

## A Systematic Review of Online Deliberation Research

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*This article takes stock of the growing field of online deliberation research. Our review of the theoretical and empirical findings is guided by a framework encompassing the three relevant components of deliberation: the institutional design that enables and fosters deliberation (institutional input: “design”), the quality of the communication process (communicative throughput: “process”), and the expected results of deliberation (productive outcome: “results”). Our findings show that scholarly attention is unevenly distributed across the different components of the framework. Most research has focused on the quality of the online discussion (process). A fair amount of research has focused on the institutional conditions fostering deliberation (design), while the outcomes of online deliberation processes (results) have mostly been neglected. This picture is repeated in terms of the causal relations between design, process, and results of deliberation: Most studies have dealt with the effects of the platform design on the degree of deliberation (design-process). Much less is known about how the process of deliberation shapes the outcomes of deliberation (process-results). Studies investigating all three aspects of deliberation and their causal links (design-process-results) are particularly rare.*

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**KEY WORDS:** online deliberation, deliberative theory, review, empirical deliberation framework, participation

### Introduction

Citizens in western democracies tend to expect increasingly many opportunities for participation from their democracies. In response to these demands, political institutions have started to provide new possibilities of participation for affected stakeholders in policy-making processes. Internet technologies are often employed to provide such opportunities. It is expected that policies could be vested with greater legitimacy, acceptance, and quality than in the previous, strictly representative mode of policymaking; these expectations reflect ideas formulated by theorists of deliberative democracy over the last three decades (e.g., Dryzek, 2000; Gutman & Thompson, 1996; Habermas, 1996). Deliberative democracy refers to a specific type of participation that is characterized by informed discussion between individuals about issues that concern them. Theorists argue that even under conditions of entrenched conflict and uncertainty,

consensual rational solutions may emerge from deliberation. Deliberation is, therefore, seen as a serious option for policymaking, and it potentially answers the public demand for democratic innovation

It has been argued that the technical characteristics of the Internet create a virtual space that, for the first time, provides the ideal conditions for deliberative democracy (e.g., Dahlberg, 2001a; Wright & Street, 2007). More precisely, the Internet has often been considered to provide an infrastructure for the public sphere that deliberative advocates have dreamed of (Graham & Witschge, 2003, p. 173). Accordingly, deliberative democracy is one of the most influential theoretical concepts in the ongoing debate on the relationship between democracy and Internet technology (Chadwick, 2009). Research on online deliberation has experienced a sharp increase in recent years and an ever-growing body of theoretical and empirical literature is available (e.g., Black, Welser, Cosley, & DeGroot, 2011; Davies & Gangadharan, 2009; Gerhards & Schäfer, 2010; Price & Cappella, 2002; Stromer-Galley & Martinson 2009). However, the field of online deliberation is still “under construction” (Coleman & Moss, 2012), and many questions still remain open. In particular, there are questions regarding the relation between the design, communication processes, and outcomes of online deliberation. Scholars need to clarify these issues normatively (i.e., how things should be ideally), descriptively (i.e., how things are empirically), and prescriptively (i.e., how we can change things to ensure progress) (Davies & Gangadharan, 2009, p. 7).

This article contributes to the clarification of those issues by taking stock of the existing research on online deliberation. In order to organize this project, a framework is introduced that encompasses the relevant components of deliberation. We have developed this framework drawing on fundamental assumptions from different deliberative theories. Starting from these common ideas of deliberation enables us to overcome the fuzziness of the concept, which is a major problem of empirical deliberation research (Mutz, 2008). The framework covers the following three aspects of deliberation: the institutional design that enables and fosters deliberation (institutional input: design), the quality of the communication process (communicative throughput: process), and the expected results of deliberation (productive outcome: results). Each aspect is rooted in deliberative theory and has received more or less attention in previous research on online deliberation.

The framework is intended to serve two purposes. First, it serves as an organizing heuristic for a systematic account of theoretical and empirical research on online deliberation. The comparison between research activities on the different components of the framework reveals dissimilarities in existing online deliberation research. Second, by relating input, throughput, and outcome as the key components of the framework, it provides a comprehensive perspective on online deliberation. In this perspective, deliberative communication online is both a dependent variable and an independent variable: it may result from design features of communication platforms and it may yield beneficial outcomes for the community. This article advances the state of the art of online deliberation

by gathering and discussing what we already know along the lines of the framework. It primarily considers the literature on online deliberation; the literature on offline deliberation is only regarded if adequate findings from the online world are lacking. As the empirical findings gathered in this review are integrated into the framework, it may serve as a map to guide further research in this area.

The starting point for developing the framework is a discussion of four fundamental beliefs of the deliberative tradition. Based on these premises, we then propose a basic understanding of deliberation and translate that into a framework that comprises input (design), throughput (process), and output (results). In the next step, we examine every component of the framework in detail, starting with the theoretical argument and then taking stock of the empirical findings. Finally, we identify research gaps regarding individual components of the framework or relations between components in order to suggest future directions of empirical research on online deliberation.

