



Telsoc

Telecommunications & the Digital Economy

Published on *Telsoc* (<https://telsoc.org>)

Home > E-Government Services and the Digital Divide

E-Government Services and the Digital Divide

[Jiřina Bokřov](#) ^[1]

Department of Finance and Accounting, SKODA AUTO University, Mlad Boleslav, Czech Republic

[Michal Bokřa](#) ^[2]

Academic Researcher, SKODA AUTO University

[Josef Hork](#) ^[3]

Department of Finance and Accounting, SKODA AUTO University

[Karel Pavlica](#) ^[4]

Department of Human Resources Management, SKODA AUTO University

[Jiř Strouhal](#) ^[5]

Department of Finance and Accounting, SKODA AUTO University

Stanislav Šároch ^[6]

Department of Law and Economics, SKODA AUTO University

JTDE - Vol 9, No 1 - March 2021 ^[7]

^[8]

★ 54 ^[9]

A Quantitative Analysis of the Digital Divide between the General Public and Internet Users

Abstract

The purpose of this article is to assess the digital divide that exists between the general public and (active) Internet users in their support for the digitalization of public services (E-Government). In conducting this study, the SKODA AUTO University Research Team gathered data from 1,613 respondents – 611 respondents who are active Internet users (using computer-assisted web interviews) and 1,002 respondents from the general public (using pen-and-paper or computer-assisted personal interviews). Results have indicated that the divide exists, although it does not pose as considerable a challenge to the current E-Governance as is often assumed. Based on the current divide, improved ICT skills and higher Internet usage among citizens could increase overall support for the digitalization of public services by up to 20 percentage points. Data results also identified two societal segments, namely, respondents from 1) the age category 60+ years and 2) 'Below-average income' respondents, as particularly vulnerable and marginalized.

Introduction

The purpose of this paper is to further advance the understanding of how the approach towards E-Government and digitalization of public services fluctuates between general public and active Internet users. Undeniably, in a modern fast-paced online environment, there is an increased need not only for developing advanced and complex E-Government services, but also an increased need for citizens to actually use such services. Specifically, only in such a scenario can all benefits, which digitalized public services provide, be utilized to their maximum potential ([Boksa et al., 2019](#)^[10]). As a result, it can be easily argued that the success of E-Government is largely dependent on citizens themselves accessing and using digitalized public services ([Hardill & O'Sullivan, 2018](#)^[11]; [Kunstelj, Jukic & Vintar, 2007](#)^[12]). Yet, in spite of more than a decade of varying efforts across developed societies to increase citizens' participation in E-Government, numerous obstacles still exist. The relevance and size of these obstacles can be easily demonstrated by a sheer number of scholarly articles focusing on this issue ([Axelsson, Melin & Lindgren, 2010](#)^[13]; [Holzer & Manoharan, 2012](#)^[14]; [Axelsson & Melin, 2008](#)^[15]; [Dodel & Aquirre, 2018](#)^[16]). Assessing scholarly research in this field over the past decade, it can be inferred that the lack of ICT skills among the domestic population has been commonly noted and perceived as a key culprit for sluggish growth of citizen engagement with E-Government ([Boksa et al., 2019](#)^[10]; [Fuglerud, 2009](#)^[17]).

In order to further advance scholarly understanding of such conclusions, this research article, based on a large survey of nationally representative data, aims to further explore to what extent individual ICT skills truly inform and affect citizens' attitudes and perceptions of E-Government. The overall research approach implemented by the SKODA AUTO University Research Team is based on comparing assessments toward E-Government among two groups (represented by two distinct data sets) – the 'General public' and active 'Internet users'. An essential premise of the research is that those who are active Internet users by default possess more advanced ICT skills and, according to the current academic understanding, should therefore demonstrate more favourable predisposition and attitudes toward the digitalization of public services. Importantly, the scope of this research does not only aim to shed more light on such a supposition, by either validating or refuting current scholarly understanding, but it likewise strives to provide quantifiable evidence, which will indicate the extent of the difference between the two sample groups. If current academic understanding is accurate, our SKODA AUTO University Research Team's survey should be in line and further substantiate the proposition that a positive correlation exists between the population's ICT skills and its tendency to be in favour of advancing digitalization of public services (see [Dodel & Aquirre, 2018](#)^[16]; [Deursen, Helsper & Eynon, 2014](#)^[18]). Aside from academia, this view is currently also maintained by some of the most prominent international bodies and organizations, such as the United Nations ([Stoiciu, 2011](#)^[19]) or European Union ([Davies, 2015](#)^[20]).

