

TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

ACTA TECHNICA NAPOCENSIS

Series: Applied Mathematics, Mechanics, and Engineering Vol. 65, Issue IV, November, 2022

ELABORATING PROCESSES MAP FOR A CENTRAL PUBLIC AUTHORITY

Iuliana MOISESCU, Eliza Ioana APOSTO, Petrică TERTEREANU, Aurel Mihail ȚÎȚU

Abstract: Improving the quality of public services is a general goal of every European citizen. The cluttered files, full of documents required of citizens to obtain an opinion issued by public institutions, are justified by the existence of procedures developed by central public authorities. These procedures, in most cases, converge towards an institutional deadlock by exceeding the deadlines for issuing the requested opinions, constantly generating dissatisfaction among the beneficiaries of public services. In this context, we set out to address an issue that has its roots in entrepreneurship and comes from the business sphere. Thus, this paper focuses on areas of Quality Management and the analysis of existing processes at the level of a central public authority. The paper will address the necessary steps of process map-making will present the benefits of developing such a map for a central public authority.

Key words: process map, management, public administration, quality management system.

1. INTRODUCTION

The activity of any organization, whether we are talking about a private law entity or discussing a public authority, can be defined as a process through which the proposed objectives are expected to be achieved. Any process carried out can and must be improved, as society is in an indisputable dynamic, which has a new way of adapting to the needs and necessities of community. Attempts by the government, which has succeeded the state leadership in recent years, to set up various bodies at the level of public institutions, such as the "Paper Cutting Commission" have failed miserably. The elimination and simplification of documents to turn complicated and cumbersome processes into efficient processes at the level of public administration did not have the expected result. Civil servants, public managers and secretaries of state have not yet identified solutions to help improve public services. In order for a process to be improved, first of all, we need to estimate the current state of the process that is taking place at the level of an organization. Thus, we will be able to have a

reference point against which we will be able to establish if the measures adopted by the management team had the role of improving the activities of the organization or failed. A more accurate picture of the processes specific of a public institution can be tell with a "Process Map".

2. CATEGORIES OF PROCESSES OF A CENTRAL PUBLIC ADMINISTRATION

The quality standard ISO 9001:2015 presents as the main objective of quality management the satisfaction of customer requirements, but also the interest of exceeding customer expectations [1].

At the same time, the above-mentioned standard specifies that the activity carried out by any type of organization uses systems and processes specific to its field of activity. The processes that underlie the work of any organization can be defined and measured. Perhaps, the most important aspect is that these processes can be improved, according to the requirements and expectations of its customers.

Received: 20.05.22; Similarities: 19.10.22: Reviewed: 09.11./07.11.22: Accepted:17.11.22.

Causes in systems nomenclature are usually referred to as inputs and effects as outputs [2].

According to the literature, a system consists of several processes, and the process, in turn, can consist of several sub-processes. Each process, which takes place at the level of an organization, has a life cycle in which activities organizational are identified. analyzed, coordinated and designed, to be improved, redefined. Achieving this requires effective communication between stakeholders within the organization. The life cycle for a process [3] is also represented in Fig. 4.The system can be defined as "a set of correlated or interacting elements" [4]. A process is "the set of related or interacting activities that use input elements to deliver an intended result" [5].

A process in the field of public services consists of a set of concentrated activities in order to achieve the objective assumed by a public authority, there being an interdependence with other ministries or central or local public authorities. A process management at the level of a ministry must contain procedures and techniques that contribute to the systematization, structuring, analysis and improvement of the processes in the field of public services.

Unlike private organizations, which have the liberty to set an unlimited budget to invest regularly in state-of-the-art IT systems to streamline their business, ministries do not invest in software and technical equipment to support operating systems of the latest generation, either due to lack of funds or due to cumbersome procedures in the Electronic Public Procurement System (SEAP), or due to ignoring the importance of such an investment.



Fig. 1 Types of Business Processes

According to the specialized literature, the processes, which take place within a quality management system, can be classified into three categories, as in the Fig. 1: management processes, central processes and supporting processes. Together, they constitute the hierarchy or process architecture of organization [6].

