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Local government response behavior and its effect on e-participation acceptance: An experimental study

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Digital citizen participation is becoming increasingly important for improving the government-citizen relationship, building active citizenship, and optimizing government efficiency. Despite its potential, the number and composition of participants often fall short of local government expectations. Therefore, for e-participation to be successful, citizens must accept and use it. While numerous empirical studies have analyzed influencing factors, such as the socio-demographic characteristics of citizens, the influence of the interaction between local governments and citizens within the procedures has been neglected. This article attempts to investigate the extent to which employee responsiveness and information quality influence citizen acceptance of e-participation. Using an experimental design, the study confirms the influence of both factors.

Keywords: e-participation; technology acceptance; local government; employee responsiveness; information quality

1. Introduction

As the discussion on open government continues, public participation is emerging as a central task and challenge for local governments (Harrison & Sayogo, 2014). Due to the increasing complexity of decision-making processes, the pluralization of society, and problems of legitimacy in the public sector, informal citizen participation is becoming more relevant for improving the government-citizen relationship, building trust and active citizenship, and optimizing and increasing the efficiency of government action (Panopoulou et al., 2014). In addition to traditional, established participation formats, online processes are becoming increasingly important due to the ongoing digitalization and postulated benefits (Chun & Cho, 2012). Digital formats, such as digital participatory budgeting and online dialogues, are used to reach new target groups, achieve greater reach, and improve the rep-

resentativeness of decisions using modern information and communication technologies (Macintosh, 2008). Despite the potential of so-called e-participation, there are often far-reaching problems with the number and composition of participants, which often fall short of the expectations of local governments (Toots, 2019). Thus, many processes suffer from low participation or a composition that does not reach the desired target groups, which can lead to disappointed expectations of local governments and, ultimately, threaten the lasting success of e-participation (Bright & Margetts, 2016; Sæbø et al., 2011).

For e-participation to be successful, citizens must fully use the participation offerings provided, which is only possible if they accept e-participation (Choi & Song, 2020). As a key challenge, citizen use and acceptance play a central role in the research discourse on the barriers and success factors of e-participation. Numerous empirical studies focus on influencing factors, such as the demographic characteristics of participants and non-participants in the form of attributes, such as gender (Zani & Barrett, 2012), socioeconomic status (Shamai et al., 2015), or the psychological capital of participants (Chen et al., 2021), which cannot be influenced by the implementing local governments. In contrast, a central factor often neglected in the research discourse is the management of the procedures by local governments, which can influence citizens' willingness to participate and the likelihood of repeated participation (Lee & Kim, 2017). The management of procedures contributes greatly to ensuring critical success criteria associated with citizen participation, such as the fairness and competence of the processes, while poor process management can reduce successful outcomes (Lee & Kim, 2017; Webler & Tuler, 2000). Thus, it is not enough to create e-participation offerings; the procedures also need to be well managed during their execution, for example, through high-quality moderation.

Among other things, the response behavior of responsible local government employees should be emphasized (Abers, 2001). Accordingly, a common reason for not participating is the individual citizen's perception that the input provided is irrelevant or will not be perceived and acted upon by the local government (Zepic et al., 2017). Employee responsiveness in the form of comments, statements, and appropriate facilitation can help alleviate these concerns, show appreciation, and meet the expectations of an interactive dialogue, thereby increasing participant satisfaction with the participation process (Fayad & Paper, 2015; Toots, 2019). In this way, the acceptance of e-participation and, consequently, the success of the processes can ultimately be promoted. However, it is evident that local governments rarely engage in online dialogues and that the use of communication and participation platforms is mainly limited to providing information (Cruickshank & Hall, 2020).

Research on the influence of local government employee response behavior on citizen acceptance of e-participation has proven insufficient (Sjoberg et al., 2017). While there are already studies showing the generally positive influence of employee responses on user acceptance (e.g., Lee & Kim, 2014; Lee & Kim, 2018), there is a lack of insight into the exact effects of employee response behavior depending on factors, such as the acceptance or rejection of proposals within decision-making processes or the influence of different information provided by the local government. Therefore, based on technology acceptance theory and extended by signaling theory and social reciprocity theory, the following study attempts to investigate the influence of employee response behavior on citizen acceptance using a scenario-based experimental design. The chosen experimental design allows us to

investigate the effect of different conditions on the postulated positive influence of given employee responses on the acceptance of e-participation. Combining technology acceptance theory with theoretical considerations from signaling theory and social exchange theory further responds to the call from the research discourse to expand theory, as the complexity of technology use requires multiple theoretical approaches to understand it fully (Taherdoost, 2018).

In this way, the study contributes to a better understanding of the role of employee response behavior and the interaction between local governments and citizens. This can provide insights into other previously neglected success factors of e-participation and the relationship between the actions of local government employees and citizens. From a practical perspective, it can provide insights into how and when to show responses to reduce the use of human and time resources and promote successful procedure management by improving the user experience (Lee & Kim, 2018).

For this purpose, central terms are first explained, the theoretical background is shown, and the hypotheses are derived. Then, the methodological procedure is described, and the results are presented. Finally, the study's limitations and the need for further research derived from the results are discussed.

2. Theoretical and conceptual background

2.1. E-participation, technology acceptance, and employee responsiveness

E-participation can be understood as integrating the public into government processes through information and communication technologies to strengthen representative democracy and improve public decision-making (Macintosh, 2004). Typically, e-participation refers to digital platforms, channels, and applications offered and managed by public administrations or governments, providing various information options and interaction with the government and between citizens. E-participation enables the public to actively participate in local government processes and decisions, thereby strengthening democracy and optimizing the quality of decision-making (Agger & Lund, 2017; Romsdahl, 2005). Examples of e-participation include digital participatory budgets, discussion forums, or participation platforms where ideas and suggestions can be submitted (Wirtz et al., 2018). Compared to analog citizen participation, e-participation aims to reach a larger and more heterogeneous audience, take into account citizens' communication and technical skills, simplify and optimize the provision of information, and enable in-depth and long-term discussion (Macintosh, 2004). However, these goals can only be achieved if citizens engage in e-participation, which is often not the case (Toots, 2019).

Due to the centrality of digital technologies, e-participation can be explained using information systems theory (Naranjo-Zolotov et al., 2018). Here, the technology acceptance discourse focuses primarily on usage intention and usage of given technologies, which act as dependent variables in influential models, such as Davis' (1985) technology acceptance model.