Throughout this paper, the terms E-Government, digitalized public services or simply digitalized services are used interchangeably, always ultimately referring to the currently available governmental services to which citizens have online access (typically via the governmental online portal).

Data Collection and Methodology

Considering the scope of this paper, which strives to compare the varying attitudes toward e-Government currently found in 1) the general public and 2) active Internet users, the data collection process was itself divided into two phases, altogether based on a large-scale survey with 1,613 respondents.

Within the first phase the SKODA AUTO University Research Team focused on active Internet users and utilized a computer-assisted web interviewing (CAWI) method. Between 31 October 2019 and 6 November 2019, the team successfully gathered data/complete answers from 611 respondents who are active Internet users on a daily basis. The essential criteria for quota selection were gender, age, education level, the municipality size, and region. As a result, the collected data are representative of the adult (Internet active) population specifically in the Czech Republic and to a greater extent of the Central and East European area.

The second phase subsequently focused on a data collection from the general public.^[21] Herein, the SKODA AUTO University Research Team implemented face-to-face interviewing methods, specifically, the Pen-and-Paper Personal Interview (PAPI) and Computer-assisted Personal Interview (CAPI). Overall, the data were collected from 1,002 respondents – out of which 680 were interviewed via PAPI and 322 via CAPI methods. The criteria for quota selection were identical with those implemented during the first phase of the data collection process in order both to preserve the comparability between data sets and to again ensure that the data are representative of the adult population.

Of note, the binary division between general public and active Internet users in the result section intrinsically resulted from the data gathering process and generated data samples, where the CAWI method was used for active Internet users and PAPI and CAPI were used for the general public. Data gathering was conducted professionally via cooperation with market research institution STEM. Statistical collection was based on random sampling within pre-selected categories (age, gender, location, education level) in order to make the results nationally representative.

There were three identical questions that were posed to all respondents, each with multiple fixed answers. Comparing responses between 1) General public and 2) Internet users while simultaneously correlating them with respondents' gender, age, education level, the municipality size, and region (criteria for quota selection) generated data points from which the SKODA AUTO University Research Team inferred the results and conclusions provided below.

The **first question** asked: *“Do you support the digitalization of Government services?”* with possible answers, in descending order, being: 1) Certainly yes, 2) Rather yes, 3) Rather no, 4) Certainly no, 5) I do not care.

The **second question** asked: *“How well-informed are you about tools currently offered by E-Government public services?”* with possible answers, in descending order, being: 1) Certainly well-informed, 2) Rather well-informed, 3) Rather not well-informed, 4) Certainly not well-informed.

The **third question** asked respondents to fill in the blank: *“Further digitalization of public services is personally for you ...”* with possible answers, in descending order, being: 1) Certainly beneficial, 2) Rather beneficial, 3) Rather not beneficial, 4) Certainly not beneficial.

Literature Review and Academic Contribution

Considering previous academic research focused particularly on the issue of the digital gap between Internet users and the General Public, as well as on how the lack of ICT skills among the domestic population undermines citizens' engagement with E-Government, several studies ought to be highlighted.

In terms of appropriate operational definitions and measuring processes of the digital divide itself, a study ‘How to measure the digital divide?’ prepared by the Korean Agency for Digital Opportunity and Promotion (ITU, 2004 ^[22]) represents a valid source. Although the study itself was prepared in 2004, large portions of its content remain pertinent and relevant to current research within this field to this date and can well serve as a comprehensive steppingstone.

Regarding particular research papers that looked at specific and country-associated digital divides, Nam & Sayogo (2011 ^[23]), need to be mentioned, as they studied this particular phenomenon in the case of the United States of America. Similarly, Brandtzæg, Heim & Karahasanovic (2011 ^[24]), addressed this divide in Europe. Nevertheless, it is of relevance that both of these studies focused on the presently most developed societies. Specifically, the former focused solely on the United States of America, while the latter restricted its concentration primarily to Norway, Sweden, Austria, the United Kingdom, and Spain. As such, presently still developing societies that are undergoing digitalization transformation as well, such as those we can find in Central and Eastern Europe, have been notably neglected.

