

## Article

# An Exploratory Study of the Use of the Internet and E-Government by Older Adults in the Countryside of Brazil

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**Abstract:** The ubiquity of the Internet and its technology and the increasing aging of the world's population are ever more evident. Older users have different demands and capabilities when using the services offered in the digital environment. As a service provider to its population, the government has sought to optimize the provision of services and access to information through information and communication technology. Older adults are a relevant group of users of public services and have significant demands in some specific public services. To identify questions about the factors that promote the use, perception and barriers to the older population regarding the use of the Internet and government websites, this study was inspired by a study carried out in the United Kingdom to identify these factors. The study reports on a survey with 143 participants recruited from different geographical regions of the countryside of Brazil. The research showed that although government websites are strongly inclined to offer quality content and maintain the satisfaction of older adult users, there is still a more significant number of users who, due to low technology skills, do not use these sites or the Internet. Older citizens also had high Internet penetration and mobile device use. Lower computer literacy in the countryside of Brazil was related to factors such as gender, education level, race and sociocultural factors. A partial comparison with a study in the United Kingdom showed a lag in the use of e-government services by older adults in the countryside of Brazil.

**Keywords:** older people; Internet; e-government; digital divide



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## 1. Introduction

The world population is aging progressively. In 2017, about 962 million people were aged 60 and over worldwide. This figure is estimated to reach 1.4 billion in 2030 and 2.1 billion in 2050. This transformation will bring about numerous changes in several sectors of social structure, such as social security, health, housing, education, income, work, and urban development [1].

Another transformation societies worldwide have been experiencing is the broad use of the Internet. The number of Internet users worldwide in December 2022 was estimated at nearly 4.5 billion [2]. Brazil still has an estimated Internet penetration rate of 82.8%, considerably higher than the 69% average in the world [2].

In 2020, the country had an estimated 152 million of Internet users, which represents 81% of the population aged 10 years or older [3]. Although access to the Internet varies according to geographical location—the urban areas of the south-east and south of the country having higher access—Internet connectivity increased 12% compared to 2019 [3]. Additionally, use of the Internet has improved across lower social classes (C, D and E) due to the use of smartphones as the main device to access it. However, digital inequalities are still a barrier to be overcome. It is possible to trace the characteristics of the profile of the excluded part as individuals with a low level of educational attainment, belonging to classes

D or E, brown or black, and aged 60 years or over [3]. The social classification used here is based on the Brazilian Criteria for Economic Classification (CCEB) [4], which is based on the ownership of durable goods for household consumption (such as size of house, number of cars, etc.), level of education of the head of the household and access to infrastructural services. The higher the score, the higher the social class (A being the highest).

New generations are inserted in the digital context from an early age, and this contributes to their rapid adaptation and greater flexibility. However, most older adults witnessing such transformations demonstrate higher resistance or difficulty to technological advances, not enjoying the benefits offered. This lower level of familiarity with technology implies that issues related to the acceptance of this target audience deserve proper attention [5]. In many cases, technology has to adapt to older adults' needs to become accessible and promote inclusion [6].

The Internet has impacted people in several ways: entertainment, shopping, education, communication, health, and public services. It can decrease costs, be less time-consuming, and optimize processes [7]. Following such a trend, government services have implemented information communication technology (ICT), expecting to widen access to citizens, reduce bureaucracy, and speed up access to services and the information provided. In turn, the aim is greater efficiency of public administration. According to Lau et al. [8], electronic government (e-gov) as the digital intermediary for government services can enable better relationships and convenience between government and citizens, organizations, and other government bodies.

#### *Government Digital Services*

Freeman and Loo [9] point out that the main benefits of e-gov employment are the elimination of barriers to space and time, ease of communication, access to information without discrimination, improvement of citizens' quality of life, and citizen participation, among other. Its implementation has grown worldwide and is generally made available as a web-based service. Disadvantages include the need for access from different devices and ease of delivery (installation and upgrade) [10,11]. Considering the diverse demands that e-gov has, its insertion represents one of the most relevant reforms of the public sector [12].

However, according to Siren and Knudsen [11], such a comprehensive strategy can become problematic and potentially marginalizing for citizens with limited access or limited skills in the use of ICT. Ensuring that e-gov is accessible to all the population makes usability a key element in the adoption and acceptance of government services intermediated by ICT among the general public [13,14].

In the use of e-gov systems, senior citizens are among the leading potential users, forming a significant portion of service users, outnumbering young adults [15]. Thus, the provision of public services by electronic means may force older adults to engage with technology or be excluded from society in the digital context. An excellent example of this forced engagement can be seen in the case study presented in a recent article by Allmann and Blank (2021) and in the film "I, Daniel Blake" [16]. Although it is a fictional story, the film's repercussions in the United Kingdom reflect the problem of access and engagement with technology and how it can impact an older adult's life.

In Brazil, e-gov was initiated in the late 1990s, from electronic services such as tax returns, information on social security, and government purchases [17]. Recently, however, there has been an accelerated transition—also in response to the pandemic—of government services to digital (gov.br), with 1500 services digitalized in less than three years [18]. According to the United Nations E-Government Survey 2020, which assessed the e-gov development status of all UN member states, Brazil ranks 54th and the E-Government Development Index (EGDI) classified the country as very high [19].

As e-gov must be accessible to everyone, the potential users' capabilities, needs, difficulties, and barriers of all user groups must be considered for its development. Further to providing Internet access, it is necessary to make e-gov sites and resources available to all users, regardless of their age, limitations, or shortcomings, reducing the digital divide and

ensuring everyone can use e-gov services [20]. Some past studies have analyzed the usability and accessibility of e-gov systems for older adults. However, most of the work has been carried out in European countries [21] or in higher-income countries, creating a research gap in existing studies on e-gov issues and population ageing in middle and low-income countries.

Choudrie et al. [22] discussed the importance of promoting studies in other countries with different results and a different understanding, which may reduce any future bias in findings that could occur. Phang et al. [15] addressed the need for studies of the acceptance of e-gov services by older citizens, aiming to contribute to providing e-gov services to one of the largest user groups in the coming years.

Given this perception, this research aims to understand the relationships between older adults, the Internet and e-gov initiatives in the interior of Brazil to explore factors that promote digital exclusion, access to digital government services, and Internet use. This study was inspired by the study by Choudrie et al. [22] to explore and list such issues. This research was chosen because of the relevance, coherence, and systematization presented. Moreover, Choudrie et al. stated that it would be pertinent to conduct similar studies in other countries that differ in infrastructure, policies, and culture. In particular, this study focused on Brazilian municipalities in the interior of Brazil (excluding state capital cities) with fewer than 40,000 inhabitants. This portion of the country corresponds to more than 60% of the country's population and the vast majority of the more than 5000 municipalities in the country. Despite the representativeness of the interior of Brazil, conducting studies in these regions is more challenging than in capital cities or larger towns with better infrastructure.

The quantitative study by Choudrie et al. [22] in the UK was used as reference in this study. Their research was exploratory and explanatory, with a multi-method approach involving quantitative and qualitative studies. Our purpose was to adapt only the survey approach adopted in the original research, making the necessary changes to expand the research scope, adapt to the context of the questionnaires' application, and obtain answers to new questions addressed.