As e-participation allows citizens to participate from anywhere and at any time using ICTs without the need for direct contact with government representatives, the latter may become less visible

compared to traditional offline participation. While many offline participation processes, such as town hall meetings, allow representatives to send verbal and non-verbal signals immediately, time-shifted digital processes, such as proposal submission platforms, typically require written responses in the form of statements or comments to show a visible reaction.

As a result, employee response behavior, now referred to as employee responsiveness, becomes more relevant. Responsiveness refers to the ability of employees involved in procedures to respond to input from the public and engage in genuine interaction in terms of two-way communication (Lee & Kim, 2014). Accordingly, e-participation may only involve one-way communication (the provision of information by the local government or the provision of input by the public). However, real interaction between the public and local government in light of modern Web 2.0 applications is associated with higher citizen acceptance and, thus, better quality of procedures (Le Blanc, 2020).

In general, there is a large amount of research on the influence of employee responsiveness in different areas. Moon and Sproull (2008) showed that users who participate in an Internet-based volunteer work process engage in the process more often and longer when providing qualitative feedback. Piezunka and Dahlander (2019) also concluded that users who participate for the first time in an organization's idea crowdsourcing project are more willing to participate repeatedly if given an understandable rationale for the employee's decision when their proposal is rejected. Tung, Chen, and Schuckert (2017) further found in a study in the hotel industry that employee responsiveness to guest complaints moderates guest satisfaction and loyalty.

In the research discourse on citizen participation, Halvorsen (2003) found a correlation between the quality of an offline participation process and participants' perceptions of the responsiveness and trustworthiness of the administrative authority. Relevant factors include the extent to which local government employees make an effort to recognize and understand the positions of citizens. Kim and Lee (2012) found a positive effect of satisfaction with the responsiveness of employees on the perception of influencing government decisions. However, they did not examine its influence on the evaluation of the overall process. Finally, in a qualitative survey of citizens, local government employees, and elected officials, Berner, Amos, and Morse (2011) showed that communication between citizens and local government, as well as local government employees' responses to citizen input, are among the critical commonalities among stakeholder groups for evaluating whether citizen participation can be considered effective. The studies presented provide evidence that employee reactions in collaborative processes can influence participants' user experience and their opinions of the organizations involved, thus impacting acceptance. However, the extent to which employee responsiveness in e-participation processes directly affects citizen acceptance under different conditions remains to be investigated. From a theoretical point of view, the relevance of employee responsiveness to citizen acceptance of e-participation can be explained with the help of social reciprocity and signaling theory.

2.2. Hypothesis development

According to Sjoberg et al.'s (2017) calculus of participation, the likelihood of participation is derived from a reward, which is the probability that participation will actually have an impact, multiplied by the individual benefit of participation and minus the cost of participation in terms of time and

(cognitive) effort. Accordingly, engagement in e-participation will only take place if citizens expect their participation to have an impact, i.e., that it has a realistic chance of being implemented and is not merely a form of pseudo-participation. Benefits associated with implementation and participation, such as potential prestige gains and individual benefits, are an additional incentive in addition to purely intrinsic factors. At the same time, participation requires the investment of time and effort to conceptualize and formulate an idea. As a result, following the principle of social reciprocity, citizens expect something in return for their participation.

Social reciprocity refers to the principle that actors constantly seek to receive benefits in a relationship approximately equal to what they invest in the relationship (Homans, 1961). This leads people to reward perceived friendly actions and punish unfriendly ones because they consider these behaviors fair responses and feel obligated to act accordingly (Falk & Fischbacher, 2001). Participants expect something in return for their engagement in an e-participation process intended to contribute to the common good and thus benefit the local government. Reciprocity is usually achieved by considering and implementing the generated citizen input, which, in addition to the positive effect on the citizens involved, can also generate new participants through positive word-of-mouth (Sjoberg et al., 2017). However, implementing suggestions and ideas is not always possible or perceived and only affects future e-participation processes. Employee responsiveness in the form of statements, comments, and responses can be taken as a signal that the local government has seen the citizens' input and has seriously considered and reviewed it. Since it is not obvious in most e-participation processes whether the input provided has been seen and evaluated by a local government employee, signaling that the engagement is valued and that time and human resources have been invested in the evaluation is an important aspect of citizens' willingness to participate (Kim & Lee, 2012).

Participation requires communication between actors from government organizations and society and, therefore, requires communication between multiple interaction partners. E-participation makes perceiving immediate reactions and moods more difficult due to the greater social, spatial, and temporal distance. While analog methods allow for the easy perception of immediate reactions of employees through verbal and non-verbal means of communication, these direct forms of communication are more difficult in many e-participation formats, resulting in an asymmetrical communication relationship between the participating public and the responsible employees. This asymmetry is reinforced by the local government's review of the feasibility and relevance of participation in internal processes where the results are not automatically visible to citizens. According to signaling theory, to reduce this information asymmetry, local government employees can send responses to citizens in the form of a statement or similar reaction to show that they have noticed the engagement made and have invested their resources to honor the action. The response informs participants that while the actual decision-makers may not have seen the contribution, it was at least handled by a local government employee. Citizens see this as a reciprocal action that ensures corresponding positive consequences, such as increased trust or satisfaction with the process (Yang & Holzer, 2006). Therefore, it can be concluded:

H1: Participants who receive a personal reaction from the local government have a higher acceptance of e-participation.

According to Swanson's (1982) channel disposition framework, the use of electronic channels is further influenced by the information quality of the chosen medium. Information quality generally refers to "the value placed on the outputs of the information system and reflects attributed benefits" (Swanson, 1982). Information quality is an indicator of a system's effectiveness and includes, among others, the content's accuracy, relevance, appropriateness, and understandability (Haderi et al., 2018). When applied to e-participation processes and the interaction between the public and local government, we understand information quality, following Yao and Xu (2022), as the accuracy, completeness, and relevance of responses sent by staff to citizen contributions. Here, it can be assumed that the information quality of the local government's responses to users' contributions influences the acceptance of the procedures. Depending on the procedure, contributions can be handled in different ways. They can be implemented or rejected, approved or not approved for voting, or deleted if, for example, there are doubts about their seriousness. Contributions are handled for specific reasons. The information that participants receive about the decision can be of varying quality in terms of usefulness and usability (Khan et al., 2002). Participants can receive a large amount of relevant information, making local government decisions and processes more transparent.