### **In Search of a Common Ground in Deliberative Theory**

In the last 30 years, deliberative theories have become extremely popular, prompting Dryzek (2000, p. 1) to state that a “strong deliberative turn” within political theory has taken place. The advent of the Internet further contributed to the boom of deliberative theory. Authors like Pateman (1970), Barber (1984), and Habermas (1996) provided the theoretical framework for intellectual reflections on how the Internet may foster democracy. Chadwick (2009, p. 14) points out that the ideal of the deliberative public sphere presented by Habermas “is probably the most influential concept in the scholarly writing on e-democracy.”

However, due to the widespread interest deliberative theories have received over the last 30 years, the concept itself is rather fuzzy. Beyond the minimal agreement that democratic processes should involve communication rather than only aggregation and voting, there is hardly any consensus on the details of the concept (Delli Carpini, Cook, & Jacobs, 2004). The growing body of empirical literature on deliberation, in particular, has stretched the concept (Bächtiger, Niemeyer, Neblo, Steenbergen, & Steiner, 2010). Accordingly, it remains unclear which conditions are necessary or sufficient for the identification of deliberation. González-Bailón, Kaltenbrunner, and Banchs (2010, p. 233) 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.” In order to overcome the fuzziness of the concept, we propose a definition that is based on four shared and recognized premises of deliberative theory. These premises rest on the shared understanding that democracy is enhanced through communicative participation in general and deliberative communication in particular. Chambers (2003) points out that all deliberative democratic theories start with turning away from liberal or economic theories and voting-centric views of democracy toward a more talk-centric view of democracy, where the

process of communication shapes the opinion and the will-formation that precede voting (Chambers, 2003, p. 308).

The first unchallenged premise of deliberative theory is implicit in this focus: it is the rationalizing potential of human communication that is seen as a key source of legitimacy. Deliberative theorists emphasize that the only “legitimated order is one that could be justified to all those living under its laws” (Chambers, 2003, p. 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, p. 108). Thus, the conceptual core of legitimacy is no longer consent but rather accountability. In this vein, “accountability is primarily understood in terms of ‘giving an account’ of something, that is, publicly articulating, explaining, and most importantly justifying public policy” (Chambers, 2003, p. 308).

In order to actualize this rationalizing potential, scholars on deliberation agree that deliberation is a demanding type of communication that has to follow certain rules. Accordingly, the second premise regards rules on how to communicate in the deliberation process. Even if the exact rules are a matter of academic dispute, there is consensus that deliberation is a rational, interactive, and respectful form of communication (Bächtiger & Pedrini, 2010, p. 10).

Deliberative theories further correspondingly assume beneficial outcomes of deliberation. This marks the third premise of deliberative theory. The main argument for the elaborate process of policymaking rests on the belief that deliberation yields results that would not be reached in purely representative democracies. Mutz (2008, p. 523) emphasizes that “the whole reason deliberative democracy is normatively desirable is because it is thought to produce tangible benefits for democratic citizens and societies.” However, there is little consensus on the specifics of the results: They may include a stronger sense of political efficacy, more public-spirited attitudes, the willingness to compromise, better informed citizens, or an increase in perceived legitimacy.

The fourth premise regards the public sphere as the normative space for deliberation and the question of inclusion (see Habermas, 1984, 1989, 1996). Manin (1987, p. 352) argues that “As political decisions are characteristically imposed on all, it seems reasonable to seek, as an essential condition for legitimacy, the deliberation of all or, more precisely, the right of all to participate in deliberation.” Gutmann and Thompson (2004, p. 9f) 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 [...]” Accordingly, deliberative democracy also includes the conditions regarding the institutional setting (the public sphere) in which deliberation should take place. With this in mind, the specific communication mode of deliberation is a necessary but not sufficient condition for deliberative democracy. Deliberative democratic theory not only makes demanding claims about the communication process itself, it also requires a high degree of inclusiveness in the public sphere.

To sum up, these four premises constitute a common basis of deliberative theory. Accordingly, we define deliberative democracy as a communication-

centric political mode where political discourse is perceived as the source of legitimacy. In order to actualize its legitimizing power and render beneficial outcomes, communication has to follow certain rules. Deliberative democracy further requires a high level of egalitarian inclusion as a normative condition of the public sphere.

### Basic Framework for Analyzing Online Deliberation

The four premises of deliberative theory provide sufficient common ground to develop a framework for the analysis of deliberation (Figure 1). While deliberative theories differ considerably in detail, they all address a relationship between certain *institutional conditions* for communication, a specific type of *communication*, and the *outcomes* that are generated as a result of such a communicative process. Three models stand out due to their theoretical sophistication and empirical applicability. Wessler (2008) developed a normative model of deliberation for comparative empirical analysis of political media content. He distinguishes between three dimensions. The *input* dimension focuses on equal opportunities for topics, ideas, and arguments. The *throughput* dimension approaches the “questions of how public deliberation should be conducted” (Wessler, 2008, p. 4) and discusses justification, rebuttal, and civility as modes of conduct. The last dimension considers the *outcomes* of deliberation. Wessler draws on an analytical heuristic introduced by Ferree, Gerhards, and Rucht (2002a, 2002b) in their comparative study of the U.S. and German discourses on abortion. They discuss normative criteria of public sphere concepts from different theoretical traditions by asking *who* should speak, in *what* sort of process, *how* ideas should be presented, and what the relationship is between discourse and decision-making *outcomes* (Ferree et al. 2002a, p. 316). In their review of empirical

