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The future of public participation in Germany: Empirical analyses of administration experts' assessments

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ABSTRACT

In democratically organized forms of government, public participation is a crucial element of the democratic process. Due to ongoing social change and the resulting changes in the requirements for democracy, the participative elements of democracy are constantly evolving. Consequently, in recent decades, the methods and instruments of public participation have developed and adapted to the changing demands in western democracies. Where, however, is public participation headed? This question remains unanswered, and the research at hand aims to answer it. To structure the current, at times controversial, discussion and gain insight into the future of public participation, we use a Delphi survey. Our survey focuses on expectations about the future of public participation using data from German administration professionals. The panelists evaluate 10 future projections on developments in public participation in Germany until the year 2020. Based on the obtained data, we identify the projections for which the panel agrees on the expected probability of occurrence. Moreover, we analyze the projections with dissent among the panelists in more detail and examine the evaluations for consensus within different subgroups.

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1. Introduction

Since the 1960s, public participation has been a crucial component of legitimating, democratizing, and increasing the quality of political decisions in democratically organized forms of government (Lourenço and Costa, 2007; Evans-Cowley and Hollander, 2010; Fedotova et al., 2012; Irvin and Stansbury, 2004). According to the Athenian-inspired democracy, direct democracy is the ideal form of democracy (Breindl and Francq, 2008). However, according to Crick (2002), it is unlikely that the Athenian ideal of full deliberative democracy ever existed. Although the Athenian ideal might not be realizable in our complex societies (Breindl and Francq, 2008), the elements of participative democracy change over time. Many publications

describe how the participative elements of western democracies have changed during recent decades or which different methods of public participation are applied today (Abelson et al., 2003; Asaro, 2000; Beierle, 1999; Beierle and Konisky, 2000; Chappelet and Kilchenmann, 2005; Chess and Purcell, 1999; Irvin and Stansbury, 2004; Rowe and Frewer, 2000; Webler et al., 2001; Webler, 1999; Hendriks and Tops, 1999; Beierle and Cayford, 2002; Creighton, 2005; French et al., 2007; Fedotova et al., 2012). Furthermore, various studies have identified methods and approaches that have proven their applicability in everyday practice on the basis of case-studies and best-practice analyses (Hoskins et al., 2012; Hoskins and Kerr, 2012; Trénel et al., 2001; Soneryd, 2002; Webler and Tuler, 2000; Lowndes et al., 2001; Vogt et al., 2014). What, however, does the future hold? And to what point will public participation evolve? These questions remain more or less unanswered and generate controversy. One reason for the controversy is the allocation of roles among different interest groups, such as citizens, politicians, and public managers

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(Pateman, 1970; Sartori, 1987; Grönlund, 2003). The understanding of their role with regard to public participation is especially for administration employees ambivalent. On the one hand, the everyday work of administration employees is directly influenced by the involvement of citizens into political decision making (Thomas, 1995; King et al., 1998). On the other hand, administration employees are the performing part of the executive authority (König and Siedentopf, 1997) and have a direct influence of the design of public participation initiatives. Hence, especially for public managers, the upcoming developments in public participation are crucial due to increasing public demand for more opportunities to participate (Breindl and Francq, 2008; Rowe and Frewer, 2000; King et al., 1998). Thus, in literature agreement prevails that the new involvement of citizens has changed the work of public managers and will increasingly do so due to this growing demand for public participation (Thomas, 1995; King et al., 1998). Thus, the future development of public participation is of particular relevance to public sector employees because they must adapt both personally and in their work to changing demands. Even though literature is aware of the particular role that administration employees have for public participation, expectations on the developments in the area of public participation are considered to be equal for all different stakeholder groups. It is suggested that the different stakeholder groups have identical expectations about the developments in public participation. With regard to the special role of public administration employees, the question arises whether administration employees are drivers or hinderers of certain developments in this area, as their daily work is affected by these developments. It can rather be assumed that administration employees are reserved regarding some of the expected developments or might even oppose developments utilizing their decision making power. This expectation is founded on the behavioral insights according to which employees are narrow-minded with regard to innovative processes, novelties, and change in their everyday work process (Frey and Schulz-Hardt, 2000). To our knowledge, until today, no research has addressed the question of public employees' expectations regarding the future of public participation. Additionally, the question whether the stakeholder group of administration employees are drivers or hinderers of different developments was not addressed. A differentiation of the expectations of the subgroups differentiated by age, gender, size of municipality, or region was not treated yet.

This paper addresses these research gaps by presenting original data from a survey of administration experts that was conducted in Germany on the future of public participation. In a web-based Delphi survey portal, projections for the year 2020 are presented and analyzed in an iterative and sequential process. The Delphi method is an appropriate approach to structure and analyze experts' opinions to achieve an understanding of future and uncertain developments. Additionally, it has proven to be an effective technique for foresight and scientific, long-term analysis (Goodwin and Wright, 2010; Landeta, 2006). The survey polls a panel of administration experts who work at different administrative levels and in different departments to gain a broad perspective on potential future developments.

The paper is structured as follows: First, we derive Delphi projections from a literature review. Second, we introduce the

Delphi method and the survey panel. Third, we present the results of the data analyses. Fourth, we discuss the implications of the research. In the final section, we present the limitations of the research and suggest areas for future study.

2. Literature-based projection development

The enthusiasm of a multitude of democratically organized countries to increasingly involve citizens in the decision-making process has been realized using a variety of initiatives within the governing process (Irvin and Stansbury, 2004; Nylen, 2002; Trenam, 2000; Gramberger, 2001; Buchy and Race, 2001). How, however, might the future evolve? From the perspective of administration experts, where is public participation headed? Should administration experts be considered as drivers or hinderers of an increase of public participation? To answer these questions, the underlying understanding of the term "public participation" must be defined. In general, the literature distinguishes between formal and informal public participation (Fraser, 1990; Innes and Booher, 2004; Cramton, 1972; Vogt et al., 2014). While formal public participation is based on legal requirements, informal public participation includes all those activities that are conducted voluntarily, that is, without a statutory obligation to involve citizens in the political decision-making process (Cramton, 1972; Vogt et al., 2014). In Germany, the country that served as the locale for the underlying research, one typical example of a formal requirement of public participation is including the citizenry in land use planning procedures, where clear statutory obligations to involve citizens exist (Knapp and Coors, 2007). The voluntary and informal venues for public participation in Germany include citizen surveys and participatory budgets (Krek et al., 2012). In its manuscript on the further development of local democracy, the German Association of Cities (DST) emphasizes the increasing importance of both formal and informal public participation (DST, 2013).

In another approach, three categories of democracy, namely quick, strong, and thin democracies (Åström, 2001) are distinguished. Again, this differentiation might affect the understanding of the term public participation. According to Åström (2001), our understanding of the term public participation follows the democracy category of strong democracy. Strong democracy assumes active citizens who get involved in the political decision-making processes with the help of discussion and deliberation processes.

With this background, not only the formal but also the informal public participation are the foci of the future projections that are derived in this section and further analyzed in the remainder of this article.

For the formulation of the projections, we chose a medium-length time horizon of eight years (to 2020) for two reasons. First, elections in Germany take place every four to six years (e.g. on municipal level), and we aimed to separate the participants' assessments from those of current politicians and parties to stimulate creative and innovative thinking among our expert panel (Murphy, 1989). Second, multiple official institutions chose 2020 for the formulation of their strategy timeframes, such as the European Commission for their development strategy "Europe 2020" (Commission, 2010). Hence, the similar horizon maintains comparability with official strategies.

2.1. Multitude of opportunities for participation

There is a growing awareness on the part of the public administration that decision making without public participation is ineffective. Therefore, governments and public institutions have begun to involve the general public extensively in the decision-making process in a multitude of decisions (Bayley and French, 2008; Irvin and Stansbury, 2004). In addition to the formally prescribed elements of public participation, such as the submission of objections in land use planning procedures (Kopp and Ramsauer, 2009), municipalities utilize a range of informal offers and tools, such as stakeholder workshops, citizen juries, focus groups, electronic forums, web-polling, public conversations, participatory budgeting, study circles and collaborative policy making, to include citizens in the decision-making process (Bayley and French, 2008; Bingham et al., 2005). These approaches to public participation are expected to gain even more relevance in the future (Bingham et al., 2005; Chadwick, 2008) due to the current political conditions, in which political representatives can no longer afford to exclude citizens from the political decision-making process (King et al., 1998). Based on theoretical and practical recognition in the literature that citizens are to be more extensively involved in political decision-making processes in the future (Breindl and Francq, 2008; Rowe and Frewer, 2000; King et al., 1998), we formulated the first future projection of the Delphi survey as follows:

Projection 1: In 2020: Municipalities offer their citizens a multitude of opportunities for participation.