At the level of the Ministry of Culture are three categories of processes, as shown in Fig. 2, which fulfill the following functions:

- ➤ the management processes, known in the specialized literature as decision-making or decision-making processes, have the role of establishing public policies to the same extent that they have the role to implementing and pursuing general and specific objectives. Thus, it can be interpret as the processes through which managers decides or impose how the system will work;
- the central processes are those processes through which the main activities of the ministry are carried out, respectively the provision of public services to the citizens, such as:
- ✓ financing cultural projects;
- ✓ issuing permits for the rehabilitation of historical monuments that are part of the category of national cultural heritage;
- ✓ issuing operating permits for museums and public collections;
- ✓ issuing permits for archaeological research and unloading;
- ✓ the inclusion in the UNESCO patrimony of the representative elements specific to the national patrimony;
- ✓ issuing permits for the construction of public monuments etc.
- ➤ the supporting or basic processes represent the totality of the activities carried out at the level of the ministry to ensure the specialized technical support for the development of the main activity. The following services may be included here:
- ✓ procurement and administrative services that provides the infrastructure, consumables, transport, elements necessary for the operation of an institution;
- ✓ human resources service, which ensures the occupation of public positions with specialized personnel;

 economical services that administer salaries and elaborates the economic-financial situations necessary any public activity, which uses resources from the consolidated budget to the state etc.

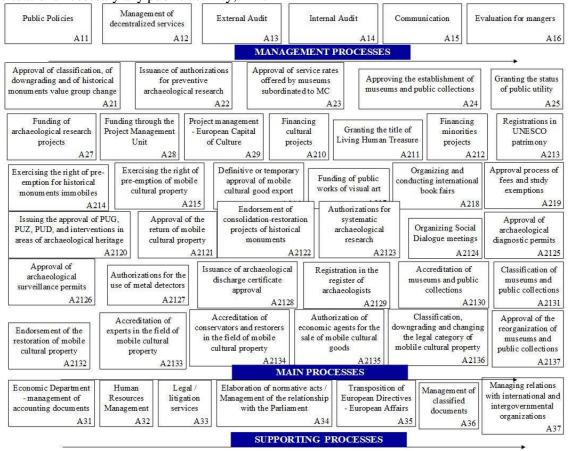


Fig. 2 – The existing process system at the level of the Ministry of Culture

2.1 Process map definition

The process map can be defined as a graphical representation of all the processes that take place within an organization, from the initial phase (input) to the final form (output). Authors Anne Sigismund Huff and Mark Jenkins defined the process map as a graphical representation that names the most important entities that exist in that field and places them simultaneously in two or more relationships" [7].

"With the ability to classify competencies into core-differentiated competencies, core competitive competencies, or non-core competencies, enables the sorting of the role played by each competency in the execution of the strategy, the creation of value, and the link to the relevant business model discipline" [8].

2.2 The advantages of developing a process map

The benefits of developing a process map for a ministry is to highlight, in schematic form, the information flows and, implicitly, the activities that can influence the quality of public services provided to citizens. The importance of a map lies in facilitating the analysis of the processes by the fact that they are highlighted and included in a scheme. By drawing up a map of the processes, one can even distinguish the processes that seem seemingly unimportant or are imperceptible but which, by mapping, reveal their importance in the system. By developing a process map [9] multiple advantages can be brought to an organization, such as:

✓ stimulates understanding between work teams;

- ✓ clarifies the importance of the activity of each department easier, with only one image;
- ✓ highlights the difficulty of clearly establishing the determinants of success;
- ✓ reveals the essential factors that can bring the success of the institution;
- ✓ is aware that the activity carried out by the institution has a unique character, which cannot be compared to any other entity, having its specificity;
- ✓ can highlight the strengths of the institution, which until the analysis were not obvious;
- ✓ emphasizes the interdependence between the departments within the institution;
- ✓ emphasizes the importance that people have in achieving the assumed objectives;
- ✓ distinguishes activities that are best to invest in as a manager, especially the central processes that are essential for the public authority;
- ✓ critical processes that are not working optimally, that have been neglected and that may negatively influence other activities are highlighted;
- ✓ it can be specified what are the difficulties

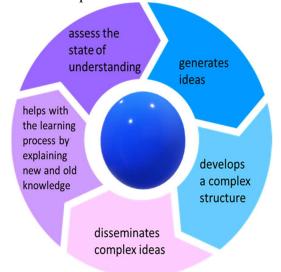


Fig. 3 Objectives of elaboration of a process map

✓ faced by each specialized structure etc.

