
A case study of the ‘Digital Agenda of the City of Vienna’: e-participation design and enabling factors

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Abstract: We present a case study on an Austrian e-participation initiative, the Digital Agenda of the City of Vienna, set up in September 2014 and currently still running. The Digital Agenda represents the City of Vienna’s digital strategy regarding research, technology and economic development, and acts as the guiding principles for setting priorities, implementing projects and designing new services. This case study shows both the extent to which digital technologies increasingly play a decisive role in urban life and the valuable insights gained by studying such processes in order to support the design of future government-led e-participation initiatives. Using a qualitative approach, this case study focuses on the design of a multi-phasic participation process and the identification of the enabling factors that can be used in new e-participation and co-creation initiatives.

Keywords: digital agenda; e-participation; case study; process design; enabling factors.

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1 Introduction

The emergence and constant development of information and communication technologies means that public administration has to consider using additional communication channels in order to interact with citizens. In public administration, this type of interaction with citizens is the electronic involvement of citizens in various forms, known as *e-participation*, and represents one dimension of what is broadly known as e-government. E-participation focuses on one- or two-way communication between public decision-makers and citizens, requires the use of technology and is seen as having the potential to enable, engage and empower civil society (Macintosh, 2004), but can also be understood as the provision of an e-government service (Lee and Kim, 2014). Research on e-participation is interdisciplinary, fragmented, and can emphasise different aspects, such as the political view, or the importance of accountability and transparency, or the technical aspects revolving around security and privacy (Rodríguez-Bolívar et al., 2018).

Several different frameworks have been developed to understand how best to implement e-participation. Early models, for example, are based on the degree of power or involvement provided to the citizens ranging from manipulation to citizen control (Arnstein, 1969). Besides categorising e-participation according to the intensity of citizen involvement, literature highlights the phase of the policy cycle in which participation occurs (Macintosh, 2004). Other frameworks highlight the importance of evaluation, either by pointing out the need for acknowledged indicators and success factors (Kubicek and Aichholzer, 2016) or the need for e-participation initiatives to clearly set out the goals and outcomes to be achieved by an e-participation initiative (Smith et al., 2011). There have been regular calls for developing guidelines, especially for practitioners, and, in response, several have been developed, for example, those made in the white paper by the Austrian Working Group on E-Democracy (2008) or by Scherer et al. (2010). Some of the guidelines that have been developed aim to capture the different dimensions of e-participation and are used both for the general implementation (Islam, 2008) or for specific types of e-participation modes (Küstermann et al., 2019). This shows that e-participation is strongly context-dependent (Lee and Kim, 2014; Porwol, 2016) and that there is no single or uniform solution on how an e-participation initiative is to be designed and implemented. Key importance is associated with whom is given a voice or the opportunity to participate: "who is given the right to participate may be the most

important design-related choice[s] for ensuring the legitimacy of any participatory process” (Karlsson, 2012). Whilst active e-participation requires trust in government, the willingness to volunteer and good quality governmental feedback, it is the prior definition of the target group to be involved in the initiative that is central to a successful e-participation initiative (Edlmann et al., 2011; Lee and Kim, 2014).

This study aims to contribute to the research on e-participation by providing insights about e-participation design gained from the e-participation initiative used for the development of Vienna’s IT-strategy (*Digitale Agenda Wien*, Stadt Wien (2016)). This e-participation initiative is seen as being a particularly relevant case as the City of Vienna was the first municipality in Austria to develop a digitalisation strategy on the basis of a multiphase public participation process (Heissenberger, 2016). This paper describes the central design elements of the e-participation initiative and provides some learnings from the first participative development of an IT-strategy on local governmental level in the German-speaking region.

Following the introduction section, we present the background and research aim of this study, the research design and methods used to investigate the case study. Subsequently, we present the results, which are then critically reflected in the discussion. The conclusion summarises the essentials and considers limitations as well as recommendations for both policymakers and the research community as learnings to be gained from the case study.