2.2. One central contact point

Regardless of the organization of public participation, obtaining public opinion in democratic decision-making processes is not free but rather requires greater financial expense than decision making by a single administrator (Irvin and Stansbury, 2004). This increase of costs might be due to, for example, greater time commitment resulting from the participation process (Lawrence and Deagen, 2001). In addition to the costs faced by the public authorities, citizens themselves face costs for their participation, with the search for appropriate participation tools generating particularly high costs. Even within one city, there is frequently no central inquiry office where citizens can identify all current participation opportunities (Kingston et al., 2000; Vogt et al., 2014). Although the search costs may be acceptable on the municipal level, citizens' interests may not be limited to one city but may also include projects of the district or the federal state increasing citizens' search costs exponentially (Elmir and Bounabat, 2012; Hoskins et al., 2012; Sæbø et al., 2009; Vogt et al., 2014). Due to the consideration of cost factors for both the administration and the citizens, single states have begun establishing central contact points for public participation. For example, Austria was one of the first European states to establish one central contact point with the Internet-Platform "Digitales Österreich" (Platform Digital Austria) in 2008 (Aichholzer and Allhutter, 2009). Under the administration of the Austrian Federal Chancellery, the platform enables centralized coordination of participatory projects that are conducted at all levels of government, including local and national (Aichholzer and Allhutter, 2009; Teufl et al., 2009). It appears that due to the

reusability of already conducted procedures, financial advantages can be achieved especially on the administration side (Teufl et al., 2009). In addition to these positive experiences with central contact points for public participation, the literature establishes a need for new governance institutions, especially on the local level, to facilitate participation in political decisions (Bayley and French, 2008; Bingham et al., 2005). Thus, the future projection derived from the literature review states:

Projection 2: In 2020: One central contact point is established where citizens can find all relevant opportunities to participate.

2.3. High degree of transparency

In addition to a central contact point, the traceability of political decisions is one aspect discussed in the literature. For example, transparency in decision making is critical to building trust among the involved individuals and ensuring effective public participation (Irvin and Stansbury, 2004; Margerum, 2002; Beierle, 1999; Howell, 1987). Therefore, the literature highlights transparency in public participation as a key element of good governance (Bonsón et al., 2012; Kim et al., 2005). Due to new approaches, such as social media, there may be new functions offered in the future to guarantee an increase in transparency in participation (Bertot et al., 2010a, 2010b, 2012). In addition to the call for more transparency in political decision making, the current literature specifies the degree of transparency with which the citizens are to be informed. To avoid the administration in charge influencing the data provided to citizens, the literature on open data calls for complete transparency, that is, that raw data are made available for use by citizens (Hill, 2011). The resulting projection for this research is as follows:

Projection 3: In 2020: The processes of political decision making and formation of the political will are fully transparent and comprehensible to the citizens.

2.4. Public identification with political decisions

Citizens' identification with the political decisions made is critical to public participation. Results from different researchers suggest that political decisions that are formulated with public participation and based on the preferences of the citizens are more likely to be accepted and supported than decisions that are made without public involvement (Irvin and Stansbury, 2004; Evans-Cowley and Hollander, 2010; Potapchuk, 1996). In participatory activities in which the citizens involved regard themselves as value consultants (Renn et al., 1993) and are encouraged and respected by public authorities, the participation in political decisions is strengthened (Holzer et al., 2004; Dawes, 2008). With this background, Klages and Vetter expect that increases in both systematization and continuation of public participation are prerequisites for greater identification with political decisions and use of offered participation (2013). In their discourse, Klages and Vetter present the case of the German city of Heidelberg, which, as one of the first German cities, created a binding and therefore satisfying culture of participation by developing guidelines and rules (2013). The achievements that can be identified as results

of this established and codified culture of participation (2013) lead to the following projection:

Projection 4: In 2020: Due to an established culture of participation, citizens identify more strongly with political decisions.

2.5. Early civic participation

The stage at which citizens should be involved in political decision making is frequently discussed in the literature (Rowe and Frewer, 2000). There seems to be agreement that the public should be involved as soon as participation can reasonably be realized (Rowe and Frewer, 2000; Ng and Hamby, 1997; Middendorf and Busch, 1997). More explicitly, the latest stage at which citizens should be involved is when value judgments become relevant (Rowe and Frewer, 2000; Swallow et al., 1992; Renn et al., 1993; Moffet, 1996). Researchers agree that the involvement of citizens when there is merely an opportunity to choose between alternatives is too late (Rowe and Frewer, 2000; Lake and Disch, 1992). The most important factor in the ideal point in time at which public participation should take place is the citizens themselves. Hence, citizens request the opportunity to participate in and contribute to political decision making when crucial process are identified. Therefore, this point in time is regarded to be ideal-typical (Scholz, 2011). The related projection to these findings is as follows:

Projection 5: In 2020: As soon as a problem becomes known, citizens become involved in critical political processes.

2.6. Public participation as legitimization

Numerous western democracies are facing a legitimization crisis, leading to an increasing number of citizens who demand more public involvement in political processes (Breindl and Francq, 2008). There is a common understanding in the literature that public participation is an instrument to improve communication between the public and government and a way to legitimate political decisions (Phang and Kankanhalli, 2008; Coleman and Gotze, 2001). However, to achieve this effect, public participation must be practiced in a fair manner in which all actors have the same means to influence the final outcome (Webler et al., 1995). Consequently, more politicians apply the tool of public participation to achieve broad acceptance of political decisions by involving the public (Bayley and French, 2008). Based on the presented findings from the literature and in accordance with the prior future projection that public participation can only be fair when timely public involvement is achieved (Rowe and Frewer, 2000; Swallow et al., 1992; Renn et al., 1993; Moffet, 1996), the following projection is stated:

Projection 6: In 2020: Early public participation functions to legitimate politics.

2.7. Social interconnection promotes additional qualification

Public participation aims to inform citizens of political plans and activities and thereby to increase public understanding of these decisions (Phang and Kankanhalli, 2008). One remaining question is whether citizens can take part in this decision making and whether they have the necessary expert knowledge to take positions on certain issues (Bäckstrand, 2003;

Kleinman, 2000). Thus, for numerous authors, social and group learning are crucial aspects of public participation (Webler et al., 1995; Fiorino, 1990; Laird, 1993) because citizens learn more about problems through discussing them (Grönlund, 2003; King et al., 1998). Hence, a main benefit of public participation is the increase in knowledge and awareness among the citizens (Evans-Cowley and Hollander, 2010; Arnstein, 1969; Berry et al., 1993; Irvin and Stansbury, 2004; Pateman, 1970; Sabatier, 1988; Blackburn and Bruce, 1995). Because traditional modes of public participation, such as public meetings, are frequently limited in their scope and duration, their suitability for these learning processes is limited (Evans-Cowley and Hollander, 2010). Conroy and Gordon (2004) therefore consider the suitability of technology-based public participation for knowledge generation, commitment, and satisfaction to be superior to traditional public meetings, leading to a need to consider new technologies, such as social media and social networks, to equip citizens with the relevant knowledge for participation (Webler et al., 1995; Evans-Cowley and Hollander, 2010; Bonsón et al., 2012; Froomkin, 2004; Chadwick, 2008). These new technologies are likely to increase not only the quantity of public participation but also, and especially, its quality (Froomkin, 2004). Chadwick, who likewise expects an increase in the quality of participation, calls this phenomenon, which is mainly driven by social media, collective intelligence (Chadwick, 2008). Due to standards that are being developed for social media (Hwang et al., 2009) and the expansion of social networks and virtual communities, people can increasingly share their experiences and learn collectively (Bonsón et al., 2012; Elia et al., 2009). A resulting future projection is formulated as follows:

Projection 7: In 2020: Because of an increase of social interconnection due to social media, citizens of all social categories receive additional qualification to become involved in participation processes.

