Digitization of Government Services: Digitization Process Mapping

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Abstract. The search for improvement and standardization of the digitization of government services has led governments around the world to focus on solutions that seek satisfaction, engagement and involvement of society in general. In addition, governmental systems are seeking constantly to renew the digital governance environment through good planning, use of best practices, and offering greater opportunities to establish collaborative and participatory relationships among all stakeholders (Government and Society). This paper presents a systematic literature review of the digitization of services contributing to the knowledge of the processes and methodologies adopted by these governments to provide their services to the citizen. The main contribution of this work is the proposal of a process mapping model that can be adopted during the stages of providing digital services by interested agencies in offering services focused on the needs of the citizens. The proposed model can be used by any government agency or private company interested in updating its processes, tools and methods of digitization and services automation according to their necessities.

Keywords: Service digitization · Government services
Systematic literature review · Digitization process mapping

1 Introduction

The digitization of services has emerged as a way to provide services with greater efficiency, efficiency and quality [13] and with less bureaucracy existing in the current processes [12]. Governments around the world have a renewed focus on citizens' perception and engagement, and a well-planned digital government environment offers greater opportunities for building collaborative and participatory relationships among all relevant stakeholders.

In the case of public services, access must be universal, in other words, available to all citizens regardless of income, level of education, geographical location or conditions of access to technological resources [13]. Providing services under such conditions is a challenge for governments around the world. The major

H. Panetto et al. (Eds.): OTM 2018 Conferences, LNCS 11229, pp. 3–20, 2018.
https://doi.org/10.1007/978-3-030-02610-3_1

trends fueling the public sector are driven by rising citizen expectations, which in turn drives four key aspects: Pressure to deliver for more consumer-like citizen services; Need to refocus resources in areas that boost government program delivery and make it visible to citizens; Drive to improve citizen outcomes and install a government culture of service excellence and accountability; Necessity to diversify the economy, attract and nurture new businesses utilizing new business models under the umbrella of government as a facilitator.

Driven by these pressures, government objectives cannot be limited to just the introduction of digital technologies and process automation within departments. It goes far beyond that, requiring a focused effort on digitally engaging citizens to modernize the public sector as a whole. A key measure of success for modern countries is the level of engagement that its people undertake with their government. As the OECD (Organization for Economic Cooperation and Development) states, good decision-making requires the knowledge, experiences, views, and values of the public, and unless citizens themselves understand and are engaged in the decision-making, trust is easily lost.

There are several benefits to citizens driving public policy reform and modernization as part of a digital government transformation. Citizen engagement drives the success of e-government, or digital government, by increasing the acceptance and uptake with the government through digital channels. This helps departments scale up services while reducing cost without compromising sustainability. It improves governance and creates a more informed government. This marks the shift in viewing citizens as customers of the government rather than subjects, which dictates a higher degree of interaction and engagement.

Engaged citizens can make important contributions to policies and programs related to every aspect of city life and government services. It reinforces government success by introducing a critical and honest feedback mechanism, building public trust in their leadership [24]. With regard to Brazil, the government has sought to encourage its Agencies to transform their digital services for access, sharing and monitoring of information, registration of demands and requests for official documents. The main objective of the Brazilian Government is to have a Digital Government From Citizen-Centric To Citizen-Driven, modernizing all public services. Since 2016, important decrees have been published in this sense, defining a Digital Governance Policy [21] and the Digital Citizenship Platform [8] in the scope of the Federal Public Administration.

The Digital Citizenship Platform [8] aims to broaden and simplify the access of Brazilian citizens to digital public services, including through mobile devices. The Federal Government Service Portal should be a single integrated channel for the provision of information, electronic request and monitoring of public services, whose objective is, in addition to providing practicality and agility for citizens and entrepreneurs, for digital services to reduce the cost to government.

The actions of the Platform are aligned with the Digital Governance Strategy (DGS) [22,27] that will guide the actions of Information and Communications Technology (ICT) of the Brazilian Government until 2019. It is necessary to identify tools that measure the reach of the services not scanned in Brazil, to assist

in the implementation and expansion of the services provision. These tools can help increase citizen participation in the use of current services and even in the development of new services. Tools for pricing the costs of all these operations, still need to be studied and/or even developed.

This paper presents a study about the digitization of Government services. Its main contribution is to identify in the literature how the governments of other countries are promoting the automation and digitization of their public services, as well as to present the best practices adopted for the process of government automation and digitization. In addition, it presents the registry of the technological solutions adopted in the processes used by success cases.