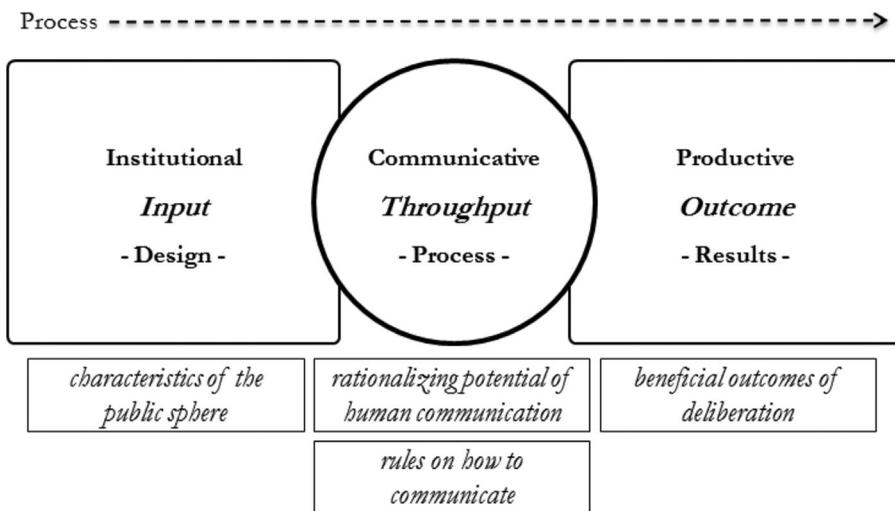


Figure 1. Basic Framework for the Analysis of Deliberation Matched With Theoretical Principles.

deliberation research, Bächtiger and Wyss (2013) introduced a similar differentiation, focusing on the conditions for deliberation, the process of deliberation, and the normatively desirable outcomes. As they also outlined empirical indicators for each level, this model promises to be particularly useful for empirical research. However, it has to be adapted to online deliberation.

The commonalities between the different models relate to the relations between the conditions fostering deliberation (institutional input: design), the standards of the communication process (communicative throughput: process), and the expected benefits of deliberation (productive outcome: results). Figure 1 presents the three components and matches them with the above outlined premises of deliberative democracy.

While a great deal of research has focused on deliberation in face-to-face “mini publics” (e.g., Fishkin, 2009; Fishkin & Luskin, 2005; Fung, 2003) or in political institutions (e.g., Nanz & Steffek, 2005; Steiner, Bächtiger, Spörndli, & Steenbergen, 2004; Spörndli, 2003), and another share of research has dealt with mediated deliberation in offline settings (e.g., Ferree et al., 2002b; Maia, 2012; Page, 1996), online deliberation has only recently attracted a significant amount of scholarly attention. The body of literature on online deliberation has grown rapidly over the last two decades, but only a few studies have considered design and outcomes as the broader context of the deliberative communication process.

The majority of empirical studies on online deliberation exclusively focus on the communication process (throughput). They aim at measuring the deliberative quality of online discussions based on theoretical dimensions of deliberation (e.g., Black et al., 2011; Monnoyer-Smith, 2006; Zhou, Chan, & Peng, 2008). Other studies have investigated the outcomes of online deliberation (e.g., Grönlund, Strandberg, & Himmelroos, 2009; Iyengar, Luskin, & Fishkin, 2005; Price & Cappella, 2002). As Price (2009) noted, simple input–output models dominate this line of research, while the throughput tends to be disregarded. Stromer-Galley and Muhlberger (2009) also point to this problem. They criticize that deliberation is treated as a black box, arguing that analysis is often restricted to “observing change from before to after the deliberation without considering what has happened during the discussion” (Stromer-Galley & Muhlberger, 2009, p. 174). To date, only a few studies have examined the effects of the communication process on the outcomes of deliberation (e.g., Price, Nir, & Cappella, 2006; Stromer-Galley & Muhlberger, 2009). However, research on deliberative communication as a dependent variable is more established, with a considerable number of empirical studies analyzing the effects of design (input) on the process of deliberative communication (e.g., Janssen & Kies, 2005; Stromer-Galley & Martinson, 2009; Towne & Herbsleb, 2012). Scholars have provided important insights regarding the influence of factors such as moderation, anonymity, and synchrony on the degree of deliberation in the communication process.

This short account of research activities has highlighted the selective emphases and the neglected questions in this recent line of research on online deliberation. In order to bring the complete process of deliberation into focus, we have gathered scattered evidence from a wide range of studies and integrated

these into the framework of online deliberation we present below. We will now consider each component of the framework in detail.

