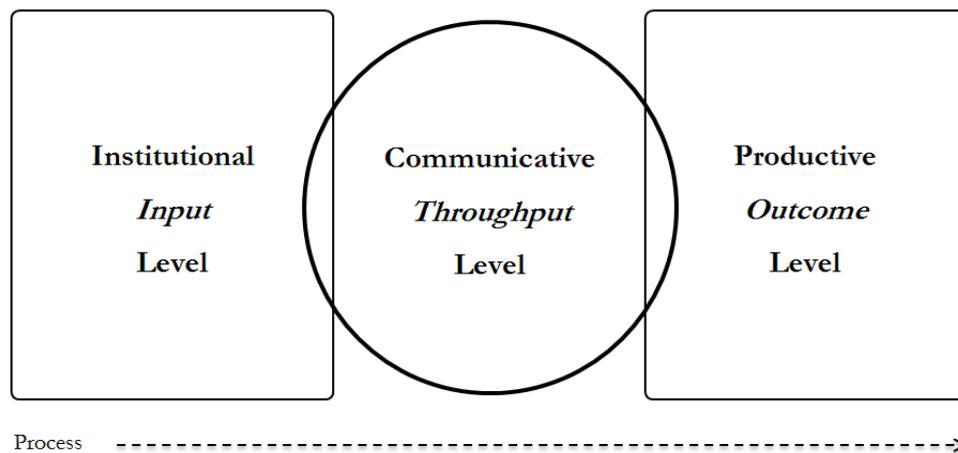


Fig. 1 Basic Model of Deliberation

We argue that this model provides a more complete framework for online deliberation research, because it covers the whole process of deliberation. Every level addressed in the model is both rooted in deliberative theory and complemented by empirical findings. Therefore, the next section will briefly address every level.

Institutional input level

At the level of institutional inputs the focus is on the conditions *for* deliberation. The crucial question is how online spaces should be designed and organized to foster deliberation. Informed guesses can be drawn from the theoretical literature about the normative qualities of the public sphere. The normative concept of the public sphere described by Habermas (1992) is used as a yardstick for judging the institutional design of a certain communication space. Inclusiveness in terms of equal access and participation opportunities or openness for all topics, issues and positions - or more precisely all disputed validity claims - are important factors. Another essential aspect following from Habermas' ideal speech situation is the absence of power. The only force accepted is the force of the better argument (Habermas 1981). Further, it is a crucial question whether fundamental preconditions for deliberation like *conflict* and *need for decision* (Gutmann & Thompson 2004) are fulfilled.

A growing body of research has identified various social as well as technical features foster deliberation (e.g. Coleman & Moss 2012; Karlsson 2012; Towne & Herbsleb 2012; Zhang, Cao & Tran 2012; Eveland & Hively 2009; Stromer-Galley & Martinson 2009; Himelboim 2009; Himelboim 2008; Wright & Street 2007; Wise, Hamman & Thorson 2006; Janssen & Kies 2005). A review of the empirical findings helps disclosing crucial design factors, which are likely to have an effect on the deliberative quality of online discussions. Janssen and Kies (2005) stress that real-time discussion spaces like chat rooms are more likely to attract small talk and jokes rather than deliberation. Therefore online discussion space should be *asynchronous* to allow participants to spend more time reflecting and justifying their contributions (Janssen & Kies 2005: 321). Stromer-Galley and Martinson (2009) confirm that synchronized communication has a negative

influence on different dimension of deliberation. “Synchronous chat seems especially problematic for creating quality interaction, because of its apparent lack of coherence. [...]. Because the chat environment happens in near-real-time yet does not easily facilitate turn-taking, ideal argument cannot occur. Messages are short, leading to under-developed arguments; there is a high level of personal attack; and the overall dialogue is incoherent as multiple people talk at roughly the same time, intermixing two or more separate lines of conversation.” (Stromer-Galley & Martinson 2009: 197). While the technical structure of a communication space should concede time for reflection, this does not apply to the *visibility* of the produced content. Towne and Herbsleb (2012) acknowledged that user content should appear immediately in order to motivate contributions and lower perceived entry barriers (Towne & Herbsleb 2012: 102).