This paper contributes with an initial understanding and starts to explore the trends of older citizens regarding the use of the Internet and e-gov in the countryside of Brazil and makes comparisons with other countries. The paper analyzes an understudied population, with important insights comparing a particular area of Brazil. Moreover, analyzing these trends will help us identify the data necessary to foster recommendations for public policies and initiatives to promote accessibility for older people in government services.

## 2. Background

### 2.1. Older Adults and Technology

Older adults require the use of a simple interface, since a well-designed interface can provide understanding, ease, and efficiency in their interaction. In this case, it is essential to consider the skills of those who will use them and adapt to the difficulties that different users have [23].

Older people are the fastest-growing group of Internet users [24–26], and are often underrepresented in web design [27]. In this way, it is essential to see them as users of large-scale technology [28]. Data show that the distribution of Internet users in the world has grown across all age groups. However, according to Dossier Statista [29], in the United States the increase in the connected age group is representative compared to the other age groups, where data indicate that Internet use by adults aged 65 years and over increased from 14% in 2000 to 75% in 2021. In Brazil, a similar phenomenon has been noticed, in which Internet use by people aged 60 years and over increased from 31.2% in 2017 to 50% in 2020, with it being the age group with the highest increase in recent years [30].

As the population ages, older adults are becoming technology users [28,31]. The number of older people who are users of computers, smartphones, software and services offered by the Internet has grown. They are motivated by autonomy, participation in society, and the speed that is provided by these means and technology [25]. Examples range from application

interfaces (WhatsApp, Facebook, YouTube, and others) and the use of the Internet to search for information on health, news, tourism, leisure, finance, etc. [24–26,32].

The definition of older adults in terms of technology use varies a great deal in different studies in the field. Hill et al. [33], for example, defined older adults, in the context of Internet usage, as individuals aged 50 years and older who did not experience the Internet during their formative adult years. The age of 50 as a threshold has been used as a reference in other studies in the literature [34,35]. Other studies still consider samples of older adults to be those of retirement age, such as 60 years or more [36–38] or 65 years or more [39–42].

The growing number of older people accessing the Internet emphasizes the need to develop technology that meet this user group. The older user is overwhelmed by the generational technology gap and the lack of concern for its features in most computer software projects [43].

It is, however, necessary for the older adults to understand and learn to use interfaces to take advantage of their benefit and to improve their quality of life. Older adults, in contrast to younger users, have specific difficulties in using technology. Many of these difficulties are a result of the aging process, which leads to the decline of their physical and cognitive capacities (such as reduced memory, vision, speech, hearing, and motor coordination) [44], which limit and challenge older adults when using computers [15,23].

In addition to age-related factors, demographic factors tend to influence the use of technology by older adults, such as population density (rural/urban), education, race, gender, age, employment status, and disability status [22,25]. For example, a higher level of instruction and higher income are positively related to the adoption of new technology, while lower population density and older ages are negatively related to the adoption of new technology [45].

Ensuring older adult conditions to use this technology requires an understanding of how these users differ in their attitudes from other users and what the implications are for the use of computers [25]. Obstacles related to cognitive ergonomics and the usability of services and products offered to the older population are among the reasons for the lack of participation in the use of technology by this group [11]. The lack of compatibility between technological interfaces offered and the user is among the challenges in the interaction provided [23,46].

Additionally, the interface of a system establishes the general complexity, which may mask or increase the difficulties of the task behind the system [14]. According to Dias et al. [47], most of the problems encountered refer to the user interface. In their studies, Fisk et al. [48] found that more than 50% of the issues reported by seniors regarding the use of technology were related to ease of use, and that this could be solved with design or training improvements. The main difficulties in the use of interfaces include issues such as information visualization, attention retention, the memory of tasks already performed, the control of interface element speed, the lack of helpful resources, the memory of long sequences of operations, a difficult language of understanding, and use of the mouse [25,28,44,49,50].

There are numerous barriers encountered when older adults interact with interfaces. These obstacles include using the mouse, navigating a web page, accessing a large amount of information, handling the speed with which this information is displayed, clicking small physical and touch buttons, handling menus that require precise movement, reading small fonts, and overcoming color contrast, among other drawbacks [51–53]. These barriers lead to longer and less prosperous times in the execution of tasks, in addition to jeopardizing the usability of the software [53].

## 2.2. Usability and Older Adults

Usability is the capability of the software product to be understood, learned, used and be attractive to the user, when used under specified conditions [54]. Technology is always a step ahead, and new services and technology arise before accessibility issues for older people can be addressed [55]. The usability of technology directly affects older people's decisions to adopt or use it [42]. In this way, limited access and low self-efficacy are among

the main reasons why some groups, especially older people, are excluded from engagement in the digital world [56].

According to Nielsen [57], usability is not a single, one-dimensional property of a user interface. Usability comprises multiple components related to learning ability, efficiency, memorization, errors, and satisfaction. However, the nature of an individual's experience with technology, the available support, and the perceived utility of technology applications are essential determinants of attitudes, confidence, and comfort using technology and, ultimately, technology adoption. Al-Razgan et al. [58], in their studies, have shown that the primary concern among older users of digital devices lies in their complex interfaces and overestimated characteristics.

The interfaces will be more appropriate for older adults to use if resources are present such as larger fonts, frequency sounds, help options, layouts that require less precise mouse movement, fewer distractions, memory cues, and the immediate provision of information they need to run a task correctly [25,50]. The provision of digital services that can be easily used by older adults with different capabilities and skills can help all people to participate independently in a digital society, reducing digital exclusion [11,23,24,44,47].

In recent years, new opportunities for interaction have been presented by the ubiquity of mobile technology and the Internet, coupled with the ease of use that the devices provided with touch screens. Abascal and Civit [59] point out that the requirements that mobile communication systems for people with disabilities and older people should provide improvements in aspects such as personal communication, social integration, autonomy, and security.

### 2.3. Digital Divide and E-Government

The ever-evolving nature of technology represents individuals' needs for ever-increasing levels of digital literacy to maintain their sense of inclusion [33]. The lack of Internet access or poor quality of Internet are among the factors that increase digital exclusion [60]. However, ethnicity, income, age, and education can be predictors of the use and adoption of technology [5,61]. Although in a recent study analyzing improvements in e-government across Europe, there was no conclusive evidence on age-related (65+) and non-use of e-government, there was conclusive evidence on income, level of education, and use of digital government [21].

Unlike services offered by the private sector, electronic government services are committed to making their information and services available to all of their population. However, the government's ability to make its online services equally accessible and beneficial is influenced by the unequal distribution of access and skills of computers in its population [61]. E-government research was more focused on issues of availability, systems architecture, software development and infrastructure in its early years. Now it turns to less technical issues and focuses more on the ultimate users of technology, and their needs [62].

Failure to adopt e-gov is linked to user heterogeneity, lack of user orientation, limited public sector transformation, and the incompatibility between expectations and supply [63]. According to Helbig et al. [64], technology adoption will have little meaning or social value if citizens cannot use these services or interact with them meaningfully. Despite the increase in the number of people using e-gov services, the digital divide is still a barrier to adoption for many citizens [61]. Despite the substantial growth of e-gov spending, a segment of society lags behind this revolution in interactions between people and technology. Certain demographic groups are less likely to have computers and Internet access than others [61].