The remainder of this paper is organized as follows. Section 2 presents the research methodology adopted, the protocol and the result of the systematic literature review. In the Sect. 3 the results and the discussions are presented. Section 4 presents the proposed model of Digitization Process Mapping. The conclusions and future work are presented in Sect. 5.

2 Systematic Literature Review

Systematic Literature Review (SLR) is a way of identifying, analyzing and interpreting available evidence related to a particular research question, area or phenomena of interest [15,18]. During the SLR, the Planning, Conducting and Reporting phases of the results were followed [6,9,18].

The tool StArt (State of the Art through Systematic Review) [14], assisting in the planning and conduction stages of the Systematic Review Literature. The SLR was carried out with the objective of identifying and presenting the best practices and technologies currently adopted in the automation and digitization processes of services, as well as presenting guidelines on how to include automated and digitized processes in Brazilian federal public services.

The search strategy involved the use of Automatic Search [31], which consists of searching through the Search String in the electronic databases, followed by the Manual Search [31], through which searches were performed for works in conferences, newspapers or magazines. The Automatic Search was performed in the following databases: Digital library ACM; Digital Library IEEE Xplore; DBLP-Computer Science Bibliography. The Manual Search activity was performed in the Annals of the Conferences and Periodicals specific to the e-government area.

2.1 Selection of Primary Studies

We started the automatic selection process of the primary studies by executing the search string in the digital databases. The automatic search in the 3 bases defined resulted in a total of **727 articles**, being **354 or 49% of articles** from Digital library ACM and **255 or 35% of articles** came from Digital library IEEE Xplore and **118 or 16% of articles** came from

Table 1. Evolution of the work selection strategy

Adopted strategy	Stage 1	Stage 2	Stage 3	Stage 4
Automatic search	727	118	65	19
Manual search	56	40	31	7
Selected primary studies	**783**	**158**	**96**	**26**

Digital library DBLP. It is important to note that only **6 papers** were identified as duplicates, and the occurrence of duplicity occurred on the basis of ACM and DBLP. The Table 1 presents the evolution of the steps adopted in the selection strategy, which were applied in the papers identified during the automatic search.

The manual search performed in the Annals of Conferences and Periodicals was performed through various combinations of the search string defined in the protocol. This variation of the String was necessary because the bases of the Conferences and Periodicals have a smaller volume of publications and with the complete String often no work was identified. The manual search resulted in a total of **56 articles**, which followed the stages defined in the adopted protocol, adding **783**. The evolution of the selection of these in the systematic literature review (SLR) is presented on the Table 1. After the final application of all stages of the work selection strategy, a total of **26 articles** were identified to be used in data extraction.

3 Results Systematic Literature Review

This **research identified 26 primary studies**. The data extraction occurred in all 26 articles selected in the last step of the strategy defined in the protocol of this research. From the complete reading of these articles it was possible to answer the research questions.

RQ.1. How to promote the automation and digitization of federal public services in Brazil?

The deployment of government-digitized services requires more than technological sophistication, requires a shift in the mindset of public administration to citizen-centered service delivery [29]. The work presented by [32], highlights 5 key methods for the digitization of services by governments, being:

1. All citizens should be taken into account by promoting reliable, innovative and easily accessible services for all;
2. Efficiency and effectiveness must be a reality in the services provided, contributing to the high satisfaction, transparency and responsibility of users, relieving management and providing quality gains and resource savings;
3. The services implemented must start with the essential and high impact for citizens and companies. In order to identify such services, citizens and society must be included in the process of definition of scope and design;

4. Enabling elements should be added to services, enabling citizens and businesses to benefit from convenient, secure and interoperable forms of access;
5. Participation in developing ideas and choosing priorities should be democratic, using tools for effective public debate and empowering citizens and society in decision-making.

These key methods can be followed by the Brazilian government in order to allow the expansion and improvement of the digitized services provided. Other factors that may contribute to this process are: 1. Analysis, measurement and quality assurance of the ways of making these services available. For this, the user's perceptions about technology, satisfaction and trust must be taken into account [1]; 2. Providing services tailored to the needs of each citizen, respecting their profile (which may be related to age group, educational level, economic situation and others) and from this determine the amount of information and the level of detail to be provided [11].