Moderation and anonymity are further design factors, which are controversially discussed in the literature. However, empirical evidence is winning ground that *identification of users* fosters deliberation in terms of civility, rationality and sincerity (Coleman & Moss 2012: 8). Janssen and Kies (2005) conclude that “the identification of the participants is a fundamental element for explaining the quality and the persistency of a political debate” (Janssen & Kies 2005: 321). Towne and Herbsleb (2012) note that identification also has an impact on content quality. Whereas anonymity is able to push the quantity of participation, it simultaneously lowers the quality of the content (Towne & Herbsleb 2012: 108).

Likewise, *moderation* is controversially discussed, but empirical evidence suggests that it can have significant positive effects on the deliberative quality of online debates (Wright & Street 2007; Jansen & Kies 2005; Edwards 2002). While online libertarians generally reject moderation as an illegitimate form of censorship (Coleman & Moss 2012: 8) Janssen and Kies (2005) stress the type of moderation. “The moderator can be a ‘censor’ – for example by removing opinions that are at odds with the main ideology of the discussion space – or he can be ‘promoter of deliberation’ by, for example, implementing a system of synthesis of debate, by giving more visibility to minority opinions, by offering background information related to the topics etc.” (Janssen & Kies 2005: 321) Wright and Street (2007) conclude that moderation is crucial to enable respectful, rational, focused and fair online deliberation.

Another important design feature is the *perceived power* of communication spaces. Janssen and Kies (2005) distinguish between strong and weak discussion spaces. A discussion space (e.g. an online forum) is considered strong if people think that their contribution is able to influence political outcomes. On the contrary, online public spaces are weak if participants do not believe that their participation has any impact (Jansen & Kies 2005: 324). Drawing on empirical findings by Coleman, Hall and Howell (2002) and Jensen (2003) they conclude that strong discussion spaces tend to be more deliberative than weak discussion spaces (Jansen & Kies 2005: 324).

If the aim of a communication space is to produce something substantial, the technical structure should enable a *division of labor*. The division of large tasks into smaller units is one of the key lessons from online cooperation projects like Linux or Wikipedia and should be adapted for online deliberation. Giving participants the opportunity to choose a task of their personal interest, motivation or competence makes it likely to have qualitative spillover effects on the final outcomes (Towne & Herbsleb 2012: 103). The debate on task definitions and distinctions can lead to a more precise and informed picture of the whole project and its details. Noveck (2009) points out:

“The more specific the question, the better targeted and more relevant the response will be.” (Noveck, 2009: 171)

The technical opportunity of *horizontal interaction* with other users is another factor affecting deliberation. For example, the online consultation by the Commission of the European Union only allows inputs towards the commission. Other civil society groups cannot be contacted, which means that this instrument could never be deliberative.

Finally, since deliberation rests upon the rational weighing of different arguments and information, online spaces for deliberation should provide *relevant information* or encourage people to post relevant and adequate information.¹ Himelboim (2009) studying 20 political online forums found that 95 percent of the most recognized users posted external information. This indicates a relation between information supply and replies, which touches the deliberative dimension of interactivity.

Communicative throughput level

The communicative throughput level refers to the most important normative claims of deliberative theory regarding the question of *how* the communication process should look like, particularly how the participants should react to each other’s ideas (Wessler 2008: 4). Rules addressed on this level drawn from Habermas’ (1983) discourse ethics. We further integrated suggestions from empirical research on the measurement of deliberation (e.g. Black et al. 2011; Stromer-Galley 2007; Steiner et al. 2004; Trénel 2004; Graham & Witschge 2003; Dahlberg 2001).

In order to identify relevant elements of deliberative communication we reviewed 16 different empirical instruments to measure deliberativeness. Although the theoretical foundations, definitions and terms vary between the 16 studies, four *key dimensions* of deliberation could be identified. Accordingly, deliberation is rational, interactive, equal and respectful. Drawing from the widely recognized Discourse Quality Index from Steiner et al. (2004), which Habermas himself described as “splendid comparative study [which] reaches just to the centre of the whole approach to deliberative politics“ (Habermas 2005: 389), we add the dimension of common good reference and constructiveness. While the exact operationalization of these dimensions is beyond the scope of this paper, we want to briefly explain the six deliberative dimensions.