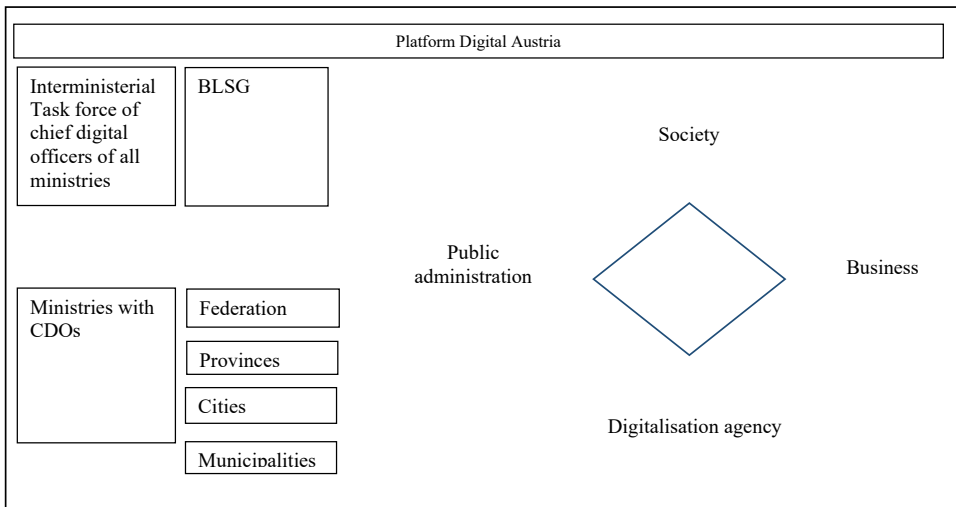
2 Background

Governments and public administrations have been aware for several years that they must know their citizens’ needs and access their expertise in order to develop adequate policies and solutions (Huijboom et al., 2009; Schuler, 2010). E-participation is seen as being able to raise the public’s interest in public deliberation, engagement and voting (Parycek and Edlmann, 2009; Toots et al., 2016; Vinkel and Krimmer, 2016) by providing the necessary input to modernise government service delivery, to increase the efficacy, and to raise the quality of the public services offered (Åkesson and Edvardsson, 2008; Heijlen et al., 2018; Trischler and Scott, 2015; Wiewiora et al., 2016). On the one hand, public administrations are increasingly gaining positive experiences with the use of e-participation (Simonofski et al., 2017), yet on the other hand, research shows that e-participation initiatives still fail because of reasons such as human error, characteristics of the involved public sector organisations, the political context the e-participation initiative is embedded in, as well as a reliance on the application of a new technology to solve issues related to political disenchantment (Toots, 2019). Toots also suggests that in order for e-participation to be successful, there needs to be a continuous adaptation of the technology used, the alignment of the technology as well as the provision of information about what to expect from the initiative to the stakeholders involved and political backing. Information that needs to be integrated into the call for participation should highlight the importance and benefits of the participation, the skills required in order to be involved, reassuring citizens about their capabilities, clarifying the use and

implementation of the outcomes obtained, as well as stating a commitment to a transparent process and the results (de Jong et al., 2019). de Jong et al. (2019) emphasises that it is the experiences participants make during a process, the quality of the outcomes and a smooth process itself that are decisive aspects for success. Further determinants that may influence the participants' decision to join the initiative may be their educational level, interest in politics, perceived value of citizen participation, trust in the political intentions, expected personal gratification and perceived behavioural control (de Jong et al., 2019). In other words, "citizens will ask themselves three questions before deciding to participate: is citizen participation any good, will I be able to contribute, and what is in it for me?" [de Jong et al., (2019), p.498].

Participation can occur at policy or legislative level, for planning activities, programme development or specific projects. Austrian e-participation projects can be triggered top-down by government or political decisions and events such as national elections, such as the platform 'wahlkabine.at' (Polling Booth) introduced during the national elections in 2002 or the platform 'meinparlament.at' (My Parliament) started in 2008 that facilitated direct contact between citizens and their representatives in parliament (Aichholzer and Allhutter, 2009). The Unibrennt Movement that was kick-started in 2009 by students in response to political decisions about higher-education in Austria represents a bottom-up initiative (Edelmann et al., 2011).

In Austria, there are no specific policies setting out citizens' rights specifically in e-participation, but the Austrian constitution includes participation rights and provides for direct democratic procedures, such as petitions, referenda, and official opinion polls. In Austria, the legislator recognises cooperation as a critical success factor in order to achieve the positive effects of e-government in the notes to the government bill of the E-Government Act (E-GovG, 2004, amended 2018), the legal framework that is to be applied varies, it depends on how the e-participation initiative is designed, e.g., e-voting must fulfil the constitutional requirements for voting and the election principles. Apart from constitutional rules, there are a number of laws within the e-government system (Höchtel and Lampoltshammer, 2019b), such as the Federal Act on electronic signatures and trust services for electronic transactions (SVG, 2018), the Data Protection Act (DSG, 2001, amended 2019), and the Re-Use of Information Act (IWG, 2005, amended 2018) which may impact the way e-participation initiatives are organised. Hence, there are several bodies established in the e-government area, that influence e-participation in Austria. The Platform Digital Austria, responsible for strategic e-government in Austria, includes the interministerial task force of Chief Digital Officers (formed by including a CDO per ministry, whose tasks include the coordination of digitalisation efforts within the ministry) and the Cooperation BLSG ('Bund-Land-Städte-Gemeinden', the co-operation between the federal level, the provincial level, cities and municipalities that provides recommendations for IT infrastructure, standards and implementation). Additionally, the Digitalisation Agency, founded by the federal government and located at the Austrian Research Promotion Agency (FFG, 2020), provides support especially, but not limited to, SMEs in tackling challenges towards digital transformation. These bodies and the set up is depicted in Figure 1:

Figure 1 Organisational context of e-government in Austria (see online version for colours)

Source: Adapted from Höchtl and Lampoltshammer (2019a, p.15)

The Austrian Working Group on E-Democracy and E-Participation with members across all public administrative levels and external experts differentiates between different levels of e-participation in terms of information, consultation, cooperation and co-decision. Their white paper on Austrian Working Group on E-Democracy (2008) provides basic definitions and sees e-participation as complementing representative democracy and fostering civil society participation to achieve the ideal interactive state. Austria's Digital Roadmap (Bundeskanzleramt and Bundesministerium für Wissenschaft, 2016) sees digitalisation as involving the public administration, social partners, NGOs, the private sector, political actors, research institutions and civil society. In the Digital Roadmap, digitalisation goes beyond mere access to online information or digital technologies, but as enabling participation and engagement amongst others. The eGovernment strategy of Austria (Bundeskanzleramt and Plattform Digitales Österreich, 2017) describes e-participation as:

“Interactive administrative processes (that) facilitate participation and citizen involvement. The administration encourages citizens and business to contribute ideas and feedback and to collaborate in the organisation of the administrative tasks” (p.14)