The choice of service delivery channels is another issue that should be widely evaluated by the Brazilian government to support the digitization of services. Communication technologies have been evolving over the years, starting with traditional and personal communications, including options such as telephone and mail, reaching the use of the internet, social media and mobile phones with a wide variety of applications [26]. Artificial Intelligence techniques are also being inserted in this process, for example with the use of social and conversational robots that interact more and more with the citizens [26]. Currently, the most widely used means for delivering services digitized by governments and companies is the use of website portals, which deliver online services 24 h a day in any part of the world, provided there is connection with internet [10].

Other channels for providing services to citizens are: 1. Mobile devices to access portals or service applications [10]; 2. Self-service kiosks that have the option of delivering official documents [2]; 3. SMS (Short Messaging Service) for the delivery of public services, mainly warnings and information, in order to maintain proximity, connectivity, interactivity and continuous communication with all citizens [30]; 4. Social Networks that has a fast and wide reach of the population when it is necessary to disclose urgent information. This channel can also be used to identify citizens' needs not formally expressed [33]; 5. Chat used as a way of asking the citizen's doubts about various issues [33].

RQ.2. How to include in the automation process and the digitization of public services the citizens and agencies that provide the services?

Deciding which services are to be deployed, identifying which services need improvement and finding out why some services do not have the expected volume of access are tasks that can only be performed if they have the joint involvement of citizens, society at large, public servants and decision makers of the provider of this service. The inclusion of stakeholders in digitization is a good practice for the success of the process, since treating the citizen as a partner in government activities provides a number of contributions, such as: saving time, experiencing real need and great interest in achievement of positive results [19,24]. In addition,

citizen participation enhances the transparency, confidence, acceptability and legitimacy of decisions taken by policy makers [7]. Some initiatives that seek for this greater participation of the citizen and of the own agencies in the process of automation and digitization of services are:

- In addition to the application of technologies, it should be taken into account in the provision of digitized services 3 main categories: (1) the ability of decision-makers to communicate constantly with implementers in order to deliver as well as obtain the right information when needed; (2) competence of decision-makers to assign responsibilities to implementers in order to reduce bureaucracy and allow greater agility between processes; and (3) the ability to define clear rules in the provision and use of services, which should be widely disseminated to all stakeholders [23];
- The use of open data may be conducive to increasing the transparency of processes and can also be used to identify new demands for services to be made available. Some examples to achieve this increase in value for citizens can be: 1. Through the analysis of the questions answered by the citizens during the use of the services [25]; 2. Identification of the most accessed information [25]; 3. The mining of data to identify information expressed by citizens in non-official media, such as the use of social networks [25] and [7];
- The gamification techniques can be used to involve citizens in the process of ideas of new types of services, helping in the elaboration of new concepts of digital services or improvement of existing services [17].

In addition to involving the citizen in the participation of the development of services, it is also important to identify ways in which citizens are more interested in using these services. Some examples are:

- Keep the information and forms of access centralized in a single point, in addition to automating and simplifying the processes in order to make the citizen more independent to meet their needs [12];
- Information portals, booklets or other means of disseminating knowledge should not be static, rather, they should be able to deliver personalized information to citizens with the volume of data and details appropriate to each profile [11];
- Realization of more investments in marketing, advertising and promotion of services, being through different channels and with various forms of access. This seeks to raise the level of awareness and knowledge of citizens regarding the services provided by the Government [7];
- Demographic and socioeconomic conditions such as gender, age, formal education, economic income and political attitudes are factors that must be raised and understood so that the services are adequate to the different profiles existing for citizens [20]. Systems and services should be prepared to have user-friendly interfaces, adapting whenever possible to the profiles that have been identified [7];
- Providing public infrastructures, accessible and prepared to support the services offered, in order to guarantee availability and avoid access problems [7];

- Provide complete and high quality systems and processes, solving the needs of citizens in their entirety [7];
- Provide security and privacy of individuals and their data that must be kept intact and confidential [7];
- Gamification parts of the systems and services to thus involve and motivate the users to adopt the new processes with greater interest [3].

RQ.3. Which are the best practices adopted for the automation process and digitization of public services?

