

## Design Matters! An Empirical Analysis of Online Deliberation on Different News Platforms

Katharina Esau , Dennis Friess, and Christiane Eilders

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*Ever since the Internet has provided easy access to online discussion, advocates of deliberative democracy have hoped for an improved public sphere. This article investigates which particular platform features promote deliberative debate online. We assume that moderation, asynchronous discussion, a well-defined topic, and the availability of information enhance the level of deliberative quality of user comments. A comparison between different types of news platforms that differ in terms of design (a news forum, news websites, and Facebook news pages) shows that deliberation (measured as rationality, reciprocity, respect, and constructiveness) differs significantly between platforms. We find that the news forum yields the most rational and respectful debate. While user comments on news websites are only slightly less deliberative, Facebook comments perform poorly in terms of deliberative quality. However, comments left on news websites and on Facebook show particularly high levels of reciprocity among users.*

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**KEY WORDS:** online deliberation, deliberative design, platform design, news websites, deliberative quality

自从互联网为网络辩论提供了方便的机会，协商性民主倡导者就一直希望公共领域能得到改善。本文调查了哪些平台特征会促进在线协商辩论。本文猜测：合理的力度、异步讨论、定义清晰的话题和信息的可获取性这四者能提高用户评论的协商质量。本文对比了不同类型的新闻平台，它们的平台设计在新闻论坛、新闻网站和脸书新闻页面上各不相同。对比结果表明：当用合理性、相互性、尊重和建设性对“协商”进行衡量时，平台间存在显著性不同。本文发现：新闻论坛中的辩论最体现理性和尊重性，新闻网站上的用户评论协商性较前者略小，而脸书评论在协商质量上表现较差。然而，新闻网站和脸书评论体现出的用户间相互性较高。

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**关键词：** 在线协商，协商式设计，平台设计，新闻网站，协商质量

*Desde que el Internet empezó a proveer acceso fácil a debates en línea, los defensores de la democracia deliberativa esperan una mejoría en la esfera pública. Este artículo investiga qué funciones específicas de las plataformas promueven el debate deliberativo en Internet. Asumimos que la moderación, la discusión asincrónica, un tema bien definido y la disponibilidad de información incrementan el nivel de calidad deliberativa de los comentarios de los usuarios. Una comparación entre los diferentes tipos de plataformas de noticias con diferencias de diseño (un foro de noticias, páginas de noticias y páginas de noticias en Facebook) muestra que la deliberación (medida en*

*términos de racionalidad, reciprocidad, respeto y constructividad) difiere significativamente entre las plataformas. Hallamos que el foro de noticias produce el debate más racional y respetuoso. Mientras que los comentarios de los usuarios en las páginas de noticias son sólo ligeramente menos deliberativos, los comentarios en Facebook tienen un bajo desempeño en términos de su calidad deliberativa. Sin embargo, los comentarios que se dejan en las páginas de noticias y en Facebook muestran altos niveles de reciprocidad entre los usuarios.*

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**PALABRAS CLAVES:** Deliberación en Internet, Diseño deliberativo, Diseño de plataforma, Páginas de noticias, Calidad deliberativa

## Introduction

From a theoretical point of view, the Internet provides an infrastructure for the public sphere of which advocates of deliberative theory have long dreamed (Graham & Witschge, 2003), and not surprisingly, deliberative democracy is one of the most influential theoretical concepts in the ongoing debate about the relationship between democracy and Internet technology (Coleman, Przybylska, & Sintomer, 2015). However, due to the widespread popularity of theories of deliberative democracy and an increasingly fragmented research landscape, there are many different concepts of deliberation, which draw upon a broad range of interpretations of the theoretical literature (Bächtiger & Pedrini, 2010; Dahlberg, 2007). While the definitions of deliberation vary in terms of focus, refinement, and ambition, most authors share the basic idea that deliberation is a demanding type of communication that is characterized by standards such as rationality, reciprocity, constructiveness, and mutual respect between participants.

Previous research has analyzed deliberation in many different environments, for example, within parliaments (Steiner, Bächtiger, Spörndli, & Steenbergen, 2004), deliberative polls (Fishkin, 2009), and jury systems (Wolf, 2010). In these environments, deliberation is conceptualized as synchronous face-to-face discussions between a manageable number of participants. With regard to mediated communication (Ferree, 2002; Gastil, 2008; Maia, 2012), the level of deliberative quality is analyzed as the degree to which a journalistic text complies with standards of deliberation such as the quality and plurality of reasoned arguments. Only with the advent of Web 2.0 technology could the analysis of mediated deliberation include the exchange between participants in discussions. In recent years, studies have analyzed *online* deliberation in Usenet newsgroups (Wilhelm, 1998), in government forums (Coleman, Hall, & Howell, 2002), on newspaper websites (Zhou, Chan, & Peng, 2008), and on social networking sites (Stroud, Scacco, Muddiman, & Curry, 2015). The wide-ranging subject matter of research into contemporary communication environments reveals the Internet to be a network of different communication spaces rather than *one* monolithic public sphere.

News platforms are frequently discussed as a space for public deliberation, with users commenting on journalistic content,<sup>1</sup> either on news websites themselves or on social networking sites such as Facebook (Strandberg & Berg,

2013; Stroud et al., 2015). While journalistic content provides opportunities and starting points for user deliberation, comments posted on news do not always live up to the ideal of deliberation (Coe, Kenski, & Rains, 2014). Therefore, news organizations have adopted different strategies for channeling, filtering, and shaping user-generated content. While some news outlets have closed comment sections (e.g., *Popular Science Online*), others have outsourced discussions to social networking sites (e.g., *Frankfurter Allgemeine Zeitung Online*), or established special discussion forums (e.g., *Süddeutsche Zeitung [SZ] Online*). Translating these strategies into platform design features reveals a set of conditions that may promote or impede the deliberative quality of user comments. For instance, moderation techniques ensure that comments are respectful and that the availability of information supports reasoning. Against this backdrop, we argue that the design of online platforms affects the level of deliberative quality on them.