Mossberger et al. [65] found that older, less educated, poor, and minority individuals (African Americans and Latinos) were more likely to need computer assistance (such as mouse and keyboard help, email or word-processing programs and spreadsheets). Overall, the available data indicate that older people are not "technophobic" and are willing and able to use technology such as computers. However, the nature of their experience with technology, available support, and the perceived utility of technology applications are essential determinants of attitudes, confidence, and comfort using technology and,

ultimately, technology adoption. Moreover, many forms of technology, such as computers, represent usability challenges for older adults [32].

Some governments have been in a position to take responsibility for promoting and implementing e-gov. The United States, for example, has its Section 508, the new Rehabilitation Act of 1998, which determines specified recommendations on federal sites. The European Union (EU) parliament has established a series of declarations that require government websites across Europe to comply with the World Wide Web Consortium's (W3C) Web Content Accessibility Guidelines [51]. In Brazil, the Electronic Government Accessibility Model (eMAG) was established. It consists of a set of recommendations to be considered so that the accessibility process of Brazilian government sites and portals is conducted in a standardized, easy-to-implement way, and in compliance with international standards since eMag is based on 14 standards in other countries regarding digital accessibility [66]. The objective is to ensure that those interested in using e-gov services, regardless of their physical, motor, perceptive, cultural, and social capacities, have access to information. Although these techniques bring enormous improvements, they are still little used in the scope of the electronic services of public administration. These interaction design features applied in the development of interfaces can be the key to success in the adoption of numerous services and the guarantee of use by any user.

#### 2.4. Related Work

In the literature, some relevant studies have been carried out around evaluating e-gov software systems in the context of older users.

Molnar [67] proposed the elaboration of guidelines for implementing e-gov systems to promote a greater acceptance of current e-gov systems by older users. The objective was to acquire information about older adults' expectations and overall experience with interactive e-gov systems. The method encompassed first selecting a relevant application for use in the tests, and later, in a second phase, performing a test analysis. These two steps allowed the researchers to identify the main factors of acceptance and the expectations of the older users, in which the obtained results support the development of a generalized solution called IGUAN guidelines. IGUAN addresses a standardized approach to the usability improvement process in e-gov systems for older users. The elaborated guidelines were evaluated and tested in the third stage of the work. It indicates a measurable increase in older users' acceptance of e-gov systems. A study conducted in Germany and Hungary involved 75 older participants, with a mean age of 69.5 years. The author pointed out that one of the reasons for the success in elaborating the guidelines was the involvement of older people in the design process. It was incorporated in the first phase of this work.

Abad-Alcalá et al. [68] examined issues that limit older people from using e-gov services and other services offered on the web. This study was conducted based on focus groups, a qualitative analysis identifying the motivations and difficulties these users encounter. To do so, they discussed questions about the level of interest or necessity in using the Internet to carry out tasks linked to the government and other administrative activities, which could guarantee them some benefit. The results indicated the acceptance of electronic resources for simple and routine tasks due to their speed and convenience, which simultaneously promotes the independence and empowerment of these older adults in the environment in which they are inserted. The study confirmed that older people are among the users of the systems of government who are most interested in using public administration services, and that promoting the use of e-gov systems can contribute to more active, healthy aging and greater autonomy. This study was carried out in Spain with 28 older people aged 62–75.

Choudrie et al. [22] studied a mixed approach of qualitative and quantitative research, in which they investigate e-gov initiatives considering the target audience of older adults. The paper discusses the benefits, difficulties, and barriers to using e-gov. In general, they concluded that the Internet's benefits would vary with issues such as age, perceptions, and level of user innovation. Additionally, the authors identified that e-gov systems are seen as providers of valuable and relevant information for older adults, despite being difficult due

to limited digital skills. The results of the survey demonstrated that the majority had access to the Internet democratically and quickly. Non-use of the Internet and, consequently, e-gov was related to educational level, age group, gender, and unemployment. Among those who use the Internet, their primary goals revolve around communication, entertainment, and work. Regarding the perception of older users, the study demonstrated that Internet users actively perceive that it is useful, relevant, convenient, and informative. The relationship between older adults and the government was mainly through means not mediated by the Internet (telephone service or face to face). The justification for non-use was that it was preferable to speak to a person, there was no knowledge of the use of computers, there was no one to refer to, or it was a difficult method of access to information. However, some respondents said they had already used the local government website or had it as their primary method of interaction. The quality of government websites measured by user respondents was recognized as neutral around issues related to content and the usability. Issues such as the need for translation services, computer training for seniors, general information on aging, and other items were identified. This study was conducted in the UK, and the sample included 179 questionnaires and 14 interviews, where participants included people over the age of 50 referred to as “Silver Surfers”.

In Brazil, although few studies have been carried out in the context of e-gov and the aging population, Moraes [17] investigated the Brazilian government’s initiative in computerizing fiscal control mechanisms. A quantitative methodology was used to develop this research, using the multivariate modelling technique of structural equations. The study presented a robust model with high explanatory power, in which the influencing factors were performance expectancy, facilitative conditions, and habit. The results contribute to IT research studies with a model that reinforces and broadens previous studies on the technological adoption of e-gov systems, adding a model in a new context that is yet to be explored. Motivated by the scarcity of studies on the adoption of e-gov in Brazil for older citizens, the study argued that models in the literature could not represent all the dimensions addressed in the model presented in this study. From the insights obtained, research by Moraes [17] reveals the importance of the participation and involvement of the older population in the current phase of development of e-gov in Brazil, exposing their perceptions. In this study, 137 older adults who already used an electronic government system were interviewed in São Paulo.

### 3. Methodology

This research sought to gather an initial understanding of the relationships between older adults and the Internet and e-gov. By applying a survey, this explores quantitatively some of the aspects influencing e-gov and Internet use.

This study was inspired by part of the study by Choudrie et al. [22] that explored the issues related to the use of e-gov by older adults. This study partially replicates the survey, as described in Morrison et al. [69]. According to the authors, partial replication introduces changes in one aspect of the original research to broaden the scope of the research.

Only part of the study by Choudrie et al. [22] in the UK was used, as their research included an approach involving quantitative and qualitative studies. Our study differs from Choudrie’s in two aspects: first, it does not adopt the qualitative method; and second it introduces changes in aspects of the original study. The questionnaire in this study had adaptations to adhere to Brazilian sociocultural and demographic aspects, which are different for countries in the Global South. The study used different scales for age, educational levels, and options for services available in the country.

#### 3.1. Sample

This study employed a non-probabilistic sample. The participants were recruited using purposive and snowball sampling [70]. The criteria for recruitment employed the definition by Hill et al. [71], considering older adults in the context of Internet usage, those being 50 years old or older. The following participant inclusion criteria were defined: Participants

must live in the countryside of Brazil in towns with no more than 400,000 inhabitants—which characterizes them as medium and small sizes—and be 50 years or older. If the above criteria were not met, the person could not participate in this study.

The research participants were recruited through different strategies: invitations to fill in the questionnaires in person—self-administered questionnaire or by the researcher before the pandemic; by requests sent through messages and posts in social networks to complete the online form; and by invitations to fill in the surveys by phone.