In the provision of digitized services, it is not enough to provide countless services without understanding the real needs of citizens and the factors that influence the use of this type of service. Among the factors that are pointed out as essential for the interaction of citizens with the digitized services, one can cite **quality, agility, privacy and security**, all those present at each stage of interaction between the interested parts [1]. It is worth emphasizing that quality must be present in different aspects, such as: **quality of the system, quality of service, quality of information, quality of content and product quality** [1]. The work presented by Bertot et. al [5] complements the list presented by Akram and Malik [1], of the essential elements to be evaluated in the implementation of digitized services, which are:

1. **Infrastructure:** Digital infrastructure is a necessary prerequisite, including robust digital technology infrastructure within governments, between citizens and industry. Without connectivity, access to systems and service applications is not possible;
2. **Capacity:** Different capacities, including organizational, human, regulatory, collaborative and other, must be present in all governments, industry, communities and citizens. These capabilities are needed to leverage the digital technology infrastructure and broadcast digital innovations;
3. **Ecosystems:** Innovative services, empowered by governments, should be part of a broader social innovation ecosystem, facilitating cultural change to adopt a positive attitude towards risk and product acceptance;
4. **Partnerships:** While governments may face challenges with their ability to innovate, they can take advantage of the innovative capabilities and resources of partners. Developing the capacity to partner with the private and nonprofit sectors and engaging citizens in defining new services are important mechanisms for delivering innovative public services;
5. **Inclusion:** If innovative services must be ubiquitous and benefit all, they need to be available and usable by everyone. Implemented innovations should ensure that all actors have the ability to use and benefit from these services;
6. **Value:** Innovations must offer public value and be valued;
7. **Delivery Channels**: Many factors, including age, preferences, digital literacy, infrastructure, among others, affect the acceptance of digital services and opportunities for citizens to get involved. Therefore, several service delivery channels are required for engagement as well as multichannel delivery strategies to decide the most appropriate channels for each service;

8. **Security:** Digital service innovations can not be deployed without ensuring the security of interactions and stored content;
9. **Privacy:** Security focuses on content protection, while privacy belongs to citizens' ability to opt out of digital public services. Innovations can not be mandatory, but citizens must retain the right to select the services they wish to receive, use or wish to engage with. For this to happen, privacy must be ensured;
10. **Authentication:** Secure and verifiable authentication is required, but we also need appropriate authentication measures to ensure that the recipients of the service are indeed recipients. This requires layers of security and authentication across all services.

RQ.4. What technological solutions are adopted in the automation processes and digitization of public services?

The use of existing Information and Communication Technologies (ICT) is vital in the process of accelerating the digitization of services, providing services increasingly adapted to the individual needs of citizens, providing greater satisfaction and use of these services. This process is important for citizens, who will have access to a more convenient, preferable and economical form of interaction with public agencies. For governments, this approach is important because it allows for cross-departmental synchronization, decreasing queues, reducing response time and financial expenses [2].

New technologies arise at all times and are analyzed in order to identify benefits of their use in existing processes. One of the major concerns of governments and citizens' demands [10] is with respect to the security of the transactions and the data used in these operations. Some examples of innovative practices with respect to electronic government security are: 1. SecureGov is a mechanism that has been implemented in Korea's Public Information Sharing Center (PISC) [10]; 2. A prototype is being tested by the government of India in that the proposal is an integrated digital signature approach based on cloud computing to enable electronic authentication and data security in the transaction phase of digitized services [16]; 3. The Government of India also uses another mechanism involving the digital signature to perform authentication of the data through the temporary proxy signature, where the owner of the signature transfers the power of its use to a signatory authority during a specific period of time and any misuse of the resources is prevented through the signature key generation procedure [4]; 4. The government of Georgia has an exclusive department to deal with the cyber security of its digitized services, among its practices is the monitoring of the use of services and the volume of transactions carried out; 5. The government of Greece uses an online system for requesting services by citizens where the processing of the orders made takes place almost completely in an automated way, to reduce response time and minimize the need for human intervention, with the aim of avoiding fraud at any stage of the request process [13]; 6. The use of SmartGates, which are kiosks for citizens' recognition through the evaluation of biometric data and even the face which are common at airports and customs for validation of documents such as passports, is already being tested by several

governments, such as Russia, which in self-service kiosks allows the citizen to make requests for documents and makes their delivery using this technology [2].

Continued innovation in the provision of public services is essential to meet the diverse social needs, raising social aspirations, economic pressure and unequal conditions for the provision of public services within and between countries. The results of this systematic literature review allowed us to identify several Government initiatives with this intention and to establish a panorama for the needs of the Brazilian Government, considering the best practices that were identified. In addition, a proposal for a model for the digitization of Brazilian public services was constructed.

4 Digitization Process Model for Government Services

With the accomplishment of the literature review it was possible to answer the research questions that were elaborated to conduct this work and to propose a service digitization model. The proposed model can be implemented by any government agency that wishes to offer digitized services to the citizen. Figure 1 shows the step flow of the model, which is composed of six phases, namely: Question, Customize, Innovate, Facilitate, Integrate and Communicate [28].