In order to investigate this effect, a comparative perspective on the quality of discussions on different platforms is required. However, only a few studies have systematically compared user comments across different online platforms (Jensen, 2003; Rowe, 2015). This article aims to fill this research gap by investigating the level of deliberative quality across differently designed online news platforms. We focus on a news forum, news websites, and Facebook pages on which news stories on two topics are considered (the Refugee Crisis and Military Engagement in Syria). While all analyzed platforms invite users to comment on these issues, they differ in moderation, asynchronicity, availability of information, and level of focus in topic definition. By analyzing user discussions across different online platforms, we link our research to the strand of literature that has analyzed various design features and their effects on the quality of online discussions (Janssen & Kies, 2005; Towne & Herbsleb, 2012; Wright & Street, 2007). Accordingly, the main research question this article seeks to answer is *How does platform design affect the level of deliberative quality?*

Starting with an overview of the existing literature on online deliberation within the context of news content, we discuss the relation between platform design and the level of deliberative quality. We present five hypotheses and an additional research question. They are tested using data from a quantitative content analysis of 1,801 user comments collected from one news forum, three news websites, and four corresponding Facebook pages. The findings are discussed against the backdrop of journalism practice and normative public sphere theory.

### Previous Research

Since this study focuses on user comments from a deliberative perspective, this section starts with some consideration of deliberative democracy, the concept of deliberation, and the public sphere. Deliberative democracy refers to a form of democracy in which a particular concept of communication (deliberation) is put at the center of the decision-making process. Cohen (1989) and Habermas (1984) have discussed in detail why respectful exchange of reasons among equals has a

“truth-tracking potential” (Habermas, 2006, p. 413). This rationalizing potential of human communication is conceptualized as the key source of legitimacy (Chambers, 2003). Any act of power must be justified within the normative framework of the forceless force of the better argument (Habermas, 1975, p. 108).

The public sphere is the place in which deliberation is supposed to occur; it is thus the “heart and soul” of deliberative democracy (Graham & Witschge, 2003, p. 175). In order to allow deliberation processes, theorists have ascribed normative characteristics to the public sphere (Habermas, 1974, 1989) so that conditions such as openness, equality, rationality, and the absence of political or economic power would be met in this ideal communication space (Graham & Witschge, 2003).

Theorists of deliberative democracy argue that even under conditions of conflict and uncertainty, rational and therefore legitimated solutions could emerge from deliberation (Chambers, 2003; Dryzek, 2002; Gutmann & Thompson, 2004; Habermas, 1996). Deliberation has been regarded as a promising answer to the crisis of democracy (Fung, 2003). Even though early theories on deliberative democracy have been criticized as unrealistic or even undemocratic (Mouffe, 2005; Young, 2000), several adjustments and developments, such as deliberation in mini-publics (Fung, 2003; Goodin & Dryzek, 2006), mean that deliberation research remains an important research topic.

The concept of deliberation embedded within the public sphere emerged from democratic deliberative theory. However, how strongly these two remain connected is a controversial issue. Chambers (2003) noted at a relatively early stage of the empirical turn a growing split between the concept of deliberation and theories of deliberative democracy. Deliberation became rather fuzzy, because different authors mean different things when discussing it (Delli Carpini, Cook, & Jacobs, 2004). The advent of the Internet has further exacerbated this issue. As the penetration rate of Internet technologies in most democratic societies has risen, empirical research on online deliberation has experienced a sharp increase in recent years (e.g., Black, Welser, Cosley, & DeGroot, 2011; Davies & Gangadharan, 2009; Gerhards & Schafer, 2010).

Recognizing the persistent growth of research activity in the field, several scholars have introduced frameworks for more systematic overviews of and investigations into online deliberation (Bächtiger & Wyss, 2013; Friess & Eilders, 2015; Wessler, 2008). Most recently, Friess and Eilders (2015) distinguish between three dimensions of online deliberation (Figure 1). Based on a survey of empirical online deliberation research, they argue that the focus has been (i) on conditions for deliberation or the institutional design of communication spaces for deliberation (institutional input); (ii) the empirical measurement of the discourse quality against the background of different standards of deliberation (communicative throughput); or (iii) on results emerging from deliberation processes, such as more moderate opinions and legitimate decisions (productive outcomes). This framework not only reflects the structure of research activity in the field of online deliberation, but may also guide empirical research on the relations between these three elements of deliberation.

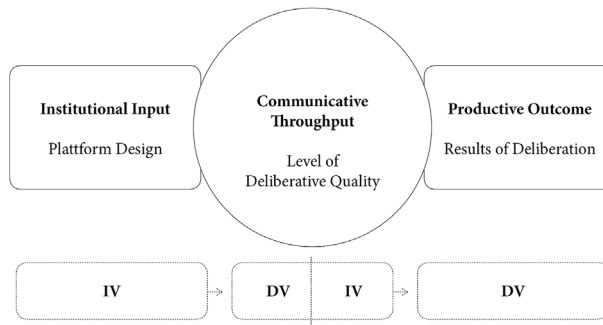


Figure 1. Framework for the Analysis of Online Deliberation.