### **Design Decisions for Online Deliberation: Institutional Input Level**

The institutional input regards the conditions of deliberation. The crucial question is how online spaces have to be designed and organized in order to foster online deliberation. We distinguish between normative criteria and empirical findings on factors fostering deliberation. The normative criteria relate to the qualities of the public sphere (see Habermas 1984, 1989, 1996). According to the normative concept of the public sphere described by Habermas, the institutional design of a communicative space has to ensure inclusiveness in terms of equal access and participation opportunities (or openness) for topics, issues, and positions. Another essential criterion is the absence of power. This regards the structural dimension of democratic communication spaces, such as ownership and financing, control, and the legal frameworks defining freedoms and constraints of communication (Dahlgren, 2005, p. 148). Finally, conflict and the need for decision represent further fundamental preconditions for deliberation from a normative point of view (Gutmann & Thompson, 2004). The normative criteria serve as indicators that enable us to judge the deliberative potential of a given communicative space (e.g., a discussion forum) from a normative point of view. They may also help to avoid excessive expectations that cannot be fulfilled due to the institutional design (Friess & Eilders, 2014, p. 15).

Additional social and technical features affecting deliberative quality in online discussions have been identified in empirical studies (e.g., Coleman & Moss, 2012; Janssen & Kies, 2005; Stromer-Galley & Martinson, 2009; Towne & Herbsleb, 2012; Wright & Street, 2007). Deliberation in this line of research is viewed as resulting from the design choices made (Wright & Street, 2007, p. 849). The following review of the empirical findings on deliberative design includes mode of communication, anonymity, moderation, empowerment, division of labor, and information.

#### *Mode of Communication*

One important decision on design is related to the question regarding the general mode of communication. Janssen and Kies (2005) stress that real-time discussion spaces, such as chat rooms, are more likely to attract small talk and jokes rather than deliberation. Therefore, online discussion space should be asynchronous in order to allow participants to spend more time reflecting and justifying their contributions (Janssen & Kies, 2005, p. 321). Stromer-Galley and Martinson (2009) confirm that synchronized communication has a negative influence on different dimensions of deliberation. They observe that “Synchronous chat seems especially problematic for creating quality interaction, because of its apparent lack of coherence” (Stromer-Galley & Martinson, 2009, p. 197). Finally, Davies et al. (2009) point out that asynchronous communication allows participants to participate at their convenience; to need to be present at the same

time may reduce participation and broader inclusion. Accordingly, asynchronous communication points to the deliberative dimension of rationality, civility, and inclusiveness (see discussion on Communicative Throughput Level, below).

### *Anonymity Versus Identification*

The question whether users' anonymity or identification fosters deliberation is a point of controversy in the literature. Leshed (2009) points out that on the one hand, online anonymity may help participants to feel free to express thoughts and real opinions without fear of ridicule and embarrassment. On the other hand, the loss of accountability seems problematic and may support disrespectful behavior (Leshed, 2009, pp. 244–245). However, empirical evidence suggests that identification of users fosters deliberation in terms of civility, rationality, and sincerity (Coleman & Moss, 2012, p. 8). Janssen and Kies (2005, p. 321) conclude that “the identification of the participants is a fundamental element for explaining the quality and the persistency of a political debate.” Towne and Herbsleb (2012) stress that the decision regarding identification or anonymity has to be balanced between discussion quality and quantity. Although anonymity is able to increase the quantity of participation, it simultaneously lowers the quality of the content (Towne & Herbsleb, 2012, p. 108). Accordingly, identification seems to affect the deliberative dimension of inclusion negatively, while rationality, sincerity, and civility seem to be supported.

### *Moderation*

Empirical evidence suggests that moderation can have significant positive effects on the deliberative quality of online debates. While online libertarians generally reject moderation as an illegitimate form of censorship, Janssen and Kies (2005) stress the different types 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, p. 321). In the same vein, Wright (2009) highlighted problems and possibilities of moderation in government-run online discussion forums. He concludes that interactive moderation can promote discussion and participation. On the other hand, moderation in terms of poor content management or censorship can destroy the potential benefits of online discussions. Regarding the type of content management, Towne and Herbsleb (2012, p. 102) acknowledged that user content should appear immediately in order to motivate contributions and lower perceived entry barriers. In contrast, subsequent visibility after moderator approval reduces posting activity and participation (Rhee & Kim, 2009). In an experimental study, Wise, Hamman, and Thorson (2006, p. 24) found that moderation also affects the willingness of participation: “The participants who viewed the moderated community reported significantly higher intent

to participate than participants who viewed the unmoderated community.” Summing up, we conclude that moderation is crucial to enable respectful, rational, and inclusive online deliberation.

### *Empowerment*

Another important design feature is the empowerment of a communication space. Janssen and Kies (2005), following Fraser (1992), distinguish between strong and weak public spaces. A public space (e.g., an online forum) is considered *strong* if participants view their contribution as meaningful to other users or the final outcome. On the contrary, online public spaces are *weak* if participants do not believe that their participation has any impact (Jansen & Kies, 2005, p. 324). Drawing on empirical findings, Jansen and Kies (2005) conclude that strong discussion spaces tend to be more deliberative than weak discussion spaces. Fung (2003) considered empowerment as a crucial design choice for mini publics. He argued that “individuals may take deliberations in empowered minipublics more seriously than in forums where discussions are severed from tangible consequences” (Fung, 2003, p. 346). There is no evidence that this may be different in online settings.