The research received 159 answers, all meeting the age criteria. The participants were not rewarded for participating in the questionnaire and agreed with the consent form presented at the beginning of filling the questionnaires. The study protocol was approved by the Federal University of Lavras' Research Ethics Committee, with code CAAE 13337819.4.0000.5148.

Data collection took place between 21 June 2019 and 6 August 2019; between 10 April 2020 and 22 October 2020; and between 12 August 2022 and 6 October 2022. Although we understand that COVID-19 impacted Internet use by older adults, in the last ICT Households 2020 survey [3] the use of public services available online did not increase among this group in Brazil during the pandemic [3], mitigating the negative impact of conducting the survey in distinct periods.

### 3.2. Research Instrument

The research instrument applied in this study was derived from a study by Choudrie et al. [22]. In this study, the translation, adequacy, and additions of questions to the original questionnaire were carried out.

In our study, the questionnaires applied contained 29 questions, classified into six categories: demographic data, Internet, specific Internet, government, electronic government, and government services. The full list of questions is presented in Appendix A.

## 4. Survey Results

Of the total of 159 completed questionnaires, one questionnaire was erroneously completed and inconsistent with the survey. Fifteen responses were from participants from towns that were larger than the threshold of 400,000 inhabitants. Thus, the analysis considered a total of 143 valid responses.

The respondents were distributed in 35 towns in six different Brazilian states (Goiás, Minas Gerais, Mato Grosso, Rondônia, Rio Grande do Sul and São Paulo). The population sizes of the 35 towns varied from between 2634 and 379,297 inhabitants.

The mean age of the respondents was 60.1 years (standard deviation of 9 years). Of the total respondents, 63.6% ( $n = 91$ ) were females and 36.4% ( $n = 52$ ) were males. A group of 44.8% ( $n = 64$ ) of the participants considered themselves white; another 43.4% ( $n = 62$ ) considered themselves brown, and only 10.5% ( $n = 15$ ) considered themselves black. In terms of educational attainment and employment status, the largest group was made up of retirees (49.7%,  $n = 71$ ), and 36.4% ( $n = 52$ ) had not completed elementary education.

Regarding experience with computers, 46.2% ( $n = 66$ ) of participants stated they did not have knowledge or experience working with computers, 42% ( $n = 60$ ) stated they had little knowledge or experience, and only 10.5% ( $n = 15$ ) stated they had substantial knowledge or experience with computers. Another 1.4% stated that they had some knowledge at intermediate level. Of the 66 participants who stated they had no knowledge or experience with computers, 62.1% were female, 68.1% had no more than primary education, and 63.6% declared themselves to be black or brown.

More demographic information about the survey sample is given in Table 1.

**Table 1.** Survey demographics.

Age Band (Years)	%	Frequency	Education	%	Frequency	Employment	%	Frequency
50–59	53.8%	77	Incomplete Elementary School	36.4%	52	Employed	30.1%	43
60–69	24.5%	35	Elementary School	9.1%	13	Unemployed	7%	10
70 and above	21.7%	31	High School	21%	30	Self-employed	13.3%	19
			University degree	11.2%	16	Retired	49.7%	71
			Postgraduate degree	18.9%	27			
			Illiterate	3.5%	5			
<b>Total</b>		<b>143</b>						

#### 4.1. Internet Use

Regarding Internet access, 88.8% (n = 127) reported having access if necessary, and 11.2% (n = 13) said they had no Internet access. 62.2% (n = 89) of respondents reported they accessed the Internet primarily from home, 2.8% (n = 4) at work, and 21.7% (n = 31) at work and home. The frequency of Internet use was 76.9% (n = 110) for daily use, 8.4% (n = 12) for occasional or weekly use, and 14.7% (n = 21) said they did not use it often or never used the Internet.

Regarding the primary medium used to access the Internet, 83.2% (n = 119) stated they use the Internet mainly through a smartphone, 13.3% (n = 19) through a computer, and another 14.7% (n = 21) did not mention any device.

Concerning technological devices, about 83.9% (n = 120) had a smartphone, 37.1% (n = 53) had a computer, 4.9% (n = 7) had a tablet, and 14% (n = 20) said they did not have any of the three devices. Among those who said they did not have any technological device, 75% (n = 15) of respondents were over 70 years old.

Concerning the ease of use of the devices, 67.8% (n = 97) indicated that the smartphone was the more comfortable to handle, 15.4% (n = 22) mentioned the computer, and 15.4% (n = 22) said none of the alternatives were easy to use.

The analysis showed that high smartphone possession positively impacts the ease of use of this device over the others. Moreover, 77.2% (n = 17) people aged 70 or older stated that the ease of use of devices was none, which implies the existence of barriers to the adoption of technology by older people. Obstacles such as fear of use, perception by the user about how difficult it will be to use, how difficult it will be to learn how to use the system, the perceived usefulness of the system to the user, or even the user’s social influences can affect them negatively in terms of the value of the technology [42].

#### 4.2. Perceptions of the Internet

Respondents were asked about their perceptions of the Internet using a five-point Likert scale to express their agreement or disagreement. Twelve words were used to describe the features and benefits of the Internet. Respondents to this question included Internet users and non-users. Table 2 shows the relationship between words and levels of agreement.

**Table 2.** Internet perceptions among older.

Answer Options	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Useful	87 (60.8%)	57 (39.9%)	15 (14.5%)	1 (1%)	3 (2.1%)
Relevant	40 (28%)	72 (50.3%)	20 (14%)	8 (5.6%)	3 (2.1%)
Convenient	33 (23.1%)	70 (49%)	33 (23.1%)	5 (3.5%)	2 (1.4%)
Secure	3 (2.1%)	21 (14.7%)	47 (33%)	57 (40%)	15 (10.5%)
Informative	49 (34.2%)	70 (49%)	16 (11.2%)	5 (3.5%)	3 (2.1%)
Empowering	28 (19.6%)	71 (49.7%)	31 (21.7%)	9 (6.3%)	4 (2.8%)
Reliable	4 (2.8%)	26 (18.2%)	36 (25.2%)	58 (41%)	19 (13.3%)
Affordable	18 (12.6%)	65 (45.5%)	34 (23.8%)	24 (16.8%)	2 (1.4%)
Fast	18 (12.6%)	65 (45.5%)	36 (25.2%)	20 (14%)	4 (2.8%)
Trendy	42 (29.4%)	60 (42%)	24 (16.8%)	13 (9.1%)	4 (2.8%)
Easy to Use	18 (12.6%)	39 (27.3%)	46 (32.2%)	34 (23.8%)	6 (4.2%)
Adaptable to Lifestyles	19 (13.3%)	66 (46.2%)	37 (26%)	19 (13.3%)	2 (1.4%)

Of the total of 143 respondents, the data showed that the Internet was considered Useful, Relevant, Informative and Trendy (agreement above 75%). A smaller number of respondents still agreed that the Internet was Convenient (72.1%), Empowering (69.3%), Fast (58.1%), Affordable (58.1%) and Adaptable to lifestyle (71.4%). Only 39.9% of participants agreed that the Internet was easy to use, 21% agreed that it was reliable, and 16.8% agreed it was safe.

Among respondents who agreed that the Internet is safe and reliable, 57.1% were between 50 and 60 years old. This result is aligned with Dodd et al. [72] and Wagner et al. [25], showing that trust in the Internet reduces with age.