This article focuses on the link between institutional input (i) and communicative throughput (ii). It investigates how the design of online platforms influences the level of deliberative quality in discussions linked to news articles. Therefore, two strands of research are particularly relevant: findings on the level of deliberative quality of user comments and findings on the impact of design on the deliberative quality.

#### *Findings on Throughput Deliberative Quality of User Comments on News*

In today's world, many users not only read journalistic content but also comment on and engage in discussions with other users. Advocates of deliberative democracy hope that online news platforms and other online communities will have the potential to provide spaces for democratic debates or even for a new "virtual" public sphere (Papacharissi, 2002). In this vein, online deliberation research has asked to what extent online political discussions live up to the standards of deliberation established by thinkers like Cohen (Cohen, 1989; Habermas, 1984, 1996).

Although there is a remarkable range of empirical studies on online deliberation, their findings remain contradictory. Some studies show that online discussions, while not fully complying with the ideal of deliberation, still meet many characteristics of deliberation (e.g., Rowe, 2015; Ruiz et al., 2011; Singer, 2009; Strandberg & Berg, 2013).<sup>2</sup> Other studies that are often guided by a more skeptical view of Internet technology report communication that is characterized by incivility and flaming instead of reasoning and respect (Coe et al., 2014) or homophily and polarization rather than rational consensus (Anderson, Brossard, Scheufele, Xenos, & Ladwig, 2014; Sunstein, 2002; Wilhelm, 2000).

The empirical ambivalence is well illustrated by the findings of Zhou et al. (2008). Analyzing news comments on a Chinese newspaper website, they conclude that while a political public sphere in cyberspace is indeed emerging and that the quality of discourse has improved, there remain limitations in terms of argumentative complexity and the articulation of disagreement. Strandberg and Berg (2013) have also presented mixed findings in their analysis of user

comments on Finnish news websites. While they found sufficient degrees of respect, their findings reveal a low degree of reciprocity and reasoning.

As a consequence of the inconsistent picture of online deliberation reported above, some scholars have begun to try to explain these differences. For example, Ruiz et al. (2011) analyzed user comments on five globally leading newspaper websites and identified different types of discourses that varied significantly in the level of deliberative quality. The *New York Times Online* (United States) and *Guardian Online* (United Kingdom) showed a greater number of reasoned, respectful, and reciprocal user comments than *El País Online* (Spain), *Le Monde Online* (France), and *la Repubblica Online* (Italy). Drawing on Hallin and Mancini (2004), they explain the variations with reference to differences in the countries' media traditions. Also seeking to detect differences in discourse quality, Rowe (2015) compared user comments on Facebook and news websites. His analysis showed that discussions on *Washington Post Online* were significantly more on-topic, reasoned, and reciprocal than discussions on the same news content posted on Facebook. However, his analysis did not explain differences in the light of specific platform design features.

In summary, the above studies have explored deliberation on different news platforms, but have not explicitly linked platform design to the level of deliberative quality. As design affects the quality of user contributions, the relation between particular design features and characteristics of deliberation needs to be investigated more thoroughly. This claim ties in with a key belief found in the literature on *deliberative design*: It is not about the ability of the Internet merely to sustain democratic debate in general, but a question of the conditions under which deliberation is actively enabled (Wright & Street, 2007).

#### *Findings on Input: Deliberative Platform Design*

Previous research has identified a variety of social and technical factors affecting deliberation (e.g., Coleman & Moss, 2012; Himelboim, Gleave, & Smith, 2009; Janssen & Kies, 2005; Stromer-Galley & Martinson, 2009; Towne & Herbsleb, 2012; Wise, Hamman, & Thorson, 2006; Wright & Street, 2007). A review of the empirical findings helps disclose particular design features that are likely to have an effect on the level of deliberative quality. It is of course beyond the scope of this article to discuss them all, so we focus instead on those design features that apply to news platforms in particular and differentiate between the three most relevant types of news platforms.

Empirical findings suggest that *moderation* can have positive effects on the quality of deliberation. Analyzing different discussion forums, Wright and Street (2007) conclude that moderation is a crucial design feature for enabling respectful online discussions. Similarly, Coleman and Götze (2001) state that moderation is important for the success of many-to-many asynchronous dialog, as it ensures a fair and friendly basis for discussion. Stroud et al. (2015) investigated whether the engagement of journalists affects the quality of user comments beneath news articles. Their findings indicate that the engagement of journalists in user dialogs

on Facebook positively influences the deliberative behavior of commenters. Journalists or moderators can act as democratic intermediaries, guiding the debate in a more nuanced way without sacrificing complexity. In the same vein, Noveck (2004, p. 24) argues that “effective facilitation” is the only way to manage competing voices.<sup>3</sup>

Another important design feature of online platforms concerns the temporal dimension of computer-mediated communication: its level of synchronicity or asynchronicity. Janssen and Kies (2005, p. 321) stress that real-time discussions like chat rooms, as synchronous discussion spaces, are more likely to provide small talk and jokes, while *asynchronous discussion spaces* that have no time constraints, like forums, are more apt to provide rational-critical debate; for an alternative definition of synchronicity, see Jucker and Dürscheid (2012). These claims are supported by Stromer-Galley and Martinson (2009), who found that synchronous online chats are problematic for creating quality discourse. They conclude that short messages lead to underdeveloped arguments, display a lack of coherence, and show a high level of personal attack (Stromer-Galley & Martinson, 2009, p. 197). Strandberg and Berg (2015) provide evidence from an online experiment that suggests that asynchronous discussion is a crucial design factor for online deliberation.