### *Division of Labor*

The technical structure of a communication space meant to support deliberation should enable a division of labor. The division of large tasks into smaller units is one of the key lessons from crowdsourcing projects like Linux or Wikipedia and should be adapted for online deliberation. Towne and Herbsleb (2012) suggest that giving participants the opportunity to choose a task related to their personal interest or competence could increase participation and involvement. This makes it likely to have qualitative spillover effects on the final outcomes. In the same vein, Noveck (2009, p. 171) points out that “the more specific the question, the better targeted and more relevant the response will be.” Even the preceding deliberation on task definitions and distinctions can lead to a more precise and informed picture of the whole project and its details (Towne & Herbsleb, 2012). In sum, the atomizing of complex issues into different units can foster online deliberation in terms of participation and rationality.

### *Information*

Finally, since deliberation rests upon the rational weighing of different arguments and aims to produce reasonable, well-informed decisions, online spaces for deliberation should provide sound information, and encourage people to post relevant information (Towne & Herbsleb, 2012). Gudowsky and Bechthold (2013) emphasize the important role that different types of information play in participatory processes. They stress that providing sound information has always been a key part of most participatory processes that deal with complex issues. In the context of online deliberation, Himelboim (2009) found that 95 percent of the

users who attract most comments in political online forums posted external information. This indicates a relation between information supply and replies, which touches on the deliberative dimension of interactivity. Obviously, relevant information helps participants to find rational solutions. Additionally, common information helps to share mental models and fosters clear communication (Towne & Herbsleb, 2012, p. 104). This supports deliberation in terms of rationality and constructiveness. Since information is the main source of knowledge, it is reasonable to assume an impact of information provided in online forums on participants' knowledge (Gudowsky & Bechthold, 2013).

Having discussed factors that may enhance deliberation, it is important to note that new technologies do not automatically mean perfect conditions for deliberation. Even though decisions on design may have important implications for online deliberation, there are additional factors that affect the level of deliberation. Karlsson (2012, p. 65) points out that "online political discussion is mainly shaped not by political institutions, or designers of online platforms or moderators, but by the participants themselves, utilizing forums strategically in relation to their needs and aims." While various design elements could help to support deliberation, there is no guarantee that they will do so as the context factors and social dynamics cannot be directly shaped by the initiators. Other factors, such as group size (see Himelboim, 2008), group heterogeneity (see Zhang, Cao, & Tran, 2012), response rate (see Wise et al., 2006), and the topic discussed (see Stromer-Galley & Martinson, 2009) also affect deliberation, but cannot be influenced by the designers. Due to our focus on design decisions, these factors will be disregarded in the discussion that follows.

### **Deliberative Communication Process: Communicative Throughput Level**

The communicative throughput refers to the question of *how* people should communicate. The respective rules are drawn from Habermas' (1990) discourse ethics. We have already mentioned that the rules are strongly contested in the community. Accordingly, the empirical evaluations are also contested (e.g., Black et al., 2011; Graham & Witschge, 2003; Steiner et al., 2004; Stromer-Galley, 2007). In order to identify the prevailing dimensions of deliberative communication, we reviewed 16 different empirical instruments to measure deliberativeness.<sup>1</sup> Six key dimensions of deliberation were identified, namely rationality, interactivity, equality, civility, common good reference, and constructiveness. However, the specific operationalization for the indicators varied considerably. The discussion of the exact operationalizations is beyond the scope of this article, but we will briefly address these six frequently used dimensions of deliberation.

#### *Rationality*

The most crucial dimension of deliberation is rationality. It is widely agreed that in deliberative communication, positions are substantiated with arguments and empirical evidence (Ryfe, 2005). Habermas (1996) underlines the critical

exchange and challenge of rational arguments as the core of deliberation. Only this enables participants to change their opinion in the light of a better argument. With respect to this point, most studies that aim to measure deliberativeness include rationality in their coding schemes (e.g., Monnoyer-Smith & Wojcik, 2012; Steiner et al., 2004; Stromer-Galley, 2007).

But what exactly constitutes rational discourse? Stromer-Galley (2007) introduces the variable of topic relevance as one feature of rationality, and Trénel (2004) points out that rational debate requires participants to stay on topic. In the same vein, Graham and Witschge (2003) focus on coherence, analyzing lines of discussion to see whether people stick to the topic. The most common measure for rationality is argumentation. Nearly all studies somehow measure how many and sometimes what kind of arguments are formulated within online discussion (e.g., Black et al., 2011; Monnoyer-Smith & Wojcik, 2012; Stromer-Galley, 2007). Studies of deliberation generally define arguments as opinion claims supported by empirical or logical evidence for those claims (Stromer-Galley, 2007, p. 4). However, it is beyond the scope of this article to go through all the different operationalizations in detail. Another frequently used measure is what Stromer-Galley (2007) called sourcing; this measure captures whether participants provide external information or sources like mass media articles, empirical evidence, or studies. Similarly, Black et al. (2011), analyzing deliberation in Wikipedia, introduce the information base, which indicates whether users present basic information to start from, while Trénel (2004) uses information request, which captures whether participants ask for more information.

