

Alexandros Gerontas, Eleni Panopoulou, Georgia Zempila, Efthimios Tambouris, Anastasia Akrivousi, Konstantinos Farmakis, Stamatia Papadimopoulou, and Konstantinos Tarabanis. 2021. Towards Co-creating Getting a Transport Card Integrated Public Service. In 14th International Conference on Theory and Practice of Electronic Governance (ICEGOV 2021), October 06–08, 2021, Athens, Greece. ACM, New York, NY, USA, 4 pages. <https://doi.org/10.1145/3494193.3494316>

# Towards Co-creating Getting a Transport Card Integrated Public Service

Towards co-creating an IPS

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Today, citizens demand personalised and integrated electronic public services that match their exact needs and circumstances regardless of the number of actual public authorities involved. This can be realised by combining research and practice in the fields of integrated public service and service co-creation. The aim of this paper is to understand stakeholders' views towards providing a co-created, integrated public service in a Greek Region. More specifically, the public service Getting a Transport Card was analysed. This public service is available to low-income, disabled citizens providing them with free or reduced-price transportation. To meet our aim, we conducted structured interviews with citizens, region employees, and policy makers. The results provided us a clearer understanding of stakeholders views regarding system requirements, the role of co-creation, integrated public service governance, interoperability layers (legal, organisational, semantic and technical), and sustainability. These enabled us to formulate a clear usage scenario for a new integrated public service.

**CCS CONCEPTS** • Applied computing • Computers in other domains • Computing in government • E-government

**Additional Keywords and Phrases:** Integrated Public Services, Public Service Co-creation, Disabled

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**ACM Reference Format:**

First Author’s Name, Initials, and Last Name, Second Author’s Name, Initials, and Last Name, and Third Author’s Name, Initials, and Last Name. 2018. The Title of the Paper: ACM Conference Proceedings Manuscript Submission Template: This is the subtitle of the paper, this document both explains and embodies the submission format for authors using Word. In Woodstock ’18: ACM Symposium on NeuralGaze Detection, June 03–05, 2018, Woodstock, NY. ACM, New York, NY, USA, 10 pages. NOTE: This block will be automatically generated when manuscripts are processed after acceptance.

## 1 INTRODUCTION

Today, Public Services (PS) need to be widely accessible anywhere, anytime particularly from disadvantaged social groups. Citizens demand personalised [1-2] and integrated electronic PSs that match their exact needs [3-4] and circumstances regardless of the number of actual Public Authorities involved. This requires different public administrations to work together to meet end users’ needs and provide PSs in an integrated way. At the same time, PS co-creation is a relatively new domain that is gathering significant interest. The term co-creation denotes that more than one party is involved in creating PSs. Historically, it was the government that conceived, designed and, through the public administration, deployed PSs to address the needs of the public. Of course, in democratic societies, for the conception stage, the needs of the public have always served as input, as perceived, filtered and prioritized by the government. This however is not deemed sufficient anymore.

The idea of combining research and practice of integrated PSs and co-creation has recently attracted attention. More specifically, the Horizon 2020 project inGov [5] aims to provide a holistic framework and relevant ICT tools for integrated PS co-creation. This project will also run pilots in four different European member states. One pilot concerns the PS Getting a Transport Card, which is available to low-income disabled citizens of the Region of Thessaly. In this paper, we present on-going work in this pilot.

The aim of this paper is to understand stakeholders’ views towards providing a co-created, integrated Getting a Transport Card PS.