Since deliberation relies on the weighing up of different arguments and viewpoints, the *availability of information* is crucial. Gudowsky and Bechtold (2013) emphasize the important role that different types of information play in participatory processes. While it is obvious that information is a source for reasoning, information may also serve as a “discussion catalyst” that stimulates deliberation (Himmelboim et al., 2009). Studying 20 political online forums, Himmelboim et al. (2009) show that 95 percent of the most active users posted information relevant to the topic being discussed. Additionally, common information helps to share mental models and fosters coherent communication (Towne & Herbsleb, 2012, p. 104).

The last crucial design feature to be discussed is the *level of topic definition*. Noveck (2009, p. 171) points out that the more specific the question, the better targeted the response and discussion will be. Reviewing several design principles for online deliberation tools, Towne and Herbsleb (2012, p. 102) recommend dividing large tasks into well-defined topics or questions in order to support constructive communication. Since the division of large tasks into small and clearly specified units is one of the key lessons from crowdsourcing projects like Linux or Wikipedia, they argue that this kind of structuring should also be used when designing online deliberation platforms to help generate substantive contributions (Towne & Herbsleb, 2012, p. 103). However, in analyzing the effects of journalistic engagement in the comment sections on Facebook, Stroud et al. (2015) could not find significant effects on deliberation from guiding the debate through posing concrete questions.

In summary, design features like moderation, asynchronous discussion, availability of information, and well-defined topics have been shown to be particularly influential for the deliberative quality of online discussions. The next section discusses how these design features differ between the news platforms

compared in this article and how the discussions on these platforms will consequently vary in terms of the level of deliberative quality. Before stating the hypotheses, however, we must point out that there are additional factors influencing the degree of deliberativeness. Karlsson (2012, p. 65) notes 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 features *could* help foster deliberation, there is no guarantee that they *will* do so, since context factors, social dynamics, and norms (Freelon, 2015) have lives of their own and can hence hardly be modified through altering the design. As this article focuses on design features, these additional factors are not considered in the hypotheses presented.

### Hypotheses: Platform Design and Level of Deliberative Quality

Based on the findings of deliberative design research, we propose that the level of deliberative quality varies among online platforms, which will show different patterns of design. In this article, we focus on three kinds of news platforms: a news forum, news websites, and Facebook news sites. These platforms differ in terms of moderation, asynchronicity, availability of information, and the level of focus in topic definition (see Table 1). The news forum under study belongs to the news media organization *SZ Online*. It was designed to sustain reasoned and focused debate and meets most of the above criteria of deliberative design. In contrast, comment sections on news websites meet many but not all the design criteria. Finally, Facebook pages perform the worst in meeting the deliberative design criteria. On social networking sites, media organizations may encourage user comments on news, but they have no influence over platform design. Accordingly, there is no premoderation, less information, and a weak level of focus on topic definition to enhance deliberation. Moreover, communication on Facebook is less asynchronous than on other platforms. The differences between the three platform designs in general are addressed in our first hypothesis:

*H1: The highest level of deliberative quality will be found in the news forum, a lower level will be found on news websites, and the lowest level will be found on Facebook.*

**Table 1.** Deliberative Design Across News Platforms

Design Features	News Forum	News Websites	Facebook
Moderation (H2)	++	+	–
Asynchronous discussion (H3)	++	++	–
Availability of information (H4)	++	+	–
Level of topic definition (H5)	++	+	–

*Note:* –, negative or no effect on deliberative quality; +, moderately positive effect; ++, strong positive effect.



While our first hypothesis focuses on the level of deliberative quality on different platforms in general, we also assume more specific effects of particular design features on certain characteristics of deliberative quality. On the design feature side, this concerns moderation, asynchronous discussion, availability of information, and level of topic definition, while the following individual characteristics of deliberative quality are of interest: respect, reasoning, constructiveness, and reciprocity.

#### *Moderation and Respect*

We propose that moderation has a positive impact on the level of deliberative quality, as long as moderators are independent of the parties in a dispute and there are clear rules for both participants and moderators. More specifically, it is argued that moderation promotes mutual respect in online interactions. Further, we distinguish between pre- and postmoderation. Postmoderation activities can be found on all three news platforms under study. Premoderation, however, is carried out in the news forum and on news websites, but not on Facebook. In the news forum, which has been designed to provide factual, respectful, on-topic debate, we find the strongest form of premoderation: supported by automated processes, all comments are reviewed before publication. Assaults and other forms of verbal aggression are removed automatically. In addition, the news forum provides clear guidelines and rules for discussion. Due to these differences between the various types of platforms, we expect different levels of respect in accordance with different moderation techniques:

*H2: The highest level of respect will be found in the news forum, a lower level will be found on news websites, and the lowest level will be found on Facebook.*

#### *Asynchronous Discussion and Reasoning*

Asynchronous discussion constitutes a favorable technical and organizational architecture for rationality, since it allows participants to take more time to elaborate their arguments and justify their positions (Janssen & Kies, 2005). In our comparative design, all three web spaces allow for asynchronous discussion, but there are significant differences in the temporality of the communication structures of Facebook on the one hand, and news forums and news websites on the other. Due to technical infrastructure and social practices, the response time on Facebook is shorter and the rate of commenting is higher, which may result in the experience of a quasi-synchronous discussion in which many participants contribute posts at the same time.<sup>4</sup> Deliberative quality, especially reasoning, may decrease under these conditions. Hence, we expect a negative influence from a quasi-synchronous discussion on the level of reasoning:

*H3: The debate on Facebook will show less reasoning as compared to the news forum and news website discussions.*