#### 4.3. Use of Government Websites

The relationship between government and citizens comes from different media and interactions. To understand how older citizens communicate with government, the questionnaire investigated their preferred method of interacting and communicating with the government. Government website usage was first with 43.4% (n = 62), followed by face-to-face contact with a government team of 32.9% (n = 47), use of telephone service 14% (n = 20) and via email 3.5% (n = 5). Nine respondents said that they do not communicate or interact with the government.

Of the total number of respondents, about 58% (n = 83) had already accessed some government websites, while 42% (n = 60) had never accessed government websites. Among the respondents' reasons for not using government websites were a lack of computer and Internet manipulation skills, complexity of use, incompatibility with lifestyle, and preference to talk face-to-face with a person. Table 3 shows the factors that affect the use of government websites by older citizens.

**Table 3.** Factors that affect the use of government websites.

Items	Total
I am not computer literate.	36
I would rather speak to a person.	28
It is too complex to use.	20
It is not suitable for my lifestyle.	15
It is not safe to pay or issue bills on the Internet.	10
It is too time-consuming.	6
Too difficult to find information.	5

Respondents who said they had already used a government website had the following purposes: pay taxes 68.7% (n = 57), request a service 48.2% (n = 40), fill out a form 34.9% (n = 29), look for information 38.6% (n = 32), file a complaint 16.9% (n = 14), and report problems 16.9% (n = 14).

Regarding the frequency of access to government websites, 65.1% (n = 54) said they occasionally access, 14.5% (n = 12) access them monthly, 9.6% (n = 8) once a week and only 6% (n = 5) said they use a government website daily. A total of 96.4% (n = 80) of the respondents indicated that they found the site useful and that it improved communication with the government. Only 11 of those who had accessed government sites said they did not know the government website address.

The services or information most sought by respondents with a rate above 40% (sometimes or always) include education; jobs and careers; institutional matters; health; culture, sport, and leisure; and environment.

#### 4.4. Quality of Government Websites

The questionnaire included questions about information content and usability offered by government websites. These questions aimed to evaluate the quality of the site that respondents had accessed. In this evaluation, 14 items were assessed on a five-point Likert scale, as presented in Table 4.

Regarding the content of government websites, overall, the data shows that there is neutrality with a slight tendency for sites to offer good content to their users. Regarding the information offered on websites, the rates were around 37.8% for average quality and 27.5% for good or excellent quality. The response rating the content of the government website as poor or very poor was close to 21.9%.

Concerning usability, results are very near what was found regarding the information content. On the topic of usability, the answers showed neutrality with a tendency towards ease of use. As for usability, rates were around 35.3% for average quality and 26.1% for good or excellent quality. Responses that rated poor or very poor usability averaged 24.9%. The item “The website can be easily used by people with disabilities” deviated the most from the norm, with 43.3% rating as “poor” or “very poor”.

**Table 4.** Perceptions of government website content and quality by older adults.

Content Items	Very Poor	Poor	Average	Good	Excellent	NA
The website provides information that exactly fit into my needs.	4	11	29	29	0	10
The website provides up-to-date information.	3	12	28	27	1	12
The website provides the answers to most of my inquiry.	5	16	32	18	1	11
The website provides complete information.	4	16	34	18	1	10
The website uses words that are consistent and easy to understand.	4	16	34	18	1	10
Quality Items	Very Poor	Poor	Average	Good	Excellent	NOA
The website is simple to use, even when using it for the first time.	3	15	33	15	5	12
It is easy to find the information I need from the website.	2	15	37	13	5	11
I like the way the website is designed.	3	18	30	17	3	12
The website uses colors with contrast and good for the eyes.	2	11	32	21	7	10
It is very easy to move around the website.	3	17	30	17	6	10
The content of the website is well laid out.	2	19	26	19	5	12
The website can be easily used by people with disabilities.	19	17	20	10	2	15
The website has helpful guides and instructions.	4	16	29	21	3	10
The pages of the website including archives are downloaded quickly.	4	16	27	18	6	12

At the end of the section on the quality and content of government websites, respondents were asked to indicate their general satisfaction with overall site quality. For this evaluation, a five-point Likert scale was used: one indicates “very dissatisfied” and five indicates “very satisfied”. Point 1 had 7.2% (n = 6), point 2 had 14.5% (n = 12), and point 5 had 10.8% (n = 9). Point 3 had the highest value with 43.4% (n = 36), followed by point 4 with 24.1% (n = 20). The responses indicated neutrality and a high satisfaction rate, suggesting that quality and usability aspects must be improved. However, there is a strong trend towards satisfaction with using the sites.

#### 4.5. Government Services

A question about the main services offered by the government was added so that respondents could identify the services they use regardless of the medium through which it is provided or accessed. The issue included 10 items around essential public services offered to the population: health; education; transport; social service; public bank services (e.g., benefits and financial security); water supply, electricity and gas; and the environment. Table 5 shows the main public services and their respective percentages of use according to the respondents.

The analysis of the services offered by the government and used by older adults present the areas with the highest demand for these users in public services. The response rates in this question were the highest in the form and indicated high usage of some services by this group of users. Among the main services listed were water and sewage treatment and supply services, production and distribution of electricity, gas, and fuels at 68.5% (n = 98); medical and hospital services at 63.6% (n = 91); bank services with 51% (73); and courts, legal and emergency services with 41.3% (n = 59).

**Table 5.** Government services used by older adults.

Services	%
Treatment and supply of water/sewage, production and distribution of electricity, gas, and fuels	68.5%
Medical and hospital care	63.6%
Bank services	51%
Courts, legal and emergency services (e.g., notary offices, fire department, police, civil defense, etc.)	41.3%
Education (e.g., public schools, public universities, etc.)	31.5%
Distribution and selling of medicines and foods	32.9%
Public transport (e.g., buses, subways and others)	16.1%
Social services (e.g., public housing, social assistance, food allowances, etc.)	14%
Environment and environmental protection	13.3%

## 5. Discussion

The data reflected some of the survey's findings on the use of ICT at the national level—ICT Households 2020 [3]. For example, the use of smartphones to access the Internet reflects the data presented in the last ICT Household [3] with smartphones being the device used by 99% of those who access the Internet, with a further 58% of respondents using it as the only device to access it. Internet access, however, is higher in the present survey—with 88.8% having access if necessary, compared with the national average of 83% in 2020 [3].

The use of public services offered online (43.4%) among our survey respondents is higher than the national survey—an average of 37% of the population. However, in the ICT Household, the use of public services among adults 60 years old and over is lower. It was 29% in 2020 [3] (p. 239) and 34% among adults aged 45 to 59 years old, whereas in our study, it is 58%. This fact might be related to the fact that our recruiting strategies included online forms distributed through social networks and therefore recruited more digitally connected order adults.

### 5.1. Comparative Analysis with Choudrie et al.'s Study

The results of this survey are initial findings supporting a better understanding of the similarities and differences between the attitudes and perceptions of older adults related to Internet usage and e-gov in the two countries—Brazil and the United Kingdom.

Compared to the study conducted by Choudrie et al. [22], the demographic data had a sex division close to that of the respondents of this study, and as far as the analysis of ethnic origin due to the different contexts is concerned, no comparison is possible.