On the other hand, a lack of response from the local government ensures that participants receive no information on how their contribution was evaluated. At the same time, the responses provided by employees may also be devoid of information or extremely brief, thus serving only as a pretext, which may have a negative impact on citizens' willingness to use e-participation (Alenezi et al., 2015; Lee & Kim, 2018). Similarly, the information should be understandable, comprehensible, and credible so that the responses are a stronger signal (Khan et al., 2002; Pytlikzillig et al., 2012). The better the information quality of the responses, the stronger they act as a signal from the local government that engagement is perceived and valued, thereby improving citizen acceptance. In this way, local governments signal that they are making an effort and are genuinely responding to citizens' concerns rather than providing minimal or no response (Tung et al., 2017). In general, several studies have shown that information quality influences user acceptance of a website (Ahn et al., 2007). Therefore, an identical effect can be expected in the context of e-participation. Thus, it can be concluded:

H2: Participants who receive comprehensive information about the reasons for the local government's handling of their contributions have a higher acceptance of e-participation.

Finally, it can be assumed that employees' reaction is more important when the citizen's proposal is assessed as unsuitable and rejected than in the case of a positive outcome. Rejection results in the local government not addressing the request or proposal, which can reduce the willingness to participate (Sjoberg et al., 2017). In addition, rejection of proposals causes negative reactions and can make participation a negative experience (Edixhoven et al., 2021). The negative experience can be associated with the local government, as well as with the procedure itself, thus affecting the acceptance of e-participation. For this reason, the influence of employee responsiveness on the acceptance of e-participation is likely to be greater in the case of rejection than in the case of acceptance. At the same time, rejection of the proposal requires a high quality of information in order to increase the comprehensibility of the decisions for the participant. In contrast, a low information quality is of greater concern. Furthermore, in principle, it can be assumed that the approval decision's outcome

also directly affects the participants' acceptance of e-participation. Thus, approval of the proposal ensures a more positive experience and, accordingly, a higher intention to use e-participation. It also gives participants more value for the resources they spend, as they get a return on their time and a chance for their contribution to have a real impact. It can also be seen as a signal from the administration that the contribution has been noticed and valued. Therefore, it can be concluded:

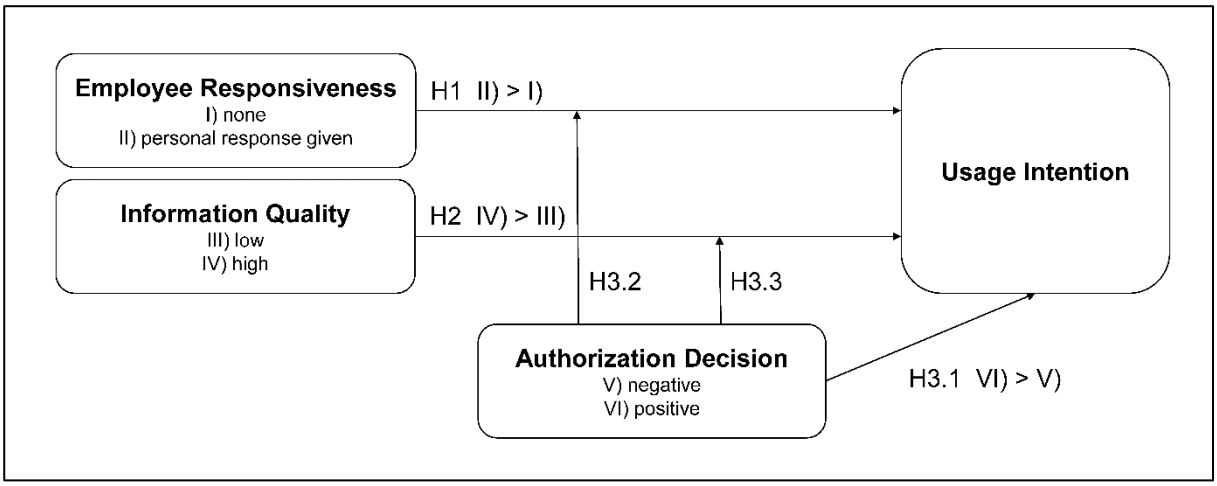
H3.1: Participants whose contributions are positively received by the local government have a higher acceptance of e-participation.

H3.2: The outcome of the authorization decision moderates the effect of employee responsiveness on citizens' acceptance of e-participation.

H3.3: The authorization decision influences the effect of information quality on the acceptance of e-participation.

Figure 1 shows the research model.

Figure 1: Research Model



3. Research Design and Sample

To test the hypotheses, a randomized scenario-based quantitative quasi-experiment was conducted using a 2 × 2 × 2 between-subjects design with employee response (yes or no), authorization decision (acceptance or rejection), and information quality (high or low) as experimental variables. The choice of factor levels results in an incomplete design because, in the case of missing local government response, high information quality is impossible or cannot be varied. Due to the formulated hypotheses and the realism of the scenarios, this design is reasonable in terms of content.

Scenario-based experiments allow for the identification of causal relationships and are, therefore, appropriate for examining the relationships between constructs (Seltman, 2012). This methodology also allows for the manipulation of specific aspects of a written stimulus and the control of confounding effects that would be uncontrollable in real-life settings while creating a situation that allows participants to make decisions that closely reflect their actual responses (Evertz et al., 2019;

Tung et al., 2017). As e-participation is an online phenomenon, the experiment was conducted online to ensure realism.

For the experiment, the implementation of a digital participatory budget was simulated by showing participants a series of screenshots of a previously created project. Digital participatory budgets are procedures that allow citizens to determine a portion of the public budget by submitting proposals and voting on which proposals will be implemented (Rios & Rios Insua, 2008). Digital participatory budgeting was chosen due to the increasing relevance of these procedures, their frequent implementation, the high level of participation opportunities, and the possibility to include employee reactions as realistically as possible (Buele et al., 2020; Steinbach et al., 2019).

Before the experiment, based on current recommendations by Chester and Lasko (2021), a pilot study was conducted with approximately 10% (N = 23) of the intended main study sample to select and validate the manipulation of information quality. Based on real contributions and statements from digital participatory budgets, different response versions were created for the different scenarios and evaluated by the study participants. The scenarios with the highest and lowest mean scores for information quality were selected for the main study.