### *Availability of Information and Reasoning*

Another important requirement for reasoning is the availability of quality information such as key background details, facts, and statistics (Gudowsky & Bechtold, 2013; Towne & Herbsleb, 2012). The greatest amount of information is provided in the news forum, in which several articles and further material are made available to participants. On news websites, the main source of information is the article itself, which may be supplemented by hyperlinks to other articles. News articles and further information provided by the editorial staff are not as readily available on Facebook as on news websites or in the news forum. Based on these differences, we hypothesize that:

*H4: The highest level of reasoning will be found in the news forum, a lower level of reasoning will be found on news websites, and the lowest level of reasoning will be found on Facebook.*

### *Level of Topic Definition and Constructiveness*

Another characteristic of deliberative quality is constructiveness: discussants try to find solutions to the problem at hand. It is assumed that a well-defined topic has a positive impact on the number of constructive contributions. While the general topics of the discussion (Refugee Crisis and Military Engagement in Syria) are identical on all three platforms, there are differences regarding the level of focus in topic definition. The news forum provides a specific question that is intended to initiate a focused debate which might even yield solutions for the problem addressed: for example, “Bundeswehr against ISIS: Rash decision or urgently needed?” In contrast, news websites do not guide discussions. However, users may be assumed to have read at least parts of the full article and thus should have received some guidance about issues to be discussed and problems to be solved. On Facebook, there is only a brief teaser—summary, title, and usually a graphic—that has a link to the full article. The very terse presentation of the topic in the teaser may trigger the expression of general opinions without knowledge of the journalist’s arguments rather than contributions that offer specific solutions. Due to these differences in the level of focus in topic definition, we hypothesize:

*H5: The highest level of constructiveness will be found in the news forum, a lower level of constructiveness will be found on news websites, and the lowest level of constructiveness will be found on Facebook.*

### *Reciprocity as a Consequence of Platform Design*

Theorists of deliberative democracy argue that deliberation is a social process of giving and taking that includes both listening and responding (Barber, 1984, p. 175). Therefore, deliberation is a reciprocal process: arguments should not simply

be articulated, but actually heard and responded to appropriately. In the context of online deliberation, it is crucial to capture whether (in terms of general engagement) and how (critical and argumentative engagement) one comment addresses another comment. However, as sufficient empirical findings on design features affecting reciprocity are missing, we ask how the level of reciprocity varies across the three platforms:

*RQ1: How does reciprocity vary across the news platforms?*

## Methodology

This study assesses the level of deliberative quality among platforms with different design patterns. We conducted a quantitative content analysis<sup>5</sup> of user comments left in a *news forum*, on *news websites*, and on *Facebook news pages* concerning the same journalistic content on two topics: the Refugee Crisis and Military Engagement in Syria. The selection of topics is justified by the relatively intensive coverage and controversial nature of the public discourse on the problems, causes, and solutions of the migration and refugee crisis in Europe in December 2015. The comments were collected from topic-related articles that addressed a specific problem and included conflict and required decision, characteristics assumed to be preconditions for deliberation (Gutmann & Thompson, 2004). The following sections describe the sampling process and the operationalization of deliberative quality.

### *Sample*

A sample of news articles published in December 2015, with related user comments, was drawn from the online platforms of four German news media: *SZ Online*,<sup>6</sup> *Spiegel Online*,<sup>7</sup> *Welt Online*,<sup>8</sup> and *Zeit Online*.<sup>9</sup> The news media selected are three elite national newspapers and a news magazine, all considered to be opinion leaders in Germany's media system (Jarren & Vogel, 2011). Their Internet versions are listed among the most popular German online resources (AGOF, 2015).<sup>10</sup> The first step of the sampling process consisted of 18 news articles<sup>11</sup> from which 3,341 comments were collected, entered into a database, and numbered chronologically. Each comment was also assigned a number to indicate the platform and news article from which it was taken. In the second step for each article, up to 100 sequential comments were randomly selected for content analysis, leading to a total sample of 1,801 comments (979 on Facebook, 591 on news websites, and 231 in the news forum). An initial descriptive analysis showed that the average article generated 212 comments on Facebook, 201 on news websites, and 77 on the news forum. These differences make clear that different platforms generate varying numbers of comments, even though all comments are related to the same journalistic content.

### *Measuring Quality of Deliberation*

For the purpose of this study, we considered seven measures of deliberative quality grouped into the four dimensions of rationality, reciprocity, respect, and constructiveness, which represent elements of deliberation broadly shared among deliberative theorists (Cohen, 1989; Gutmann & Thompson, 2004; Habermas, 1996). Drawing on this foundation, several studies have tried to tackle these dimensions using different measures (for an overview, see Friess & Eilders, 2015), and there is not as yet a single coding scheme or set of key measures to evaluate public deliberation coherently. Even though the discourse quality index (DQI) developed by Steiner et al. (2004) and recently improved by Bächtiger and Steiner (2015) has gained much attention and been used in different studies, they are not perfectly suitable for this article. Since the DQI was developed to analyze parliamentary debates, it requires major adaptations for use in online contexts. While the DQI has inspired many studies in the field of online deliberation research, including this article, in order to maintain concrete measures for the evaluation of the level of deliberative quality, we draw measures from a wider range of studies (Black et al., 2011; Graham & Witschge, 2003; Stromer-Galley, 2007) and adopt them for the purpose of this article. In Table 2, the different dimensions and measures are listed, along with brief definitions and the literature in which similar measures have been used.