2.8. Mainly e-participation

As is observed in the formulation of the prior future projections, the advance of the Internet will likely play an important role in public participation. Thus, a multitude of current governmental activities focus on social media. As a result, social media have begun playing a central role in e-government (electronic government) within a very short time (Bertot et al., 2012; Chang and Kannan, 2008; Noveck, 2009; Osimo, 2008; Phang and Kankanhalli, 2008). Even though different roles of information and communication technology for participative democracy are differentiated by literature, i.e. information sharing, deliberation, and decision making (Åström, 2001; Vogt et al., 2014), agreement prevails regarding the relevance of the Internet, especially in terms of transparency, the increase of interactivity and a general trend of opening up the public sector (Bonsón et al., 2012; Bertot et al., 2010a, 2010b, 2012; La Porte et al., 2002; Kim et al., 2005; Vogt et al., 2014).

Furthermore, the consideration of cost efficiency provides reasons for the utilization of internet by public administrations. Utilization of information and communication technology leads to cost savings, e.g. due to the broad number of citizens that can be addressed by the help of ICT compared to the smaller amount reached without this technological support (Åström, 2001; Vogt et al., 2014; Weber et al., 2015; Åström

et al., 2012; Riabacke et al., 2011). Some groups of the citizenry, such as elderly people who are not as Internet-oriented as younger citizens, might face challenges regarding participation. But literature assumes that this phenomenon will diminish time by time, as future generations grow up with the Internet or use the Internet for work, so that the usage of Internet-based public participation services in the future will increase (Westholm, 2006). In this respect, the Internet is universally viewed as suitable for e-participation (electronic participation) in particular because it is a medium of communication with unique opportunities for public debates (Chadwick, 2008; Dahlberg, 2001; Vogt et al., 2014). In this context, e-participation describes the utilization of information and communication technologies that support citizens' participation in the policy-making process (Sæbø et al., 2008; Caddy and Vergez, 2003; Wimmer, 2007; Vogt et al., 2014). Experience shows that the use of electronic tools has a positive effect on public participation in local projects (Grönlund, 2003; Weber et al., 2015). We formulate the following projection based on the reviewed literature:

Projection 8: In 2020: Public participation takes place primarily via the Internet.

2.9. Decision competencies are preserved

When focusing on the future of public participation, one important question concerns the attitude of politicians. For over 50 years, public participation has been employed to democratize, legitimate and improve political processes (Fedotova et al., 2012; Lourenço and Costa, 2007). Nevertheless, today, politicians' motivation seems to be to generate acceptance for an existing decision instead of encouraging democratic ideals (French et al., 2007). The lacking support of politicians for public participation originates from the fear of losing power (Ruhstroth-Bauer, 2012; Brunold, 2004). At least for formal participation procedures, which are binding in the subsequent processes, this anxiety may be comprehensible. Therefore, public participation is the reallocation of power from political authorities to the citizenry (Arnstein, 1969). However, for informal participation activities, this anxiety is incomprehensible. The case of the German city of Heidelberg exemplifies that in informal participation projects, the sovereignty of decision making remains with the elected political authorities (Klages and Vetter, 2013). It can even be observed that citizens are more cooperative during participation projects implemented in politics (Irvin and Stansbury, 2004; Thomas, 1995; Vroom and Jago, 1988). Hence, public participation can only be as sound as the political process into which it is integrated (Grönlund, 2003). Based on this understanding and on the fact that among public authorities, the awareness of a need for more democratic governance is rising (Phang and Kankanhalli, 2008; Coleman and Gotze, 2001), we formulate the following projection:

Projection 9: In 2020: Politicians acknowledge public participation as decision support to obtain information on public opinions without ceding decision competencies.

2.10. Mobile applications

The last projection on the future development of public participation focuses on the current trend toward mobile applications. The 21st century world will be electronically mobile. Therefore, these digital trends will likely also affect

public participation (Insua et al., 2008). Future public participation projects will employ many different socio-technical values and mechanisms, making mobile Internet increasingly relevant for future public participation (Chadwick, 2008). Mobile applications for public participation are already used today, especially in municipal compliance management (Herzberg, 2013; Krek et al., 2012). Mobile applications, such as the deficiency sensor (Herzberg, 2013) or map-based problem management (Krek et al.), enable citizens to report defects, such as potholes, to administrations in real time. Although only a few municipalities provide this service, Herzberg (2013) expects these activities to increase. Likewise, other researchers predict this development and acknowledge tremendous potential for the use of these applications to involve citizens to improve political decision-making processes (El Kiki and Lawrence, 2006). The projection for the future of public participation derived from this background is as follows:

Projection 10: In 2020: Mobile applications, such as the management of compliance via mobile phones, are standard in participation projects.

3. Methodology and survey procedure

This research used the Delphi method to obtain evaluations regarding the expected development of public participation from the perspective of experienced administration professionals. The Delphi method was developed in the 1960s by the RAND Corporation in the US and aims to identify consensus among a group of experts (Dalkey and Helmer, 1963). It is a widely established method for judgmental foresight (Torres, 2005) and has proven its reliability and validity (Landeta, 2006; Parente and Anderson-Parente, 2011). Based on a communication process that is centered on anonymity and iteration, statements regarding future developments are evaluated (Rowe and Wright, 1999; Linstone and Turoff, 2011). To improve the understanding of forthcoming developments, the Delphi method achieved a standing of a widely accepted and frequently used research method, especially in the field of political research (Herzog, 1993; Rowe and Frewer, 2000; Webler et al., 1995; McKenna, 1994). The current research employs a Real-Time-Delphi (RT Delphi) design. It is a web-based and real-time computer version (Geist, 2010; Gnatzy et al., 2011). As in traditional paper-and-pencil surveys, the aim of the RT Delphi is to obtain expert feedback and create consensus over multiple consultation rounds (Geist, 2010). Compared with traditional Delphi procedures, the RT Delphi speeds up the communication process and enables the researcher to poll a larger group of experts (Gordon and Pease, 2006).

The research procedure was conducted as follows: First, the projections for the survey were derived from the literature, as described in the previous projection development section, and their formulation was checked for specificity and preciseness and reformulated to further refine for clarity (Salancik et al., 1972). For example, conditional statements were avoided.

The development and theoretical foundation of the future projections derives from studies and literature identified via database and library research. As our analysis focuses on recently discussed future developments derived from literature from western democracies, such as the United States, New Zealand, the United Kingdom, Germany, the Netherlands, and Australia, the formulated projections do not claim to be

generally applicable for every country and political context. Ten future projections were derived from literature, with each projection being based on several literature sources which we outlined in the prior section. The authors used a high degree of standardization in this process in order to ensure methodological rigor and thereby the reliability and validity of the obtained data for the formulation of the Delphi projections (Von der Gracht and Darkow, 2010). The procedure allowed the authors to make reliable statements concerning future developments in the areas of public participation. Table 1 displays the future projections for the underlying research and their short titles:

Second, we identified and recruited public administration experts for participation in the Delphi survey. The identification of the target group of administration experts was conducted in collaboration with the Association of Municipal Councils of Germany (DStGB). In total, 344 German municipalities were identified that employ an administration expert who focuses entirely on the topic of public participation. These administration professionals were invited to participate in the RT Delphi Survey.

Third, the Delphi survey was conducted online over two months. Between mid-June and mid-August 2012, the participating administration experts evaluated the future projections. In this regard, we opted for a medium-length time horizon of eight years (to 2020) for two reasons. The first reason is that citizens vote every four to six years in Germany, and we wanted to distance the participants' assessments from those of actual politicians and parties to stimulate creative and innovative thinking among our expert panel (Murphy, 1989). The second reason is that relevant official institutions chose 2020 for their projections and strategy timeframes. For example, the European Commission chose 2020 for their development strategy: Europe 2020 (Commission, 2010). Therefore, we chose 2020 in order to maintain comparability with official development strategies and citizens' projections. Each projection was evaluated according to its expected probability of occurrence in 2020 (0%–100%), the desirability of its occurrence in 2020 (5-point Likert scale with 1 = low and 5 = high), and its influence on policy making in 2020 (5-point Likert scale with 1 = low and 5 = high). In addition to the quantitative evaluations, the participants had the option of providing qualitative reasoning for their quantitative evaluations (Geist, 2010; Gnatzy et al., 2011). Within the survey procedure, the Delphi participants were able to compare their

own quantitative and qualitative evaluations with those of the entire survey panel. Moreover, the panelists could reconsider and revise their provided evaluations based on the cumulative group response and discussion. The participating administration experts used this opportunity and reassessed their evaluations during the entire survey period, which indicates an active discussion and high commitment.