The probably most crucial dimension of deliberation is *rationality*. The prevailing opinion in literature suggests that in deliberative communication positions are substantiated with arguments and empirical evidence (Ryfe 2005). Gutmann & Thompson (2004) define reason-giving a one of the key elements of deliberation. Habermas (1992) drawing on Cohen (1989) underlines the critical exchange and challenge of rational arguments as the core of deliberation as well. Manin (1987) states that a diversity of arguments is an essential condition for the rationality of the process. Accordingly, it is necessary that participants change their opinion in the light of arguments.

The important role of rationality affects the second key dimension of deliberation: *interactivity*. The assumption of communicative rationality rests on the premise that participants interact with each other. Thus deliberation is a social process of giving and taking (Dryzek 1990), which in-

¹ Providing relevant information also has been one key element of Fishkins (2009/1995) deliberative Poll studies

cludes both listening and responding (Barber 1984). Arguments should not just be articulated, but rather also listened to and replied. The interactive mode of deliberation implies an exchange of arguments. Habermas (1983) additionally stresses the need for role taking and empathy, which means that every participant has to be able to take the perspective of other participants.

The third important characteristic of deliberation is *equality*. This dimension touches on the condition of inclusiveness (Trénel 2004), which is also relevant on the input level. Everybody who is affected by a policy should have the same opportunity to participate in deliberation (Habermas 1992). In addition, Gutmann and Thompson (2004) stress the criteria of accessibility and inclusiveness. While deliberation should be open to anyone, there is no need for citizens to participate (Trénel 2004). However, equality and inclusiveness in this sense is rather placed at the level of institutional inputs. On the communicative throughput level we focus on the equal opportunities to articulate arguments and reply to other participant claims. It is crucial that every claim is treated equally and has the same chance to be deliberated. The only power present is the “forceless force of the better argument” (Habermas 1975: 108).

Another core dimension of deliberation is *civility*. First of all, this dimension reflects the need for mutual recognition of the participants in the sense that everybody is recognized as an equal and rational actor able to speak in his or her own manner. The mutual recognition is the fundamental premise for reaching rational consensus by the balanced exchange of arguments including respectful listening (Barber 1984). Trénel (2004) points out that being ready for being convinced by others requires to show respect and empathy towards the other participants (Trénel 2004: 3). Obviously, civility also includes the absence of disrespectful and discriminating speech acts.

In an ideal process of deliberation participants justify their positions by referring to the *common good* (Bächtiger & Wyss 2013). Framing the arguments in the “perspective of the common good enables participants from diverging interest groups to convince each other” (Trénel 2004: 18). Thompson (2008) argues that public reasoning in front of a diverse audience makes it more likely that speakers “appeal to more general principles” (Thompson, 2008: 510), which are in line with the common good. Manin (1987) puts it similar, when he emphasises that deliberation “provides an incentive to generalization“ (Manin 1987: 359).

Finally, *constructiveness* can be considered a relevant dimension of deliberation (e.g. Monnoyer-Smith & Wojcik 2012; Black et al. 2011; Steiner et al. 2004). This is hinted to rationality, which implies a constructive atmosphere in which consensus is the final goal (Habermas 1992). Consequently, the orientation towards a common ground and agreement is a fundamental part of deliberation.

Productive Outcome level

The third level of deliberation regards the outcomes promised by deliberative theories. Pateman (1970) puts it correctly when she says that “results that accrue through the participatory process provide an important justification” (Pateman 1970: 25) for the whole idea and claim for more participation and deliberation. Therefore we have to investigate if theoretical promises are met empirically. Investigating whether deliberative democracy is a falsifiable theory, Mutz (2008) pointed out that promises made by normative theories constitute the shared ground for empirical

research and normative theory because it can be observed to which degree they were fulfilled (Mutz 2008: 523).