#### *Intercoder Reliability*

The sample of comments was analyzed by a team of 12 coders, with the individual comment serving as the unit of analysis. After several training sessions

**Table 2.** List of Dimensions, Measures, and Measure Definitions

Dimension	Measure	Definition	Previously Used
Rationality	Topic relevance	This measure captures whether a comment is on the topic of the discussion space.	Stromer-Galley (2007)
	Reasoning	This measure captures whether a comment presents at least one reasoned argument (justification of a statement).	Stromer-Galley (2007)
Reciprocity	General engagement	This measure captures whether a comment addresses another comment.	Stromer-Galley (2007)
	Argumentative engagement	This measure captures whether a comment addresses a specific argument made in another comment.	Graham and Witschge (2003)
	Critical engagement	This measure captures whether a comment is critical of another comment.	Graham and Witschge (2003)
Respect	Respectful communication	This measure captures whether users interact with each other respectfully. Respectful communication is defined here as the absence of aggressive and offensive language.	Black et al. (2011)
Constructiveness	Constructive contribution	This measure captures whether a comment contains constructive elements such as proposals for solutions.	Monnoyer-Smith and Wojcik (2012)

**Table 3.** Reliability Scores by Coding Category (N = 40)

Measure	RCA	$\kappa$
Topic relevance	0.99	–
Reasoning	0.64	0.347
General engagement	0.92	–
Argumentative engagement	0.77	0.542
Critical engagement	0.89	–
Respect	0.90	0.82
Constructiveness	0.86	0.771

and revisions of the coding scheme, a subsample of 40 comments was randomly selected from comments across all platforms and analyzed by all coders. Two indicators of intercoder agreement were applied: the ratio of coding agreement (RCA) (Holsti, 1969) and Cohen's Kappa ( $\kappa$ ) (Cohen, 1960), where appropriate (Table 3).<sup>12</sup> The reliability was in line with other content analyses of deliberative quality (Rowe, 2015; Steenbergen, Bächtiger, Spörndli, & Steiner, 2003). The coders made a total of 440 judgments and agreed in 83.5 percent of the cases, which is a satisfactory result.

## Results

Altogether, the results largely coincide with previous research on online deliberation related to news (Graham & Wright, 2015; Rowe, 2015; Ruiz et al., 2011; Singer, 2009; Strandberg & Berg, 2013); the comment sections under study comply with many of the characteristics of deliberative discussions (see Table 4). With regard to rationality, comments are mostly on-topic (topic relevance, 82 percent), with almost half providing justified statements (reasoning, 46 percent). With regard to reciprocity, two-thirds made explicit or implicit references to other users (general engagement, 68 percent), one out of three comments showed critical engagement with other users, and just under a third showed argumentative engagement with others (critical engagement, 39 percent; argumentative engagement, 30 percent). Surprisingly, despite the highly controversial discussion topics, most comments were respectful, without personal attacks or other forms of verbal aggression toward other users (respect, 90 percent). Finally, a small

**Table 4.** Deliberative Quality in User Comments, All Platforms (N = 1,801)

Measure	N	%
Topic relevance	1,472	81.7
Reasoning	822	45.6
General engagement	1,223	67.9
Critical engagement	705	39.1
Argumentative engagement	548	30.4
Respect	1,621	90.0
Constructiveness	102	5.7

**Table 5.** Deliberative Quality Across News Platforms (N = 1,801)

Measure	News Forum (N = 231)	News Websites (N = 591)	Facebook (N = 979)	$\chi^2$
Topic relevance	222 (96.1)	494 (83.6)	756 (77.2)	46.632 ( $p < 0.001$ )
Reasoning	166 (71.9)	329 (55.7)	327 (33.4)	146.996 ( $p < 0.001$ )
General engagement	125 (54.1)	450 (76.1)	648 (66.2)	39.862 ( $p < 0.001$ )
Critical engagement	87 (37.7)	259 (43.8)	359 (36.7)	8.158 ( $p < 0.05$ )
Argumentative engagement	75 (32.5)	229 (38.7)	244 (24.9)	33.773 ( $p < 0.001$ )
Respect	227 (98.3)	545 (92.2)	825 (84.3)	32.466 ( $p < 0.001$ )
Constructiveness	26 (11.3)	24 (4.1)	52 (5.3)	16.578 ( $p < 0.001$ )

*Note:* Frequency percentages for each platform in parentheses.

number of 102 comments included an effort to provide a solution to the problem (constructiveness, 6 percent).

In line with the differences in platform design, we assumed that the highest level of deliberative quality would be found in the news forum, a lower level of deliberative quality would be found on news websites, and the lowest level of deliberative quality would be found on Facebook (H1). We found precisely this pattern with topic relevance, reasoning, and respect, but not for variables measuring reciprocity and constructiveness (see Table 5). The highest level of general engagement was found on news websites (76 percent), a moderate level was found on Facebook (66 percent), and the lowest level was found in the news forum (54 percent). Therefore, H1 is only partly supported.

With regard to the specific effects of particular design features on individual characteristics of deliberative quality, we assumed an influence of moderation on the level of respect (H2). We found the highest level of respect in the news forum (98 percent), which employed automated moderation techniques. Discussions on news websites (92 percent) were shown to be less respectful than in the news forum; most of these platforms are moderated by editorial staff. An even lower level of respect (84 percent) was found on unmoderated Facebook posts ( $\chi^2 = 32.466$ ,  $df = 2$ ,  $p < 0.001$ ). Since the ranks in the findings reflect the assumptions, H2 is supported.