Fourth, in a supplementary survey, additional data were collected to enable later analysis of group differences. The additional questions related to variables characterizing the individual participant, that is, gender (male; female) and age (20–30; 31–40; 41–50; older than 50) because these socio-demographic variables are frequently utilized in political participation research (De Rijke, 2009; Emmer, 2001). Recent research proves the influence of the size of the municipality (Oliver, 1999; Folz and Hazlett, 1991; Caren, 2007) and its number of personnel (Wolman, 1986) on public participation. Therefore, the variables “number of inhabitants” (below 2000; 2000–5000; 5000–20,000; 20,000–50,000; 50,000–100,000; 100,000–500,000; over 500,000) and “number of administrative employees” (1–20; 20–50; 50–100; over 100) are included for further analysis. Finally, the variable “region” was included (Northern Germany; Southern Germany; Eastern Germany; Western Germany) because especially in German local politics, there has been found to be a vast difference along the north–south and east–west divides (Gornig and Häussermann, 1994). Therefore, the region Northern Germany includes the federal states of Schleswig–Holstein, Mecklenburg–Vorpommern, Bremen, Hamburg, and Lower Saxony. Southern Germany includes Baden–Württemberg and Bavaria, and Eastern Germany includes Brandenburg, Berlin, Saxony–Anhalt, Thuringia, and Saxony. Participants from the states of North Rhine–Westphalia, Hessen, Rhineland–Palatinate, and Saarland are grouped into the region Western Germany.

Fifth, after closing the Delphi survey, we conducted a qualitative data analysis. First, we assessed the normal distribution of the data using the Kolmogorov–Smirnov test. Moreover, we analyzed the data for non-response bias and desirability bias. Because the aim of our analysis was not to analyze the qualitative responses but to concentrate on the consensus for future projections among the experts and among subgroups of the panel, we focused on the quantitative data analysis. We therefore calculated the mean of the participants' evaluations on expected probability of occurrence for each

Table 1
Delphi projections for the future of public participation 2020.

No.	Projection	Short title
01.	In 2020: Municipalities offer their citizens a multitude of opportunities for participation	Number of opportunities
02.	In 2020: One central contact point is established where citizens can find all relevant participation opportunities	Contact point for public
03.	In 2020: The processes of political decision making and forming of the political will are fully transparent and comprehensible to the citizens	Transparency
04.	In 2020: Due to an established culture of participation, citizens identify more strongly with political decisions	Identification
05.	In 2020: As soon as a problem becomes known, citizens become involved in critical political processes	Earliness
06.	In 2020: Early public participation functions to legitimate politics	Legitimation
07.	In 2020: Because of an increase in social interconnection due to social media, citizens of all social categories receive additional qualification to become involved in participation processes	Additional qualification
08.	In 2020: Public participation takes place primarily via the Internet	Internet
09.	In 2020: Politicians acknowledge public participation as decision support to obtain information on public opinions without ceding decision competencies	Decision support
10.	In 2020: Mobile applications, such as the management of compliance via mobile phones, are standard in participation projects	Mobile applications

projection about the future. We then analyzed standard deviations of first and final evaluations to evaluate whether the Delphi process successfully induced convergence. Because the analysis of achievement of consensus is the main aspect of our analysis, we calculated the interquartile range (IQR) of the experts' evaluations—an accepted indicator for consensus (De Vet et al., 2005; Förster and von der Gracht, 2014).

In addition to the general analysis, those future projections for which no consensus was observed among the experts were analyzed in more detail with respect to different group comparisons. In that way, we identified significant differences among the subgroups of the panel in order to explore consensus within the single subgroups. In the final step of analysis we explore further milieus that outline a trend of respondents to each projection among the experts utilizing a hierarchical cluster analysis.

4. Analysis and results

In cooperation with the Association of Municipal Councils of Germany (DStGB), 344 panelists were invited to participate in the survey. Of those, 165 administration professionals participated, which equals a response rate of 47.97%. This response rate is above average for the Delphi survey procedure (Bardecki, 1984) and reflects a massive interest in the issue. During the survey period, the participants could reenter the survey portal to reassess their evaluations based on aggregated group opinion. On average, the panelists reentered the RT-Delphi survey 2.02 times, and each expert passed through 3 Delphi rounds. In addition to the quantitative data, the experts provided 1582 qualitative arguments to support their quantitative evaluations. On average, each participant provided 9.59 supportive statements. It can be concluded that the participants took advantage of the opportunity to reinforce their quantitative evaluations through written statements.

The analysis for normal distribution by means of a Kolmogorov–Smirnov test shows that our data are not normally distributed. Therefore, and because we have somewhat small group sizes (Schmidt, 2002), the significant differences among the groups are analyzed using Mann–Whitney-U-tests, or Kruskal–Wallis-H-tests in cases of more than two subgroups.

We then check for non-response bias, as recommended by scholars for mail and Internet surveys (Armstrong and Overton, 1977; Piecyk and McKinnon, 2010). One approach is to compare the evaluations of early and late respondents, for example by comparing the results of the first and the last thirds of returned responses (Armstrong and Overton, 1977). The Mann–Whitney-U-test was used to explore the data for significant differences between the first and final thirds of the participants. Because we did not find significant differences between these two groups, we conclude that there is no difference between respondents and non-respondents.

Next, we conduct an analysis for desirability bias. Especially in strategic foresight, the degree of uncertainty is high because strategic foresight relies on human evaluations, which are affected by biases, such as desirability bias (Ecken et al., 2011). Desirability bias in this context means that there is an influence of the desirability of an event on the evaluation of its probability of occurrence (Krizan and Windschitl, 2007). The longer the time spans, the stronger the desirability bias is supposed to be (Windschitl et al., 2010), which is critically

important for Delphi surveys addressing future developments. Ecken et al. (2011), however, do not regard the analysis for desirability bias as increasing the accuracy of estimated probabilities. The data are rather to be analyzed for desirability bias to identify an eventual bias caused by desirability to be able to take the bias into consideration during interpretation of the survey results. Following the argumentation of Ecken et al. (2011), we provide the results of the analysis for desirability bias, a post-hoc procedure. For 6 out of 10 projections, desirability bias can be identified, namely the projections: 1 “Amount of opportunities”, 2 “Contact point for public”, 5 “Earliness”, 7 “Additional qualification”, 8 “Internet”, and 10 “Mobile applications”. Desirability bias was expected in the survey because the panel was homogeneous in their professional backgrounds as administrative professionals, who might have similar preferences (Ecken et al., 2011). Moreover, due to contextual considerations, we decided not to take evaluations that were adjusted for desirability bias into consideration. The Delphi panel is composed of administrative employees, whose occupational status might be of special relevance for the development of public participation. As part of the executive body of the state (König and Siedentopf, 1997), the administrative staff has a direct influence on participation activities and can actively influence future developments in this area. Thus, especially the effect of desirability is meaningful for our analyses. As mentioned in the introduction section, based on the behavioral research, it is assumed that employees are rather reluctant regarding novelties and changes in everyday work processes (Frey and Schulz-Hardt, 2000). Therefore, it can be assumed that administration staff is reluctant toward some of the proposed developments and might even try to oppose them. Other developments might be desired and therefore supported by the staff. Thus, we want to point out that the findings of the analysis for desirability bias enrich our knowledge base and make us aware of the bias. Therefore, we are aware of a high degree of emotions being involved in the consideration of the likelihood of certain developments in the context of future public participation.

4.1. Concluding Delphi statistics

To analyze to what extent there is consensus among the participants with regard to the evaluations of expected probability for the single projections, we begin with the general analysis of the survey data. Table 2 displays the experts' evaluations regarding the expected probability of occurrence for the initial evaluations (EP First) and for the final evaluations at the closure of the survey portal (EP Final). Furthermore, the table provides the final evaluations of impact on politics (I), desirability of occurrence (D), the interquartile range (IQR), and the convergence rate (CV), displaying the change of standard deviation.

The future projections, which the experts find likely to occur until 2020, are those with evaluations of EP above 50%. These are: projection 1: “Amount of opportunities” (62.0%), as the projection that the experts regard as the most likely to occur; projection 4 “Identification” (54.2%); projection 6 “Legitimation” (55.4%); projection 8 “Internet” (58.5%); projection 9 “Decision support” (56.4%); and projection 10 “Mobile applications” (56.2%). The occurrences of the remaining projections are regarded as less likely and therefore are evaluated with

Table 2

Delphi survey results.

