

Communication with local governments

An assessment of e-mail responsiveness

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ABSTRACT

Digital government remains high in research and policy agendas. Public institutions reinvent themselves to follow the transformation process and keep up with the innovations. At the local level, e-government responsiveness lies at the heart of local e-government strategies for better and more efficient service delivery and encompasses aspects such as accountability of public institutions, citizen's trust in government and satisfaction. This paper is inscribed in a series of studies aimed at assessing the web presence of local governments and focuses specifically on the results obtained for the assessment of e-mail usage in the communication between municipalities and citizens. While the results indicate positive signs on the timeliness and quality of the replies provided, some questions remain about the responsiveness capacity of the different recipients (Services of the municipalities, Mayor, Deputy Mayor and Opponent Councilor) in its full potential, namely due to a prominent 'no reply' stance. There is still margin for improvement in the interaction between governments and citizens via electronic mail.

CCS CONCEPTS

• **Applied computing** → Computers in other domains; Computing in government; E-government.

KEYWORDS

e-mail, local e-government, responsiveness, communication with government

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1 INTRODUCTION

Digital government is in constant change and evolution [1]. It is a transformation and modernization process that consists of “the application of technology by government to transform itself and its interactions with customers, in order to create impact on the society” [2, p. S96]. The development of e-government is framed

by administrative modernization and digital transformation for administrative burden reduction and more effective service delivery and communication with citizens.

The innovations attached to digital solutions are permanently challenging the most effective use of ICT for the government's scope and sphere of activity. Additionally, external pressures and several idiosyncrasies, from social, economic or political nature, also need to be accounted for when embracing ICT for better service delivery and good governance. There is extant literature emphasizing that ICT in the public sector can be used to increase openness and transparency [3], to promote accountability, to help to mitigate corruption, to improve citizen satisfaction and trust in the public sector and in public institutions [4], as well as to reinforce e-participation and civic engagement, namely via social networking sites [5, 6].

At the local level, ICTs can reinvigorate the relationship between governments and citizens, not only by making available a more diverse range of channels for communication, but also by allowing more personalized service delivery. According to the view of Davydova *et al.* [7], e-government development entails aspects about better and more efficient service delivery together with e-services policies and practices that best serve the citizens' needs and concerns, both individually and collectively.

Scholars have been attentive to e-Government development and trends. Since the 90s, the adoption and use of digital technologies by governments is attracting public servants and scholars alike [8]. The assessment of e-government is far more well-established at the national level than at the local level. Despite some well-known studies and rankings, it remains true that it is hard to develop assessment and monitoring mechanisms that can grasp the different aspects of e-government, rushing the need for a “realistic assessment” [9, p.2]. Since 2018, UNDESA has been implementing a Local Online Service Index (LOSI), which includes the assessment of different aspects related to technology, content provision, services provision, and participation and engagement. The latest findings show that although city portals are more prone to information provision, there are also signs of a recognized importance of multichannel service delivery [11].

In Portugal, local e-government assessment has a tradition. Since 1999, GÁVEA, the Observatory of the Information Society of the University of Minho, has been following attentively the most recent technological developments and the current state of maturity of municipalities' web presence. The websites of the 308 municipalities are assessed every two years and the results are published and publicly presented. The assessment grid includes four criteria: 1) Content: Type and Update; 2) Accessibility, Navigability and Ease of Use; 3) Online Services and; 4) Participation. This work addresses one of the indicators contained in the third criteria, that pertains to

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the e-mail service. Although the e-mail can serve multiple purposes and be considered as contributing for e-participation – in its three forms of e-Information, e-Consultation, and e-Decision-making, as proposed by UNDESA (2019) based on the levels of civic engagement –, the approach followed is to assess how the e-mail is being used by municipalities as a service available to fulfill a request from an ordinary citizen. In specific, five e-mails to five different recipients from municipalities were sent, including the Services (with a simple and a complex request), the Mayor, the Deputy Mayor, and the Opponent Councillor. For each e-mail reply, the elements assessed were: 1) the successful delivery of the e-mail message sent by a citizen; 2) the confirmation of correct reception of the e-mail by the recipients within the five minutes following the sending; 3) the quality and timeliness of the reply and; 4) the identification of the respondent.

This paper is structured as follows: Section 2 is focused on why local e-government and e-mail usage in the interaction between governments and citizens; Section 3 describes the methodology adopted in the study; Section 4 presents study results; Section 5 provides some discussion and closing remarks; and Section 6 presents the limitations of the study and directions for future research.