H3 and H4 examined the effects of design on reasoning. H3 dealt with the effect of asynchronicity, and the quasi-synchronous discussions on Facebook were expected to result in lower levels of reasoning than on the other two platforms. Table 5 shows that whereas a majority of comments in the news forum (72 percent) and news websites (56 percent) addressed at least one argument, only a third of the Facebook comments (33 percent) provided arguments ( $\chi^2 = 146.996$ ,  $df = 1$ ,  $p < 0.001$ ). However, the differences between the news forum and news websites are also significant ( $\chi^2 = 18.179$ ,  $df = 1$ ,  $p < 0.01$ ), although H3 had assumed reasoning in the news forum and news websites would be similar due to the same level of asynchronicity. Consequently, H3 has to be rejected because we could not show that asynchronicity leads to the expected pattern.

Since the difference in the level of reasoning between the news forum and news websites cannot be explained by differences in asynchronicity, availability of information was assumed to account for the differences (H4). This design

factor not only distinguishes the news forum from the news websites, but is also known to foster reasoning. Testing H3 against H4 offers greater clarity as to which factor explains the level of reasoning.

We predicted in H4 that differences in the amount of available information would mean that the highest level of reasoning would be found in the news forum, a lower level of reasoning would be found on news websites, and the lowest level of reasoning would be found on Facebook. A critical test to determine whether levels of reasoning vary with asynchronicity or with availability of information relates to the question of whether the news forum and news websites show different levels of reasoning from each other. If there are no differences between the news forum and news websites, asynchronicity is likely to predict reasoning, because asynchronicity is a feature of both of these platform types. If, however, the news forum and news websites do differ, it is the availability of information that accounts for the differences, because the platforms do have different levels of information availability. As the differences between platforms showed the ranking assumed for the effect of availability of information (Table 5), H4 is accepted.

Finally, H5 predicted that differences in the level of topic definition would lead to different levels of constructiveness among news platforms. The results show that news forum comments were most likely to provide constructive comments (11 percent). However, contrary to expectations, we found more constructiveness on Facebook (5 percent) than on news websites (4 percent) ( $\chi^2 = 16.578$ ,  $df = 2$ ,  $p < 0.001$ ). Due to the ranks of the platforms concerning constructiveness, H5 is partly rejected. Although the highest level of constructiveness was found in the news forum, in which the level of topic definition was highest, it cannot be said that a higher level of topic definition per se leads to different levels of constructiveness.

The last analysis deals with the research question concerning the effects of design features on reciprocity. The levels of reciprocity on the three platforms show a pattern that differs from the one associated with the other deliberative quality characteristics. All three indicators of reciprocity were found most frequently on news websites, with 76 percent of comments addressing other comments (general engagement), 44 percent criticizing other comments (critical engagement), and 39 percent addressing a specific argument made in another comment (argumentative engagement; see Table 5). Facebook users are only slightly less active than website users in terms of general engagement (66 percent), but show lower levels of critical (37 percent) and argumentative engagement (25 percent) in their interactions. In contrast, forum users interact less often in terms of general engagement (54 percent), but show higher levels of critical (38 percent) and argumentative (33 percent) engagement in their interactions.

## Discussion

This study began with the assumption that the level of deliberative quality of user comments depends on platform design (H1). The empirical findings of our

comparative analysis across three types of news platforms broadly support this assumption. Deliberation is most likely to be found in the news forum, which was specifically designed to initiate user discussions. News websites complied less well with deliberative design criteria and showed a lower level of deliberative quality. Facebook was last in meeting deliberative design criteria and performed worse than the other platforms in sustaining deliberation. Since Facebook and news websites did not differ significantly, however, H1 was only partly supported. We had further assumed a relation between particular design features and specific characteristics of deliberation. The findings support our assumptions on the influence of moderation, availability of information, and the level of topic definition: moderation had a positive effect on respect (H2), the availability of information increased the level of reasoning (H4), and a well-defined topic in the news forum resulted in greater constructiveness (H5). However, there was no evidence for a positive influence of asynchronous discussion on the provision of reasons (H3).

With regard to our research question on reciprocity among users, the findings surprisingly contradicted the pattern found for most other elements of deliberative quality. While Facebook performed poorly concerning the overall level of deliberative quality and the above characteristics of deliberation, it did promote a high degree of general engagement among users. Conversely, the news forum platform, which was explicitly intended to initiate deliberation, showed the lowest scores on this measure. Interestingly, users interacted more without a specified question and without additional information provided than under conditions complying with the “ideal” deliberative design characteristics. As reciprocity is a key affordance of deliberation, this finding deserves greater attention in future research. Experimental studies testing variations of design features might clarify the conditions under which users connect with each other in online discussions. However, platform design is not the only factor influencing the degree of deliberative quality. In order to deepen our understanding of the conditions of deliberative debate, we need surveys and in-depth interviews to examine motivations and other audience characteristics (e.g., Springer, Engelmann, & Pfaffinger, 2015).

It goes without saying that a single study cannot answer all the questions in the new and rapidly changing sphere of online deliberation. This study has thus focused on effects of platform design, but even within the scope of this research objective, certain limitations must be noted. First, this study focused on design features that differed between the most relevant types of news platforms and disregarded other influential design features. Deliberative quality is also known to depend on the identification of users (Coleman & Moss, 2012, p. 8), group size (Himmelboim, 2008), group heterogeneity (Zhang, Cao, & Tran, 2013), and response rate (Wise et al., 2006). Further research will not only need to examine a wider range of design features but also consider the possible interrelations between them.

We must also stress that this study has taken a particular perspective by focusing on how design affects the level of deliberative quality in a *specific*



discussion space. By adopting this perspective, we do not consider the claims raised in the literature on deliberative systems (e.g., Boswell & Corbett, 2017; Dryzek, 2016) that no single forum can possibly meet all the criteria required by deliberative theory; rather, different forums contribute different goods to the system as a whole. In the same vein, we did not consider research on other forms of communication beyond traditional concepts of deliberation (Black, 2008; Graham, 2010; Polletta & Lee, 2006). Both strands of literature offer important connection points for further research, which should investigate how different online spaces may be able to contribute to a deliberative system and make sense of different forms of communication.