However, desirable outcomes of deliberation are a matter of dispute (Bächtiger & Wyss 2013: 164). The literature suggests a differentiation between outcomes on the individual level and outcomes related to the quality of decisions. At the individual level we can summarize outcomes that are contributing to what some authors call the “deliberative citizen” (Coleman & Moss 2012). Outcomes on the individual level include increase of *tolerance* (Gutman & Thompson 1996; Manin 1987), more political *knowledge* (Parry, Moyser & Day 1992), a stronger sense of political *efficacy* (Pateman 1970), more *public spirited* attitudes and willingness to compromise (Chambers 1996; Barber 1984) or to *transform preferences* (Fishkin 2009).

At the result-related outcome level deliberative theorists have spelled out various benefits. Some argue that ideal processes of deliberation will generate *consensual* decisions with high *epistemic quality*, which enhance *legitimacy* of the final decision (Habermas 1992; Barber 1984).² However, Thompson points out that “there is no consensus among deliberative theorists themselves that consensus should be the goal of deliberation” (Thompson 2008: 508). For example Bohman (2007) is skeptical about consensus as the result of deliberation and suggests *error avoidance* as the main goal to be achieved by deliberation. Mendelberg (2002) referring to Chambers (1996) states that “Political decisions will become more considered and informed by relevant reasons and evidence” (Mendelberg 2002: 153) which finally contributes to a higher quality and acceptance of legally binding norms.

An empirical Model of Online Deliberation

After every level has been addressed we want to move on to create an empirical model for the analysis of online discussions. Therefore, all the different dimensions discussed for each of the three levels are transferred into a model which follows the basic model of deliberation above.

The *institutional input level* comprises the theoretical dimensions of inclusiveness, equality and openness. Additionally, we include the design features of asynchronous communication, content visibility, moderation, identity, information, division of labor, horizontal interaction and perceived power. Empirically we have to investigate the markedness of those dimensions in the structural architecture of a certain communication space in order to investigate its deliberative potential. The institutional design is conceptualized to shape the throughput which will represent the focus of our empirical attention in the upcoming section.

The *communicative throughput level* includes the dimensions of rationality, interactivity, civility, equality, common good reference and constructiveness. Each of the dimensions can be translated into empirical indicators and transferred into a coding scheme for content analyses of a certain online content. This offers the opportunity to investigate the quality of a debate in a deliberative perspective and sheds light on the question: “Did they deliberate?” (Knobloch et al. 2013).

² Mutz (2008) points out that regardless of the perception, some authors argue the inherent legitimization of such processes (Mutz 2008: 524). Obviously, this position provides no starting point for empirical research.

Moving forward in our model, the quality of the throughput has an affect at the *productive outcome level*. Here we distinguished between individual outcomes like the increase of tolerance, efficacy, knowledge, public spirit, acceptance and emergence of preference transformation. The empirical analyses of deliberative outcomes at the individual level therefore have to focus on those indicators. Result-related outcomes are consensus, epistemic quality and legitimacy. Here empirical research has to investigate if decisions are perceived as more acceptable, legitimized or of a higher quality by the participants or experts. Consensus could be measured by surveys or the analysis of votes if given.