### *Interactivity*

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, which includes both listening and responding (Barber, 1984, p. 175). Arguments should not just be articulated, but rather also listened and replied to. The interactive mode of deliberation implies an exchange of arguments. Habermas (1990) additionally stresses the need for role taking and empathy, which means that every participant has to be able to understand the perspective of other participants.

To measure the degree of interactivity, several studies have explored if users refer to each other. Trénel (2004) introduced a fruitful distinction between *formal interactivity* and *substantial interactivity*. The first measures if participants are formally linked to each other, for example, by replying on a post (e.g., Wilhelm, 1998). The latter captures if there is a substantial reference to the content of other participants' contributions (e.g., Stromer-Galley, 2007). While formal interactivity is easy to analyze through programming methods, it is less comprehensive than content analysis with respect to content-based interaction. In order to differentiate different kinds of interaction, several studies have proposed subcategories of interactivity. Spörndli (2003) distinguished between degrading replies that

criticize a previous argument or proposal on the one hand, and valuing replies on the other hand. Similarly, Graham and Witschge (2003) distinguished between *counter-assertion* and *response-affirmation*. Furthermore, they analyzed whether comments try to rebut an argument (rebuttal) or even try to rebut a rebuttal (refute-to-rebuttal; Graham & Witschge, 2003, p. 181).

### *Equality*

The third important characteristic of deliberation is equality. This dimension touches on the condition of inclusiveness and accessibility, which is also relevant on the input level. On the communicative throughput level, we focus on the equal opportunity to articulate arguments and to reply to other participants' claims. Everybody who is affected by a policy should have the same opportunity to participate in deliberation (Habermas, 1996). Normatively, it is crucial that every claim is treated equally and has the same chance to be deliberated.

However, when it comes to the question of how to empirically measure equality, a variety of attempts have been presented, illustrating the problem of diverse operationalization, mentioned above. While the majority of studies focus on the share of participation between participants to investigate potential domination of the issue by a few individuals (e.g., Stromer-Galley, 2007; Trénel, 2004), other studies have focused on the distribution of socioeconomic characteristics like age, gender, or education among participants (e.g., Albrecht, 2006; Coleman, Hall, & Howell, 2002; Monnoyer-Smith & Wojcik, 2012).

### *Civility*

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 actor able to speak in his or her own manner. This mutual recognition is the fundamental premise for reaching rational consensus by the balanced exchange of arguments, including respectful listening (Barber, 1984). Trénel (2004, p. 3) points out that being ready to be convinced by others requires showing respect and empathy toward the other participants.

Accordingly, nearly all studies on deliberation have analyzed in some way if participants interact respectfully. The operationalization of *civility* or *respect* does not vary strongly among different studies; they mostly code linguistic markers for disrespect, including hot button language or degrading speech acts (e.g., Black et al., 2011; Zhang et al., 2012; Zhou et al., 2008). The discourse quality index additionally includes the variables of *respect toward arguments* and *explicit valuation*, which are positive measures of respect (e.g., Spörndli, 2003; Steiner et al., 2004).

### *Common Good Reference*

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, p. 18). Thompson (2008, p. 510) argues that public reasoning in front of a diverse audience makes it more likely that speakers “appeal to more general principles,” that are in line with the common good. Manin (1987, p. 359) puts it similarly when he emphasizes that deliberation “provides an incentive to generalization.” However, this measure of reference to the common good is not frequently used in studies on online deliberation. Drawing on Rawls (1971), reference to the common good is operationalized as a specific content of justification within the discourse quality index that has been used in several studies (e.g., Monnoyer-Smith & Wojcik, 2012; Spörndli, 2003).

### *Constructiveness*

Finally, constructiveness can be considered to be a relevant dimension of deliberation. This dimension is related to rationality, which implies a constructive atmosphere in which consensus is the final goal (Habermas, 1996). Consequently, the orientation toward a common ground and agreement is a fundamental part of deliberation. Therefore, Monnoyer-Smith and Wojcik (2012), drawing on Steiner et al. (2004), introduce the measure of *constructive nature of the message*, which covers new proposals, questions, and mobilization. Similarly, Trénel (2004) measured constructiveness by coding whether people search for common ground or propose solutions. Black et al. (2011) analyzed not only if people propose solutions but also if they weigh solutions.

It needs to be noted that further dimensions and measures of deliberation have been proposed in the course of the last 20 years of empirical research on deliberation. Some of them can be understood to emerge from a critical, mostly poststructuralist background claiming that the normative standards of deliberation systematically exclude the less privileged segments of the population (e.g., Sanders, 1997; Young, 2002). Bickford (2011, p. 1025) states that “norms of ‘good’ (i.e., rational) political communication are not neutral, but tend to reflect the communicative style of already powerful social groups.” Acknowledging these critics, some authors have argued for a lowering of the normative standards by also considering emotional talk, humor, gossip, narratives, and casual talk as forms of deliberation (e.g., Basu, 1999; Dahlgren, 2005; Dryzek, 2000; Graham, 2010). Considering this tendency toward lower standards of deliberation, Ryfe (2002, p. 360) talks about “rational and relational modes of deliberation.” A detailed review of the literature on this relational concept of deliberation is clearly beyond the scope of this article (see Bächtiger et al., 2010); we have, therefore, chosen to stay close to the classic understanding of deliberative theory.