At the local level, participation processes are typically bound to individual strategic guidelines such as Austria's IT-strategy (Kompetenzzentrum Internetgesellschaft, 2013), adopted by the Council of ministers of the Austrian national government (Heissenberger, 2016) and Vienna's Smart City framework strategy as seen with the Digital Agenda Vienna (Heissenberger, 2016). Participation at the local level may also have to overcome initial barriers to make e-participation possible. Thus, for example, Vienna offers numerous free WiFi Hotspots, fulfilling the requirement of access to the IT-infrastructure that enables e-participation activities (Heissenberger, 2016; Höchtl et al., 2011). The

literature review provided here shows that most research that evaluates and identifies those constraints that act as barriers for citizens to join public decision-making on a local level, the roles of politicians, public managers and citizens (Alonso, 2009) as well as the relevance of the environment as an enabler for participation (Simonofski et al., 2017) is necessary. Whilst such literature highlights the need to avoid negative factors, for example, by sharing good practice guidelines (Royo et al., 2020) it also shows that e-participation research and practice would benefit from additional insights gained by evaluating the processes and the outcomes gained (de Jong et al., 2019). In the future, e-participation research is to be expanded by investigating further aspects. For example, according to Rodríguez-Bolívar et al. (2018) there is a need for future research that considers whether inclusion and participation are effective, whether public managers seriously want to consider citizens' opinions, whether an organisation's mission covers e-participation as well as the issue of how to include citizens in public affairs. We were able to identify a research gap regarding the critical success factors that are important for citizen participation platforms with the goal to foster long-term government-to-citizen and citizen-to government relationships: the focus of e-participation should be on the context of e-participation and those enabling factors that lead to active e-participation in local governance (Lee and Kim, 2014). The City of Vienna's e-participation initiative the *Digitale Agenda Wien* (Stadt Wien, 2016) was therefore chosen to show the need to address this research gap, that is, the identification of the enabling factors on the one side as well as understanding the context of the e-participation process. There are several reasons for choosing the *Digital Agenda Vienna*: first, it represents an e-participation initiative where the government works directly together with the public throughout the policy-making process to ensure that public concerns and ideas are understood and considered (International Association for Public Participation, 2007), and secondly, it has been described as a successful case of e-participation on several occasions, as reflected by the prizes it has received (the eGovernment Award 'Trend-setting project for the design of the modern administration' in 2015, and the Award 'Die Digitalste Stadt' in 2018 by the Stiftung Lebendige Stadt). Using a case study design and qualitative methods for analysis, we focus on the design of the participation process [described as 'design participation' by Scherer et al. (2010, p.54)], the identification of those factors that enable e-participation [known as 'identification of possibilities for participation' (p.54)] also known as the 'critical success factors' by the Austrian Working Group on E-Democracy (2008, pp.20–24) in order to answer the following research questions:

- 1 How was the participation process designed?
- 2 What factors that enable e-participation can be identified in the case study Digital Agenda Vienna?

In the following sections, we describe the research design and methods used to investigate the case study. The results are then discussed and conclusions are drawn, complemented with a critical view on the study identifying some limitations as well as recommendations.

3 Research design

The case study approach was used as it allows the investigation of a phenomenon within its real-life context, thus retaining a real-world perspective by using multiple sources of evidence (Yin, 2014), thus providing the researchers the opportunity to investigate a case of online participation in Austria that kicked-off the more extensive use of e-participation in the City of Vienna. According to Yin, it is a particularly suitable method when the focus is on a contemporary event and there is no need to control behavioural events, but also when there is a need to understand why and how a programme has worked (Newcomer et al., 2015). By adopting the case study approach, it was possible to consider various interactive processes – processes that, according to Bell (2014) may not be revealed through a survey but “may be crucial to the success or failure of systems or organisations” (p.10). The strength of the case study method is its ability to deal with a large range of evidence such as documents, artefacts, interviews and observations but highlights the importance of the case’s context (Yin, 2014) and the dynamics within this context (Eisenhardt, 1989).

3.1 Case selection

The idea of a ‘Digital Agenda’ was introduced at EU-level in 2010 (European Commission, 2010) and was to act as a driver for European countries and regions to make concerted efforts to define their IT-strategies. Early responders were, at the national level, Sweden (Government Offices of Sweden, 2011), followed a little later by Germany (Deutsche Bundesregierung, 2014) and Finland (Prime Minister’s Office, 2015). At the local level, first agendas came from Germany, Düsseldorf (2010) and Bremen (2014). Even though the 2007 EU e-Government Benchmark (Capgemini) showed Austria to be the first EU country that achieved full online public availability (i.e., citizens or businesses are able to access government services via a fully transactional electronic channel) Austria’s national digital agenda, the Digital Roadmap, was published later, in 2016 (Bundeskanzleramt and Bundesministerium für Wissenschaft). At the same time, at the municipal level, the Digital Agenda Wien (2016) was published by the City of Vienna, although this not only represents a response to the European Commission, but also a successful e-participation initiative that started in 2014 and continues to be used and have an impact:

“‘The Digital Agenda Vienna points out areas of action for the City of Vienna, for its citizens and for its guests, in order to jointly shape and advance these developments in concrete terms. Information and communication technologies are increasingly developing from a supporting function to a strategic task for the City of Vienna.’ [Stadt Wien, (2016), p.5]

Vienna has a special role: it is the only municipality in Austria that constitutes a municipality, a city, and a province at the same time, so that the influence of public participation on policy-making is multi-faceted. The Digital Agenda Vienna was seen as a change strategy for public administration driven by digital transformation (Heissenberger, 2016), and, as can be seen in Table 1 that describes the institutional context of the initiative, was based on an online platform that allowed a broad range of users(actors) to propose and share their visions on Vienna’s IT-strategy:

Table 1 The Digital Agenda Vienna's institutional context

<i>Digiale Agenda Wien: the institutional context</i>	
Administrative level	The City of Vienna is both a municipality and a region, and the platform was intended for use at both levels.
Policy area	The Digital Agenda has an impact beyond the strategic IT-area as digital technologies increasingly play a role in several aspects of urban life.
Policy cycle	The platform is used for: <ul style="list-style-type: none"> • Agenda setting http://digitaleagenda.wien/zahlen-daten-fakten.html • Policy formulation (not publically available) • Policy implementation http://digitaleagenda.wien/leuchtturmprojekte.html • Policy monitoring: http://digitaleagenda.wien/stand-der-umsetzung.html
Actors	Civil servants, citizens, NGOs, businesses, universities. Citizens from other Austrian regions as well as foreigners could also contribute. The platform initially aimed to foster external collaboration (citizens – public administration), while as a follow-up, it boosts internal collaboration too.
Formality	The platform is maintained due to the: <ol style="list-style-type: none"> a legal framework b policy framework c political will. The platform follows the Viennese principles of openness and transparency in public administration: <ol style="list-style-type: none"> 1 trust and security 2 transparency, openness and participation 3 inclusion, solidarity and social sustainability 4 gender equality 5 citizen orientation 6 strengthening the business location 7 consolidation 8 innovation 9 Flexibility and learning. http://digitaleagenda.wien/die-wiener-prinzipen-als-leitmotive.html

Note: An example of user rules can be found here:
<https://www.partizipation.wien.at/de/info-page/rules-217>.