Conceptual mapping is a technique for representing knowledge in graphs [10]. Graphs are made up of networks, which represents concepts. Concepts are rendered in the form of nodes (point or peak), and the relationships between concepts are expressed by links (arc or margin).

Usually, the mapping of concepts [11] is done following several objectives, represented in the Fig. 3:

More specifically, the objective of mapping is to develop a network structure that represents concepts and their associated relationships to capitalize on existing knowledge (in a welldefined area) and establish hotspots that do not work well an organization.

2.3 Steps for making a process map

To make a map of the processes it is necessary to establish the connections between the activities carried out at the level of a ministry. The map aims to identify ways in which a central public authority can improve the quality of its services to its citizens. To achieve this goal the literature provides us with questions that any manager of an organization should ask:

- ✓ How are public services provided?
- ✓ What are the stages through which public services are provided?

From informal discussions with specialists who process different types of documents, to issue an opinion, either to set up a museum or to rehabilitate a historical monument, to unload an archaeological site or build a public structure, all the information provided by specialists will be transposed into schemes, trying to use simple notions and especially verbs. The empiricism acquired at the level of the central public administration determines us to identify the necessary solutions at the level of civil servants or experts working in the administration. Thus, officials can also answer questions that clarify the causes that generate or may influence the malfunctions in the processes in which they take part.

For the success of a process map it is necessary to consider the following aspects:

- ✓ establishing the team that will work on making a map of the processes;
- ✓ the selection of civil servants who participate
 in the process carried out at the level of the
 specialized department, as there are also
 heads of departments who do not actually
 know the system and operational procedures
 or know them tangentially;
- ✓ every civil servant should be encouraged to intervene;

- ✓ it is necessary that there are no blockages due to excessive detailing of existing subprocesses;
- ✓ everyone's effort is essential to focus on the result, which is the endpoint where the map is considered completed;
- ✓ who is the designated person who will be responsible for mapping;
- ✓ will try to identify civil servants who have a dominant personality but who have experience in mapping/mapping;

✓ which will be the next step in making the process map, in the sense of how that map will be used to improve the services provided to citizens.

Types of processes that are carried out at the level of a public authority

The specific quality management processes for a public authority can be the following, and some of them are reprezented in the Tab. 1:

Tab. 1 Specific processes carried out at the level of the Ministry of Culture that are related to

quality management

No.	The process name	Description of the function of the process
1.	legislative or normative processes	represent the processes through which normative acts specific to the public institution are elaborated: government decisions, ministerial orders, instructions, regulations etc.;
2.	economic-financial processes	through which the patrimony of an institution and the accounting operations are managed, such as the preparation of the balance sheet;
3.	social dialogue processes	represent the processes resulting from the obligation of the ministry to organize, periodically, meetings with legally constituted and representative unions and confederations at national level;
4.	the processes of decisional transparency	through which the ministries have the obligation [12] to organize public debates for the normative acts they elaborate, prior to their adoption;
5.	communication processes	through which intergovernmental communication is carried out, with the citizens, with legal persons of public or private law, inter-institutional;
6.	management processes	through which the public policies assumed at the level of the government are elaborated or implemented or through which the activity of the managers of the cultural institutions is evaluated [13];
7.	the administrative process	the process that assures materials, infrastructure, technological and technical, which are necessary for the activity of a ministry;
8.	human resources management processes	which provide qualified staff for each activity carried out at the level of the institution;
9.	legal processes	through which the documents issued by the ministry are approved (ministerial order, financing, approvals, contracts etc.) and represent the ministry in courts or in relationships with the third parties
10.	the approval processes	the processes through which different types of approvals are issued for public monuments [14], built heritage [15] or movable heritage [16].
11.	financing processes for project and cultural activities	ministry annually allocates funding to support national and international cultural projects and activities.
12.	granting status of public utility process	different associations, foundations and federations can obtain the status of public utility if they carry out activities significant at the national level and in the cultural domain.