## 2 PUBLIC SERVICE DESCRIPTION (AS-IS)

In this section, the current Getting a Transport Card PS is outlined. Every year, a Ministerial Decision is issued to clarify the details regarding this service. After that, beneficiaries must visit the competent department of the Regional Unit where they live to issue a new card or renew an existing one. In the case of issuing a card for the first time, beneficiaries must submit: (a) filled application form, (b) valid health committee decision certifying the degree of disability, (c) copy of identity card, (d) signed declaration of permanent postal address (also declaring they have not applied for a discount card to another Regional Unit or a Citizen Service Center, i.e. a one-stop shop of public administration), (e) two recent photographs, (f) document from the tax registry certifying income, provided that their annual income does not exceed 23,000€ (individual income) and 29,000€ (family income). The competent offices receive and check the input documents. In case of incomplete or invalid data, the beneficiaries have to revisit the competent department and provide the correct documents. In case all data is complete and valid, the department fills in an electronic application and creates a new case in an information system. The ministry issues the travel card and the citizen obtains it by visiting the region’s offices. The card is valid for one year and until a new ministerial decision is issued. In case of renewal, if the card is damaged, a new one is provided. In case of loss, the competent offices check the information system. If it is confirmed that this is the first time the beneficiary requests a reissue due to loss, then the card is reissued. Moreover, every year, the competent authority must send a table including anonymized statistical data, concerning beneficiaries, to the Ministry of Labor, Social Insurance and Social Solidarity.

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### 3 METHODOLOGY

This research follows a qualitative research design and the case study methodology [6]. This method is appropriate for studying contemporary phenomena where no established theories exist. The unit of analysis is the single PS, in our case Getting a Transport Card. This PS was selected because it is a representative PS for citizens, as it is a benefit for both low-income and disabled persons. It therefore represents a sensitive PS that should be in the core of any government. To safeguard data triangulation, the main data gathering methods include document analysis (including relevant legislation, ministerial decisions and official websites) as well as structured interviews with various stakeholders. Interview questions were developed based on relevant scientific literature and good practices. For data analysis, all transcripts were recorded and coded in the following themes: (a) user expectations, (b) co-creation, (c) IPS and IPS governance, (d) EIF layers: legal, organisational, semantic and technical aspects, (e) Sustainability. For eliciting the stakeholders' needs and requirements, the following steps were carried out:

1. Identify Stakeholders. First, the stakeholders' groups that are relevant to the pilot are identified.
2. Conduct Interviews. Stakeholder interviews are organised and conducted, and the responses are analysed. Relevant ethics approvals are also obtained.
3. Elicit needs and requirements. The needs and requirements for the pilot are identified.
4. Develop usage scenario. The scenario is created based on input from the interviews.

## 4 RESULTS

### 4.1 Stakeholders

An analysis of relevant documents suggests the stakeholders involved in this public service are:

- Disabled citizens, currently over 8,000 beneficiaries in the Region.
- Region personnel and politicians (policy makers). This includes
  - Public Servants that handle the specific service (provider public servants)
  - IT Public Servants
  - Region Policy Makers
- Health Certification Committee,
- Ministry of Labour, Social Insurance and Social Solidarity; and
- Ministry of Interior (owning the Citizens Registry).

### 4.2 Interviews

Interviews were conducted only with citizens and the region personnel and politicians, as the region is the actual owner of the service.

All interviews with policy makers, provider public servants and IT public servants were conducted face-to-face. Initially, we sent the questionnaires with the consent forms via email and then we set up a live, one-to-one appointment to conduct the interview. More specifically, 5 women and 3 men participated in these interviews, 2 Policy Makers, 4 Provider Public Servants and 2 IT Public Servants.

The interviews with citizens (potential end-users) were conducted either live or online. For identifying citizen interviewees, we contacted organisations and associations for disabled people. Overall, 13 live interviews and 9 online interviews were conducted (14 with men and 8 with women). Five of them are 25-39 years old and 17 are 40-59 years old. 3 are elementary education graduates, 13 are secondary education graduates, 5 are higher education graduates, and 1 holds a postgraduate degree. 14 are retired, 3 employed, and 5 unemployed (3 in search for work).

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### 4.3 Stakeholders Needs

The responses of interviewees are analysed to elicit stakeholder needs and requirements. The analysis is coded in the following themes: (a) user expectations, (b) co-creation, (c) IPS and IPS governance, (d) Interoperability layers [7]: legal, organisational, semantic and technical aspects, (e) Sustainability.