For the analysis, the selected documents were analysed using the codes gained from the literature (Miles et al., 2014). Two semi-structured interviews were also conducted, the transcripts were also analysed using codes. When interviewing two experts, open questions from the document analysis could be clarified and the expert view on certain aspects was added. Only having two expert interviews is a clear limitation of this study, but their roles in the project still allow for a robust conclusion. Both experts are public officers, one, at the time of writing, currently responsible for the Digital Agenda Vienna,

whilst the second, who has been working in the area of e-government in Austria for over 20 years, was involved in the initiative from the beginning.

3.2 Document analysis

Document analysis is a qualitative research method that allows the examination and interpretation of qualitative data in order to develop knowledge. Document analysis gathers information from a text, studies the content and structure of documents, and researchers then code the content, for example, into themes or other relevant dimensions of a phenomenon, such as key functions, rules, organisational rules, or business attributes (Bowen, 2009). For document analysis, it is important to consider the texts selected, to assess their authenticity, to explore the documents in terms of their agenda, biases, background information and to develop an organisation scheme in order to then explore its content (O’Leary, 2017).

Table 2 Selection of documents

<i>Name of the document</i>	<i>Type of document</i>	<i>Public access</i>	<i>Location</i>
Digital Agenda Vienna website	website	Yes	http://www.partizipation.wien.at http://www.wien.gv.at/digitaleagenda
Digital Agenda Vienna	First version from 2015	Yes	https://www.wien.gv.at/digitaleagenda/english.html
Die partizipative Entwicklung einer digitalen Agenda in einer öffentlichen Verwaltung mit IKT-Unterstützung – Vorgehensempfehlungen für die öffentliche Verwaltung	Master Thesis	Yes	Heissenberger (2016)
Zwischenergebnisse der Arbeitsgruppe ‘IT in Bildung und Forschung-ENTWURF	Unpublished project documentation	No	Parycek et al. (2015)
Internal project documentation	Unpublished project documentation	No	Rinnerbauer (2015)
Digital Agenda Vienna 2020 Online discussion	Website	Yes	https://www.partizipation.wien.at/de/consultation/digitale-agenda-wien-2020

Bowen recommends not to engage in quantification (e.g., as with content analysis), but in a document review, in which meaningful and relevant passages of text or other data are identified. Thematic analysis was the approach used to extract the data from the documents, a process of identifying and organising meaningful and relevant sections of the documents into categories related to the central questions of the research (Bowen, 2009). Krippendorff (2018) suggests that documents or other text data such as government guidelines and directives, official documents, programs and policies and periodic reports can be analysed in a hermeneutic approach through a five-step process containing access to documents and data, checking the validity of documents,

comprehending the documents, analysing the data and applying the information to themes. In order to ensure convergence (Bowen, 2009), different types of documents were selected to study the case. The selection of documents (see Table 2) includes all the documents available regarding the Digital Agenda Vienna initiative published by the City of Vienna, a Master Thesis written by the public officer initially responsible for the initiative and internal project documentation by one of the authors who had an active role in the process (documents that are not available to the public).

3.3 Expert interviews

For this study, two interviews were conducted with experts known to have specific, deep knowledge and experience which result from their organisational function, associated responsibilities and obligations (Bogner et al., 2009) in order to help understand the data gained from the document analysis and to answer any questions that could not be answered on the basis of the data obtained. Therefore, two employees from the City of Vienna public administration that were involved in the e-participation initiative Digital Agenda Vienna at the time and currently focus on the further development and implementation of e-participation initiatives in the City of Vienna were interviewed. One interviewee was employed during the implementation phase of the Digital Agenda Vienna and remains responsible for the Digital Agenda Vienna (expert 1), the other interviewee has been involved in public participation initiatives for the City of Vienna for over 20 years and directly involved in all phases of the Digital Agenda Vienna (expert 2). The questions were open-ended and conducted face-to-face in the offices of the City of Vienna (Division Organization and Security Group Process Management and ICT-Strategy), where both interviewees work.

4 Analysis

The data to be analysed was selected from the documents by considering the themes of the research questions, whilst the codes for the analysis were drawn from the literature described above. Whilst both authors were involved in the selection of the themes (first-level analysis, section 4.1), only one author was involved in the second-level analysis and coding due to a more extensive involvement in the project and access to the internal documents.

4.1 First-level analysis

The themes that guided the initial extraction of the content in the documents and the interview transcripts selected were guided by a recent review on top-down e-participation (Randma-Liiv and Vooglaid, 2019). Whilst the analytical framework by Randma-Liiv and Vooglaid (2019) considers the organisational design of the initiative, the process of e-participation and the success factors, in order to answer the research questions, the following two themes were identified as being particularly relevant to answer the research questions:

- 1 Process design: “E-participation is a collaborative process involving a number of actors (e.g., government units, NGOs, businesses, ICT support) that contribute to the functioning of the platform, and who are likely to have different roles leading to complex interrelationships among the actors” (p.18).
- 2 Enabling factors (success factors): “Success may then be defined in relation to the success criteria defined by different groups of actors. This means that different actors in the participatory process define success differently, depending on their institutional belonging, formal position and individual goals set for the participatory process” (p.24).

All those parts of the documents and interviews seen as relevant to these two themes were extracted and collected for coding.