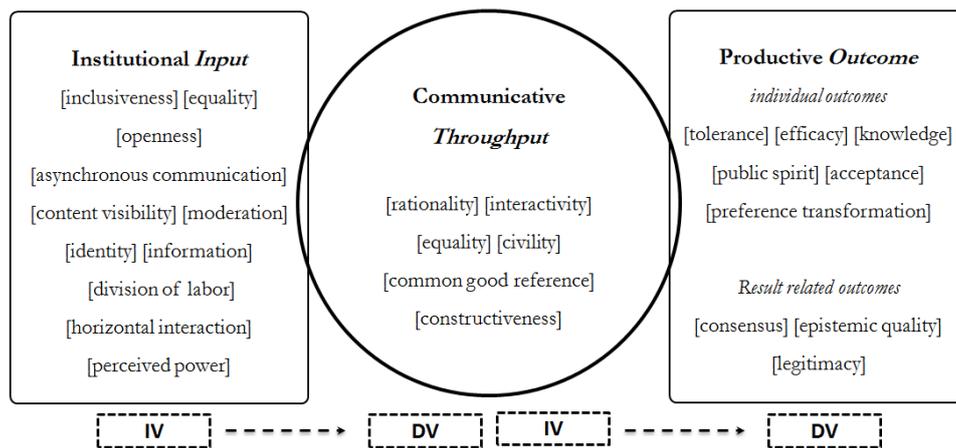


Fig. 2 Basic Model Empirical Dimension included

The boxes at the bottom indicated which part of the model can be considered as independent variable (IV) or dependent variable (DV) in the case of experimental or quasi-experimental research design. For example we could investigate if there are dependencies between certain design features at the institutional input level (IV) and specific dimensions of deliberativeness at the communicative throughput level (DV). Likewise, we could check for such relations between deliberativeness at the communicative throughput level (IV) and certain outcomes (DV)

Case Study: deliberating PhD guidelines online

The model served as a basic framework for the analysis of deliberation in a case study. This case study was realized within a broader interdisciplinary research project focusing on issues on *cooperative internet mediated norm setting*.³ The rules dealt with in the case study regard new PhD guidelines in one faculty of the authors' university. The discussion and adoption of guidelines for academic degrees is one of the main tasks of the faculty council where the majority of votes are held by professors. Due to the heterogeneity of disciplines in this faculty, the requirements for a PhD were a matter of conflict. The faculty council decided to set up an online forum for the discussion among stakeholders (professors, academic staff and PhD students as well as the original

³ Cooperative norm setting defines a collective process of drafting, discussing and deciding on norms that are binding for the respective group. The participation of all group members does not preclude a differentiation of duties, expertise and rights among them (Normsetting 2014). Our interest is in understanding how groups of individuals develop norms and how the internet can help to facilitate this norm setting process. Specifically, our question is: What are the requirements, options and consequences of realizing internet-mediated cooperative norm setting in distinct social domains (Normsetting 2014). The work done by the research group is organized in eight research projects from various disciplines including business administration, computer science, law, communication science, politics and sociology.

members of the council). The debate was expected to increase both quality and acceptance of the new guidelines. The process was organized in five phases from discussing fundamental principles to passing the final draft in the council.⁴ At the end of this process, several hundred people had participated in the redraft of the guidelines by posting suggestions, discussing the suggestions and voting on the suggestions in the forum.

Data and Method

The main objectives for this case study were to design an online forum, which optimally supports online deliberation and to investigate deliberativeness of the discourses in the forum. In particular we focus on the question: *How deliberative is the debate?* Thus, empirically we exclusively reflect on the communicative throughput level while the institutional input level is only considered for the design of the forum.

Accordingly, the institutional setting of the platform complies with our proposed design criteria above. The forum was accessible for all potentially affected faculty members (about 1.400 participants) which meets the theoretical criteria of inclusiveness and accessibility. Within the forum all comments had the same chance to be discussed. However, as the names and titles of participants were visible, status power could have affected communicative behavior in the debate. To ensure the optimum support of the deliberative *process* the online forum's design considered all factors known to support the quality of online discourses. Thus, communication was organized asynchronously while content was promptly displayed. A discreet moderation was provided and user names were visible for each post. Users were free to choose any of the participation options (voting, commenting or introducing new proposals). They were also free to choose in which of the different debates they wanted to participate. The forum provided a section of relevant information. Hence, the starting page of the forum made clear that all the contributions would be considered in the final draft the forum could be considered as a strong communication space. In sum, conditions for the deliberative process could be regarded as almost optimal.