We used an existing tool from an e-participation provider in German local governments to simulate the process. For this purpose, the fictitious German city of "Schoenenfeld" was created to ensure the study was realistic. Subsequently, real participatory budgeting processes were analyzed in order to find a suitable and realistic proposal that was presented to the participants of the experiment as their own. The choice fell on the establishment of food-sharing boxes in the city. The proposal was chosen because it does not have to refer to the specifics of the fictitious city. It can theoretically be implemented in any city, potentially increasing identification with the proposal. At the same time, the proposal contains arguments as to why it can be accepted for voting (serves the common good, feasible and realistic), as well as rejected (legal requirements for food safety that must be met before the stations can be used). Once the content was added to the relevant pages of the tool, screenshots were taken and used in the experiment.

The online survey software "Unipark" was used to conduct the study. Here, participants were asked to imagine that they were citizens of a fictitious German city, "Schoenenfeld," which was implementing the procedure. They were first presented with the cover page of the digital participatory budget, which contains information about its purpose and procedure. The procedure described is a two-step process: First, citizens can submit proposals, which should be roughly checked for feasibility by the local government. In the second step, proposals deemed feasible are allowed to be voted on. After reading information about the process, participants were asked to imagine submitting a proposal, also displayed as a screenshot. This proposal was predefined so that each participant had the same proposal related to installing food-sharing boxes in the city.

Participants were then randomly assigned to one of the scenarios in which their proposal was either rejected or accepted, they either received an official statement or not, and the information quality of the response was either high or low. Participants were shown a screenshot of how the proposal was processed depending on the scenario. The acceptance or rejection of the proposal to the voting procedure was automatically indicated graphically in the system by a green acceptance

field or a red rejection field. This aligns with real participatory budgeting and makes it possible to indicate how the proposal will be handled further without clarifying whether it was seen and checked manually by an employee or whether, contrary to the intended procedure, it was automatically released for voting. The sole feedback in the form of the colored box represents the scenarios without a personal response from an employee. In addition, there was an option for an official statement from the responsible employee to be posted underneath the suggestion. This represents the scenarios with a personal employee response.

Information quality was represented in the following scenarios: High information quality was represented by an appropriately detailed employee response that explained in detail why the proposal was rejected or accepted. Low information quality was represented in the scenarios by only providing information on whether the proposal was accepted or rejected, either only through the colored box or additionally through a personal employee response that only indicated that the proposal was accepted or rejected (e.g., "Dear user, your proposal was not released for voting. We thank you for your engagement"). In this way, all scenarios with low information quality are empty except for the acceptance information. At the same time, however, for the scenarios with low information quality, this results in a difference between the scenarios with personal responses and without personal responses, even though all scenarios have the same information quality in terms of reasons. Nevertheless, due to the realism of the scenarios and the research interest, the vignette design was chosen despite its limitations.

After the decision was announced to the participants of the main study, they were given a short questionnaire to measure the dependent variable, usage intention, on a five-point Likert scale adopted from Alzahrani et al. (2017) and Saura, Palos-Sanchez, and Velicia-Martin (2020). Here, participants were asked about their willingness to participate in an identical, actual procedure. Questions included, for example, whether the participants considered participation worthwhile ("I think it would be worthwhile for me to participate in the participatory budget") or the willingness to write contributions on the platform ("I would be willing to read and/or write proposals on this platform"). The internal consistency of the scale is high, with a value of $\alpha = .87$. To ensure data quality, the questionnaire also included one attention check, a stimulus check to determine whether participants were consciously aware of the manipulation, and a manipulation check to verify that the manipulation was rated according to the results of the pilot study (Hauser et al., 2018). In addition, sociodemographic data were collected in the form of gender, age, and education level. To ensure the validity of the data, we controlled for a possible influence of the collected socio-demographic data on the results. However, no significant effects were found.

As the procedures are generally open to any citizen, there were no restrictions on participation in the study. However, basic knowledge of German, the language of the study, and a minimum age of 16 years were required to ensure an adequate understanding of the scenarios. A total of 325 participants were reached through study announcements on various analog and digital channels from December 2021 to February 2022. This is a convenience sample, and its representativeness cannot be guaranteed. In addition, the crowdsourcing platform respondi was used. Crowdsourcing platforms can be used to generate a large and representative sample of participants and are, therefore, considered suitable for use in research (Hossain & Kauranen, 2015). However, to ensure adequate data

quality, the crowdsourcers were compared to the other participants. A comparison of the validity and mean scores of the responses showed no significant differences, so the crowdsourcers were included in the sample.

The adjusted sample includes 278 participants after data cleaning, which removes outliers from the sample by removing participants who were not serious participants and showed the same response behavior, had too short a completion time, or failed the attention check (Field, 2013). In the adjusted sample, 60.4% of participants are female, 38.8% are male, and 0.7% are non-binary. Participants ranged in age from 17 to 77 years (M = 36.51, SD = 16.56). The proportion of college graduates is above average, with 42.8% of participants holding at least a bachelor's degree. However, the sample is realistic in this respect, as it is often citizens with a higher level of education who participate in e-participation processes (Zheng & Schachter, 2017). In contrast, the number of participants who have already taken part in an e-participation process is very low, with 12.6% having participated at least once. The small proportion of participants who have already taken part in an e-participation process allows participants to be as unbiased as possible and prevents them from being influenced by previous experiences (Natesan et al., 2016). Furthermore, we controlled for a possible influence of experience, but again, no significant effect was found.

4. Results

A three-way ANOVA was used to test the hypotheses. Hypothesis 1 postulated that participants who received a response from local government employees would have a higher acceptance of e-participation. The ANOVA shows a statistically significant ($p < .05$) main effect of employee responsiveness on participants' intention to use e-participation ($F = 4.133$; $p = .043$; $\eta p^2 = .015$). Although the effect size (ηp^2) was relatively small (less than .06; see Miles & Shevlin, 2001), the results support Hypothesis 1, suggesting that the perception of receiving a response from government officials positively influences participants' willingness to engage in e-participation. Hypothesis 2 was that participants who receive detailed information about the approval or rejection of their proposals will have a higher intention to use e-participation than those who receive low-quality information. This hypothesis is also supported. The ANOVA revealed a significant main effect of information quality on participants' intention to use e-participation ($F = 6.698$; $p = .010$; $\eta p^2 = .024$). Despite the small effect size, this finding supports hypothesis 2 and highlights the importance of providing comprehensive and transparent information to increase participants' acceptance of e-participation.