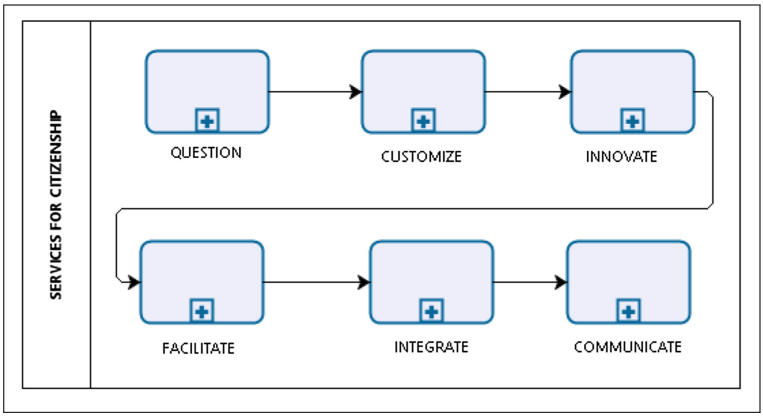

Fig. 1. Proposed model for digitization of public services.

During the **QUESTION** phase it is expected that the Federal Public Administration Body (FPA Body) will be able to identify its main services and the degree of maturity in the management of the services offered to the citizen. In this phase the following activities/tasks are indicated:

1. **Decide on the digitization of services:** the decision on the digitization of services should be strategic and involve all possible areas of the agency.

2. **Map services:** the complete mapping of the provided services situation must be carried out by surveying the existing systems, identifying the non-digitized provided services and verifying the requests that have not yet been met;
3. **Evaluate system interfaces:** the services already provided must provide a minimum set of information and have a friendly standard in their interfaces, which should be evaluated;
4. **Integrate data:** should be performed the integration of data or identify mechanisms to standardize its formats;
5. **Identify bottlenecks:** delays in processes, exaggerated bureaucracy or rework must be verified and recorded for improvements to be implemented.

The activity flow to be performed in the **QUESTION** phase of the proposed model is presented in Fig. 2.

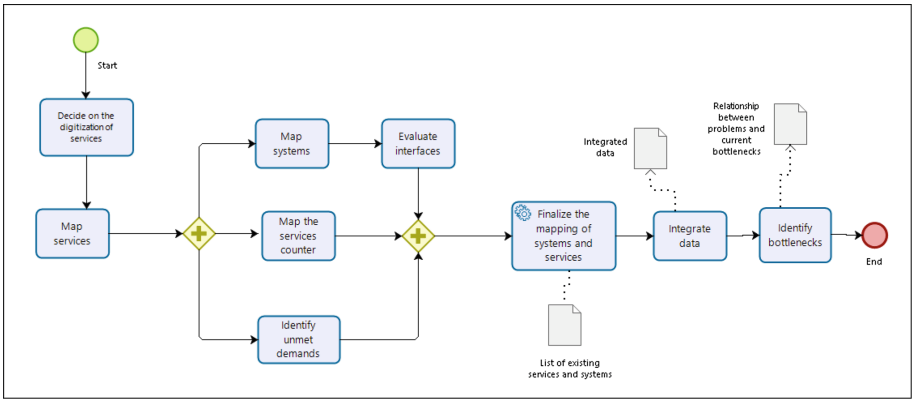

Fig. 2. Processes of Question phase

In the **CUSTOMIZE** phase the user is placed in front of the transformation process of the public service to map the most relevant sensations and impressions about the problem being treated and to collect data about the use, access form, satisfaction, expectations about the service provided and the service quality. In this phase the following activities/tasks are indicated:

1. **Understand the Actor/Citizen:** draw the general picture and the description of the different individuals, groups and organizations that are interrelated, directly or indirectly, with the service between them. The form of execution of this activity will be further detailed in Fig. 4;
2. **Identify communication channels:** check which communication methods will be used. They may be formally structured: surveys, interviews; formally unstructured: email and chat; informal: social networks;
3. **Collect needs:** map and classify quantitatively the priorities of services and/or functionalities to be implemented;

4. **Apply techniques to identify the profile of citizens:** profiles related to age group, educational level, economic situation, etc., must be identified to deliver the appropriate volume of information. Profiles related to difficulty of access or disability (auditory or visual) should be identified to fit the service delivery form - user type study (model according to the citizen/user profile);
5. **Provide ways to evaluate the services offered:** services must be continuously evaluated in order to identify changes or improvements to be developed, such as below-expected access, as well as to perceive infrastructure or security problems;
6. **Identify Changes and Improvements:** from the already performed services mapping, the modifications and improvements to be implemented should be listed and prioritized;
7. **Apply Improvements in provided services:** improvements or changes must be implemented to fit the perceptions of citizens;
8. **Implement mechanisms to maintain and/or encourage the use of services:** citizens should be encouraged to use services as if they were part of their daily lives.