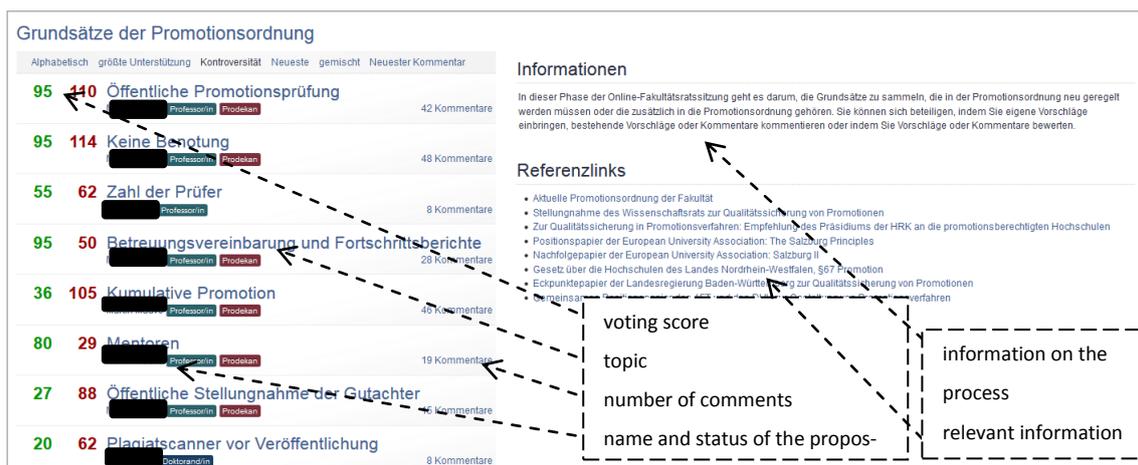


Fig. 3 Screenshot showing an overview of the fundamental principles which constitute a discussion space⁵

⁴ The final draft of the PhD guidelines was in the responsibility of the faculty council due to legal reasons. Beforehand, the council expressed a strong commitment and follow the suggestions accruing through the participatory process. Finally, the guidelines were passed unanimously.

⁵ Names were made unrecognizable due to data privacy protection.

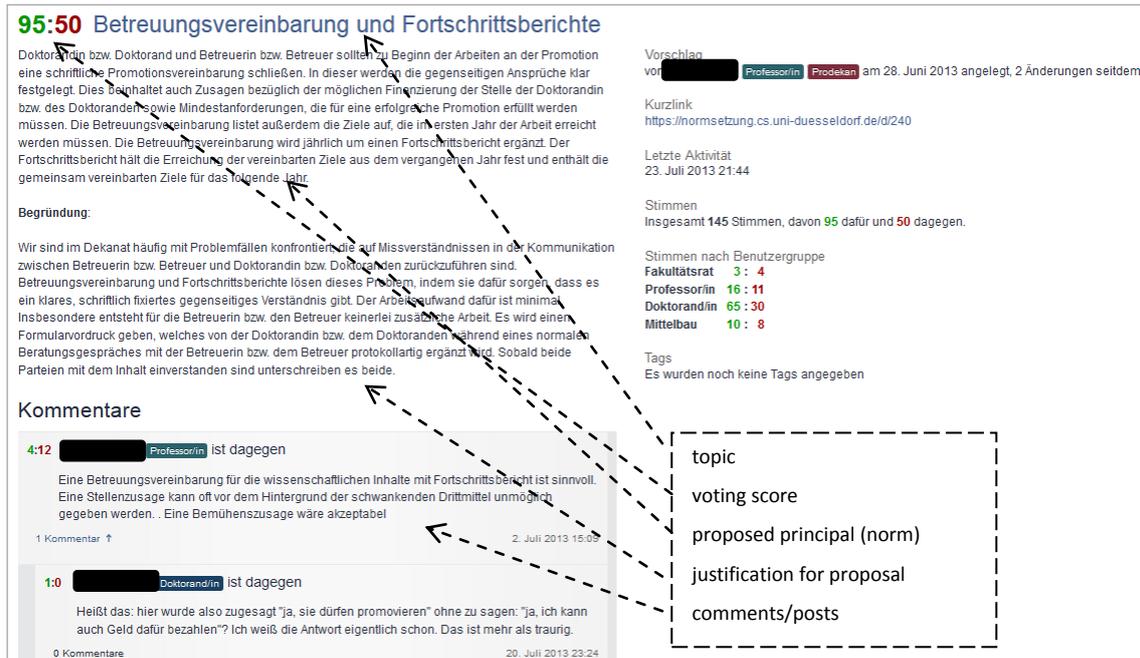


Fig. 4: Screenshot of the forum showing a discussion space (thread).⁶

The degree of deliberativeness was assessed via a quantitative content analysis of a total of 435 posts of the first phase where fundamental principals of the guidelines were discussed. The unit of analysis was one single post within one discussion space (thread). Every debate on one guideline principle was defined as a *discussion space* (thread). The debate contained 25 of such discussion spaces. The coding scheme included six dimensions. The table below shows each dimension and its indicators.