2 LOCAL E-GOVERNMENT AND E-MAIL USAGE

In principle, local governments' administrative autonomy leaves some room for targeted plans and actions suited to the needs of the population they serve in the different sectors of activity, being social welfare, education, urban management, environmental sustainability or other. The role of e-government at local level, to support the implementation of this plans and actions, namely the availability of an operational and friendly website is a crucial point, that may assume even a greater importance in special occasions like emergency situations [10].

Indeed, closeness to citizens is in the core functioning of local governments because they are directly involved in people's everyday lives and the issues with which they deal directly affect their living conditions [11]. Additionally, cities are "important hubs of human activity that are gaining in population and increased importance in the global economy" [12]. Despite some controversy around decentralization, local e-government can contribute to higher autonomy of municipalities and to personalized and tailored service delivery.

ICT in the public sector affects efficacy and efficiency of processes and outputs, bringing governments to a next level of maturity on the run for modernization and digital transformation. The digitalization of communication between governments and citizens is important for e-government and addresses questions as accessibility, costs, reliability and responsiveness of e-government. Despite the emergence of trendy communication channels, asynchronous communication via e-mail is of rapid and easy access, and offers competitive cost and some degree of reliability. According to Hanssen [13], the informality of the e-mail allows politicians to get closer to constituents, to understand their problems, experiences and preferences, as well as to broaden the relationships with a more diverse variety of groups.

Webpage oriented services and the e-mail usage are well-established mechanisms in the communication between governments and citizens [14].

The availability of an e-mail address to contact a local government instance is an indicator of the local government web presence. As an e-participation channel, e-mail can be used as an ICT tool in different phases of the policy-making process, namely information provision (through e-mail alerts and newsletters) and the decision-making phase (being used, for instance, for distribution lists for target groups) [15]. On pair, websites commonly "act as front offices through which to establish channels that can be used to interact with citizens and firms" [16]. This is usually the source where regular citizens find e-mail addresses from different services or individuals from a municipality. Since long time, institutions from the public sector have been trying to move from a government-centered perspective to a user-centered perspective [17] and to take measures to improve participation and citizen satisfaction, foster citizen inclusion, as well as to take the stance on understanding responsiveness to public needs and expectations [18].

3 METHODOLOGY

The results presented in this paper are inscribed in the series of studies developed by GÁVEA since 1999. The study is developed every two years and consists of the assessment of local governments' web presence in Portuguese municipalities through the lens of an ordinary citizen, whose time, patience, and resilience are limited when looking for online information or services to meet his needs and fulfill his expectations. The assessment tool applied to all local governments official websites is composed by four criteria, 34 indicators, and a set of sub-indicators. A snapshot of the indicator applied to the e-mail service is presented in this paper. This indicator and its respective sub-indicators intend to assess how local government relevant actors (either municipality public servants that are responsible to support the execution of citizens' service requests or government representatives, such as the Mayor, Deputy Mayor and Opponent Councillor) reply to citizens' email contacts.

The data collection process was done by an assessor instructed to assume the role of an ordinary citizen. In November 2021, the assessor sent five e-mail messages from a citizen individual e-mail account to five different recipients of all 308 municipalities of Portugal and with different requests (Table 1).

The e-mail addresses from the five recipients were consulted and collected from the municipalities' official websites. As such, the e-mail addresses collected were the general e-mail address from the municipality (to contact the services) and the Mayor's, Deputy Mayor's and Opponent Councillor's direct e-mail address or of respective secretary or assessor. When an e-mail address was not found but there was an embedded electronic form available in the website, it was used to send the e-mail message.

The replies to each of the five e-mail messages received were assessed by the assessor and validated by the research team. For the assessment of the e-mail replies received, four sub-indicators were considered: 1) if the e-mail was delivered successfully; 2) if the confirmation of correct reception of the e-mail was received; 3) the quality of the reply and the response time; 4) if the reply was

Table 1: Recipients and type of e-mail messages sent

Recipient	Type of E-mail message
Services of the Municipality	Request of simple service: asking for the opening schedule of the Treasury Department of the city hall.
Services of the Municipality	Request of complex service: asking for information about any licensing requirements for construction works in a private household that changes the apartment typology.
Mayor	Simple request: enquiring about the date of the next public city hall meeting to attend it as citizen as present a question of interest for the municipality.
Deputy Mayor	Simple request: asking for information about face-to-face service hours for constituents to present an issue under the Deputy Mayor’s scope of activity.
Opponent Councilor	Simple request: asking for information about face-to-face service hours for constituents to present a relevant situation related to the city.

