**First step towards a digital National Statistical Institute**

Keywords: digitalisation, digital documentary systems, digital skills, modernisation

1. **INTRODUCTION**

In the context of an increasing digitalisation of public and private lives governments adopt digitalisation and data strategies to promote e-government activities, make information available to a broader public and reduce reporting burden of citizens.

To digitalize means sharing of data and services that creates value for the whole society. This leads to modify the rules, to use new technology and to adapt to the organizational processes.

Digitalisation is a real innovating project that has an impact on organizational structure of National Statistical Institute in terms of support services and statistic production competencies, results and impact and should bring clear benefit to the core process as: efficiency, speed, new capacity in customer service and stakeholder satisfaction.

The digital transition process is not of IT nature even if technology plays a central role because is not a “system” but a mode that should permeate the whole organizational structure and be used by all personnel of the Institute and contribute as widely as possible to disseminate a “culture of digital transformation of the Institute”.

A digital transformation project should be based on the following pillars:

* promotion of e-leadership skills development and innovative projects for digitalization of process and functions;
* support to the digital based strengthening of technological infrastructure and development of unitary data framework;
* improvement of transparency and traceability level of processes and data and management of documents.

This work is based on a qualitative case study methodology focused on Italian Statistical Institute (ISTAT) which defines a programme for digital transformation and implements a digital platform to support documental flows. The description of the case study is based on multiple information sources:

* semi-structured interviews with key people involved in the project: General Director, program and project leader, IT manager and content manager;
* analysis of project memos, documents and reports produced by the work team, including presentations at the summit of the institute and users to explain the philosophy and objectives of the project, and teaching materials;
* observation of the platform’s operation and of the user’s interaction.

**1.1. Framework**

The Digital Agenda for Europe is one of the seven flagship initiatives of the Europe2020 strategy that sets targets for growth in the European Union to be reached within 2020. The Digital Agenda proposes to exploit the communication and information technology potential to promote innovation, economical growth and progress.

In 2016 the ISTAT identified digitalization as one of the seven strategical objectives that participate in the realization of modernization programme.

The on going digital transformation process represents a real revolution on the organizational plan and has two priorities: the strengthening of administrative capacity and data and process digitalization.

The objective of digitalization is a more transparent and effective use of public resources and fall under the larger programme of the European Commission of to build institutional capacity of public authorities and involved parties and an effective Public Administration.

The strategical levers of the transformation process are organizational and are related to the simplification of processes, digitalization procedures and development of digital competencies.

The impact of the digitalization programme implementation is at 360° because it is related not only to the cross-sectoral and general services but also to diffusion and production of statistics information.

Furthermore the programme implementation is also related to the protection of human rights and individual freedom (GDPR 679/2016) and the organization, also aimed at the historical research of data and documents archives.

**1.2. Digitalisation start up**

The setting up of the digital transformation programme has required the definition of some basic elements aimed at the planning:

* purposefulness: that is individualization of digitalization as a strategic objective and representation of the strategic vision of the new digital model of functioning of the Istat. A basic step to allow the accordance of all the initiatives in a strategic key;
* experimental view: the digitalization programme has an innovative structural nature and impacts not only on processes and systems but also on organizational behaviours. The complexity, the width and the relevance of the change allow the experimental approach to analyze and verify the planned solutions before their implementation, in order to improve and to tailor them to the specific needs of the Institute;
* empowerment, that is to say the skill to support all the personnel, especially the managers of the initiatives and key processes in the awareness raising to the digital competencies to promote the implementation of new and more effective behaviours, to raise the awareness about of its skills and to facilitate the general capacity of the Institute to achieve the targets set,
* collaboration: that is to say the implementation of informal and structured modes that facilitate the transversality and multidisciplinarity, basic requirements of projects that need a strong integration starting from the planning phase of methodological, archivist, technological and organizational components;
* capacity building: skills are basic for the setting of the strategies and their implementation. This requires an investment in competencies by the highest management level to ensure a coherent alignment among different approaches and in particular to integrate the old production models with the new ones. The investment on the development of “internal digital skills” represents a key element to build a cultural base and a digital management,
* capacity of observation of the environment: a project of digital transformation modifies the infrastructures and the models of production in a transversal and pervasive way. For this reason it requires an open model of planning in which the project team is able to observe in depth the internal and external environment and in time to understand the modification of the requirements.

Concerning the operating plan the digital transformation programme is based on three key elements:

* digitalisation of documents, through the setting up of a project for the implementation of a digital documentary system;
* digitalisation of processes through the setting up of a project for the implementation of an integrated management information system –post ERP
* digitalisation of data streams, through the integration and computerisation of the management information systems in use.

**2. METHODS**

The implementation of the digital transformation programme is asking for:

* the coordination of methodologies, information systems, organizational procedures and decision making process to allow the alignment of behaviours at different organizational levels and the achieving of strategic objectives;
* the integration at different levels: data are stored and filed in a single place; hardware/software related to network connectivity and communication among computers; information related to the exchange of information among different internal organizational structures.

This complex programme is benefiting of the use of the Portfolio management transformation methodology from the very beginning of the planning phase [1].

This model was implemented through the following phases: (1) the translation of the strategies into iniziatives; (2) the identification of the projects and activities; (3) the prioritizing, the evaluating and balancing of the portfolio.

Each phases is characterized by the following elements: key activities, approach, objective.