Data on employment showed values close to half of the retired respondents in both studies, with our study having a higher rate of 49.7% and the compared study 46.4%. Additionally, a lower percentage of employed older adults (37.4%) was found by Choudrie et al. [22] in the United Kingdom, whereas in our study 43.4% (30.1% employed and 13.3% self-employed) were employed.

The level of education of the two countries differs significantly and reflects the differences in the literacy level in each country. The United Kingdom presented higher rates for the total number of graduated respondents, while our data show a higher number of respondents with incomplete primary schooling (36.4%).

Regarding Internet issues, our study presented a rate of 46.2% of respondents who were not computer literate, whereas in the study by Choudrie et al. [22], the rate was 28.2%. These respondents were primarily female (62.1%) and with a low level of schooling (68.2%), which is similar to the data of Choudrie et al. [22]. For most participants, Internet access was not a problem, finding about 88.8% access if necessary. Data were close to those found by Choudrie et al. Despite free Internet access available in public places in the United Kingdom, this fact was not quoted at any time by the respondents of our study. This presents a strategy in the context of the United Kingdom, which was not available in Brazil.

Regarding the perception of the Internet, the respondents of our study that used the Internet demonstrated a greater understanding of the perceived utility and ease of use of

the Internet compared to the results of Choudrie et al. [22], being unconvinced about the aspects of trust and security offered by the Internet.

On the topic of the method of interaction with the government, the data pointed out the need for personal attention among 46.9% (face-to-face or telephone service) of the respondents. Additionally, another 46.9% responded that their preferred method of interaction with the government is electronic media (email or government website). Compared with data from Choudrie et al. [22], our survey differs from it as it does not demonstrate that the preferred method of interaction with the government was one in which the Internet did not mediate.

When asked about the barriers to using government websites, the lack of computer and Internet skills, the preference to talk to a person, the complexity of use and the inadequacy of the respondents' lifestyle were cited as primary factors for non-use in both studies.

Another comparison was performed on content quality and usability, as answered by people who had already used government websites. The comparison showed that in both studies, there was a dominance in the neutrality of responses. Both studies had a slightly positive tendency to agree on the quality offered.

### 5.2. Comparison with Other Studies

Our results can still be related to other studies with similar findings. Studies that were made in other countries and regions include Siren and Knudsen [11] in Denmark, Choudrie and Alfalah [13] in Saudi Arabia, Ryshell [73] in the United States, Molnár et al. [14], and Ko et al. [74] in Germany and Hungary.

Findings obtained are consistent with Siren and Knudsen [11], which cites that aging alone is unlikely to cause digital disconnection. Instead, the use or not of ICT is probably related to socioeconomic and demographic factors, such as the study by Menéndez Álvarez et al. [5]. The findings are similar to the work of Siren and Knudsen [11], who demonstrated that those who are digitally disengaged will likely be excluded from e-gov, with the main problem not being the lack of Internet access, but the lack of skills, interest or confidence in the use of ICT.

Our study also showed evidence that ICT use was strongly associated with demographic variables such as age, educational level and race, as cited by Siren and Knudsen [11] and Choudrie and Alfalah [13], which indicates the existence of a digital divide.

Some of the factors influencing the non-use of electronic government found in the work of Ryshell [73] are also reported in our study, which includes the preference for face-to-face interaction over online services, personal dislike of technology and/or the belief that e-gov was not conducive for self-management. According to the author, older adults may find it more difficult to accept changes in operations instead of feeling more confident with the more traditional ways of interacting and obtaining government services [73].

The greater possession and adoption of smartphones by older adults in our study echoes Molnár et al. [14], who stated that older users more widely accept mobile systems compared to traditional electronic services. According to Ko et al. [74], simple interfaces mask complexity and help with security. The simpler an online government portal is, the higher the intentions of older citizens to use it [13]. Thus, mobile government systems will be the future connection of many citizens to government services, which makes research related to the impact of government interfaces on user experience very important [74].

In terms of theoretical implications, this study highlights intersectional factors, beyond age alone, affecting the use or non-use of the Internet and digital government. It underlines low educational attainment and computer literacy among older adults who responded to the study, impacting the digital divide. Whether socioeconomic and demographic factors impact the use of the Internet by older adults in other countries in the Global South, potentially, more studies must be done in different countries. In terms of practical implications, attention to the type of device being used by older adults would allow governments to adapt to online services to enable full and easy use through simplified interfaces and interactions.

### 5.3. Recommendations

This exploratory study highlighted that the needs of older citizens are not entirely met and that the quality of government websites can be improved to increase acceptance among this group. Further mixed-methods research with a quantitative study-population representative could support the case for policymaking to reduce the digital divide. Additionally, further qualitative research could explore target skills and attitudes related to the use of ICT and focus on the development of digital resources so that the highest number of people can use them [11]. Government services will only be recognized as beneficial and not as an obstacle if user acceptance is at a certain level [74].

The data from the present initial study indicates that although there is high Internet penetration, issues of literacy and skills in the use of ICT are related to lower use of the Internet and, consequently, of government websites. Future research could explore how potential strategies to enhance digital skills among older adults could be adapted in different contexts. Strategies offered in the UK, such as community centers for computer education, are an option to promote Internet adoption and reduce the digital divide. In Brazil, training centers have become more prevalent in urban centers such as Sao Paulo. However, they are scarce in areas such as the one covered by the survey—the countryside—where small cities and rural areas are predominant. According to Ryshell [73], older people are willing and able to learn to use technology if there is an opportunity. Additionally, according to Yap et al. [75], awareness campaigns effectively improve the use of e-government portals among older citizens, especially when new features are introduced.

As highlighted in the results, the use of the smartphone and the ease of use of this device concerning the others was high, so the offer of e-gov services in this environment is essential. Further research in this area could contribute to how a smartphone can be adapted to enhance the experience of e-government access and use.

### 5.4. Limitations and Threats to Validity

The sample size of this study was limited to allow for generalizable results and comparisons with other studies. Despite the efforts to obtain a varied sample, not all states of Brazil were represented in the sample. The study could not account for all possible sources of variation, including sex, ethnic background and income. However, the sample had good representativeness of cities of different sizes, contemplating the variety of scenarios of interior Brazil, including varying levels of human development.

The lack of a probabilistic sample also prevents the establishment of a statistical model with generalizable results for Brazil. However, the exploratory results provide valuable insights into understanding Internet and e-government use by a portion of the Brazilian population that is often neglected, considering the interior cities with proportionally fewer inhabitants.

Data collection, including phone calls and self-filled questionnaires, could have introduced biases in the results obtained from different sources. However, despite the bias, the possibility of including different sources enabled the inclusion of participants with different levels of ability with computers.

## 6. Conclusions

The Internet, which has become increasingly ubiquitous in people's lives, still has limited use by older people. As a result, e-gov services that could be used to improve the quality of life for this portion of the population are still far from being a common reality.

The level of education and knowledge in the use of the Internet and its technology has a relationship with lower or higher use of government websites. The relationship between age and trust also impacts the use of the Internet and, consequently, of websites.

The lack of strategies to include the aging population in the digital context is reflected in the high number of preferences for face-to-face service and presents a significant challenge to the public administration to restructure sites and create mechanisms to include this excluded portion digitally.