Finally, hypothesis 3 was that the authorization decision moderates the effect of employee responsiveness and information quality on participant acceptance of e-participation. While the ANOVA revealed a direct effect of the authorization decision on participants' intention to use e-participation ($F = 26.385$; $p = .000$; $\eta p^2 = .091$), the moderating effect of employee responsiveness and information quality on acceptance was not confirmed. The authorization decision's medium effect size ($\eta p^2 = .091$) underscores its significant impact on participants' acceptance, independent of other factors. The overall model explains 10.4 percent of the variance (R2 =.120; corr. R2 =.104). Table 1 shows the scenarios and means of the dependent variable, usage intention. Table 2 presents the results of the ANOVA.

Table 1: Scenarios and mean scores of the dependent variable.

Scenario	111	110	101	100	001	000
Employee Response	yes	yes	Yes	Yes	no	no
Information Quality	high	high	Low	low	low	low
Authorization Decision	positive	negative	Positive	negative	positive	negative
Usage Intention	3.88	3.50	3.61	3.10	4.00	3.24
SD	.83	.87	.96	.88	.66	.95
Totals (N=278)	48	49	44	41	46	50

Table 2: Three-way ANOVA. Dependent variable: usage intention; R-squared =.120 (adjusted R-squared =.104)

	Type III SS	Df	Mean Square (MS)	F	p	ηp^2
Model	27.790	5	5.458	7.436	.000	.120
Employee Responsive-ness	3.089	1	3.089	4.133	.043	.015
Information Quality	5.007	1	5.007	6.698	.010	.024
Authorization Decision	20.469	1	20.469	26.385	.000	.091
Employee Responsive-ness x Authorization Decision	.697	1	.697	.932	.335	.003
Information Quality x Authorization Decision	.203	1	.203	.272	.602	.001
Error	203.311	272	.747			
Total	3756.640	278				
Corrected total	231.100	277				

5. Discussion and Implications of Research Results

Public participation in e-participation is a crucial success factor for permanently establishing the procedures as political and administrative practice. Only if the public participates in the procedures will the actual purpose of e-participation be fulfilled and the democratic process and decision-making be promoted (Voorberg et al., 2015). While the fundamental question of how to get the public to participate remains a central issue, it is also relevant to consider those citizens who are already actively or passively participating (Randma-Liiv & Lember, 2022). If these citizens have positive experiences and impressions of the processes, the likelihood of high interaction, repeated future participation, or referrals to other citizens may increase. In addition to established factors, such as the perceived ease of use of the platforms (Davis, 1985), aspects, such as feedback from the local government, may also influence citizens' acceptance of e-participation (Panopoulou et al., 2014).

The results of the study show that whether or not participants receive an employee response to their input influences their acceptance. This is consistent with the results of other studies that have also examined digital processes in which affected organizations may show a response to external actors (Tung et al., 2017). It also supports findings in the research area of e-participation (Lee & Kim, 2014; Lee & Kim, 2018). Due to its experimental design, this study can provide insights into the causal effect of employee responses. The hypothesized positive influence of high information and a favorable authorization decision is also confirmed. With an eta squared of .091, the authorization decision significantly affects the measured variable, usage intention. The approval of a contribution can be seen as a positive and appreciative signal and a real benefit for the participant. Therefore, an authorization decision has a greater influence on usage intention than a signal without a real benefit for the participant, such as the employee's responsiveness. Thus, the study results support Sjoberg et al.'s (2017) calculus of participation and demonstrate the importance of outcome decisions. Based on theories of emotional responses, it can also be assumed, in principle, that the acceptance of a contribution is associated with a positive emotional response, which can positively influence the acceptance of e-participation (Leary, 2015).

The two postulated interaction effects of the authorization decision on employee responsiveness and information quality could not be confirmed. According to the theories used, this can be explained by the fact that the participants perceive an employee's responsiveness and high information quality as a signal of appreciation, regardless of the outcome of the procedures, and separate this from the self-benefit they receive as a result of the authorization decision. This results in an additive positive effect and no interaction.

Due to the incomplete design, a possible moderating effect of information quality on employee responsiveness and a possible three-way interaction cannot be adequately measured. However, the mean values of usage intention in the respective scenarios allow first assumptions about possible moderating effects. For example, the mean values in the scenarios with low information quality in which the employee gave a personal response are lower than in the absence of such a response. This could indicate that a pseudo-response devoid of content is evaluated more negatively than no response and that citizens view such responses as a signal of a lack of sincere interest or competence to adequately address participants' concerns (Alenezi et al., 2015). It is also surprising that when looking at the mean scores of the dependent variable, the scenario with no response, low information

quality, and positive approval decision has the highest mean score. The result may imply that in the case of a positive outcome for the participant, a response is not beneficial for the future intention to use e-participation. A possible explanation could be that in the case of a positive outcome, reactions from the local government seem unnatural and more like "buttering up" than a sincere response.

Despite the significant effects identified, the small effect sizes suggest that employee responses and information quality have a relatively small impact on participant acceptance of e-participation. Overall, the explained variance of the entire model is relatively low at 10.2%. However, the results are unsurprising given that studies investigating established influencing factors, such as platform usability, show very high variance explanations, and underlying models, such as UTAUT, claim to explain an exceptionally high variance of up to 77% (Venkatesh et al., 2016). The study's results still demonstrate the relevance of employee responsiveness and, thus, have several implications for research and practice. Demonstrating the positive effect of employee responsiveness and high information quality, the study contributes insights to the research discourse on the public use of e-participation, supports knowledge on its acceptance, and provides causal effects of the postulated factors (Kim & Lee, 2012). In doing so, the study demonstrates the importance of employee behavior in promoting citizen acceptance of e-participation. In principle, therefore, the study also provides indications of the relevance of electronic interaction and communication for the service quality of the procedures and the attitude of citizens toward the local government (Sá et al., 2016). In addition, the study contributes to the general technology acceptance discourse by considering social factors that have not been sufficiently addressed so far and provides insights into technologies that envisage interactions with the addressees of specific user actions (Venkatesh et al., 2016).