There are also limitations regarding the operationalization of some measures. Unlike more sophisticated operationalizations of reasoning (Steenbergen et al., 2003), our dichotomous measure captures simply whether a comment presents at least one justification of a statement. As online comments are short and rarely provide extensive justifications—compared to essays or parliamentary debates, for example—we did not analyze argumentative quality in depth. We, therefore, may be overestimating the degree of reasoning in the debates under study. Furthermore, the reasoning was very challenging to code—as reflected in the reliability coefficient, which was sufficient but not ideal. The coding scheme still needs further refinement.

With that said, it is clear that further research should strive to close the gaps identified above and develop better instruments for assessing deliberative quality. Research on online deliberation has begun to become a discernible tradition. This study sheds light on a very narrow but important segment of online deliberation, yielding certain relevant findings. Although both the European refugee crisis and the military operation in Syria are highly politicized and contested topics, the quality of the debate on all three platforms was mostly on topic, fairly reasonable, and reciprocal in nature, compared to what has been found in other studies (Graham & Wright, 2015; Rowe, 2015; Ruiz et al., 2011; Singer, 2009; Strandberg & Berg, 2013). With regard to enhancing deliberative discussions for large segments of the population, the results support the claim that careful design considerations improve the deliberative quality of online discussions (e.g., Wright & Street, 2007).

The findings of this study suggest that deliberative discourse in the virtual public sphere of the Internet is indeed possible, which is good news for advocates of deliberative theory. However, the findings also suggest that public discourse has to be organized by carefully considering how platforms function. This has implications for the design of news platforms as an element of journalism practice, a process in which established media organizations are key actors. They can thus shape debates and foster deliberative quality by providing conditions as close to ideal as possible. In the light of our findings, outsourcing discussions to social networking sites such as Facebook is not advisable due to the low level of deliberative quality compared to other news platforms. This will demand significant effort and resource allocation by news organizations. However, since this study has presented substantive evidence that design matters, advocates of an utterly free virtual public sphere may be disappointed. Some may argue that

the “power of design,” which is shaped by organizers like news organizations, contradicts the basic idea of open debate among equals where the only force in place is “the forceless force of the better argument” (Habermas, 1975, p. 108), but it is becoming ever clearer that deliberation is more likely to emerge if design is adapted to particular criteria.

**Katharina Esau, M.A.**, Department of Social Sciences, University of Dusseldorf, Dusseldorf, Germany [katharina.esau@hhu.de].

**Dennis Friess, M.A.**, Department of Social Sciences, University of Dusseldorf, Dusseldorf, Germany.

**Prof. Christiane Eilders**, Department of Social Sciences, University of Dusseldorf, Dusseldorf, Germany.

### Notes

1. Although comments on online news still largely involve smaller groups of highly motivated users (10 percent in Germany, 14 percent in the United Kingdom, 22 percent in the United States, and 28 percent in Spain), reading and sharing news and news comments is becoming more and more popular in all countries (Newman, Fletcher, Levy, & Nielsen, 2016).
2. Among others, these characteristics include topic relevance, reasoning, reciprocity, mutual respect, and constructiveness. However, the empirical operationalization of the level of deliberative quality varies heavily among different studies (Friess & Eilders, 2015), making it difficult to compare findings.
3. Janssen and Kies (2005) stress the importance of moderation type. They argue that 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).
4. While communication on Facebook is theoretically asynchronous, the design employed creates a quasi-synchronous communication environment. In 2011, Facebook started using “Live commenting,” a technology that supports “opportunities for spontaneous online conversations to take place in real time” (see <https://www.facebook.com/notes/facebook-engineering/live-commenting-behind-the-scenes/496077348919>). User comments are immediately visible to other users and users can choose to receive notifications about other users’ comments. Since Facebook is also available on mobile devices such as tablets and smartphones and has entered many people’s daily lives, it is now a 24/7 network, which may increase the pressure to respond more quickly.
5. “The systematic assignment of communication content to categories according to rules, and the analysis of relationships involving those categories using statistical methods” (Riffe, Lacy, & Fico, 2014).
6. *SZ Online*: comments via news forum ([www.sueddeutsche.de/thema/Ihr\\_Forum](http://www.sueddeutsche.de/thema/Ihr_Forum)) and Facebook ([www.facebook.com/ihre.sz](http://www.facebook.com/ihre.sz)).
7. *Spiegel Online*: comments via news website ([www.spiegel.de](http://www.spiegel.de)) and Facebook ([www.facebook.com/spiegelonline](http://www.facebook.com/spiegelonline)).
8. *Welt Online*: comments via news website ([www.welt.de](http://www.welt.de)) and Facebook ([www.facebook.com/welt](http://www.facebook.com/welt)).
9. *Zeit Online*: comments via news website ([www.zeit.de](http://www.zeit.de)) and Facebook ([www.facebook.com/zeitonline](http://www.facebook.com/zeitonline)).
10. Although these criteria also apply to other newspapers such as *Frankfurter Allgemeine Zeitung Online*, comparative analysis involving them was not possible due to closed comment sections on these news websites.
11. Three articles from a news forum (*SZ Online*), six articles from news websites (*Spiegel Online*, *Welt Online*, *Zeit Online*), and nine corresponding Facebook posts (*SZ Online*, *Spiegel Online*, *Welt Online*, *Zeit Online*).
12. Due to low variance, Cohen’s  $\kappa$  could not be computed for all variables.

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