### **Effects From Online Deliberation: Productive Outcome Level**

The third component of deliberation considers the outcomes promised by deliberative theories. Pateman (1970) pointed to the positive outcomes of

deliberation early. She stressed that “results that accrue through the participatory process provide an important justification” (Pateman, 1970, p. 25) for the whole idea of participation and deliberation. Mutz (2008) suggests measuring the empirical results against the promises made by normative theories; this concerns outcomes on the individual level and outcomes related to the quality of decisions.

### *Individual-Level Outcomes*

Outcomes that contribute to what some authors label the “deliberative citizen” (Coleman & Moss, 2012, p. 1) concern the individual emotions and cognition resulting from deliberative communication. In face-to-face deliberation, tolerance was identified as an individual-level effect of deliberation (Gutman & Thompson, 1996). Political knowledge (Parry, Moyser, & Day, 1992), a stronger sense of political efficacy (Pateman, 1970), more public-spirited attitudes, and willingness to compromise (Barber, 1984) or to transform preferences (Fishkin, 2009) mark further desirable outcomes.

Regarding the outcomes of online deliberation, however, less is known about the relevant factors. There are scattered studies with a heterogeneous set of findings. Iyengar et al. (2005) presented evidence from an online deliberative poll on U.S. presidential primaries. Findings suggest that only five hours of online deliberation made participants significantly more informed and knowledgeable about the candidates. They also acquired fuller views of the candidates and evaluated them to a significantly greater degree on the basis of policy issues (Iyengar et al., 2005, p. 21). These findings were generally supported in an experimental study by Grönlund et al. (2009). Additionally, they found opinion changes as a result of face-to-face and online deliberation. In extensive experimental research on online deliberation, Cappella, Price, and Nir (2002) found that participation in online discussion is likely to produce a greater repertoire of argument, including greater awareness of the reasons behind opposing views. They also found opinion changes among undecided citizens toward the dominant group arguments. Additionally, online deliberation seems to foster political engagement and increases social trust, community engagement, and voting (Price & Cappella, 2002). These results are supported by Min’s (2007) findings when comparing outcomes of a deliberation performed in face-to-face and computer-mediated experimental settings. He concludes as follows: “The results suggest that both online and face-to-face deliberation can increase participants’ issue knowledge, political efficacy, and willingness to participate in politics” (Min, 2007, p. 1369). Price et al. (2006, p. 47) further found that “the argumentative ‘climate’ of group opinion indeed affects post discussion opinions.” Knobloch and Gastil (2014) examined the subjective experience of cognitive and behavioral change following from face-to-face and online deliberation in Australia and the United States. They found that participants of both settings report an increase of internal and external efficacy, and communicative and community-based engagement. However, effects seem to be stronger in the face-to-face deliberation setting (Knobloch & Gastil, 2014, p. 183).

### *Result Outcomes*

Deliberative theorists have spelled out various benefits regarding the quality of the results of deliberative communication. Some argue that ideal processes of deliberation will generate consensual decisions with high epistemic quality, which enhance the legitimacy of the final decision (e.g., Barber, 1984; Habermas, 1996). However, Thompson (2008, p. 508) points out that “there is no consensus among deliberative theorists themselves that consensus should be the goal of deliberation.” 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, p. 153) states that “political decisions will become more considered and informed by relevant reasons and evidence,” which will ultimately contribute to a higher quality and acceptance of policies. Accordingly, consensus should be understood as a regulative ideal rather than a final goal of deliberation (Grönlund et al., 2009, p. 189).

However, these outcomes are largely of a theoretical nature. Empirical investigations—especially in online contexts—are rare. Comparing online and face-to-face deliberation, Baek, Wojcieszak, and Delli Carpini (2011) found that consensus seems less likely to be reached in online settings than offline. This supports pessimistic claims that online deliberation encourages enclave communication and opinion polarization rather than consensus (e.g., Sunstein, 2001). A study conducted by Stromer-Galley and Muhlberger (2009) is exceptional for two reasons. First, it provides one of the few attempts to examine the relation between communication process (throughput) and outcomes. Second, they *inter alia* focused on legitimacy. They found that “high agreement and low disagreement, or vice versa, affected satisfaction more strongly than balanced combinations of agreement and disagreement” (Stromer-Galley & Muhlberger, 2009, p. 183). Further analysis showed that higher satisfaction with deliberation is associated with increased motivation for future participation and increased perceived legitimacy of deliberators’ policy choices (Stromer-Galley & Muhlberger, 2009, p. 187). However, even though this study has focused on the relation between discussion and outcomes, it remains doubtful whether the analysis of agreement and disagreement sufficiently describes the concept of deliberation.