4.2 *Second-level analysis*

A code is understood as a label that assigns “symbolic meaning to the descriptive or inferential information compiled during a study” and “attached to data ‘chunks’” [Miles et al., (2014), pp.71–72]. Several codes were used for the analysis of the data, these were drawn from the relevant literature on e-participation that focuses on the two relevant themes selected.

The codes attached to the theme of process design were inspired by some of the key dimensions of e-participation introduced by Macintosh (2004) as depicted in the subsequent table.

Table 3 Theme ‘process design’

<i>Author</i>	<i>Dimensions</i>	<i>Descriptions</i>	<i>Codes in this study</i>
Macintosh (2004)	Accessibility, actors	How many, whom to engage	Stakeholder engagement Expert involvement Topical working groups
	Stage in decision-making	When to engage	Policy-cycle
	Level of participation, technologies used	How far and with what to engage citizens	Participation phases (online and offline), moderation of the discussions

Summarising, process design covers the following codes: stakeholder engagement, expert involvement, topical working groups, policy-cycle (influence on decision-making), participation phases (online and offline) and moderation.

The codes associated with the theme of enabling factors were also drawn from the literature on e-participation.

Enabling factors encompass feedback given to participants, clear stakeholder expectations, collaboration between stakeholders, user contributions, unforeseen positive consequences, topic wise unlimited discussion and performance indicators.

Table 4 Theme enabling factors

<i>Author</i>	<i>Enabling aspects</i>	<i>Codes in this study</i>
Lee and Kim (2014)	Good quality governmental feedback	Feedback given to participants
Toots (2019)	Information of the stakeholders about what to expect	Clear stakeholder expectations, collaboration between stakeholders
de Jong et al. (2019)	Quality of the outcomes	User contributions, unforeseen positive consequences
de Jong et al. (2019)	Smooth process itself, experience participants make during the process	Topic wise unlimited discussion, performance indicators

5 Results

The results gained from the analysis of the documents and interviews regarding design and enabling factors are summarised as a 'matrix display' (Miles et al., 2014) in Table 5. The matrix display summarises the qualitative data from the document analysis and the interviews and helps to organise and display data by type, to make comparisons, and to link the evidence collected and the inferences made by the researchers (Newcomer et al., 2015).

Table 5 Matrix display of the summarised results

<i>Summarised results</i>	
<i>Theme: process design</i>	
<i>Codes</i>	<i>Results</i>
Stakeholder engagement	<ul style="list-style-type: none"> • Target group: all people affected by the topic • Motivation: online and offline announcements • Use of non-technical information
Policy-cycle	<ul style="list-style-type: none"> • Agenda setting, analysis and preparation of policies, monitoring • Follow-ups: sub-unit for innovation projects; citizen portal; chatbot
Participation phases	<ul style="list-style-type: none"> • Online: collection of ideas, rating, commenting, discussion of strategy text • Offline: provision of basis for strategy text through working groups • Online and offline: implementation and development;
Expert involvement	<ul style="list-style-type: none"> • Selection by the CIO (existing collaborations, internal organisations)
Moderation	<ul style="list-style-type: none"> • Little moderation (removal of advertisement, analysing discussion)
Working groups	<ul style="list-style-type: none"> • Reports (100 pages in total) • 30 page summary in second online phase

Table 5 Matrix display of the summarised results (continued)

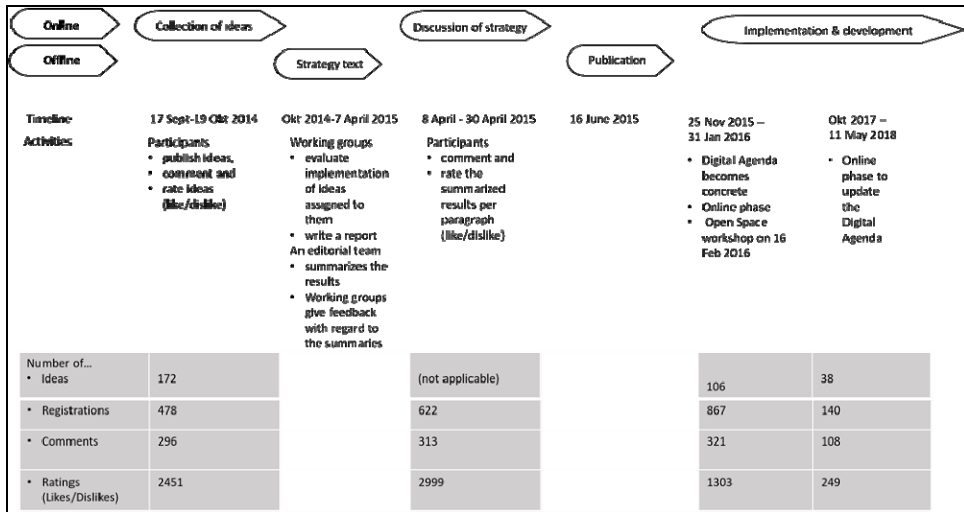
<i>Summarised results</i>	
<i>Theme: enabling factors</i>	
User contributions	<ul style="list-style-type: none"> • Limit length of contributions
Clear stakeholder expectations	<ul style="list-style-type: none"> • Technical problems on the participants' side • Potential of different expectations about outcomes (participants, decision-makers)
Unforeseen positive consequences	<ul style="list-style-type: none"> • Use of the tool through other public administration offices within Vienna • Establishment of <i>partizipation.wien.at</i> as the central participation platform
Collaboration	<ul style="list-style-type: none"> • Increased: participation platform used for internal and external discussions
Performance indicators	<ul style="list-style-type: none"> • Number of likes, dislikes, comments, ideas, active users, popular contributions • Visible for project owners only: overview on the ratio of likes and dislikes
Topics	<ul style="list-style-type: none"> • No restrictions, questions asked see below, section 3.1, (Heissenberger, 2016)
Feedback	<ul style="list-style-type: none"> • Personal e-mail reply to each user for every idea provided after the first online phase • Participation in working groups