#### 4.3.1 User expectations

Citizens, mainly obtain information on this service offline and not via the internet. Nevertheless, they suggest they prefer having personalised information on the internet or their mobiles, e.g. SMS.

Citizens reported the following problems regarding the current service provision: (a) difficulties in travelling to the competent Public Authority (PA) (especially those with mobility or vision problems); (b) long queues and danger of bacterial infection; (c) difficulties in gathering the required documents; (d) stress about missing the deadline due to lack of information; (e) long waiting period in case of card loss.

In general, citizens are in favour of electronic service delivery as a channel to complement rather than replace the existing face-to-face communication. They suggest the new information system should be: (a) user friendly, (b) easily accessible and inclusive, (c) highly secure protecting their privacy and personal (sensitive) data, (d) transparent regarding eligibility criteria and process, (e) accessible via Web and mobile phones. They also require relevant training. The use of virtual assistants was not deemed beneficial.

Public servants (service providers) reported negative experiences with this PS. They consider it difficult to perform, time consuming and with a high bureaucracy. They also mentioned that they have experienced frequent conflicts with the service's beneficiaries, and thus they feel it is necessary that the service becomes digital.

#### 4.3.2 Co-creation

Citizens expect co-creation processes to contribute towards developing a tool that is useful and operational for all disabled people. Citizens mentioned as their main motivation to engage in co-creation their willingness to help themselves, other citizens and the next generations. Additionally, they want their opinions to be heard and taken into consideration. They consider co-creation important and believe that all stakeholders, and especially people with disabilities, should immerse themselves in the co-creation process and not be discouraged by any limitations that may come up. The majority of citizens have not been previously engaged in co-creation activities with any PA. Similarly, only a few public servants have been previously involved in co-creation and only in the needs analysis phase.

The following challenges for co-creation were identified by the respondents: (a) lack of digital skills, (b) limited knowledge on co-creation by all stakeholders, (c) difficulties in communicating with the users, (d) potential lack of interest from the end users to participate, (e) unclear legal framework. It was suggested that these challenges could be addressed through training of the citizens on co-creation processes and establishment of relevant co-creation activities by the PAs.

#### 4.3.3 IPS and IPS governance

The policy makers reported that IPS coordination processes are coordinated by the competent Ministries and that IPS has been already implemented offline by the Citizens Service Centres (KEII). The public servants that provide the service believe that there is no efficient coordination and governance of IPS and that this should be ensured by the competent Ministries, e.g. the interconnection of this service with the Greek taxation system (taxisnet) in order to automatically check beneficiaries' financial status. The IT public servants recommend the creation of a coordinating team that will address all administrative entities and become an intermediary between internal and external users of a relevant application. Cloud usage for service provision is also considered particularly useful.

#### 4.3.4 Interoperability layers: legal, organisational, semantic and technical aspects

As regards the legal aspects, a policy maker noted that there are legal gaps, as concepts such as IPS and co-creation are not clearly specified and described in relevant laws.

As regards the organisational aspects, policy makers provided different opinions. One policy maker stated that the current relationships are clear, and have improved because of the pandemic, which caused the acceleration of

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digitalisation of PSs. Another policy maker noted that current relationships are not clear as many of them overlap. Provider public servants also mentioned that current relationships regarding organisational structure, tasks, policies and processes are not clearly determined and sufficient for IPS co-creation. This is due to the fact that many sectors with the same jurisdiction are involved, leading to confusion and mistakes.

As regards the semantic aspects, an IT public servant mentioned that semantic aspects should be analysed and recorded. Additionally, building of consensus between involved stakeholders is considered important, so that everyone has the same understanding of the domain concepts.

As regards the technical aspects, IT public servants emphasize that it is important to record existing ICT systems, including the different data formats and files that are used. Additionally, APIs and web services are considered useful for the support of new applications that will interconnect PAs. Additionally, applications should be available on the Cloud, in order to be easily accessible, facilitating co-creation.