Regarding the further interlinks that exist between digital divide and often associated e-readiness, Hanafizadeh, Hanafizadeh & Saghaei (2009 ^[25]) well discuss and investigate further model definitions and methodologies while identifying their potential weaknesses and strengths. Further elaboration on varying e-readiness assessment measures have been also provided in greater detail, particularly by Hanafizadeh, Hanafizadeh & Khodabakhshi (2009 ^[26]). Nevertheless, thus far, the most notable review of existing literature on digital divide and its assessment can be found in Hanafizadeh, Hanafizadeh & Bohlin (2013 ^[27]).

Lastly, it is worth noting that some scholarly work, such as Alshehri & Drew (2011 ^[28]), has focused on the nexus between ICT skills and E-Government from the reversed perspective – thus implying that it is in fact via developing and increasing the number of digitalized public services that ICT skills among the population rise. While the SKODA AUTO University Research Team acknowledges that this relation does exist and has a (perhaps even notable) effect, such a perspective is beyond the scope of this paper, which will consider the issue only from a standpoint of how ICT skills affect citizens’ attitudes toward E-Government, not vice-versa.

Considering the current level of scholarly understanding and knowledge regarding the digital divide, this research paper therefore strives to further advance the contemporary debate and academically contribute on several levels.

First, by focusing on the Czech Republic the collected data consider how current scholarly understanding of the digital gap and public attitudes toward digitalization of governmental services (a process which is typically studied in countries marked with very high or high living standards) matches and corresponds with the realities in former Eastern bloc countries, especially those that during the 1990s underwent a major economic transformation and subsequently joined the European Union. Currently, no research provides such data and this study aspires to fill this gap.

Second, survey results from the Czech Republic have a unique advantage – they are to a large extent applicable when assessing the public attitudes toward digitalization of governmental services on the EU level as a whole. This is particularly true because the Czech Republic's level of E-Government/digitalization of public services and of human digital skills consistently ranks, according to the Digital Economy and Society Index (DESI), to be among the countries that most closely correspond with the EU average ([European Commission, 2019a](#)^[29]). Specifically, the overall index score of the Czech Republic and the EU average score have over the past years been, respectively, 45.3 and 46.9 (2017), 47.6 and 49.8 (2018), 50.0 and 52.5 (2019) ([European Commission, 2019b](#)^[30]). In other words, Czech society's preparedness for the digitalization transformation, parallels that of the EU as a whole, when averaged. Hence, the survey data can be likewise utilized as an instrument to convey, or at least approximate, information pertinent to the current situation within the European Union (as no other data specifically focusing on the researched issue are otherwise available). Of note, according to the most recent 2020 data issued by the EU DESI the Czech Republic shows complete average 4G coverage, meaning that 100% of local households are covered by the technology (EU average is 96%). Furthermore, 62% of local citizens are reported to have at least basic digital skills (EU average is 58%) and 26% have above basic digital skills (EU average is 33%) ([European Commission, 2020](#)^[31]). These data points further strengthen the suitability of the survey's results for approximation of EU average.

Third, the SKODA AUTO University Research Team strongly believes that socio-economic factors play a crucial role in the structure and social fabric associated with the contemporary digital divide. Hence, the conducted survey specifically focused on these indicators, aside from the main questions, in order to further verify or refute such interconnections, while striving to identify (in case they are corroborated) those that can be presently deemed to have the most notable ramifications on the digital divide as such.

Finally, the Research Team views the currency of provided results as another notable contribution, given that the majority of studies and quantitative data associated with digital divide and distinction between Internet users and general public now derive from studies, many of which, could be today regarded as out-of-date (see literature review and further references throughout this paper).

i^[32] The SKODA AUTO University Research Team defines this term, for the needs of this research, as a broad reference to the general populace. As such, the term is statistically defined by the nationally representative data sample in which all segments of society are proportionally represented – based on indicators such as age, gender, level of education, municipality size, and region. Of note, this data segment by default did not distinguish between respondents that use the Internet regularly or not.