From a practical perspective, the study demonstrates the importance of successful interaction between local government and citizens by showing the positive impact that appropriate local government responses and interactions can have on citizen acceptance of e-participation. High employee responsiveness thus has a major benefit in promoting participation and, thus, the success of the processes (Berner et al., 2011). In practice, however, adequate human resources are often unavailable, and competent, communicative employees are not assigned to manage the procedures (Albrecht et al., 2008). Similarly, challenges, such as hierarchical barriers, prevent quick, easy, and appropriate interaction between local government and citizens (Cooper et al., 2006). Accordingly, mayors and local government leadership must ensure that sufficient capacity and motivation are provided to support the processes adequately and that the focus is not only on the initial phase of the projects.

6. Limitations and Further Research

The study has some limitations that require further research. First, the study measured acceptance through usage intention. While this is an established and commonly used construct for measuring acceptance, it is not necessarily predictive of actual participation. Various studies have shown that while there is a strong relationship between usage intention and technology use, one cannot automatically infer higher usage based on intention alone (Sheeran & Webb, 2016). Therefore, future studies should examine actual usage, for example, by subsequently allowing participants to participate in a procedure voluntarily. In addition, analyzing the impact of employee responsiveness and

information quality on other variables related to usage intention, such as transparency (Kim & Lee, 2012), trust (Pytlikzillig et al., 2012), or fairness (Ingrams et al., 2020) of the procedure, as well as different aspects of responsiveness, such as the choice of communication tone, may help further to deepen our understanding of participants' acceptance of e-participation. On the other hand, due to the long time already required to engage with the simulated participatory budget, this study was limited to measuring only the intention to use e-participation. In contrast, other possible relevant factors were not examined.

Due to the incomplete design, a possible interaction effect between employee response and information quality cannot be adequately investigated. Since it can be assumed that the positive effect of an employee reaction can be enhanced by a high quality of information in the decision message, this should be further investigated. Given the differences in mean scores identified, future studies should attempt to examine the relationship between the two factors, for example, using a traditional survey design. Another limitation comes from the differences in the low information quality scenarios. Although the control analyses did not show significant differences, further real gradations of information quality can be used to gain more in-depth insights.

For reasons of realism, the experiment was conducted online. However, the digital nature of the experiment reached a disproportionate number of technology-savvy participants. Given the existing concerns and challenges of e-participation to motivate technology-averse citizens, such as older people, to participate (Bailey & Ngwenyama, 2011), future studies should explicitly examine specific population groups based on the results to uncover possible differences, as well as those who are generally technology-averse. Field studies can also help to reach real participants and make employee responses, which are usually delayed, more realistic. In addition, data from additional countries could provide insights into the generalizability and transferability of the findings.

7. Conclusion

The purpose of this paper was to examine the role of government employee responsiveness and information quality in citizen participation in e-participation processes and to analyze their impact on the acceptance of these processes. The results of this study show that the responsiveness of government employees to citizen contributions significantly influences the acceptance of e-participation processes. The quality of the information provided also has a positive impact on acceptance.

These findings underscore the importance of active and informative interaction between government and citizens for the success of e-participation initiatives. Encouraging employees' responsiveness and providing high-quality information can promote citizen engagement and strengthen trust in the processes. On a practical level, it is important to recognize that, in reality, local governments may not have sufficient staff to respond to every citizen contribution, especially in large cities with frequent participatory budget surveys. Therefore, e-participation processes should be designed in a way that considers the available resources and still promotes citizen engagement.

References

Abers, R. (2001). Practicing Radical Democracy. DisP - the Planning Review, 37(147), 32–38. https://doi.org/10.1080/02513625.2001.10556786

Agger, Annika & Lund, Dorthe (2017). Collaborative Innovation in the Public Sector – New Perspectives on the Role of Citizens? Scandinavian Journal of Public Administration, 21(3), 17–38.

Ahn, T., Ryu, S., & Han, I. (2007). The impact of Web quality and playfulness on user acceptance of online retailing. Information & Management, 44(3), 263–275. doi:10.1016/j.im.2006.12.008

Albrecht, S, Kohlrausch, S, Kubicek, H., Lippa, B., Märker, O., Trénel, M., Vorwerk, V., Westholm, H., & Wiedwald. C. (2008). eParticipation - Electronic Participation of Citizens and the Business Community in eGovernment: Study on Behalf of the Federal Ministry of the Interior (Germany). Bremen: ifib.

Alenezi, H., Tarhini, A. & Sharma, S. K. (2015). Development of quantitative model to investigate the strategic relationship between information quality and e-government benefits. Transforming Government: People, Process and Policy, 9(3), 324–351. https://doi.org/10.1108/TG-01-2015-0004

Alzahrani, A. I., Mahmud, I., Ramayah, T., Alfarraj, O. y Alalwan, N. (2019). Modelling digital library success using the DeLone and McLean information system success model. Journal of Librarianship and Information Science, 51(2), 291–306. https://doi.org/10.1177/0961000617726123

Bailey, A. y Ngwenyama, O. (2011). The challenge of e-participation in the digital city: Exploring generational influences among community telecentre users. Telematics and Informatics, 28(3), 204–214. https://doi.org/10.1016/j.tele.2010.09.004

Berner, M., Amos, J. & Morse, R. (2011). What Constitutes Effective Citizen Participation in Local Government? Views from City Stakeholders. Public Administration Quarterly, 35(1), 128-163. 10.2307/41804544.

Buele, I., Vidueira, P., Yagüe, J. L. & Cuesta, F. (2020). The Participatory Budgeting and Its contribution to Local Management and Governance: Review of Experience of Rural Communities from the Ecuadorian Amazon Rainforest. Sustainability, 12(11), 4659. https://doi.org/10.3390/su12114659

Bright, J. & Margetts, H. (2016). Big Data and Public Policy: Can It Succeed Where E-Participation Has Failed? Policy & Internet, 8(3), 218–224. https://doi.org/10.1002/poi3.130

Chen, X., Qin, K. & Wu, L. (2021). Citizen Characteristics and Their Participation in Food Safety Social Co-governance: Public Health Implications. Frontiers in Public Health, 9, 772117. https://doi.org/10.3389/fpubh.2021.772117

Chester, D. S. & Lasko, E. N. (2021). Construct Validation of Experimental Manipulations in Social Psychology: Current Practices and Recommendations for the Future. Perspectives on Psychological Science : A Journal of the Association for Psychological Science, 16(2), 377–395. https://doi.org/10.1177/1745691620950684