No.	Projection	N	EP final	EP first	I	D	IQR	CV
1	Number of opportunities	165	62.0	62.1	3.38	3.36	30.00	–3.33%
2	Contact point for public	165	28.4	31.6	2.67	2.58	30.00	–9.91%
3	Transparency	165	36.4	37.1	3.32	3.90	30.00	–5.32%
4	Identification	165	54.2	54.4	3.52	4.04	30.00	–4.40%
5	Earliness	165	44.7	43.9	3.44	3.49	30.00	–2.52%
6	Legitimation	165	55.4	55.8	3.56	3.52	20.00	–3.81%
7	Additional qualification	165	46.7	46.9	3.19	3.39	30.00	–1.93%
8	Internet	165	58.5	58.1	3.21	2.99	40.00	–3.99%
9	Decision support	165	56.4	56.3	3.44	3.61	20.00	–4.83%
10	Mobile applications	165	56.2	56.1	2.96	2.98	40.00	–2.78%

probabilities below 50%: projection 2 “Contact point for public” (28.4%), resulting in the lowest probability of occurrence for the availability of one central contact point for public participation; projection 3 “Transparency” (36.4%); projection 5 “Earliness” (44.7%) and projection 7 “Additional qualification” (46.7%). For all the projections, the impact on politics was evaluated with ratings close to 3, which is mediocre influence on a 5-point Likert scale. The projections with the highest desirability are projection 3 “Transparency” (3.90) and projection 4 “Identification” (4.04), while projection 2 “Contact point for public” (2.58) has the lowest desirability rating.

One concept of the Delphi survey procedure is to lead to a convergence of expert opinion, suggesting that stronger agreement is reached among experts (Dalkey and Helmer, 1963; Gupta and Clarke, 1996). Because the standard deviation of expected probability ratings decreases for all future projections, this survey fulfills this expectation of the Delphi procedure and shows a convergence of the experts' evaluations.

According to the literature, an interquartile range of 25 or below can be used as a measure for consensus (De Vet et al., 2005; Hahn et al., 1999; Scheibe et al., 1975; Spinelli, 1983). Projections 6 “Legitimation” and 9 “Decision support” show consensus among the experts, with their interquartile range equaling 20. Dissent can be found for the remaining 8 projections, which have an interquartile range of between 30 and 40 percentage points. To identify consensus within possible subgroups of the panel, the projections showing dissent among the participants are further analyzed.

4.2. Comparison of the groups

Within the general Delphi analysis, dissent was found for the following 8 projections: projection 1 “Amount of opportunities”, 2 “Contact point for public”, 3 “Transparency”, 4 “Identification”, 5 “Earliness”, 7 “Additional qualification”, 8 “Internet”, and 10 “Mobile applications”. For further analysis, we focus on significant differences between the mean values for the participants' ratings of the expected probability of occurrence. The results are displayed in Table 3.

Projections 1 “Amount of opportunities”, 3 “Transparency”, and 7 “Additional qualification” do not show significant differences for the analyzed groups and their characteristics. However, for projections 2 “Contact point for public participation”, 4 “Identification”, 5 “Earliness”, 8 “Internet”, and 10 “Mobile applications”, the test identified significant differences. Hence, we focus on these projections for our further analyses for consensus building within the subgroups.

4.3. Consensus building within subgroups

To analyze whether participants within any one group reached consensus for the future projections, we identify differences in estimated probability ratings within the subgroups.

Tables 4 to 8 show the results of the survey according to the subgroups of the panel. Again, we consider an IQR of 25 and below as an indicator of consensus (De Vet et al., 2005; Hahn et al., 1999; Scheibe et al., 1975; Spinelli, 1983) and an IQR higher than 25 to indicate dissent.

Within projection 2 “Contact point for public participation”, a significant difference among the subgroups of gender and region can be observed. Table 4 displays the respective Delphi survey results.

Male administration professionals achieved consensus (IQR = 23.75) regarding the estimated likelihood that a central contact point will be established (26.4%). In contrast, their female colleagues achieved no consensus (IQR = 30.00). Additionally, the analysis for the subgroup of regions shows that only the survey of participants from Northern Germany achieved consensus (IQR = 20.00). It becomes obvious that only the subgroups of male participants and those from Northern Germany view the occurrence of this projection as undesirable, with desirability ratings of 2.48 and 2.32, respectively. Furthermore, the participants from Northern Germany is the only subgroup of participants that rates the influence of a central contact point on politics to be rather low ($I = 2.24$).

Table 5 displays the Delphi survey results for those subgroups for which we found a significant difference in their ratings for projection 4 “Identification”.

Among administration employees in the age group of 31–40 years (IQR = 22.50) and those aged 51 years and older, (IQR = 20.00), consensus can be found for the question of estimated probability of an achievement of an established participation culture. Likewise, those working in municipalities with 5,000–20,000 (IQR = 21.25), 50,000–100,000 (IQR = 22.50), 100,000–500,000 (IQR = 20.00), and 500,000 and more (IQR = 10.00) inhabitants achieved consensus within their subgroups.

Table 6 displays the Delphi survey results for projection 5 “Earliness”, for which significant differences for the subgroup differentiated by age can be observed.

First, it is remarkable that for the subgroup of individuals aged 31–40, the standard deviation with regard to the evaluations of the estimated probability of occurrence for early involvement of citizens in crucial political processes increases from the first to the final evaluations ($CV = +0.41$).

Table 3

Comparison of mean values for expected probability of occurrence.

Mean in % (M) and significance level (ρ) regarding			Projection 1: Number of opportunities		Projection 2: Contact point for public participation		Projection 3: Transparency		Projection 4: Identification		Projection 5: Earliness		Projection 7: Additional qualification		Projection 8: Internet		Projection 10: Mobile applications		
Groups			N	M	ρ	M	ρ	M	ρ	M	ρ	M	ρ	M	ρ	M	ρ	M	ρ
Age ^a	20–30	13	60.4	.858	29.6	.520	33.5	.801	44.2	.008 ***	33.1	.024 **	50.0	.765	59.6	.580	55.8	.657	
	31– 40	18	60.0		33.2		37.2		42.8		38.6		48.3		57.4		57.3		
	41–50	51	61.2		27.2		34.1		52.0		43.2		46.8		62.6		61.7		
	51 and older	47	63.7		29.1		39.1		59.7		51.5		43.2		55.7		54.9		
Gender ^b	Male	100	60.8	.550	26.4	.010 ***	36.7	.729	53.8	.356	45.5	.451	45.5	.731	56.6	.085*	57.4	.925	
	Female	33	64.4		35.6		37.0		51.1		41.8		47.0		65.4		57.6		
Number of inhabitants ^a	Below 2000	3	43.3	.232	16.7	.478	26.7	.672	43.3	.037 **	50.0	.685	63.3	.420	50.0	.866	46.7	.129	
	2000–5000	11	50.9		36.8		37.7		45.9		39.1		43.6		57.3		49.2		
	5000–20,000	66	60.6		26.6		34.9		50.5		46.3		43.6		61.3		54.4		
	20,000–50,000	23	67.0		30.2		42.8		57.2		44.4		51.1		57.4		62.0		
	50,000–100,000	18	63.1		34.7		39.8		59.7		43.1		41.9		57.5		71.7		
	100,000–500,000	9	64.4		20.1		32.2		47.2		40.0		42.8		51.7		53.3		
Number of employees ^a	500,000 or more	5	78.0		42.0		44.0		75.0		60.0		58.0		52.0		67.0		
	1–20	27	56.5	.164	29.1	.947	35.9	.190	52.4	.481	40.7	.387	45.0	.716	59.6	.196	49.1	.008 ***	
	20–50	25	58.2		27.4		31.2		47.6		45.0		41.0		56.2		48.0		
	50–100	19	62.1		29.0		46.3		55.8		52.9		47.1		70.0		63.2		
Region ^a	100 or more	61	66.2		29.7		36.7		54.9		43.4		47.7		56.2		64.3		
	Northern Germany	19	66.8	.461	25.3	.041 **	47.1	.171	53.5	.681	50.5	.716	57.1	.281	63.4	.535	52.9	.050 **	
	Southern Germany	55	62.9		34.3		35.6		55.6		44.5		47.5		55.4		50.4		
	Eastern Germany	12	64.6		37.3		33.8		50.0		41.7		44.6		63.2		46.4		
	Western Germany	52	59.1		24.0		36.0		56.4		45.0		45.1		58.3		63.1		

^a Significance of group difference according to Kruskal–Wallis–H-tests, **p < 0.05; ***p < 0.01.^b Significance of group difference according to Mann–Whitney–U-test, *p < 0.1; ***p < 0.01.

In this case, the Delphi process did not succeed in building consensus among the participants but rather contributed to slightly increase the dissent. As a result, the interquartile range is 27.50.