Table 2: Indicators used for the assessment of the e-mail messages

Indicator	Description of the indicator
1) Successful delivery of e-mail message	Assesses if the message was delivered successfully or if it was not, namely because the inbox was full, or the e-mail address has failed.
2) Confirmation of correct reception of the e-mail	Assesses if a confirmation message acknowledging the successful delivery of the e-mail was received within the five minutes following the sending process.
3) Quality and time of the reply	Assesses the quality of the reply provided (very useful, useful, or useless) and the response time (until 8 hours; between 8 hours and 1,5 days (36 hours); between 1,5 days and 3 days (36 hours and 72 hours); between 3 and 5 days (72 hours and 120 hours); more than 5 days (120 hours).
4) Identification of the respondent	Assesses if the reply is nominally identified: with name and function of the respondent; with name or function of the respondent; without name nor function of the respondent.

signed. Further details of each of the four indicators are provided in Table 2.

4 RESULTS

From all the messages sent (1540 in total), only six were not successfully delivered to the recipient. The reasons for the unsuccessful delivery were full inbox (one case) and technical problems (a persistent error of “bad gateway”, in one case for all five messages, where the message was sent using an automatic form available in the municipality’s website). More situations of unsuccessful delivery occurred, but the option was to re-send the message using the municipality general e-mail address (that was used to contact the Services). The only situation when the message was not re-sent was full inbox.

The **confirmation e-mail message** acknowledging that the citizen request was well received within five minutes after the sending was very significant in the case of the complex request sent to the services (with 50% of the sent messages having generated a reply acknowledging the delivery) and the Mayor (with 46%). As shown in Table 3, the lowest rates of confirmation replies were in the cases of the Deputy Mayor and the Opponent Councilor, which can also be explained by a weaker administrative support and assistance within the municipality’s structure.

As shown in Figure 1, the **number of replies received** could have reached more expressive numbers. This is particularly relevant since the study was conducted during the Covid-19 pandemic and, in this context, it would be expectable to have a fully met reply rate.

On the contrary, the reply rate was 66% since from all 1534 successfully delivered messages, 1009 got a reply. The highest response rate (85%) was from Services when the request was simple, followed by the Mayor (72%), the Deputy Mayor (64%), the Services in relation to the complex request (57%) and the Opponent Councilor (51%).

As for the **quality of the replies** received, in the set of charts displayed in Figures 2 and 3, the most useful replies received were from the Services when the request was for a simple question (out of the 260 replies received, 254 were very useful).

The distinction between very useful and useful allows to differentiate the replies that completely addressed the citizen’s request and the replies that did that partially. As an example, a very useful reply to the request made to the Mayor would be a straightforward answer indicating the date and time of the next town hall public meeting. A useful reply would somehow be incomplete, by omitting the date or the time, for example, of the meeting.

Table 3: E-mail messages confirming the e-mail reception per recipient

Recipient	Confirmation of the e-mail reception	
	Number of messages	Percentage
Services of the Municipality (simple request)	21	7%
Services of the Municipality (complex request)	154	50%
Mayor	141	46%
Deputy Mayor	13	4%
Opponent Councilor	16	5%

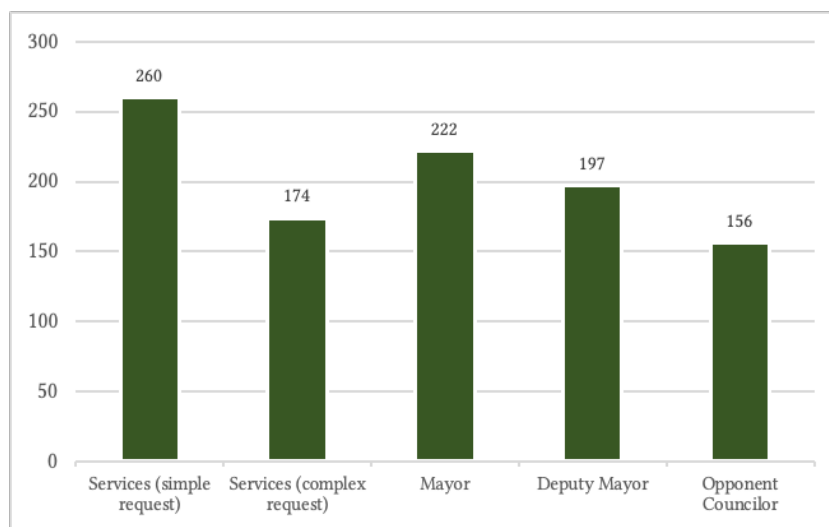


Figure 1: Number of replies received per recipient

As shown in Figure 2, basically all the recipients that replied to the email message provided either useful or very useful replies. There was just one single case of useless information provided, meaning that, when asked for simple information, the services provided a totally disconnected answer of what was being asked.