Comparing the study data of Choudrie et al. [22] and this initial study conducted between 2019 and 2022, we can show some initial evidence of the delay by Brazil compared to the United Kingdom from results and from the comparisons conducted. Although the studies were conducted with a difference of more than seven years, many issues addressed in the present study are still worse than in the UK, even though Brazil is the country that uses the Internet the second-most, globally.

Electronic government will be accessible only when it is used by all (or the great majority of) its citizens and achieves its objectives of improving service quality, reducing time and cost, increasing productivity, easy access to information, and transparency of processes.

Additionally, throughout the research, it was possible to reaffirm the importance of research related to the theme “electronic government and older citizens” and the lack of studies aimed at developing countries such as Brazil, where the benefits are not enjoyed by most citizens, presenting as a fertile field for future research.

In future work, we intend to conduct usability evaluations of various e-government services in Brazil with older people. We also intend to analyze specific services, such as e-participation and the factors that influence the adoption and use of such systems by older people in the interior of Brazil, outside of larger state capitals and urban centers.

**Supplementary Materials:** The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/info14040225/s1>.

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**Institutional Review Board Statement:** This study was approved by the Research Ethics Committee of the Federal University of Lavras under CAAE 13337819.4.0000.5148.

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**Data Availability Statement:** All data from the questionnaires was made available as Supplementary Materials.

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## Appendix A. Questionnaire Used in the Study

This appendix presents the questionnaire used in the study. All questions are presented in Portuguese followed by a translation into English.

### Demographic data

1. Em qual cidade você reside? (In what city/town do you live?)
2. Quantos anos você tem? (How old are you?)
3. Qual é o seu sexo? (What is your sex?)
4. Qual é a sua Cor ou Raça/Etnia?—As categorias utilizadas estão de acordo com a atual classificação do IBGE, a respeito do quesito “cor ou raça”—como um critério misto de fenótipo e ancestralidade. Answers: Parda, Branca, Negra, Indígena, Amarela (What is your color or race/ethnic background?—The categories used are in accordance with the IBGE classification concerning que aspect “color or race”—as a mixed criterion considering phenotype and ancestry. Answers: Brown, White, Black, Indigenous, Yellow).

5. Qual é o seu status atual de emprego?—Answers: Empregado, Autônomo, Desempregado, Aposentado.  
(What is your current employment status?—Answers: Employed, Self-employed, Unemployed, Retired.)
6. Qual é o seu nível de escolaridade?—Answers: Ensino Fundamental Incompleto, Ensino Fundamental Completo, Ensino Médio, Graduação, Pós-graduação, Nenhum  
(What is your education level?—Answers: Incomplete Primary Education, Primary Education, High School, University-level degree, Postgraduate degree, None)

#### Internet

1. Como você descreveria seu nível de conhecimento e experiência no uso de computadores?—Answers: Eu não tenho conhecimento ou experiência com computadores; Eu sou um usuário com pouco conhecimento e experiência; Eu sou um usuário com muito conhecimento e experiência; Outro.  
(How would you describe your level of knowledge and experience in the use of computers?—Answers: I do not have knowledge or experience with computers; I have little knowledge or experience; I have extensive knowledge and experience; Other.)
2. Você tem acesso à Internet, se necessário?—Se for necessário o uso da Internet por você em algum momento, existe acesso fácil a conexão à Internet?—Answer: Sim, Não  
(Do you have Internet access if needed?—If you need to use the Internet at some point, is there easy access to an Internet connection?—Answer: Yes, No)

#### Specific Internet Questions

1. Onde está o seu principal acesso à Internet?—Se você utiliza a Internet, em que local está o seu principal acesso? Se não utilizar marque a opção “Nenhum local”. Answers: Em casa; No trabalho; Tanto em casa como no trabalho; Nenhum local; Outro.  
(Where is your main Internet access?—If you use the Internet, where is your main access? If you do not use it, check the option “No location”.—Answers: At home; At work; Both at home and at work; No location; Other)
2. Com que frequência você usa a Internet?—Com qual frequência você utiliza a Internet no seu cotidiano? Se não utilizar marque a opção “Nenhuma”. Answers: Diariamente; Semanalmente; Mensalmente; Ocasionalmente; Nenhuma;  
(How often do you use the Internet?—How often do you use the Internet in your daily life? If you do not use it, mark the option “None”. Answers: Daily; Weekly; Monthly; Occasionally; None;)
3. Qual o principal meio para acesso à Internet? Qual dos dispositivos é o mais utilizado na hora de se conectar à Internet? Se não utilizar marque a opção “Nenhum”. Answers: Computador; Tablet; Smartphone/Celular; Outro; Nenhum  
(What is the main means of accessing the Internet? Which device is the most used when connecting to the Internet? If you do not use it, mark the option “None”. Answers: Computer; Tablet; Smartphone/Cell Phone; Other; None)
4. Qual dos dispositivos você possui? (Mais de uma opção é permitida)—Answers: Computador; Tablet; Smartphone/Celular; Outro; Nenhum  
(Which device do you own? (More than one option is allowed)—Answers: Computer; Tablet; Smartphone/Mobile Phone; Other; None)
5. Quanto à facilidade de uso, qual dos dispositivos abaixo é mais fácil manusear? Answers: Computador; Tablet; Smartphone/Celular; Nenhum  
(As for ease of use, which of the devices below is easier to handle? Answers: Computer; Tablet; Smartphone/Mobile Phone; None)
6. A lista de palavras a seguir foi usada para descrever a Internet. Por favor, indique em que medida você concorda com essas visões, marcando a caixa relevante. Answers: Discordo totalmente, Discordo, Nem concordo nem discordo, Concordo, Concordo totalmente. Items: Útil, Relevante, Conveniente, Segura, Informativa, Capacitadora, Confiável, Acessível, Rápida, Na moda, Fácil de usar, Adaptável ao estilo de vida  
(The following list of words has been used to describe the Internet. Please indicate the

extent to which you agree with these views by checking the relevant box. Answers: Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly agree. Items: Useful, Relevant, Convenient, Secure, Informative, Empowering, Reliable, Affordable, Fast, Fashionable, Easy to Use, Lifestyle Adaptable)

#### Government

1. Qual é o seu método preferido de interagir ou se comunicar com o governo? Answers: Contato cara a cara com uma equipe do governo; Através do uso do site do governo; Por intermédio de e-mail; Serviço telefônico; Carta escrita; Outro.  
(What is your preferred method of interacting or communicating with the government? Answers: Face-to-face contact with government staff; Through the use of the government website; Via email; Telephone service; Written letter; Other.)
2. Você já visitou algum site do governo? Sites de prefeituras, governo do estado, governo federal ou outras instituições para fins governamentais. Exemplos: Detran, Receita Federal, INSS, TRE, e outros. Answers: Sim, Não.  
(Have you ever visited any government websites? Sites of city halls, state government, federal government or other institutions for government purposes. Examples: Detran, Federal Revenue Service, INSS, TRE, and others. Answers: Yes, No.)