#### **4.3.5 Sustainability**

The policy makers believe that co-created IPS application can be sustainable by establishing and funding relevant co-creation activities with beneficiaries, as IPS improvement is a continuous process.

Public servants believe that sustainability can be achieved through funding, so that stakeholders are provided with digital tools, facilitating their participation, which can also act as a link between theory and practice. They believe also that training of all stakeholders is also necessary.

The IT public servants agree that funding and training for the interested parties is important for sustainable co-creation processes. Information provision to users is also considered important, in order to be able to participate in decision making processes. They also suggest that the ease of use of a co-created IPS service, reusing existing user information, is a crucial sustainability factor as it will increase users' willingness to use this IPS. IT public servants mentioned that digital tools can also support sustainability.

#### **4.4 Usage Scenario**

Based on stakeholders' needs, the envisioned digital solution for issuing the discount transport card for disabled persons is presented using a usage scenario as follows. "The citizen visits the web page or mobile app and requests issuing the transport card, e.g. by clicking a button. The citizen is authenticated by a national authentication system. The app requests all necessary documents from the Information Systems of PAs participating in the process. Once these are provided the relevant public servant is notified, e.g. by email. The public servant logs in the system and evaluates the data obtained on behalf of the citizen. The public servant examines one-by-one all supporting documents and registers the validity date of each document in the system (i.e. the date until which the document is valid and may be accepted as supporting document). Then, if the supporting documents are sufficient, the public servant records the result in the system along with the card's expiry date. The system will then send an email / SMS to the citizen notifying them that the discount card is digitally available. By login in, the citizen has access to the digital card and is able to download or print it. Furthermore, the public servant manually issues the (physical) discount card and sends it to the citizen via post. If the supporting documents are not sufficient, the public servant records the rejection of the card's issue in the system as well as the final date for re-requesting the card issue (after renewing the supporting documents). In that case, the system sends an email / SMS to the citizen notifying them of the rejection and the final date for re-submission."

A similar scenario has been devised for card renewal.

### **5 CONCLUSIONS AND FUTURE WORK**

The aim of this paper was to understand stakeholders' views towards providing a co-created, integrated public service in a Greek Region. The public service under study is Getting a Transport Card, which is available to low-income, disabled citizens providing them with free or reduced-price transportation.

To meet our objective, we analysed relevant documents and conducted structured interviews based on questionnaires that were customised for the different groups of stakeholders, i.e. citizens, region employees, and policy makers. More

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specifically, 8 live structured interviews were conducted, including 2 Policy Makers, 4 Provider Public Servants and 2 IT Public Servants, and 22 interviews with citizens, including 13 live and 9 online interviews.

The analysis of responses indicate that stakeholders strongly support the digitalization of this PS and its provision online via web or mobile phones without however replacing the existing face-to-face communication. The simplification of the PS was supported by reducing the required documents that have to be submitted. Citizens favoured proactive provision of personalised information, e.g. notifications, and inclusiveness of the envisaged application, facilitating its usage by citizens suffering from all kinds of disability. Additionally, citizens support the establishment and maintenance of co-creation activities, however they suggest that in parallel relevant training should be provided. IT public servants, to promote integration of this PS with others, recommend the creation of a coordinating team that will become the intermediary between stakeholders. Regarding the technical aspects of interoperability, APIs and web services are considered useful. Finally, respondents suggest that sustainability should be supported by allocating adequate resources and providing training to stakeholders.

Based on the above, we suggest that the digital transformation of this PS as a co-created integrated PS will provide added value to all stakeholders and especially to PS beneficiaries.

The results presented in this paper will be operationalised for the development of a relevant information system for the Region of Thessaly, in the framework of the H2020 project inGOV. Consequently, we will capitalise on the elicited user needs and high-level requirements to develop and evaluate an information system for the provision of this PS as a co-created IPS.

## ACKNOWLEDGMENTS

This work was funded by the European Commission, within the H2020 Programme, in the context of the project inGov under Grant Agreement Number 962563 (<https://ingov-project.eu/>).

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