Next, Table 7 visualizes the Delphi survey results for projection 8 “Internet”, for which significant differences for the subgroup of gender can be found.

Neither for male nor for female administration professionals (IRQ = 40.00 and IQR = 30.00, respectively) can consensus be found. Nevertheless, both subgroups regard the Internet as the main tool for public participation in 2020, with probability ratings of EP Final = 56.6% and EP Final = 65.4%, respectively. Additionally, the Delphi process helped decrease the dissent among the female participants, with the standard deviation of the first and final rounds decreasing with a convergence rate of CV = –21.95%. This datum indicates that the female participants took advantage of the opportunity to adjust their first evaluations on the basis of the statistical group feedback and the statements provided by other experts.

As a final analysis, Table 8 displays the results for the subgroups of number of employees and region for projection 10 “Mobile applications”.

The analysis shows that neither for the subgroups of number of employees nor for the subgroups of region can a consensus be achieved regarding the expected probability of occurrence for the projection that mobile applications are the standard instrument for public participation projects in 2020. Rather, strong dissent within the participant groups from Northern Germany (IQR = 55.00) and Southern Germany (IQR = 60.00) persists. Additionally, participants working in municipalities with few personnel, that is, 1–20 employees, find this projection undesirable.

4.4. Hierarchical cluster analysis

To explore whether further milieus that outline a trend of respondents to each projection among the experts are prevalent in addition to those subgroups which we analyzed

Table 4

Delphi results by subgroup with significant differences in the mean values for projection 2.

Groups with significant differences within one projection			Projection 2: Contact point for public participation					
Group		N	EP Final	EP First	I	D	IQR	CV
Gender	Male	100	26.4	29.2	2.61	2.48	23.75	–11.16%
	Female	33	35.6	40.3	2.70	2.91	30.00	–7.84%
Region	Northern Germany	19	25.3	28.7	2.24	2.32	20.00	–9.71%
	Southern Germany	55	34.3	37.8	2.76	2.58	30.00	–9.41%
	Eastern Germany	12	37.3	39.6	2.75	3.17	35.00	–7.31%
	Western Germany	52	24.0	27.6	2.67	2.50	37.50	–14.94%

Table 5

Delphi results by subgroups with significant differences in the mean values for projection 4.

Groups with significant differences within one projection			Projection 4: Identification					
Groups		N	EP final	EP first	I	D	IQR	CV
Age	20–30	13	44.2	44.2	3.00	3.92	32.50	0.00%
	31–40	18	42.8	42.8	3.39	4.11	22.50	–4.61%
	41–50	51	52.0	51.7	3.49	3.98	40.00	–8.19%
	51 and older	47	59.7	60.1	3.62	4.21	20.00	–1.00%
Number of inhabitants	Below 2,000	3	43.3	43.3	4.00	3.33	0.00	0.00%
	2,000–5,000	11	45.9	45.9	3.36	3.82	50.00	0.00%
	5,000–20,000	66	50.5	50.2	3.44	4.02	21.25	–8.96%
	20,000–50,000	23	57.2	57.2	3.61	4.30	45.00	0.00%
	50,000–100,000	18	59.7	60.8	3.30	4.22	22.50	–2.47%
	100,000–500,000	9	47.2	48.3	3.44	4.33	20.00	–3.82%
	500,000 and more	5	75.0	75.0	4.00	4.00	10.00	0.00%

in the previous sections, we conduct a hierarchical cluster analysis for the variable expected probability of occurrence (EP final). We apply the Ward linkage method with the Euclidean dissimilarity measure which combines clusters while minimizing the increase of the squared error sum and is especially applicable for small samples (Humphries et al., 2007; Tapio, 2003; Förster et al., 2014). The dendrogram of the furthest neighbor clustering suggests a three cluster solution. As the identification of the number of cluster on the basis of a dendrogram is a subjective approach, and does not illustrate clusters clearly enough (Humphries et al., 2007) we additionally depict a Scree Plott. This Scree Plott likewise suggests a three cluster solution. Table 9 shows the mean scores for the final expected probability of occurrence (EP final) for each cluster. Analysis of Variance (ANOVA) on the Mean Cluster EP final score shows a significant difference ($p < 0.001$) across the clusters.

For our research question, which administration experts can be regarded as drivers and which as hinderers of developments in public participation our findings indicate three different clusters based on the expected probabilities of occurrence. These categories are Drivers – cluster 1, Differentiated – cluster 2 and Hinderer – cluster 3. 15.8% ($N = 26$) of the participants can be identified as drivers of public participation, as they estimate a positive expected probability of occurrence ($EP\ final > 50.0$) for all projections. A group of equal size ($N = 26$) is opposed to the drivers. As hinderers these participants have a lower expectation of occurrence for the statements, ($EP\ final < 50.0$). But the majority of participants with 68.5% ($N = 113$) are rather differentiated or neutral, as they regard some projections as more likely to

occur (Number of opportunities, Identification, Legitimation, Internet, Decision support, Mobile applications) and other projections as rather unlikely (Contact point for public, Transparency, Earliness, Additional qualification).

For answering our research question whether administration experts should be regarded as drivers or hinderers of public participation the identified clusters of Drivers (cluster 1) and Hinderers (cluster 3) are of special interest. Thus, we analyze whether the clusters of Drivers and Hinderers share some main features. Therefore, we utilize the variables “age”, “gender”, “number of inhabitants”, “number of employees” and “region” which we acquired for the group comparison. Due to the small number of cases within the clusters, we aggregated the data to compare only two subgroups. This aggregation is not applied to the variable “region”. Table 10 shows the relative frequencies of the characteristic variables in percent and the significant differences between cluster 1 – Drivers and cluster 3 – Hinderers.

Significant differences in the composition of the clusters can be found for the size of the municipality, measured both in number of inhabitants and number of administration employees. The Drivers-cluster is composed of experts significantly fewer experts from small municipalities. From those participants stemming from municipalities with less than 20,000 inhabitants only 38.5% and from those with less than 50 administration employees 23.1% can be found within this cluster. Those participants from bigger municipalities are significantly more frequently in the Drivers-cluster: likewise for municipalities with more than 20,000 inhabitants (50.0%) and more than 50 administration employees (61.5%). The opposed result can be found for the Hinderers. Here, mainly administration experts from small municipalities can be found: 69.2% of the participants from municipalities with up to 20,000 inhabitants and 50.0% of those with more than 50 administration employees and their colleagues from larger municipalities are rather seldom within this cluster (23.1% of those with more than 20,000 inhabitants and 38.5% from the group with more than 50 employees).

5. Discussion and conclusion

Our aim was to analyze whether experts from administrations who explicitly work on the topic of public participation achieve consensus in rating projections on future developments in public participation. Moreover, we aimed to gain insights

Table 6

Delphi results by subgroup with significant differences in the mean values for projection 5.

Groups with significant differences within one projection			Projection 5: Earliness					
Groups		N	EP final	EP first	I	D	IQR	CV
Age	20–30	13	33.1	33.1	3.23	3.23	42.50	0.00%
	31–40	18	38.6	38.3	3.22	3.44	27.50	+0.41%
	41–50	51	43.2	40.8	3.47	3.45	35.00	–4.33%
	51 and older	47	51.5	51.7	3.53	3.64	40.00	–0.64%

Table 7

Delphi results by subgroup with significant differences in the mean values for projection 8.

Groups with significant differences within one projection			Projection 8: Internet					
Group		N	EP Final	EP First	I	D	IQR	CV
Male	Male	100	56.6	56.6	3.24	3.02	40.00	−2.27%
	Female	33	65.4	63.7	3.06	2.85	30.00	−21.95%

whether public administration employees are to be considered as drivers or hinderers for the upcoming developments in the area of public participation. Therefore, we asked selected administration professionals to rate 10 projections for the future that are currently discussed in the literature. Therefore, we used a RT Delphi platform in which the experts evaluated the projections and exchanged evaluations and points of view on the basis of the characteristic Delphi process. Table 11 outlines our results for the following discussion of the identified achievement of consensus.