#### Electronic government

1. Qual foi o propósito da sua visita ao site do governo? (Mais de uma opção é permitida). Answers: Pagar taxas e tributos (Por exemplo imposto municipal, seguro, guias de recolhimento, multas e outros); Solicitar um serviço; Procurar informações ou números de contato sobre os serviços do governo;  
(What was the purpose of your visit to the government website? (More than one option is allowed). Answers: Pay fees and taxes (For example council tax, insurance, collection forms, fines and others); Request a service; Look up information or contact numbers about government services; Make a complaint; Fill out a form; Other.)
2. Você achou o site do governo útil para o seu propósito?. Answers: Sim; Não.  
(Did you find the government website useful for your purpose?. Answers: Yes; No.)
3. Você conhece o endereço de algum site do governo? Answers: Sim; Não.  
(Do you know the address of any government website? Answers: Yes; No)
4. Com que frequência você visita sites do governo? Answers: Diariamente; Pelo menos uma vez por semana; Uma vez a cada duas semanas; Mensalmente; Ocasionalmente  
(How often do you visit government websites? Answers: Daily; At least once a week; Once a fortnight; Monthly; Occasionally.)
5. Você acha que usar os sites do governo pode melhorar a comunicação das pessoas com o governo? Answers: Sim; Não.  
(Do you think that using government websites can improve people's communication with the government? Answers: Yes; No.)
6. A lista a seguir mostra alguns dos serviços / informações disponíveis em sites do governo. Por favor, indique quantas vezes você requer o uso desses tipos de serviços ou informações. Answers: Sempre, Às vezes, Raramente, Nunca. Items: Educação; Saúde; Empregos e carreiras (oportunidades de trabalho, processo seletivo e concursos); Habitação; Segurança e Prevenção; Cultura, esportes e lazer; Obras e infraestrutura; Meio ambiente; Transporte e mobilidade urbana; Assuntos institucionais e comunicação social; Controladoria-geral e Procuradoria-geral do município; Desenvolvimento econômico; Fazenda e governo; Política urbana.  
(The following list shows some of the services/information available on government websites. Please indicate how often you require the use of these types of services or information. Answers: Always, Sometimes, Rarely, Never. Items: Education; Health; Jobs and careers (job opportunities, selection process and competitions); Housing; Safety and Prevention; Culture, sports and leisure; Works and infrastructure; Environment; Transport and urban mobility; Institutional affairs and media; The Committee

- of Public Accounts and General Attorney of the municipality; Economic development; Government revenue and customs; Urban policy.)
7. Existem outros serviços ou informações relevantes para as suas necessidades que você gostaria de estivessem disponíveis em sites do governo? Por favor, comente abaixo. (Are there other services or information relevant to your needs that you would like to see available on government websites? Please comment below.)
  8. Por favor, classifique a qualidade do site do seu governo local seguindo sua experiência de usá-lo em relação ao conteúdo da informação. Se você nunca usou o site, selecione N/A. Answers: Muito pobre; Pobre; Médio; Bom; Excelente; N/A. Items: O site fornece informações que se encaixam exatamente nas minhas necessidades; O site fornece informações atualizadas sobre a minha cidade, estado ou país; O site fornece a resposta para a maioria das minhas perguntas; O site fornece informações completas; O site usa palavras que são consistentes e fáceis de entender. (Please rate the quality of your local government website based on your experience using it in terms of information content. If you have never used the site, please select N/A. Answers: Very poor; Poor; Average; Good; Great; N/A. Items: The site provides information that exactly fits my needs; The site provides up-to-date information about my city, state or country; The site provides the answer to most of my questions; The website provides complete information; The site uses words that are consistent and easy to understand.)
  9. Por favor, avalie a qualidade do site do seu governo local em relação à sua usabilidade. Se você nunca usou o site, selecione N/A. Answers: Muito pobre; Pobre; Médio; Bom; Excelente; N/A. Items: O site é simples de usar, mesmo quando usado pela primeira vez; É fácil encontrar as informações de que preciso no site; Eu gosto da maneira como o site é projetado; O site usa cores que podem ser distinguidas e são boas para os olhos; É muito fácil movimentar o site; O conteúdo do site é bem definido; O site pode ser facilmente usado por pessoas com deficiência; O site tem guias e instruções úteis; As páginas do site, incluindo formulários e documentos, são baixadas rapidamente. (Please rate the quality of your local government website in relation to its usability. If you have never used the site, please select N/A. Answers: Very poor; Poor; Average; Good; Great; N/A. Items: The site is simple to use, even when using it for the first time; It's easy to find the information I need on the site; I like the way the site is designed; The website uses colors that can be distinguished and are easy on the eyes; It's very easy to move around the site; The site's content is well laid out; The site can be easily used by people with disabilities; The website has helpful guides and instructions; Site pages, including forms and documents, download quickly.)
  10. Por favor, indique sua satisfação geral com a qualidade do site do seu governo local. Answers: 1—Muito insatisfeito; 5—Muito satisfeito. (Please indicate your overall satisfaction with the quality of your local government website. Answers: 1—Very dissatisfied; 5—Very satisfied.)

#### Government websites

1. Se você não usa ou nunca utilizou sites do governo, qual dos seguintes motivos descreve sua falta de uso? (Mais de uma opção é permitida). Answers: Eu não possuo habilidades no manuseio do computador e da Internet; É muito demorado este meio; Eu prefiro falar com uma pessoa; É muito complexo para usar; Muito difícil encontrar informações; Isso não é adequado para o meu estilo de vida; Eu não me sinto seguro emitindo guias ou pagando taxas e imposto na Internet. (If you do not or have never used government websites, which of the following describes your lack of use? (More than one option is allowed). Answers: I don't have computer and Internet skills; It is very time-consuming this way; I'd rather talk to one person; It's too complex to use; Very difficult to find information; This is not suited to my lifestyle; I don't feel safe issuing guides or paying fees and taxes on the Internet.)

### Government services

- Quais dos principais serviços oferecidos pelo governo são utilizados por você? Obs.: Independente do meio que é oferecido o serviço (Mais de uma opção é permitida). Answers: Tratamento e abastecimento de água/esgoto, produção e distribuição de energia elétrica, gás e combustíveis; Educação (por exemplo, escolas públicas, universidades públicas, etc); Assistência médica e hospitalar (por exemplo, postos de saúde e hospitais); Distribuição e comercialização de medicamentos e alimentos (por exemplo, farmácia do governo ou farmácia popular); Serviços sociais (por exemplo, habitação pública, assistência social, subsídios alimentares, etc); Tribunais, jurídicos e serviços de emergência (por exemplo, cartórios, bombeiro, polícia, defesa civil, etc); Transporte público (por exemplo, ônibus, metrô e outros); Telecomunicações; Serviços bancários; Meio ambiente e proteção ambiental.  
(Which of the main services offered by the government do you use? Obs.: Regardless of the way the service is offered (More than one option is allowed). Answers: Water/sewage treatment and supply, production and distribution of electricity, gas and fuels; Education (e.g., public schools, public universities, etc.); Medical and hospital assistance (for example, health clinics and hospitals); Distribution and marketing of medicines and food (for example, government pharmacy or popular pharmacy); Social services (e.g., public housing, social assistance, food subsidies, etc.); Courts, legal and emergency services (e.g., registry offices, firefighters, police, civil defense, etc.); Public transport (e.g., buses, subways and others); Telecommunications; Bank services; Environment and environmental protection.)

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