No.	The process name	Description of the function of the process
13.	ensures the implementation of	promotes and protects national cultural values
	UNESCO objectives in the field	
	of culture	
14.	granting the title of living	The ministry assures the promotion, protection and
	human treasure	safeguarding of material and immaterial heritage

The processes involved in achieving the objectives of a central public authority are multiple, and the quality of a service provided by a ministry depends on the optimal correlation of the processes in their entirety, so as to induce the satisfaction of citizens or organizations. Processes [17], according to the ISO 9001:2015 standard - on quality management systems, were classified as follows:

- ✓ previous processes, which are constituted on the basis of sources of input from citizens or legal persons under public or private law;
- > subsequent processes, which are addressed to the recipients of public services, in the case of the ministry being citizens or legal persons of public or private law.

Also, according to the mentioned standard, "consistent and predictable results are achieved more effectively and efficiently when activities are understood and managed as interrelated processes that function as a coherent system" [18].

The standard provides actions to take for the quality of the services, and some of those are, represented in the Fig. 4:

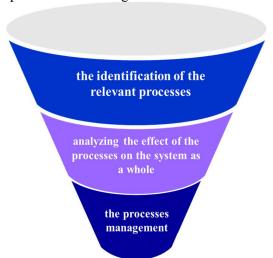


Fig. 4 Action to take for the quality of the services

- ➤ the identification of the processes necessary to ensure the achievement of the objectives of a public authority is constantly evolving, which is why various services and specialized commissions appear periodically, especially in the context in which a public institution is obliged to align with the national and European legislative changes. For the public institution, each structure has its responsibility and authority for managing processes;
- ➤ the most difficult action we consider is "the management of the processes" because the specialized structures have the same leaders for too many years, some of those departments for more than 20 years, which sometimes does not support the quality of processes, but submission to the old days of management;
- ➤ the public institutions usually have insufficient capacity "to analyse and evaluate the performance of the overall system" because it takes a specialist to accomplish that, and not the public servants with a solid management background;
- "analyzing the effect of the impact of the modifications to individual processes on the system as a whole" is challenging to perform because the response comes too slowly or is no response at all from the specialized structures.

The life cycle of the processes covers the following stages, as is reprezented in the Fig. 5 [19]:

- process modeling: defining process models using various methodologies and notations;
- process implementation: using IT tools for processes to make the implementation stage faster and more efficient;

- ➤ the implementation of processes, to achieve performance indicators;
- process simulation: simulation of process executions in order to optimize performance indicators;
- process optimization: improving process efficiency, effectiveness, agility, flexibility and transparency.

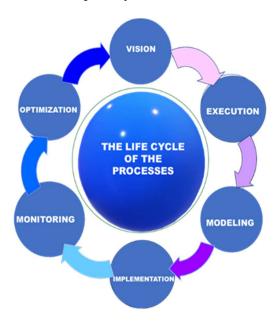


Fig. 5 The life cycle of a process

The system and operational processes can also have the role of following the development of certain structures within an institution to develop an information system [20] to improve the quality of public services provided by the central public authority.

3. CONCLUSION

To create a process map is necessary to work with a team that knows well each department of the organisation. It is essential to know the activities carried out at the level of each unit. The challenging part arises when it is necessary to decide which activities are important or which activity plays a role as the principal or the main processes.

A relevant aspect of drawing up a process map is the tools already issued by the public institutions that can be very helpful, such as organisation charts or, even better, the organisation and functioning regulations. After each structure within the central public authority is known, it allows to frame each process in one of the three categories of business management processes: supporting processes, main processes and management processes.

We also consider that the elaboration of a process map will lead to the improvement of the quality of the administrative act and will motivate, perhaps, the management to implement such an approach for all the subordinated institutions.. By elaborating a Process Map you obtain a tool that helps you accomplish the essential objective, namely to establish, together with the team specialists, what processes are and not to mistake them with the sub-processes.

Another important aspect is the difficulty of delimiting some processes by putting them in the correct categories and not confusing the supporting processes with the main processes. Some of the processes can be easily classified into two classes of processes, such as the communication process, which we appreciate to be a management process but, at the same time, it can have the quality of being a supporting process.

The communication process is a management process because the information law of public interest requires public servant to make decisions regarding how to resolve a request or decides what information appears in the public space and advises the minister on statements and public appearances as manager of the central public authority. Through the process map, the processes' impact on the quality of the services provided for the different categories of beneficiaries is underlined.