5.1 Process design

The target group of participants was not restricted, as *digitization affects everyone* (expert 1), only a registration on the website disclosing an e-mail address and a (nick-) name was required to lower participation barriers, to be able to contact people at a later stage and as a measure of quality assurance (expert 1). So stakeholders' engagement included city councillors, universities, ICT industry and Vienna's public administration amongst others (expert 2). Although participation was not restricted, the initiative did not achieve representativeness. The use of social media, professional support and traditional media was to help attract a range of participants (expert 1). Nonetheless, some could not be reached and were excluded as the offline phases only invited those who had initially participated online. Concerning the influence on decision-making, it was observed that frequently rated ideas influenced public administrative decision-making more than others (expert 1). The Digital Agenda Vienna generally serves as a basis for discussion with the political level (expert 1). Within the policy cycle, the Digital Agenda Vienna contributes to agenda setting and monitoring, but especially to analysis and preparation of policies (expert 1). In retrospect, how the Digital Agenda Vienna influences decision-making becomes evident through the setup of the Digital Agenda Realization Team (DART), for implementing the participants' ideas e.g., through the development of apps. Three popular examples of implementations are the citizen portal 'Mein Wien' ('My Vienna', Stadt Wien, 2019c), the complaint management app 'Sag's Wien' ('Tell Vienna', Stadt Wien, 2019d) and the chatbot 'Wienbot' (Stadt Wien, 2019e). The citizen portal also includes 'Mein Grätzl' ('My Neighbourhood', Stadt Wien, 2019b) with information about the neighbourhood and access to some administrative procedures as in

'Meine Amtsweg' ('My Administration', Stadt Wien). All allow the upload of pictures and location data.

Figure 2 Overview of the process



Source: Heissenberger (2016, pp.55–61), <https://www.wien.gv.at/digitaleagenda/prozess.html> and <https://www.partizipation.wien.at/de/consultation/digitale-agenda-wien-2020?page=1>

Figure 2 provides an overview of the five participation phases in total with the top two lines indicating whether the phase is an online or offline phase, followed by two lines linking that represent the timeframe and the activities performed. The bottom provides additional details on the statistics for each phase.

The first phase asked for a collection of ideas answering the following questions (Heissenberger, 2016):

- How should the IT-infrastructure be designed in Vienna in future?
- How can the business location of Vienna be further developed with IT?
- How can the city administration support the citizens with IT better in all life situations?
- How will IT change the public administration in future?
- What concerns arise for you through an increasing digitization of the Viennese public administration?

In this first phase, 172 ideas, 296 comments and 2,451 rates ('like' or 'dislike') were made by the users. Participants who had provided their contact details were invited to participate in the second phase and to indicate the topic they wanted to discuss (expert 2). Ideas were clustered into six topics and six working groups were formed (Heissenberger, 2016):

- 1 trust, protection and security
- 2 services for citizens
- 3 education and research
- 4 Vienna as an IT location
- 5 digital infrastructure and technologies
- 6 IT governance.

During this first phase there were some concerns regarding, for example, regarding the use of social media, and expert 2 mentions “Especially I had concerns. I remember two examples where there were shitstorms and threats and I thought this could also happen to us”, Experts from other departments advised them to use social media as citizens would appreciate the opportunity to be involved, an assumption that turned out to be correct (expert 2). This view was confirmed by positive citizen feedback and only a limited need for moderation. Three to four people had moderation rights, and their activities included removing adverts, analysing the discussion and ensuring that there was no insulting or inadequate behaviour (expert 1). Only two ideas were taken out of the discussion, as these could not be implemented by the City of Vienna (expert 2).

In the second phase, participants formed working groups consisting of citizens and experts. These groups were organised according to the topics that the participants’ ideas were associated to. The experts, who were to guide the topical working groups and act as editors of the strategy document, were selected either by the CIO and based on previous collaborations or recommendations from other departments as to. Each group held offline meetings and produced a report synthesising the ideas gained from the first online participation phase. An editorial team summarised these reports along the criteria of feasibility and implementation, i.e., the City of Vienna must have the necessary competences to be able to implement the idea, it should help develop the digitalisation strategy, be innovative and beneficial for the whole city, not only individual persons (expert 2). Ultimately, about 100 participants joined the working groups (expert 2).

Subsequently, the summary was published to be discussed during the third phase. The publication of the draft enabled participants to comment and rate it during the fourth phase. The comments provided at this stage were integrated. In June 2015, the results were published and presented to all interested participants at a public event including political actors, experts from academia and public administration. The Digital Agenda Vienna contains 6 chapters which are largely congruent with the topics assigned to the working groups (Heissenberger, 2016). It identifies five fields of action, labelled: ‘Connected with security’, ‘Donate time to the people’, ‘City of digital competence’, ‘I Like IT – Digital City Vienna’ and ‘Digital Infrastructure as basis; and links flagship projects such as the citizens’ portal (see Digital Government Blog, 2015). The Digital Agenda Vienna shows how the results are linked to the citizens’ ideas, and the fifth phase, implementation and development, is ongoing with a mix of on- and offline activities.

As a follow-up, in an online phase (25 November 2015 to 31 January 2016) four questions for the development of applications were asked. These questions were [translated from Heissenberger, (2016), p.65].

- Which services do you personally wish for to be provided as a smart App?
- Which functions will in your opinion help to save time in everyday life?
- Which functions will in your opinion help to shorten routes in everyday life?
- Which functions will help to save resources?