Choi, J.-C. & Song, C. (2020). Factors explaining why some citizens engage in E-participation, while others do not. Government Information Quarterly, 37(4), 101524. https://doi.org/10.1016/j.giq.2020.101524

Chun, S. A., & Cho, J.-S. (2012). E-participation and transparent policy decision making. Information Polity, 17(2), 129–145. doi:10.3233/ip-2012-0273

Cooper, T. L., Bryer, T. A. y Meek, J. W. (2006). Citizen-Centered Collaborative Public Management. Public Administration Review, 66(s1), 76–88. https://doi.org/10.1111/j.1540-6210.2006.00668.x

Cruickshank, P. & Hall, H. (2020). Talking to imagined citizens? Information sharing practices and proxies for e-participation in hyperlocal democratic settings. Information Research: An International Electronic Journal, 25(4). https://doi.org/10.47989/irpaper880

Davis, F. (1985). A technology acceptance model for empirically testing new end-user information systems - theory and results. PhD thesis

Edixhoven, T., Qiu, S., Kuiper, L., Dikken, O., Smitskamp, G. & Gadiraju, U. (06212021). Improving Reactions to Rejection in Crowdsourcing Through Self-Reflection. En 13th ACM Web Science Conference 2021 (pp. 74–83). ACM. https://doi.org/10.1145/3447535.3462482

Evertz, L., Kollitz, R. & Süß, S. (2021). Electronic word-of-mouth via employer review sites – the effects on organizational attraction. The International Journal of Human Resource Management, 32(16), 3428–3457. https://doi.org/10.1080/09585192.2019.1640268

Falk, A. & Fischbacher, U. (2006). A theory of reciprocity. Games and Economic Behavior, 54(2), 293–315. https://doi.org/10.1016/j.geb.2005.03.001

Fayad, R. & Paper, D. (2015). The Technology Acceptance Model E-Commerce Extension: A Conceptual Framework. Procedia Economics and Finance, 26, 1000–1006. https://doi.org/10.1016/S2212-5671(15)00922-3

Field, A. (2013). Discovering Statistics Using SPSS, 4. ed. Sage: Los Angels

Haderi, S., Abdul Rahim, N. & Bamahros, H. (2018). Top Management Support Accelerates the Acceptance of Information Technology. Social sciences, 13(1), 175-189. 10.3923/sscience.2018.175.189.

Halvorsen, K. E. (2003). Assessing the Effects of Public Participation. Public Administration Review, 63(5), 535-543.

Hauser, D. J., Ellsworth, P. C. & Gonzalez, R. (2018). Are Manipulation Checks Necessary? Frontiers in Psychology, 9, 998. https://doi.org/10.3389/fpsyg.2018.00998

Harrison, T. M. & Sayogo, D. S. (2014). Transparency, participation, and accountability practices in open government: A comparative study. Government Information Quarterly, 31(4), 513–525. https://doi.org/10.1016/j.giq.2014.08.002

Homans, G. C. (1961). Social Behaviour: Its Elementary Forms. New York: Harcourt, Brace & World, Inc.

Hossain, M. & Kauranen, I. (2015). Crowdsourcing: a comprehensive literature review. Strategic Outsourcing: An International Journal, 8(1), 2–22. https://doi.org/10.1108/so-12-2014-0029

Ingrams, A., Kaufmann, W. & Jacobs, D. (2020). Testing the open government recipe: Are vision and voice good governance ingredients? Journal of Behavioral Public Administration, 3(1). https://doi.org/10.30636/jbpa.31.114

Kim, S. & Lee, J. (2012). E-Participation, Transparency, and Trust in Local Government. Public Administration Review, 72(6), 819–828. https://doi.org/10.1111/j.1540-6210.2012.02593.x

Leary, Mark R. (2015). Emotional responses to interpersonal rejection. Dialogues in clinical neuroscience 17(4), 435-441

Le Blanc, D. E-Participation: A Quick Overview of Recent Qualitative Trends; DESA Working Paper No. 163; Department of Economic and Social Affairs, United Nations: New York, NY, USA, 2020.

Lee, J. & Kim, S. (2014). Active Citizen E-Participation in Local Governance: Do Individual Social Capital and E-Participation Management Matter? En 2014 47th Hawaii International Conference on System Sciences (pp. 2044–2053). IEEE. https://doi.org/10.1109/HICSS.2014.259

Lee, J. & Kim, S. (2018). Citizens' e-participation on agenda setting in local governance: Do individual social capital and e-participation management matter? Public Management Review, 20(6), 873–895. https://doi.org/10.1080/14719037.2017.1340507

Macintosh, A. (2004). Characterizing e-participation in policy-making. En 37th Annual Hawaii International Conference on System Sciences, 2004. Proceedings of the (10 pp). IEEE. https://doi.org/10.1109/HICSS.2004.1265300

Macintosh, A. (2008). E-Democracy and E-Participation Research in Europe. En R. Sharda, S. Voß, H. Chen, L. Brandt, V. Gregg, R. Traunmüller, S. Dawes, E. Hovy, A. Macintosh & C. A. Larson (Eds.), Integrated Series In Information Systems. Digital Government (Vol. 17, pp. 85–102). Springer US. https://doi.org/10.1007/978-0-387-71611-4_5

Macintosh, A. & Whyte, A. (2008). Towards an Evaluation Framework for eParticipation. Transforming Government People Process and Policy 2(1), 16-30. 10.1108/17506160810862928

Miles, J & Shevlin, M (2001). Applying Regression and Correlation: A Guide for Students and Researchers. Sage: London

Moon, J. Y. & Sproull, L. S. (2008). The Role of Feedback in Managing the Internet-Based Volunteer Work Force. Information Systems Research, 19(4), 494–515. https://doi.org/10.1287/isre.1080.0208

Naranjo Zolotov, M., Oliveira, T. & Casteleyn, S. (2018). E-participation adoption models research in the last 17 years: A weight and meta-analytical review. Computers in Human Behavior, 81, 350–365. https://doi.org/10.1016/j.chb.2017.12.031

Natesan, D., Walker, M. & Clark, S. (2016). Cognitive Bias in Usability Testing. Proceedings of the International Symposium on Human Factors and Ergonomics in Health Care, 5(1), 86–88. https://doi.org/10.1177/2327857916051015

Kahn, B. K., Strong, D. M. & Wang, R. Y. (2002). Information quality benchmarks. Communications of the ACM, 45(4), 184–192. https://doi.org/10.1145/505248.506007