The management of the programme has been supported by the use of different methodologies and tools related to the innovation and change management:

* setting up of the Digital Road Map, through the individuation of strategic objectives and initiatives for the start up phase programme and breakdown of objectives in micro objectives to facilitate the planning, the monitoring and the alignment to the strategic objectives;
* definition of a Data & Analytics Framework;
* step-wise refinement, methodology for the analysis, the project and the implementing of programme based on the following methodological principles: divide-et-impera, the problem to be solved is subdivided into “smaller” problems that can be easier managed; abstraction, the problem is firstly faced as a whole, the details at a later stage;
* the setting up of a coordination team composed by the project leader and initiatives that compose the programme to ensure the alignment of the strategical choices, the sharing of the planning and the progress reports monitoring;
* the implementation of reporting and feedback mechanisms in order to monitor the programme at different decision making level;
* the planning and implementation of training to develop basic digital competencies and to promote digital awareness and paperless culture.

**3.RESULTS**

The first result achieved was the implementation of the digital documentary systems. The system is unique for the whole Istat, and all personnel, managers and not, are authorized and able to use it.

The system integrates different components (official digital documents register - start up in July 2016; integrated certified emails-start up in March 2017, workflows and electronic signature- start up on 1st January 2018; digital preservation - start up in January 2018).

During 2018 further IT capabilities have been included in the digital documentary systems:

* digital workflow aimed at the draft of documents process management and their drafting, signature, protocol and submission
* digital records for the production, management and official acts of the Institute filing
* automated workflow for the production, management and submission of the questionnaires with instructions for respondents through a massive certified email system:
* automated workflow for the subscription and submission of the personnel forms.

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| Activities | Figures |
| managed documents | More than 2,5 millions yearly |
| integrated certified emails | 30 |
| implemented digital records of official acts  | 6 |
| authorized users  | 2.186 (all) |
| implemented certified digital signature | 80 |

**Table 1. Main figures**

This first result has contributed to the implementation of a single documentary database. It allows to overcome the old usage of private silos of the different organizational structures, and to allow the sedimentation of the current documents archive of the Institute that is part of the documentary and archivistic heritage of the State Archives system.

One of the results of the project was the promotion of several initiatives to implement the documentary workflow digitalization also related to the production processes and statistic dissemination that allows the integration with the overarching processes (i.e. massive certified emails, administrative penalty in case of no reply of compulsory reply and requests of statistic data access) [2].

A further impact of the project is the implementation of redesign phase and simplification in digital key of administrative procedures and services not existing before, in accordance with privacy rules and full technological security.

**3.1 MASSIVE CERTIFIED EMAILS**

An important step in the digitalization process is represented by the integration of the IT component for the massive certified emails within the digital documentary system.

This component manages the submission in a massive way of statistical reports and material to the respondents involved in the data collection process.

The new component integrates the automated registration of both sent and received by the Istat statistical communications, carries out the monitoring for the management work automatization, aggregates the submission and reply information . It also prepares the survey file by assigning visibility and specific responsibility to working groups of specific data collection.

Another important step is the introduction of the signature of the massive acts in the submission process, that is the authentic digital signature on each single submission reporting. This is possible by the set up of a specific digital signature certificate, called automated in the massive certified emails of the Istat digital documentary system. This configuration is in accordance with rules and modalities foreseen by the Digital Administration Code.

**4. CONCLUSIONS**

The digital transformation programme which began in 2016 and is still being represented as an important challenge on different plans:

* strategic: because of its vision on the digital role on the development and evolution of organizational processes to support the statistical production
* managerial: due to the ambitious targets and objectives that it foresees in terms of performance, efficiency and transparency of administrative action
* organisational: due to the impact that it is having on the managerial and personnel organisational behaviours

**4.1 Lesson learned**

The implementation of a transversal and really innovative project like the digital documentary, is a very important experience that will have an impact on the larger digitalization programme.

Lessons learned on different plans:

* clear objectives: it’s important that the final objective is clear in order to assure the coherence activities that help the team, together with an accurate organization of its priorities, to adapt and work more efficiently. It’s important that each member of a team always keeps in mind the institutional mission and vision to give stability and constancy to his work, based on innovative thinking;
* output definition: it’s important to have a flexible approach and to always foresee and experiment with the tools and solutions defined;
* change management: to promote communication actions that facilitate divergent thinking and contribute to accept the change with and open-mindedness and constructive spirit;
* monitoring of activities: it’s important to foresee some micro objectives and intermediate releases to support the ongoing monitoring system and promote feedback tools aimed at managers and team members;
* team management: to foresee periodic meetings to celebrate success and to analyse criticism to learn by doing so,
* project leader role: the team leader should support each member of the team because it’s important that he is always at disposal of the team in order to overcome the classic top-down structure. The team leader, expert in project management and change coaching, should be able to face and resolve any critical situations, to propose a solution to lighten the mood, to be proactive concerning the sharing of ideas and to support all team members towards the goal, by highlighting skills and contributions;
* organisational culture: the digital transformation is a structural change that requires during the start up phase, a strong concentration on the defining of rules and formalization. It also requires an investment in institutional culture to support the organizational behaviour evolution in the management phase.

**REFERENCES**

[1] Ernst & Young, Portfolio management transformation, 2015, page 4.

[2] Generic Statistical Business Process Model – GSBPM, Version 5.0, December 2013, pages. 5-6