Please refer to PDF download for the full paper.

Article PDF:

301-article_text-3400-1-11-20210311.pdf^[33]

Copyright notice:

Copyright is held by the Authors subject to the Journal Copyright notice.^[34]

Cite this article as:

Jiřina Bokřov, Michal Bokřa, Josef Hork, Karel Pavlica, Jiř Strouhal, Stanislav řaroch. 2021. *E-Government Services and the Digital Divide*. JTDE, Vol 9, No 1, Article 301.

<http://doi.org/10.18080/JTDE.v9n1.301> [35]. Published by Telecommunications Association Inc.

ABN 34 732 327 053. <https://telsoc.org> [36]

Source URL: <https://telsoc.org/journal/jtde-v9-n1/a301>

Links

[1] <https://telsoc.org/journal/author/jiřina-bokřov> [2] <https://telsoc.org/journal/author/michal-bokřa> [3] <https://telsoc.org/journal/author/josef-hork> [4] <https://telsoc.org/journal/author/karel-pavlica> [5] <https://telsoc.org/journal/author/jiř-strouhal> [6] <https://telsoc.org/journal/author/stanislav-řaroch> [7] <https://telsoc.org/journal/jtde-v9-n1> [8] <https://www.addtoany.com/share?url=https%3A%2F%2Ftelsoc.org%2Fjournal%2Fjtde-v9-n1%2Fa301&title=E-Government%20Services%20and%20the%20Digital%20Divide> [9] <https://telsoc.org/printpdf/3141?rate=09xWdbsbVFI7vWDi8E2Ph1bkFdmn3g3UOPHtnpbnBLw> [10] https://telsoc.org/journal/jtde-v9-n1/a301#Boksa_et al_2019 [11] https://telsoc.org/journal/jtde-v9-n1/a301#Hardill_OSullivan_2018 [12] https://telsoc.org/journal/jtde-v9-n1/a301#Kunstelj_Jukic_Vintar_2007 [13] https://telsoc.org/journal/jtde-v9-n1/a301#Axelsson_Melin_Lindgren_2010 [14] https://telsoc.org/journal/jtde-v9-n1/a301#Holzer_Manoharan_2012 [15] https://telsoc.org/journal/jtde-v9-n1/a301#Axelsson_Melin_2008 [16] https://telsoc.org/journal/jtde-v9-n1/a301#Dodel_Aquirre_2018 [17] https://telsoc.org/journal/jtde-v9-n1/a301#Fuglerud_2009 [18] https://telsoc.org/journal/jtde-v9-n1/a301#Deursen_Helsper_Eynon_2014 [19] https://telsoc.org/journal/jtde-v9-n1/a301#Stoiciu_2011 [20] https://telsoc.org/journal/jtde-v9-n1/a301#Davies_2015 [21] <https://telsoc.org/journal/jtde-v9-n1/a301#sdendnote1sym> [22] https://telsoc.org/journal/jtde-v9-n1/a301#ITU_2004 [23] https://telsoc.org/journal/jtde-v9-n1/a301#Nam_Sayogo_2011 [24] https://telsoc.org/journal/jtde-v9-n1/a301#Brandtzæg_Heim_Karahasanovic_2011 [25] https://telsoc.org/journal/jtde-v9-n1/a301#Hanafizadeh_x2_Saghaei_2009 [26] https://telsoc.org/journal/jtde-v9-n1/a301#Hanafizadeh_x2_Bohlin_2013 [27] https://telsoc.org/journal/jtde-v9-n1/a301#Alshehri_Drew_2011 [28] https://telsoc.org/journal/jtde-v9-n1/a301#EC_2019a [29] https://telsoc.org/journal/jtde-v9-n1/a301#EC_2019b [30] https://telsoc.org/journal/jtde-v9-n1/a301#EC_2020 [31] <https://telsoc.org/journal/jtde-v9-n1/a301#sdendnote1anc> [32] https://telsoc.org/sites/default/files/journal_article/301-article_text-3400-1-11-20210311.pdf [33] <https://telsoc.org/copyright> [34] <http://doi.org/10.18080/jtde.v9n1.301> [35] <https://telsoc.org> [36]