In autumn 2019, the new digital strategy of the city, the Digital Agenda Vienna 2025, was adopted by the Vienna City Council (Stadt Wien, 2019a). It is not a rigid set of rules, but a working document summarising current projects and future focal points. An underlying principle of this updated version is technology follows humans, not the other way (Stadt Wien, 2019a). The update defines projects in line with the working groups' topics and outlines long-term strategic goals. Part of the goals are strengthening the ICT sector while at the same time safeguarding social fairness, participation and involvement of the Viennese in the progressive digitisation of public administrative services, using potentials of digitisation for saving resources and maintaining security, trust and protection. The Agenda lists some of the efforts made so far and repeats the commitment to its further development, which will nourish the expectation of a next version.

The next section highlights the factors that have been identified as being beneficial, which we call factors that enable participation or enabling factors.

5.2 Enabling factors

As enabling factors, we identified providing specifications for user contributions, clearing the stakeholders' expectations, unforeseen positive consequences, and collaboration between stakeholders, performance indicators, topics and feedback. Some of them affect especially the supply-side, namely the unforeseen positive consequences and the collaboration between stakeholders. Factors concerning both sides include avoiding differing expectations about the outcome of the process through easy-to-understand information, providing specifications for user contributions and transparent performance indicators. From the supply-side (City of Vienna), some unforeseen positive consequences were noted: the experience was consistently positive (expert 1) and the number of participants increased remarkably during the process [Heissenberger, (2016), p.99]. The participation tool, once intended to be used for the Digital Agenda Vienna only, is now available for all public administration offices in the City of Vienna under the domain partizipation.wien.at (expert 1) and use cases carried include the discussion of a district's budget (expert 2). Focusing on the Digital Agenda Vienna, both interviewees found the participatory process effective, though opinions diverge on its necessity. Advantages of involving the public were seen in higher acceptance of the strategy (expert 1), saving costs, allowing gathering diverse and broad opinions, including people with limited mobility, and not relying on time and location in comparison to offline-activities, which leads to a better discussion culture and is more analysable (expert 2). These experiences show that external and internal collaboration has increased, although the collection of ideas should only complement experts' opinions – the experts must evaluate the ideas with regard to implementation and feasibility [Heissenberger, (2016), p.95]. It is therefore necessary to make clear that participants provide ideas, but it is not an offer to implement everything suggested (expert 2). This can potentially affect both sides, since there might be differences "(...) from what the decision maker says –

from the cradle to the grave we take care of all citizens with the ID and then everything runs electronically and reality looks like: if you see a pothole somewhere out there, send it to us” (expert 2). There may be great differences between the expectations of the participants (e.g., to rebuild Vienna) and the expectation of decision makers (e.g., to offer tailored mobile public services) (expert 2), so managing expectations and informing the participants about the process is important (expert 2). The clear intention was therefore to make information easy to understand (expert 1). Based on the identified trend of a preference of the participants for rather short contributions (expert 2), providing specifications for user contributions was recommended by one interviewee (approximately 3,000 keystrokes per idea, expert 2). Performance indicators can have an enabling effect on both sides. In this case, indicators such as the number of likes and dislikes were visible to all registered participants (expert 1). These particular indicators were not selected by any of the stakeholders, rather, they were provided by tool, but turned out to be more useful than expected (expert 2). A pop-up online window allowed registered users to follow the most popular topics, although these often reflect physical meetings where the ‘loudest’ participants’ ideas are those discussed most (expert 2). The project owners were also able to view other indicators, such as the ratio of likes and dislikes (expert 1).

For the demand-side (external stakeholders), it was seen as important that the discussions were not restricted to certain topics and that feedback was given. Although the Digital Agenda Vienna was initiated by Vienna’s CIO (expert 1), the selection of topics was entirely open. Also providing feedback during the e-participation process is important (Heissenberger, 2016). The credibility of the initiator can have boosting effect on the participation rate - the participation rate increased remarkably from the first online phase to the follow-up online phase focusing on apps [Heissenberger, (2016), p.99].

6 Discussion

This study contributes to e-participation research by providing insights into the decisions and experiences made during an e-participation initiative that is to have long-term effects for the City of Vienna. The theoretical implications of this study results confirm the following prior findings: Making expectations clear as the stakeholders’ views may be different and ensuring the e-participation to be anchored in a political context (Toots, 2019); communicating the skills people will need in order to participate, reassuring citizens about their capabilities, clarifying how outcomes will be used as well as providing a transparent process (de Jong et al., 2019).

Stakeholders were addressed via different channels to attract as much attention as possible since all people affected by the topic were considered as part of the target group. The mix of online and offline phases involved the open and self-selected (Karlsson, 2012) public as well as strategically selected experts. Open self-selection is associated with the risk that specific interest groups will dominate the discussion (Karlsson, 2012). There was no topic dominance by certain groups within the Digital Agenda Vienna initiative, but, the decision to limit participants to those registering online and providing an e-mail address excludes those citizens who are not tech-savvy enough to do that. Nevertheless, within the different phases of online and/or offline participation, a Digital Agenda Vienna ‘community’ emerged. The public administration formed a strong connection with this community, since regular feedback was provided both on a general

level and individual level by responding to the specific contributions. The Digital Agenda Vienna, until the time of writing, continues to influence multiple stages of the policy cycle ranging from agenda setting to monitoring. Other more indirect long-term effects are the strengthening of the participatory culture both within public administration as well as with citizens in Vienna. This shows that using an e-participation platform and creating a showcase might have a much larger impact to (cross-) organisational structures and habits than initially planned. This makes this study provides useful for practitioners too. Practitioners are invited to use the learnings from development of an IT-strategy at the municipal level in the German-speaking region, such as providing specifications for user contributions, or ensuring clarity regarding expectations as such an initiative do not constitute a 'shopping list' and it is not always possible to implement all the wishes and ideas. With the Digital Agenda Vienna, for instance, two ideas that were beyond the competence of the City of Vienna had to be removed. Nevertheless, in future, a possibility may be to not restrict any type of discussion, idea or topic. Furthermore, performance indicators may help to document the process, to connect design decisions with effects and enable comparisons with future initiatives. A further finding is that responding and giving feedback to all participants was seen as crucial. Introducing an e-participation tool for one initiative can also be used in other areas and for internal as well as external cooperation. Moderation can be crucial and is a necessary competence even if it is not needed: inadequate communication did not occur in the investigated case, but is an important issue that needs to be considered and training and support is necessary in order to be able to deal with it effectively should it occur. Should deletion be necessary, this should be done following a set of criteria and explained in a comprehensible manner. Another learning is that difficult topics that are usually dealt with by experts can be dealt with by citizens or through crowdsourcing. The case study shows that the more the tool is used, the more it is the norm, strengthening participatory culture as a whole. This includes a transparent treatment of inadequate comments.