### **Conclusion**

Employing a systematic review of the literature on online deliberation, we have mapped a comprehensive field of factors relevant in online deliberation (Figure 2). The theoretical discussion and review of the empirical findings on online deliberation have further shown which areas of online deliberation research have received much attention and which areas have been widely disregarded.

It is the degree of deliberation on different platforms that has attracted most scholarly attention in the last 15 years. This particularly concerns the throughput component of the framework, with the users’ characteristics being the feature drawing most attention. Regarding the causal relations between the individual

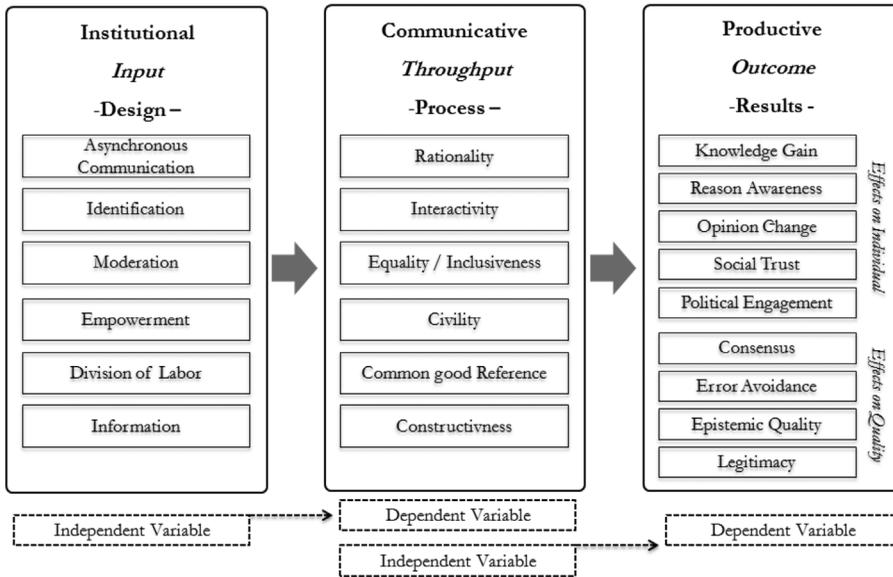


Figure 2. Empirical Framework for Online Deliberation Research.

components, there is a clear focus on deliberation as a dependent variable. Most studies dealt with the effects of the platform design on the degree of deliberation. Much less is known about deliberation as an independent variable. Here, the effects of deliberative communication on individuals' emotions and cognition have been considered more frequently than the effects on the quality of the results. Summing up, we can conclude as follows: as scholarly attention is distributed unevenly across the suggested framework, we cannot present sound empirical evidence for the complete picture. We have a sufficient understanding of the process of deliberative communication, while input and outcome components are less well understood. Regarding the respective sets of features, we have to leave some blanks for design factors and deliberation results, where we found only scattered research activity. Future research will have to concentrate on these questions in order to fill the gaps.

Rationality, interactivity, equality, civility, common good reference, and constructiveness were identified as relevant features determining the degree of deliberativeness in the online communication process. From a causal perspective, they represent the dependent variables that vary under different conditions in the institutional design. Regarding the design factors representing the input component of the framework, the empirical findings suggest that an asynchronous mode of communication, identification, moderation, empowerment, division of labor, and information represent important factors affecting the degree of deliberativeness in online communication. Regarding the effects of deliberative communication, we distinguish between effects on individuals and effects on the quality of the result. Effects of deliberative communication on individuals included knowledge gain, awareness of the reasons behind conflicting views, opinion

change, social trust, and political as well as community-related engagement. Regarding the effects on the quality of the result, including consensus, error avoidance, epistemic quality, and legitimacy, findings are rare.

With these findings on relevant features and the causal relations between them, the framework takes shape. Due to the greater amount of research activity on the throughput component and the institutional design conditions, the framework is slightly tilted toward the input component. Results on the outcome component are still largely missing. However, research gaps have been revealed in all of the components. By considering institutional conditions for and desirable outcomes of deliberation, our model provides a structured approach for further research. Future research will have to close the gaps on the causal relations between the components and clarify the conditions under which particular factors gain or lose influence on the deliberation process. This particularly concerns the issues dealt with in online debates and the characteristics of the participants. While empirical research tends to analyze individuals' behavior in online communication on particular issues, the moderating effects of these variables have hardly been considered. From this perspective, the proposed framework may encourage experimental and quasi-experimental research investigating the impact of various context variables.

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### Note

1. The following empirical instruments were systematically reviewed in order to obtain dimensions of deliberative communication: Monnoyer-Smith and Wojcik (2012), Zhang et al. (2012), Black et al. (2011), Ruiz et al. (2011), Hüller (2010), Zhou et al. (2008), Stromer-Galley (2007), Lührs, Albrecht, Hohberg, and Hamburg (2004), Steiner et al. (2004), Trénel (2004), Graham and Witschger (2003), Spörndli (2003), Coleman et al. (2002), Hagemann (2002), Dahlberg (2001b), and Wilhelm (1998).

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