In terms of total percentages, considering all the replies received, 69,6% were very useful, 30,3% were useful and 0,1% were useless. The results show that e-mail communication with Portuguese municipalities gives positive indicators for its efficient use when interacting with citizens. The Mayor shows good signs of closeness to constituents, as 222 of the replies were very useful or useful and none was useless.

The **e-mail response time** is fundamental for citizen satisfaction in the interaction with government. The results gathered show that the vast majority of e-mail messages got a reply within the next 8 hours after the sending (939 e-mails in total). As depicted in Table 4, the simple request addressed to the services has the highest number of fast replies, followed by the Mayor (203), the Deputy Mayor (184), the Services for the complex request (150), and the Opponent Councilor (148). There are only two replies in the interval after 1,5 days: in two cases, the Mayor replied to the message in more than five days. In all the other cases and for all

the recipients, the citizen got an answer to the request in the next 36 hours.

The **identification of the respondent** also gives positive hints about the degree of personalization and professional care in the interaction with citizens. Out of the total replies received, 91% had an identification signature that was either complete (name and function of the respondent) or partial (either name or function). The biggest number of unidentified e-mail replies was found for messages sent for services with complex requests (Table 5).

The record of completed identified replies is considerably high and the margin between inexistent identification and complete identification is deep, which indicates an effort towards improved service delivery. Proper and complete identification of the person behind the e-mail interaction is fundamental for citizen’s trust in government and, in more practical terms, for an efficient communication, as the citizen will be able to follow up with the person or the department in question more easily than if no identification was provided.

5 DISCUSSION AND CLOSING REMARKS

E-mail service delivery in Portugal shows positive signs of use in all municipalities. Nonetheless, considering that the assessment

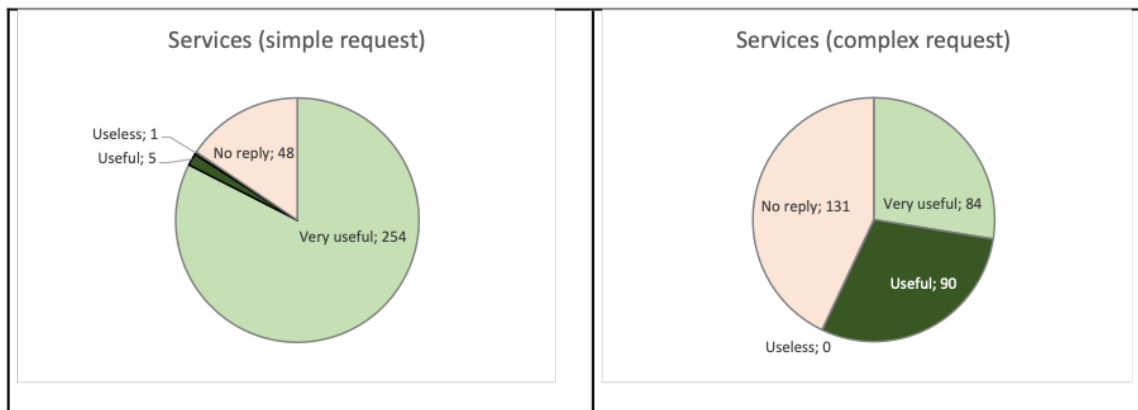


Figure 2: Quality of replies received per recipient (services: simple and complex request)

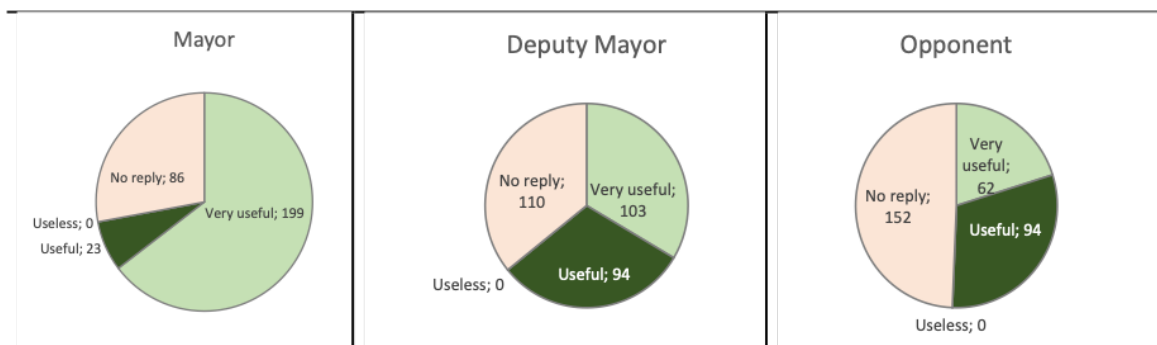


Figure 3: Quality of replies received per recipient (Mayor, Deputy Mayor and Opponent Councilor)