The flow of activities proposed to be performed in the **CUSTOMIZE** phase is shown in Fig. 3.

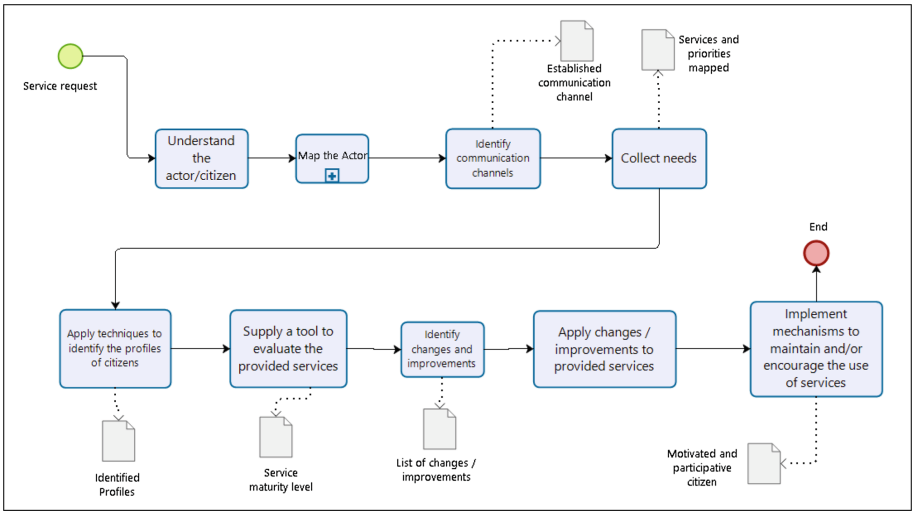

Fig. 3. Processes of Customize phase

The Actor Mapping process from the **CUSTOMIZE** phase consists of the identification and application of techniques to detect the citizens who use or can use the digitized services, as shown in Fig. 4. The techniques to be applied to identify the actors/citizens may include from conducting direct interviews with

interested citizens or already users of the services, the definition of focus groups to delineate profiles of citizens, as well as through surveys and application of questionnaires with the objective of obtaining a greater range in the identification of the actors.

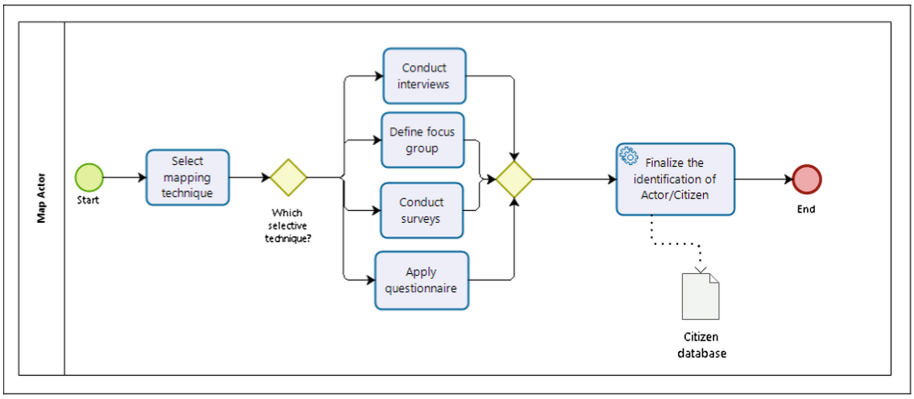

Fig. 4. Processes of Actor Mapping phase

In the **INNOVATE** phase the service transformation is actually initiated through the generation of innovative ideas, reflections to stimulate creativity and generation of appropriate solutions. In this phase the following activities/tasks are indicated:

1. **Make decisions:** organize the delivery priority of digitized services to be delivered;
2. **Develop solutions:** the requirements of the services to be offered must be elicited to provide their development;
   - **Update existing technologies:** upgrade technologies from existing systems, when necessary, to facilitate integration with new services;
   - **Implement new systems:** develop solutions that have been identified and cataloged;
   - **Integrate systems:** integrate new systems/services with existing ones;
3. **Test services and resources:** evaluate the solutions and resources used throughout the digitization process;
4. **Ensure security:** implement security mechanisms in the services provided.