Dimension	Indicators
rationality	<ul style="list-style-type: none"> ▪ <i>topic relevance</i> ▪ <i>position statement</i> ▪ <i>argumentation</i> ▪ <i>demand for information</i> ▪ <i>information presentation</i>
interactivity	<ul style="list-style-type: none"> ▪ <i>substantial interaction</i> ▪ <i>critical interaction</i> ▪ <i>supportive interaction</i> ▪ <i>argument engagement</i>
civility	<ul style="list-style-type: none"> ▪ <i>recognition of the right to speak</i> ▪ <i>respect</i>
common good references	<ul style="list-style-type: none"> ▪ <i>Common good reference</i>
constructiveness	<ul style="list-style-type: none"> ▪ <i>Constructive communication</i> (e.g. searching for common ground, debate summery, solution proposals)
emotional talk	<ul style="list-style-type: none"> ▪ <i>Negative emotions</i> ▪ <i>Positive emotions</i>

All discussions were coded by two coders who received coder training for two days. Inter-coder reliability was at $H = 0.90$ which can be considered as excellent.

⁶ Names were made unrecognizable due to data privacy protection.

Findings

Findings overall showed a high degree of deliberativeness. Almost all 435 analyzed comments were clearly related to the topic of the forum (98 percent) and contained a clear position (96 percent). Two thirds of all comments showed at least one valid argument. About 12 percent of the comments specifically asked for further information, while more than 25 percent provided additional information. These findings suggest a high level of rationality. Especially the number of arguments and the high level of coherence (talking on topic and clear position) support this conclusion. Less than 9 percent of the comments contained emotional elements. While the role of emotions in the context of deliberation is controversial (e.g. Bickford, 2011; Graham, 2010), the low level of emotional comments can be interpreted in favor of the debate's rationality.

In terms of interactivity we found that 55 percent of the analyzed comments included references to other comments. About 21 percent of all posts made a critical reference to another comment and 26 percent supported other posts. About 25 percent of all comments were replying to a specific argument. While the first impression may indicate an average level of interactivity, the fact that many of the posts were referring to the initial proposal for a new guideline draws another picture. Thus a reply like "good idea, no doubt on that" was not coded as substantial reply. Only replies which specifically addressed other participants' posts were coded. Considering this, the findings indicate a fairly high degree of interactivity.

Uncivil communication was not found at all. There was no withdrawal of the right to speak and almost no disrespectful or discriminating content. On account of the fact that all the participants were members of a university these findings are not surprising.

Findings regarding common good references indicate the difficulty of this measure. The majority of the comments remain neutral on this dimension, which means that about 94 percent of the analyzed comments made no specific statement towards potential benefits for a particular group nor for the entire community (common good). Only 4 percent of comments considered particular interests, while 2 percent tried to have all stakeholders' interests in mind.

More than 20 percent of the comments included constructive elements which mean that participants tried to find a common ground or proposed new solutions. The interpretation of this finding is difficult. However, it could be argued that a higher level of constructiveness would rather indicate a fuzzy and conflicted discussion. We also have to consider that constructive communication needs a critical amount of comments beforehand. Briefly, only if four people talking controversially, one could speak up trying to restructure the debate.

In terms of equality, we found that no discussion space (thread) was dominated by a small number of users. No single participant generated more than 20 percent of all comments within a certain debate on one of the guideline principals. Looking at the entire debate of all 25 discussed principals shows findings familiar from previous research on online discussion. Only a small number of participants accounted for the majority of the content (e.g. Strandberg 2008; Albrecht 2006). About 12 percent of the most active users generated 42 percent of all 435 comments. However, this phenomenon occurs only at the debate level and does not count at the level of single discussion spaces (thread).