A well-elaborated process map is of assistance when there are changes in a ministry or when it comes to explaining how a central public authority works. At the same time, it is significant to know, as a manager of a public institution, which activity is mainly to assure the necessary qualified human resource and to distribute funds for the development and adaptation of services to existing social realities.

Like any organisation, the public institutions must fulfil its assumed strategies and Process Map allows the manager to have an overview that will bring to his attention all the main processes that generate value for the organisation.

The main processes need to be assisted by management and supporting processes. Should be eliminated the processes that do not bring outputs but, on the contrary, set obstacles in achieving the specific objectives of the public administration.

The process map can be used by the manager of the organization to understand better the specific main processes which are carried out by the institution and those he needs to focus on to make them function properly.

By visualizing the main processes provided to public service beneficiaries, it would be easier to understand that specialized structures that ensure these processes are undersized in terms of human resources and therefore inefficient at fulfilling the institution's responsibilities.

Thus, by analyzing a Process Map and the organizational structure of the public institution, a manager can better evaluate whether the human resource is propper distributed to ensure the basic processes. However, most of the time, at the level of the public, specialized structural institutions that provide support or management processes have allocated much more human resources than for the main processes.

For example, the International Relations Service has ten positions available on the organization chart, although this service is part of a support process, while the Mobile and Intangible Heritage Service has only eight positions as a part of the main process. We can easily extrapolate that there is a problem with human resource management.

As managers of public institutions are appointed politically, they usually do not have management knowledge and do not know the public administration very well. Mainly, they take over the organizational charts as they were established by their predecessors, without demanding an internal audit on human resource management.

Also, even if there were some attempts to change the organizational structures, usually there were blockages from the existing management of the different structures who felt threatened by their positions. Thus, there are frequently situations in which the specialized structures, that provide the main processes "survived" with a reduced number of employees, while departments, which are not significant for the beneficiaries of public services because they carry the role of institutional protocol, as a part of the support processes, are overcrowded.

As a manager of any organization, there is a responsibility to understand the objectives, namely to identify how to optimize the activities, and those are usually the main processes of the organization.

Therefore, we believe that for management that brings quality public services to citizens or beneficiaries of public services, it is useful to elaborate a processes map, to help the manager of any organization, including public institutions, to take relevant measures in optimizing services on which provides them.

We also consider that public services will not be able to achieve the satisfaction of citizens if the management of the public institutions does not realize the importance of using business-specific tools, where everyday organizations are required to reach their full potential because it is a unique chance of surviving the global competition.

4. REFERENCES

- [1] ASRO, Sisteme de management al calității- Principii fundamentale și vocabular. SR EN ISO 9000.
 București, România: ASRO, 2015.
- [2] Severance, F. L. System modelin and simulation. West Sussex, p. 14, Chichester: John Wiley & Sons Ltd., 2001
- [3] Weske, M., Business Process

 Management Concepts,

 Languages, Architectures. pp. 23,

 Heidelberg, Germany: Springer

 Science+Business Media, 2007.

- [4] ASRO, ISO 9001:2015 Sisteme de management al calității, p.20, Standard ISO, București, 2015.
- [5] ASRO, ISO 9001:2015 Sisteme de management al calității. p.19, Standard ISO, București, 2015.
- [6] Rosing, M. von., Scheer, A.-W., & Scheel, H. von., The Complete Business Process Handbook, Body of Knowlwdge from Process Modeling to BPM (Vol. I), pp. 162, Morgan Kaufmann, Burlington, United States, 2014.
- [7] Huff, A. S., & Jenkins, M. *Mapping Strategic Knowledge.*, pp. 22, London, SAGE Publications Ltd., 2002.
- [8] Rosing, M. von., Scheer, A.W., Scheel, H. von., The Complete Business Process Handbook, Body of Knowlwdge from Process Modeling to BPM (Vol. I), pp. 163, Morgan Kaufmann, Burlington, United States, 2014.
- [9] Huff, A. S., & Jenkins, M. *Mapping Strategic Knowledge*., London, SAGE Publications Ltd., 2002.
- [10] White, D., Knowledge Mapping and Management. Lincon UK, IRM Press -Integrated Book Technology, 2002.
- [11] White, D., Knowledge Mapping and Management. Lincon UK, IRM Press -Integrated Book Technology, 2002.
- [12] Parlamentul României, Legea nr. 52/2003 privind transparenta decizionala în administrația publică:
- https://legislatie.just.ro/Public/DetaliiDocument/41571, preluat pe 14.05.2022.
- [13] Guvernul României, Ordonanță de Urgență nr. 189/2008 (*actualizată*) -privind