In this case study, and as is typical for many e-participation initiatives, the rate of participation was rather low. This may be due to the heavily reliance on the website. There were no mobile or social media channels that allowed participation, although Al-Dalou and Abu-Shanab (2013) and Wimmer et al. (2013) have previously identified the potential of mobile participation whilst Mergel (2012) and Tambouris (2013) have previously shown the importance of social networks for policy making, efficiency and effectiveness. More marketing in online and print media could contribute to achieving a higher participation rate (Heissenberger, 2016). Despite the rather low participation rate, the contributions made by the participants were classified as being of high quality by the public administration initiating the process. Relevant for both theory and practice are the following further possible enabling factors that could have made a difference with regard to participation rate. Besides the use of mobile channels that could have potentially increased participation and interaction (Wimmer et al., 2013), the registration which required an e-mail address could have been a barrier for online lurkers who could have played a role promoting the e-participation initiative (Edelmann, 2017). On the one hand, removing the registration could have lowered the participation threshold in general, but on the other hand, targeted feedback and keeping participants in the information loop would not have been possible without knowing their email address. Additionally, with view to technology acceptance, the usability of the tool can be an enabling factor for the demand-side who see usability as one of the necessary critical success factors [Austrian Working Group on E-Democracy, (2008), p.22] or Scherer et al. (2010) who argue that

“e-participation features must base on easy-to-use tools in order to avoid usability flaws that could discourage people from online participation” (p.56). In this case, public administration received no feedback regarding the complexity of the process or a difficulty using the tool: “I never heard that the platform was difficult to use” (expert 2).

Further research could include the use of the findings for a systematic review on enabling factors, or a comparison of this case with other cases with similar targets, allowing to shed light on conceptual similarities and differences of participation processes and the outcomes in order to draw up a list of recommendations for public administrations. There is still no standardised way and no standard guide for e-participation and evaluating it. Whilst each case may be specific, such a guide containing the necessary enabling factors would support public administrations when designing the next participation process.

Although the document analysis provides a valuable qualitative method to study this case, a limitation is the small number of experts interviewed. Although they were experts from the City of Vienna’s department responsible for setting up and running both this and other e-participation initiatives, other organisations are also involved and could have provided some information and experiences. Nonetheless, they were selected due to their extensive experience and expertise and were able to provide answers to the questions that stemmed from the analysis of the documents. Therefore, we think the view of the public administration is covered well. Nevertheless, the perspective of participants is also valuable for assessing a participation initiative and therefore, extending interviews also towards the demand-side could uncover other insights.

7 Conclusions

A Digital Agenda is an ongoing process and not a ‘static document’ [Heissenberger, (2016), p.99] and in line with that, the City of Vienna sees the results gained from this participation process as a to-do list of future issues they need to address in order to further develop the use of IT and e-participation in Vienna’s public administration. The process included on- and offline activities in five phases. From this case study, we identified the factors enabling e-participation on the supply side and the demand-side.

One of the main aims of the Vienna City government is to increase citizen participation in general and has been repeatedly part of the governmental program of Vienna (expert 1). The Digital Agenda Vienna contributes to several aspects of the policy cycle, including setting the Agenda, the analysis and preparation of policies, and to some extent, monitoring. The participants were informed that their contribution represent ideas and suggestions, not a wish-list to be fulfilled. The extent to which the Digital Agenda Vienna influences policy-making can be seen as it impacts the internal organisation by providing a basis for discussing the implementation of political decisions in the City of Vienna’s unit ‘PACE – Fast Lane Digitale Innovation’ responsible for fast testing and implementation of digital ideas and solutions. In autumn 2019, the Vienna City Council adopted an updated version, the Digital Agenda Vienna 2025 (Stadt Wien, 2019a). These impacts as well as the continued use of the platform for other e-participation initiatives that focus on digital and technology issues show the project’s long-term impact.

A comparison of the Digital Agenda Vienna with other IT-strategies demonstrates that they all have similar aims. The Digital Agenda for Europe (European Commission, 2010) or the Tallinn Declaration on eGovernment (Council of the European Union, 2017)

emphasise the development of a digital single market and cooperation to foster sustainable growth in Europe. Amongst others, an increase of trust and online-security are to be achieved as well as a fast access to the internet, investments in research, competence and integration (web accessibility). In the USA, the San Francisco Digital Inclusion Strategy's (Civic Hub, 2020) main aim is to provide the whole city's population with access to the internet and to support them in increasing their knowledge necessary to actively participate in the net, goals also defined in the Digital Agenda Vienna. This case study illustrates what e-participation can achieve and provides policy-makers with suggestions on how to run an open and transparent e-participation process that includes several phases. For both policy-makers and researchers, it provides dimensions and factors to be considered in future or other similar cases.

The case study represents a retrospective that focuses on specific themes rather than the project as a whole. Several other dimensions could be investigated, nonetheless, this study contributes to research on the impact of e-participation design decisions and other factors on the process, outcome and long-term effects. More precisely, future research should also expand on examining knowledge sharing processes within e-participation, such as the challenges and opportunities of e-participation for stakeholders (Wahid and Sæbø, 2015), the long term effects (Smith et al., 2011) or ensuring security, privacy and the assertion of rights within e-participation (Rodríguez-Bolívar et al., 2018).

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