Our analysis cannot identify consensus for every projection that was polled in the survey and is discussed in the literature. Although the literature agrees on the necessity of future opportunities for public participation (Breindl and Francq, 2008; Rowe and Frewer, 2000; King et al., 1998) no consensus was found among the experts for projection 1, according to which a vast number of participation activities will be provided by municipalities in 2020. One possible explanation for the identified dissent might be the unequal funding of the municipalities in which the participating experts are employed. The latest research finds that the degree to which public participation is requested by citizens depends on the degree to which the obtained results can be realized (Holtkamp and Bathge, 2012; Roth, 2001). Each time it is expected that the results of public participation will not be realized due to lacking financial resources, there is the danger that requests for participation opportunities will decrease (Holtkamp and Bathge, 2012). Participants in our RT-Delphi might have deviating expectations about the development of the financial means of their municipalities, which might have led to dissent for this projection.

Despite the insights of recent studies, according to which central contact points for public participation lead to cost savings for administrations (Teufl et al., 2009; Vogt et al., 2014), and best-practice examples in other European countries outlining the benefits of these contact points (Aichholzer and Allhutter,

2009; Teufl et al., 2009), our analysis shows that those groups that achieve consensus regard this development as unlikely. These two groups are the male participants (EP = 26.4%) and those from Northern Germany (EP = 25.3%). Likewise, these two groups with internal consensus agree that a central contact point is undesirable (male: D = 2.48 and Northern Germany: D = 2.32). The analyzed results suggest that the administration employees will not support the development of central contact points in their own interest. However, in analyzing our results, we must be aware of the large government character of the German government policy, which distinguishes Germany from other European countries (Hood, 1995). Hence, it can be assumed that awareness of the need for a central contact point must increase on the side of administration employees. Ultimately, it remains to be seen whether the call for a central contact point in the literature will be heeded or whether the reluctance of the administrative employees will inhibit this development.

Among administrative experts, there is dissent about whether the decision- and opinion-making processes will be entirely transparent to citizens in 2020 (projection 3). However, the ratings of the desirability of the occurrence of this projection are high (D = 3.90). Therefore, it cannot be assumed that the administrative staff is likely to hinder the movement toward the complete transparency advocated in the literature (Hill, 2011). It can rather be assumed that politicians might work against full transparency. Information can be compared to power, and therefore, politicians might not want to reveal all the information underlying their decisions (Stiglitz, 1999). Keeping the information increases the power of the politician due to the resulting advantage in information over other decision makers (Stiglitz, 1999). The dissent that we identified might stem, then, from uncertainty among administration employees about whether politicians, who might be barriers to transparency, will change their attitude and begin to make information freely available or keep it secret.

Table 8

Delphi results by subgroup with significant differences in the mean values for projection 10.

Groups with significant differences within one projection			Projection No. 10: Mobile applications					
Groups		N	EP Final	EP First	I	D	IQR	CV
Number of employees	1–20	27	49.1	49.1	2.56	2.44	30.00	0.00%
	20–50	25	48.0	48.0	3.04	2.92	35.00	0.00%
	50–100	19	63.2	60.5	3.26	3.16	30.00	–9.98%
	100 or more	61	64.3	64.8	3.16	3.28	40.00	–2.63%
	Northern Germany	19	52.9	52.9	2.95	2.89	55.00	0.00%
Region	Southern Germany	55	50.4	49.5	2.69	2.76	60.00	–1.55%
	Eastern Germany	12	46.4	46.4	2.83	2.92	30.00	0.00%
	Western Germany	52	63.1	63.5	3.21	3.21	30.00	–1.14%

Table 9

Quantitative Data by Cluster and projections.

Cluster Label		Cluster 1—Drivers	Cluster 2—Differentiated	Cluster 3—Hinderers
Number of respondents (N)		26	113	26
Projections		Mean values of EP final		
No. 1	Number of opportunities	74.0	66.2	31.4
No. 2	Contact point for public	60.6	24.2	14.7
No. 3	Transparency	57.5	35.5	19.3
No. 4	Identification	66.7	54.3	41.2
No. 5	Earliness	61.7	44.5	28.7
No. 6	Legitimation	65.6	55.5	45.0
No. 7	Additional qualification	59.4	47.2	31.9
No. 8	Internet	55.6	62.9	42.3
No. 9	Decision support	67.5	55.5	49.2
No. 10	Mobile applications	59.4	59.9	36.6

Only limited support can be found for the expectation that citizens will identify more strongly with political decisions due to an established culture of participation (projection 4) (Klages and Vetter, 2013), with the results split. Particularly the administrative employees in the age group “51 and older” (EP = 59.7%) can be regarded as the drivers of this development, while their colleagues in the age group “31 to 40” (EP = 42.8%) find the probability of occurrence to be low. Likewise, the size of the municipality seems to have a significant relevance for the expectations about the future. Panelists from municipalities with under 2000 inhabitants (EP = 43.3%) and 100,000–500,000 inhabitants (EP = 47.2%) find identification with political decisions unlikely. However, administrative staff from municipalities with 5000–20,000 inhabitants (EP = 50.5%), 50,000–100,000 inhabitants (EP = 59.7) and 500,000 or more inhabitants (EP = 75.0) regard the feeling of identification due to stronger involvement in 2020 to be likely. However, because all the subgroups of the panel, despite their expectation of a likely or unlikely feeling of identification, regard this development as desirable, the administration employees cannot be regarded as obstructing this development.

Regarding projection 5, according to which citizens are involved in the political decision-making process as soon as the crucial processes become known, there is disagreement among the panelists. As stated above, there is already discussion in the literature of the ideal time to involve citizens (Rowe and Frewer, 2000; Ng and Hamby, 1997; Middendorf and Busch, 1997). The call to involve citizens when crucial processes become known is especially formulated by the citizenry (Scholz, 2011). Unlike this clear request about the point of involvement from the side of the citizens, the expectations of administrative staff are not consistent. This disagreement might be based on the fear that the impulses of the citizenry might lead to further challenges and therefore result in additional effort for the administration (King et al., 1998). The literature thus suggests that administrative employees expect an increase in delays and bureaucracy due to earlier and more comprehensive public participation (King et al., 1998) and thus might work against early citizen involvement—which might explain their low expectation of such early involvement.

Based on these findings from projection 5, the results obtained for projection 6 are comprehensible. There is a broad consensus that early citizen involvement in the political

Table 10

Comparison of mean values between Cluster 1—Drivers and Cluster 3—Hinderers.

Relative frequencies in % and significance level (ρ) regarding differences between Cluster 1 and Cluster 3		Cluster 1—Drivers (N = 26)		Cluster 3—Hinderers (N = 26)		Significance level (ρ) regarding differences between Cluster 1 and Cluster 3
Profile features		N	Relative frequencies	N	Relative frequencies	ρ
Age ^a	20–40	4	15.4	8	30.8	.247
	41 and older	17	65.4	15	57.7	
Gender ^a	Male	17	65.4	20	76.9	.818
	Female	5	19.2	4	15.4	
Number of inhabitants ^a	Up to 20,000	10	38.5	18	69.2	.050**
	20,000 or more	13	50.0	6	23.1	
Number of employees ^a	1–50	6	23.1	13	50.0	.029**
	50 or more	16	61.5	10	38.5	
Region ^b	Northern Germany	3	11.5	2	7.7	.914
	Southern Germany	12	46.2	10	38.5	
	Eastern Germany	2	7.7	1	3.8	
	Western Germany	6	23.1	9	34.6	

^a Significance of group difference according to Mann–Whitney–U-test, ** $p < 0.05$.^b Significance of group difference according to Kruskal–Wallis–H-tests.

Table 11

Overview of overall results in terms of achievement of consensus.

Short title	Identified achievement of consensus for the groups of experts														
No. 01 Number of opportunities	☐ No consensus identified among the experts ☐ No significant differences for the groups of analysis														
No. 02 Contact point for public	Consensus among the “male” experts EP Final I D 26.4 2.61 2.48 Consensus among the experts from “Northern Germany” EP Final I D 25.3 2.24 2.32														
No. 03 Transparency	☐ No consensus identified among the experts ☐ No significant differences for the groups of analysis														
No. 04 Identification	Consensus among the experts “different age groups” Age group “31 to 40” Age group “51 and older” EP Final I D EP Final I D 42.8 3.39 4.11 59.7 3.62 4.21														
No. 05 Earliness	Consensus among the experts “different inhabitants-groups” “Below 2000” “5000–20,000” “50,000–100,000” “100,000–500,000” “500,000 or more” EP Final I D EP Final I D EP Final I D EP Final I D EP Final I D 43.3 4.00 3.33 50.5 3.44 4.02 59.7 3.30 4.22 47.2 3.44 4.33 75.0 4.00 4.00														
	☐ Significant differences within the group “age” ☐ No consensus identified among the experts														
No. 06 Legitimation	Consensus among all experts EP Final I D 55.4 3.56 3.52														
No. 07 Additional qualification	☐ No consensus identified among the experts ☐ No significant differences for the groups of analysis														
No. 08 Internet	☐ Significant differences within the group “gender” ☐ No consensus identified among the experts														
No. 09 Decision support	Consensus among all experts EP Final I D 56.4 3.44 3.61														
No. 10 Mobile applications	☐ Significant differences within the group “Number of employees” ☐ Significant differences within the group “Region” ☐ No consensus identified among the experts														

decision making process will be utilized as a means to legitimate politics (projection 6), and in accordance with the literature (Phang and Kankanhalli, 2008; Coleman and Gotze, 2001), this projection is viewed as likely (EP = 55.4%). The results indicate that the administrative employees expect early public involvement in 2020; however, a single common definition of the term “early” is not shared.