Table 4: Response time of e-mail messages per recipient

E-mail response time					
Recipient	Up to 8 hours	Between 8 hours and 1,5 days	Between 1,5 and 3 days	Between 3 and 5 days	More than 5 days
Services (simple request)	254	6	0	0	0
Services (complex request)	150	27	0	0	0
Mayor	203	17	0	0	2
Deputy Mayor	184	14	0	0	0
Opponent Councilor	148	8	0	0	0
Total	939	72	0	0	2

was done during the pandemic, it would be expected to have high responsiveness from municipalities. For all the recipients, the reply rate is higher than 50%, but having an overall reply rate of 66% leaves some reservation regarding the importance of e-mail usage to meet citizen’s requests.

The first indicator assessed, related to the acknowledgment of correct delivery of the e-mail message sent by the citizen, shows results that are consistent with a posture of care and stance of respect from the municipalities towards the citizens. This is particularly

relevant since most of the cases where there was a confirmation message that the e-mail was successfully received (50%) were from the Services when faced with a complex request. The good practice of sending a reply of this type is of utmost importance if a complex issue is at stake. The citizen can thus rest assured that the query got to the receiver and that the question is or is about to be addressed.

The assessment of the time and quality of the e-mail replies are two sub-indicators that show more promising results. In most cases,

Table 5: Identification of the respondent per recipient of the e-mail message

Recipient of the e-mail message	Identification of the respondent		
	Name and function	Either name or function	Neither name nor function
Services of the Municipality (simple request)	167	57	83
Services of the Municipality (complex request)	118	39	19
Mayor	183	28	11
Deputy Mayor	144	43	11
Opponent Councilor	97	46	12
Total	709	213	136

the reply was received in the next 8 hours after the sending and the overwhelming majority of replies was very useful or useful.

The high number of e-mail messages that completely or partially had an identification (name and/or function) of the respondent reinforces some degree of attention in service delivery, particularly in what concerns accountability and the ease for eventual need to follow-up. For citizens' trust in government and sense of belonging that local governments are more prone to offer to citizens, this is a plus.

On the contrary, the lower rates of confirmation messages received after five minutes of sending were of the Deputy Mayor and the Opponent Councilor, which can be explained by the importance of resources in municipalities and how this impacts their online presence [19].

The results reported for the Mayor (namely for the confirmation of e-mail message received and the high response rate) give indication of the importance of e-mail within the institutional framework of Portuguese municipalities, which helps to strengthen the ties between politicians, especially Mayors, and citizens [13].

6 LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The results presented in this paper point out some avenues for future research and leave related hints about limitations of the study.

First, this is a study from the demand side perspective. It would be interesting to look at the other side and understand which different channels are being offered and for which purposes in a broader and more complete approach. Additional field work, including semi structured interviews or ethnography, would allow to understand the options, *modus operandi*, challenges, and limitations of municipalities when dealing with citizens and other external stakeholders for different purposes and considering not only e-information, but also other forms of e-participation. Regarding the response time, the subject and main request in each of the e-mail categories sent (simple and complex) may also be affecting elements for timely replies. Hence, further research and qualitative analysis could be useful to enrich the analysis of the results.

Second, the focus is exclusively on e-mail usage and e-mail requests and replies. A multichannel communication is closer to what is the practice of most public institutions in current times, so a deeper analysis of the combination of channels made available to

citizens would enrich immensely the results and objectives of the study. This would open the door for other questions, as: Which communication channels are available, and for which type of services? What difficulties are municipalities facing in terms of the options and choices for multichannel communication? Do they include (mobile) phone calls? Texting? Sending of notifications? For which purposes? It would be particularly useful to develop a study with a more complete approach to all channels and that would include other more sophisticated digital communication channels and also social media presence and activity. Research based on the integration of social media tools with other e-participation tools for the process of policy decision-making is needed [20]. In a different perspective, research about the social media usage in the public sector for more and better responsiveness to citizens is needed [21].

Third, a longitudinal analysis would enrich the conclusions, allow a deeper understanding of what is improving in the e-mail service delivery, and inform better policy-makers on the best practices. From this analysis and combining a view of e-mail as service delivery and as e-participation channel alike, the results could be presented and delivered in the format of policy-briefs and toolkits for government officials and policy-makers aiming at evidence-based decision-making and improved internal management in municipalities.

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