Discussion and Conclusion

In conclusion, the results indicate that the institutional design fostered a high degree of deliberativeness, but the relation between different designs and the degree of deliberativeness has not yet been investigated at this point and remains an open task for further research. However, the main purpose of this paper is to introduce an empirical model which could help to investigate such relationships. Additionally, it presents an instrument to assess deliberativeness in online discussions. Findings from the case study illustrate that it works for online debates. The study is an example of successful internet mediated cooperative norm setting. It shows that if deliberative standards at the institutional input level are met, there is considerable deliberation at the level of communicative throughput.⁷

The last 20 years have provided us with remarkable research and important findings on online deliberation. We hope that our proposed model is able to fruitfully contribute to further research in “the Blossoming Field of Online Deliberation” (Davies 2009). Therefore, we want to briefly outline three aspects to conclude.

Firstly, while most empirical studies analyzing online deliberation focus exclusively on dimensions like rationality, civility, equality or interactivity (*communicative throughput level*), they neglect the institutional setting *for* and the outcomes *of* deliberation (e.g. Black et al. 2011; Xiang, Yuen-Ying & Zhen-Mei 2008; Stromer-Galley 2007). By considering institutional conditions for and desirable outcomes of deliberation our proposed model provides a sophisticated approach for further research. Considering the *institutional input level* of deliberation can help further research in two dimensions. Firstly, we can use those indicators as a “set of ideal requirements of public sphere discourse” (Dahlberg 2001: 622) to identify the deliberative potential of a given communicative space (e.g. a discussion forum). Doing this avoids excessive expectations regarding the communication processes, which cannot be fulfilled due to the institutional design. Secondly, we can use these factors to design online communication spaces. However, while the design elements could help to support deliberation, there is no guarantee that they do as the context factors and social dynamics cannot be directly shaped by the initiators. Other factors like group size (Himmelboim 2008), group heterogeneity (Karlsson 2012; Zhang, Cao & Tran 2012) or response rate (Wise, Hamman & Thorson 2006) also affect deliberation but can only rarely be influenced by the designers. Focusing on the empirically observable outcomes at the *productive outcome level* could help us to get further information on the concrete benefits of the demanding process of deliberation. At the same time these beneficial outcomes serve as a yardstick to challenge the arguments by deliberative advocates (Mutz 2008: 524).

Secondly, our model is rooted in the most basic assumption of deliberative tradition. This prevents it from being arbitrary. While some scholars argue for stepping back from the demanding communication type of deliberation towards more casual or natural forms of political talk (e.g. Warren 2007; Young 2002; Dryzek 2000), we argued on the ground of normative deliberative theory. Advocates of what Bächtiger et al. (2010) called “typ II deliberation” almost defining every type of communication as deliberation giving up those demanding standards of deliberation

⁷ While the outcomes of the process were neglected in this paper, we could also report positive evidence in line with deliberative theory claims in this regard. The highly controversial issue of PhD guidelines was passed unanimously which hits the assumption of consensus (Habermas 1992). Surveys that were sent to all participants suggest that the majority was satisfied with the guidelines’ quality, acceptance and legitimacy. Most participants perceived the process as fair and voted for more online mediated cooperative norm setting for collective binding norms.

and thus lack theoretical coherence. Therefore, if we want to study online *deliberation*, taking all the desirable assumptions and promises, we have to stick to the theorized roots of the tradition. However, this should not be an argument for conservative research refusing to progress, but we have to be very careful using the term deliberation while at the same time ignoring fundamental assumptions of its concept.

Finally, our proposed model sets the framework for experimental and quasi-experimental research investigating relations between the different levels of deliberation. Presenting empirical dimension for each level could guide further online deliberation research to investigate linkages between those levels. This could help us to open the black box of deliberation (Mutz 2008) by carefully examining relations between certain conditions (institutional input level), dimensions of deliberation (communicative throughput level) and different dimension of outcomes (productive outcome level) of deliberation. While there has been remarkable empirical research on deliberation, those connections remain largely unknown. Therefore, experimental and quasi-experimental design provides a fair chance for connecting the dots between different aspects and levels of deliberation.

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