Panopoulou, E., Tambouris, E. & Tarabanis, K. (2014). Success factors in designing eParticipation initiatives. Information and Organization, 24(4), 195–213. https://doi.org/10.1016/j.infoandorg.2014.08.001

Piezunka, H. & Dahlander, L. (2019). Idea Rejected, Tie Formed: Organizations' Feedback on Crowdsourced Ideas. Academy of Management Journal, 62(2), 503–530. https://doi.org/10.5465/amj.2016.0703

Pytlikzillig, L., Tomkins, A., Herian, M. & Hoppe, R. (2012). Trust in Government: Findings from Public Budgeting Consultations. Working Paper. Accessed June 15, 2022. http://www.ca-ilg.org/sites/main/files/file-attachments/trust_in_govt_findings_publicbudgetingconsultations_0.pdf

Randma-Liiv, T. & Lember, V. (2022). Engaging Citizens in Policy Making. Edward Elgar Publishing. https://doi.org/10.4337/9781800374362

Rios, J. & Rios Insua, D. (2008). A framework for participatory budget elaboration support. Journal of the Operational Research Society, 59(2), 203-212. https://doi.org/10.1057/palgrave.jors.2602501

Romsdahl, Rebecca J. (2005). Political Deliberation and E-Participation in Policy-Making. CLCWeb: Comparative Literature and Culture 7(2). https://doi.org/10.7771/1481-4374.1264

Sá, F., Rocha, Á. & Pérez Cota, M. (2016). From the quality of traditional services to the quality of local e-Government online services: A literature review. Government Information Quarterly, 33(1), 149–160. https://doi.org/10.1016/j.giq.2015.07.004

Sæbø, Ø., Flak, L. S. & Sein, M. K. (2011). Understanding the dynamics in e-Participation initiatives: Looking through the genre and stakeholder lenses. Government Information Quarterly, 28(3), 416–425. https://doi.org/10.1016/j.giq.2010.10.005

Saura, J. R., Palos-Sanchez, P. y Velicia-Martin, F. (2020). What Drives Volunteers to Accept a Digital Platform That Supports NGO Projects? Frontiers in Psychology, 11, Artículo 429. https://doi.org/10.3389/fpsyg.2020.00429

Seltman, H. J. (2012). Experimental Design and Analysis. Pittsburgh: Carnegie Mellon University.

Shamai, A., Abya, H. & Ebrahimi, M. (2015). Factors influencing citizen participation in community management. Management Science Letters, 5(4), 407–412. https://doi.org/10.5267/j.msl.2015.2.001

Sheeran, P. & Webb, T. L. (2016). The Intention-Behavior Gap. Social and Personality Psychology Compass, 10(9), 503–518. https://doi.org/10.1111/spc3.12265

Sjoberg, F. M., Mellon, J. & Peixoto, T. (2017). The Effect of Bureaucratic Responsiveness on Citizen Participation. Public Administration Review, 77(3), 340–351. https://doi.org/10.1111/puar.12697

Steinbach, M., Wilker, N., & Schöttle, S. (2019). E-participation on the local level – A census survey approach for researching its implementation. Journal of Information Technology & Politics, 1–21. doi:10.1080/19331681.2019.1676361

Swanson, E. B. (1982). Measuring user attitudes in MIS research: a review. Omega, 10(2), 157–165. doi:10.1016/0305-0483(82)90050-0

Taherdoost, H. (2018). A review of technology acceptance and adoption models and theories. Procedia Manufacturing, 22, 960–967. doi:10.1016/j.promfg.2018.03.137

Toots, M. (2019). Why E-participation systems fail: The case of Estonia's Osale.ee. Government Information Quarterly, 36(3), 546–559.https://doi.org/10.1016/j.giq.2019.02.002

Tung, V. W. S., Chen, P.-J. & Schuckert, M. (2017). Managing customer citizenship behaviour: The moderating roles of employee responsiveness and organizational reassurance. Tourism Management, 59, 23–35. https://doi.org/10.1016/j.tourman.2016.07.010

Venkatesh, V., Thong, J. & Xu, X. (2016). Unified Theory of Acceptance and Use of Technology: A Synthesis and the Road Ahead. Journal of the Association for Information Systems, 17(5), 328–376. https://doi.org/10.17705/1jais.00428

Voorberg, W. H., Bekkers, V. J. J. M. & Tummers, L. G. (2015). A Systematic Review of Co-Creation and Co-Production: Embarking on the social innovation journey. Public Management Review, 17(9), 1333–1357. https://doi.org/10.1080/14719037.2014.930505

Webler, T. & Tuler, S. (2000). Fairness and Competence in Citizen Participation: : Theoretical Reflections from a Case Study. Administration & Society, 32(5), 566–595. https://doi.org/10.1177/00953990022019588

Wirtz, B. W., Daiser, P. & Binkowska, B. (2018). E-participation: A Strategic Framework. International Journal of Public Administration, 41(1), 1–12. https://doi.org/10.1080/01900692.2016.1242620

Yang, K. & Holzer, M. (2006). The Performance-Trust Link: Implications for Performance Measurement. Public Administration Review, 66(1), 114–126. https://doi.org/10.1111/j.1540-6210.2006.00560.x

Yao, Y. and Xu, P. (2022), "E-participation decision across different channels", Information Technology & People, Vol. 35 No. 3, pp. 956-976. https://doi.org/10.1108/ITP-05-2020-0314

Zakour, A. B. (2004). Cultural Differences and Information Technology Acceptance. SAIS 2004 Proceedings 26, 156-161

Zani, B. & Barrett, M. (2012). Engaged citizens? Political participation and social engagement among youth, women, minorities, and migrants. Human Affairs, 22(3), 273–282. https://doi.org/10.2478/s13374-012-0023-2

Zepic, R., Dapp, M. & Krcmar, H. (2017, May). Participatory Budgeting without Participants: Identifying Barriers on Accessibility and Usage of German Participatory Budgeting. En 2017 Conference for E-Democracy and Open Government (CeDEM) (pp. 26–35). IEEE. https://doi.org/10.1109/CeDEM.2017.24

Zheng, Y. & Schachter, H. L. (2017). Explaining Citizens' E-Participation Use: the Role of Perceived Advantages. Public Organization Review, 17(3), 409–428. https://doi.org/10.1007/s11115-016-0346-2

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