The activity flow to be executed during the **INNOVATE** phase is shown in Fig. 5.

In the **FACILITATE** phase, resources and tools are provided to simplify and digitize services through the identification of supporting tools and/or technologies. In this phase the following activities/tasks are indicated:

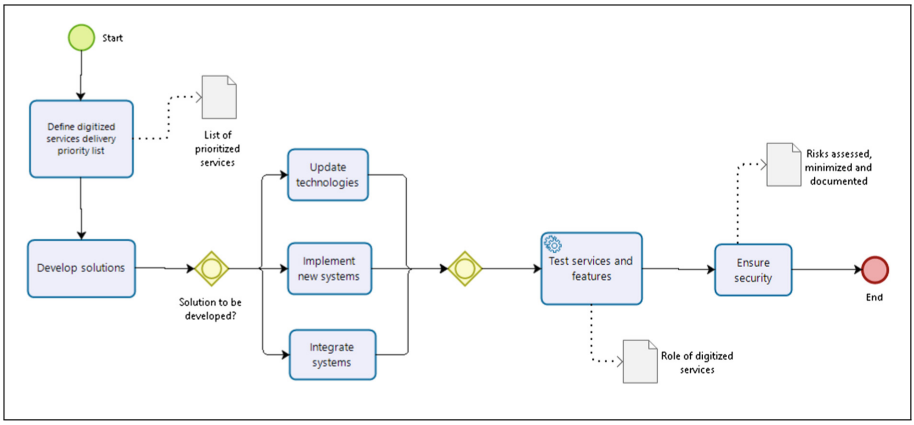

Fig. 5. Processes of Innovate phase

1. **Identify ways to facilitate access:** a broad mapping should be done to identify mechanisms to expand the access of digitized services;
2. **Expand service channels:** several channels for the provision of services should be implemented, including mechanisms for printing and/or delivery of official documents;
3. **De-bureaucratizing processes:** for services to be digitized, the existing bureaucracy must be minimized without losing the necessary controls;
4. **Automate services:** automate services in order to minimize dependencies and increase the autonomy of the citizen;
5. **Validate digitized services:** the services developed must be validated before being available for use.

The activity flow to be performed in the **FACILITATE** phase of the proposed model is presented in Fig. 6.

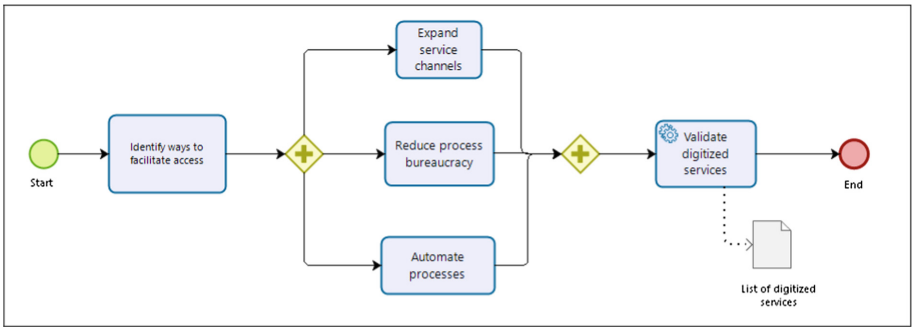

Fig. 6. Processes of Facilitate phase

In **INTEGRATE** phase, it is expected that the bodies of FPA are willing to integrate and unify data, processes and systems, in order to obtain a saving of resources by the institutions involved. In this phase the following activities/tasks are indicated:

1. **Engage agencies:** agencies must be engaged in the digitization of services, providing conditions for integrating data and systems;
2. **Unify data:** integrate the data source and create patterns;
3. **Integrate processes:** systems and processes must be integrated in order to avoid rework both for citizens and for developers of services from different agencies;
4. **Finalize centralization:** the completion of this stage of the model should generate the list of systems and services that were centralized.

The flow of activities stated to be held in **INTEGRATE** phase of the model is shown in Fig. 7.