Social interconnection via social media as a qualifier for citizens of all social classes is not commonly expected by the administrative experts (projection 7). While the literature expects the phenomenon of collective intelligence, which is mainly enhanced by social media (Chadwick, 2008), to lead to developments in social and group learning, which are considered crucial aspects of public participation (Webler et al., 1995; Fiorino, 1990; Laird, 1993), the results, despite dissent among the panelists, indicate a mediocre expected probability of occurrence (EP = 46.7%). This finding of dissent regarding the qualifying ability of social media is consistent with expectations formulated by prior studies, which are partly—although not empirically—proven. For example, King et al. (1998) found some administrative officials to consider themselves as the only experts and to be resistant to suggestions from citizens. Thus, the current literature recommends re-education of administration staff, in which they are trained to change their

understanding of their role from experts to cooperative managers, considering the citizens as partners and taking citizens' suggestions seriously (King et al., 1998). In case of societal need for our projection as derived from the literature, we support the recommendation by King et al. (1998) of educating the administrative staff. Our results indicate that training for administration employees is needed to enforce the realization of projection 7 as it is called for in the literature. The idea in the literature that increasing interconnectedness leads to higher qualification of citizens to participate successfully in public projects can only be achieved if the suggestions made by the public are considered by the administration.

The results for projection 8, according to which public participation in 2020 is mainly realized via the Internet, show the highest degree of dissent, together with projection 10 “mobile applications”, with an IQR = 40.00. Consensus could not be found in the evaluations of the entire panel nor of its subgroups. Despite the lack of consensus, the analysis of the results shows that male administrative employees expect a significantly lower probability of occurrence (EP = 56.6%) than their female colleagues (EP = 65.4%). It is noteworthy that despite the lower expectation of becoming reality on the side of male panelists, the rating for desirability is mediocre (D = 3.02). In contrast, the female administrators provide

slightly lower desirability ratings ($D = 2.85$). One possible explanation for this slight difference might be a greater reluctance on the part of females to adopt new technologies and computers than males (Schumacher and Morahan-Martin, 2001).

The experts agree on projection 9, which states that in 2020, politicians consider public participation an instrument to gain an overall sense of the polling atmosphere without ceding decision-making power. Whereas some researchers consider legitimization of already-made decisions to be the main motivation for participation projects (French et al., 2007) and the fear of losing power the main reason for opposing these projects from the side of politics (Ruhstroth-Bauer, 2012; Brunold, 2004), the panelists agreed that a change in paradigm in this area will take place before the year 2020. Consistent with the literature stating that public participation can only be as sound as the political process into which it is integrated (Grönlund, 2003), administrative experts share the expectation that it is probable ($EP = 56.4\%$) and desirable ($D = 3.61$) that in 2020, politicians recognize the power of public participation to gain information about public opinion while maintaining their political power.

As outlined in the discussion of the results for projection 8 “Internet”, strong dissent was found among the evaluations of the expected probability of occurrence for projection 10, with an IQR equaling 40.00. This projection states that in 2020, mobile applications, such as compliance management via mobile phone, are standard in public participation. While we found significant differences for the gender groups for projection 8, for projection 10 “mobile applications”, significant differences can be found among the subgroups of “region” and “number of employees”. Although no consensus was found for the subgroups of the panel, tendencies for deviating evaluations about the future can be identified. On average, administrative experts in municipalities with “1–20 employees” ($EP = 49.1\%$) and “20–50 employees” ($EP = 48.0\%$) consider the probability of occurrence for this projection unlikely. However, experts working in larger administrations see a greater likelihood for the statement: the group “50–100 employees” rated EP to be 63.2% on average and the group “100 or more employees” $EP = 64.3\%$. Considering the barriers to the introduction and use of mobile applications in public administrations as discussed in the literature, these findings are supported. As in other areas of public participation, deficiencies in financial resources, staff, expertise, information about mobile applications, and support from elected officials are identified as the main barriers to mobile government (El Kiki and Lawrence, 2006). These barriers are more likely to affect small municipalities. In addition to the differences between small and large municipalities, significant differences can be identified among the regions in which the experts are employed. While administration experts from “Northern Germany” ($EP = 52.9\%$), “Southern Germany” ($EP = 50.4\%$) and “Western Germany” ($EP = 63.1\%$) view the use of mobile applications as probable, the experts from “Eastern Germany” ($EP = 46.4\%$) consider the probability to be low. In the literature, no explanation for this difference can be found because research in mobile governmental services is lacking. Nevertheless, our results suggest that administrative staff from Eastern Germany might slow the growth of mobile applications. The administrative staff from Western Germany might, in

contrast, be drivers of the utilization of mobile applications because they consider standardized utilization of mobile applications for public participation not only probable but also desirable ($D = 3.21$).

For our research question whether administration experts are drivers or hinderers for the upcoming developments in public participation, we furthermore conducted hierarchical cluster analysis. We thereby identified milieus among the experts that outline a trend of respondents to each projection. As the everyday work of administration employees is directly influenced by public participation (Thomas, 1995; King et al., 1998) and scientific findings show that employees are frequently narrow-minded with regard to innovative processes, novelties, and change in their everyday work process (Frey and Schulz-Hardt, 2000), we expected that administration experts as performing part of the executive authority (König and Siedentopf, 1997) might misuse their power to prevent change. The cluster analysis resulted in three milieus, namely Driver, Differentiated, and Hinderers. The majority of participants (68.5%) were found to be differentiated with regard to the developments in public participation. It cannot be stated, that administration employees are per se hinderers of change. Administration employees have a rather positive expectation for the majority of projections for the developments in public participation. Only a smaller number of experts are evaluating the developments as generally unlikely. Even though the majority of administration experts is skeptical regarding the future developments in public participation, a deeper analysis with regard to the composition of the clusters leads to the finding that experts from small municipalities are significantly more likely to be within the cluster of Hinderers than their colleagues from larger municipalities. Likewise, Drivers are more likely to stem from larger municipalities. This might be due to the different amount of available resources available in small and large municipalities. Literature states that public participation can only be realized if the necessary resources are available (Holtkamp and Bathge, 2012; Roth, 2001; Weber et al., 2015). Weber et al. (2015) show that the amount of financial and personnel resources has an effect on the success of participation projects. As administration employees from small municipalities might be afraid of lacking availability of resources, they are more likely to be found among the Hinderers in cluster 3.

5.1. Limitations and future research

We are aware of some limitations inherent in our research. For example, we do not claim to discuss all the future developments in public participation that are discussed in the literature. We rather focus on those developments that we consider to be of the greatest relevance and formulate future projections to obtain first quantitative evaluations on the development of these topics. Future research in this field should consider possible new developments in addition to those we considered in our analysis.

Another limitation is our focus on Germany. Only administration professionals from the Federal Republic of Germany were invited to participate. Because the German democratic system has some unique characteristics (Hendriks and Tops, 1999), we expect that administration professionals from different countries would have provided deviating estimations.

Therefore, an international survey panel could be useful to analyze future developments in other countries.

One additional limitation is the exclusive focus on administration employees who are explicitly involved in public participation. In addition to these administrators, other interest groups in public participation exist, such as citizens and politicians (Pateman, 1970; Sartori, 1987; Grönlund, 2003). It can be assumed that other interest groups have different expectations about the future developments of public participation. The results which we analyzed are therefore solely one perspective of all stakeholder expectations, namely the administration perspective. Therefore, evaluations of other interest groups should be analyzed in future research.

Finally there are some limitations inherent to our research, we provide quantitative insights about administration experts' expectations of developments in German public participation. With this analysis, we provide the first indicators of social change in the domain of public participation. As outlined, future research should expand our research with insights regarding other interest groups and with an international scope.

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