- managementul instituțiilor publice de cultură. Legislație, București. Monitorul Oficial, https://legislatie.just.ro/Public/Deta liiDocument/99863, preluat pe 14.05.2022.
- [14] Parlamentul României. Legea nr. 120/2006 -monumentelor de for public. legislație, București: Monitorul Oficial, https://legislatie.just.ro/Public/Deta liiDocument/71534, preluat pe 14.05.2022.
- [15] Parlamentul României, Legea nr. 422 din
 18 iulie 2001 (**republicată**) privind protejarea monumentelor
 istorice, legislație, București:
 Monitorul Oficial,
 https://legislatie.just.ro/Public/Deta
 liiDocument/29761, preluat pe
 14.05.2022.
- [16] Parlamentul României, Legea nr. 311 din 3 iulie 2003 (*republicată*)-muzeelor și a colecțiilor publice, legislație, București: Monitorul Oficial,
- https://legislatie.just.ro/Public/DetaliiDocument/45161, preluat pe 14.05.2022.
- [17] ASRO, Sisteme de management al calității Principii fundamentale și vocabular. SR EN ISO 9000, București, România, 2015.
- [18] ASRO, ISO 9001:2015 Sisteme de management al calității. p.19, Standard ISO, București, 2015.
- [19] Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. A., Fundamentals of Business Process Management, Second Edition. Springer Berlin, Heidelberg: Springer, 2018.
- [20] Oprean, C., Țîţu, A. M., *Managementul* calității, Editura Universității Lucian Blaga din Sibiu, 2007.

Elaborarea hartei procesului pentru o autoritate publica centrală

Rezumat: Îmbunătățirea calității serviciilor publice reprezintă dezideratul general valabil al fiecărui cetățean european. Dosarele stufoase, pline de documente, care sunt solicitate cetățenilor pentru obținerea unui aviz emis de către instituțiile publice, au ca justificare existența unor proceduri elaborate de către autoritățile publice centrale. Aceste proceduri, de

cele mai multe ori, converg către un blocaj instituțional, prin depășirea termenelor pentru emiterea avizelor solicitate, generând, în mod constant, nemulțumirea beneficiarilor serviciilor publice. În acest context, ne-am propus să abordăm o temă care își are rădăcinile în antreprenoriat, venind din sfera afacerilor. Astfel, această lucrare se concentrează pe domenii ale Managementului Calității și analiza proceselor existente la nivelul unei autorități publice centrale. Lucrarea va aborda etapele necesare a fi parcurse pentru realizarea hărții proceselor și va prezenta beneficiile elaborării unei astfel de hărți pentru o autoritate publică centrală.

- **Iuliana MOISESCU,** Sc.D Student, University POLITEHNICA of Bucharest, Faculty of Industrial Engineering and Robotics, Splaiul Independenței no. 313, 6th District, Bucharest, Romania, E-mail: iuliana_moise@yahoo.com
- **Eliza Ioana APOSTOL**, Sc.D Student, University POLITEHNICA of Bucharest, Faculty of Industrial Engineering and Robotics, 3 I will come back with a new scientific paper, the last one with weibull was rejected although the reviewers agreed with it 313 Splaiul Independenței, 6th District, Bucharest, Romania, E-mail: albuelizaioana@yahoo.com
- **Petrică TERTEREANU,** Sc.D Student, University POLITEHNICA of Bucharest, Faculty of Industrial Engineering and Robotics, 313 Splaiul Independenței, 6th District, Bucharest, Romania, E-mail: tertereanupetrica@yahoo.com
- **Aurel Mihail ȚÎȚU,** Professor, Lucian Blaga University of Sibiu, 10 Victoriei Street, Sibiu, România, E-mail: mihail.titu@ulbsibiu.ro