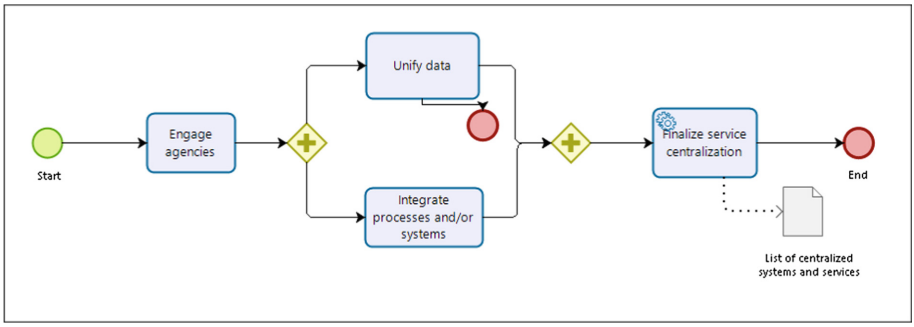

Fig. 7. Processes of Integrate phase

In the **COMMUNICATE** phase citizens are informed about the changes and improvements made available. In this phase the following activities/tasks are indicated:

1. **Disclose services:** invest in marketing, advertising and promotion of the services offered;
2. **Provide access to services:** digitized services should be made available to the public;
3. **Conduct research:** service evaluation surveys should be performed periodically, if possible, continuously to promote the continuous improvement of the entire cycle;
4. **Analyze the timing:** analyze whether services and information are being delivered at the correct and expected speed and timing by the citizen;
5. **Evaluate service availability:** implement mechanisms to evaluate and guarantee the availability of services;

6. **Determine scope of services:** check that all citizens who need access to the service are having it. Otherwise, improvements must be implemented;
7. **Make identified adjustments:** implement mechanisms to support the continuous improvement of digitized services;
8. **Ensure continuity:** implement mechanisms to keep the service active.

The activity flow indicated to be carried out in the **COMMUNICATE** phase of the proposed model is presented in Fig. 8.

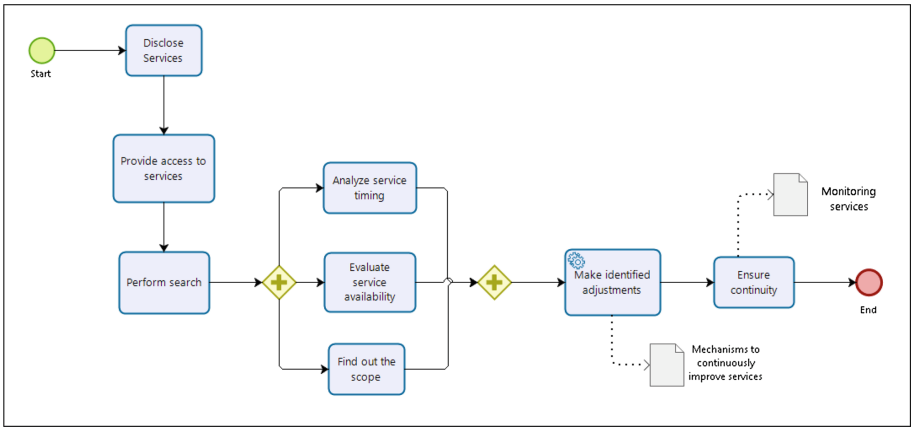

Fig. 8. Processes of Communicate phase

We intend to carry out a practical case study in a Federal Public Administration Body in order to validate the proposed model and verify that the processes are adequate and satisfactorily serve the process of implementation and maintenance of digitized services in the provision of public services by government to the citizen.

5 Conclusion

It is expected that the results found in the systematic review of the literature contribute scientifically in the area of digital government and digitization of public or private services, through the identification of mechanisms to promote the automation and digitization of federal public services; verification of models to include the citizen in the process of automation and digitization of services; survey of good practices adopted for the process of automation and digitization of services. As well as a synthesis of the technological solutions adopted in the processes of automation and digitization of services by any government that wishes to use the proposed process.

Based on this research, it was possible to propose a digitization model of citizen centered services in order to assist government service providers in reaching their goals with the offer of digitized services. This model aims to provide a direction of excellence and conditions necessary to engage citizens in the consumption of these services, thus achieving greater satisfaction and adherence by those involved in the process as a whole.

As a future work, it is intended to apply the processes of the proposed model in a Brazilian Federal Public Administration Body in order to collect information related to the proposed model and, if necessary, to implement improvements and adjustments in the proposal. In addition, it is intended to expand the scope of this work to include works related to other areas of knowledge, such as education, psychology, security, economics and administration. These areas are essential to citizens in the provision of public services.

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