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DIGIQU@LPUB Policy Brief

Ramón Peña-Casas and Dalila Ghailani
European Social Observatory (OSE)

www.ose.be

rue Paul Emile Janson 13 / 1050 Bruxelles / tél.: 32 (0)2 537 19 71 / fax: 32 (0)2 539 28 08 / e-mail: info@ose.be

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ABSTRACT

The purpose of this Policy Brief is to highlight policy pointers and make general policy recommendations as to how to address the pervasiveness of digitalisation and its ambivalent impacts on job quality of workers in three public services in the EU. Impacts are ambivalent in the sense that the findings suggest that as many public service workers report benefits from digitalisation as say that they are mainly seeing negative effects.

The Policy Brief is structured in four sections. After a brief presentation of the project and its methodology, Section 2 presents the key findings of the DIGIQU@LPUB project. It draws, on the one hand, on national case studies on the impact of digitalisation on job quality in public services. The case studies covered eight countries (Denmark, Finland, France, Germany, Hungary, Italy, Poland and Spain) and considered workers' occupations in three services/sectors: public electricity production and supply services, the public administrations sector (national, regional and local levels) and public hospital and health services. It is also based on a cross-cutting analysis reviewing the changes affecting the nature, content and implementation processes of jobs of public service workers, as well as the outcomes for the workers themselves. Digitalisation of work impacts the whole range of public service occupations, but to differing extents and in different ways.

Section 3 concludes on the pervasive and ambivalent impacts of digitalisation on job quality, from a cross-cutting perspective. Section 4 presents policy pointers and recommendations on how to better address the ambivalent impacts of digitalisation on job quality in the public services. These recommendations are based on the main findings of the project, and on the expertise of the European Social Observatory in comparative analysis of European social policies, including digitalisation. Policy pointers and recommendations are organised around four main priorities: Providing workers with adequate training and learning opportunities on digital skills; Involving workers from the design to the implementation of work digitalisation; Improving the financing of public services to foster a sustainable and fair digital transition for public service workers; Proceeding to systematic impact assessments and promotion of dedicated scientific research.

1. AIMS OF THE PROJECT AND METHODOLOGY

The project studying 'The Impact of DIGItalisation on job QUALity and social dialogue in the PUBlic services', hereafter DIGIQU@LPUB, aims to assess the impact of digitalisation on job quality in European public services, from a twofold perspective, looking at workers' own perceptions of the impact of these changes on their daily jobs, but also investigating trade unions' perceptions and practices in the social dialogue. This European Commission-funded project was led by the European Social Observatory (OSE) and ran from November 2021 to September 2023, involving eleven European partners. It covers eight countries (Denmark, Finland, France, Germany, Hungary, Italy, Poland and Spain) and considers workers' occupations in three services/sectors: public electricity production and supply services (hereafter electricity sector), the public administrations sector (national, regional and local levels) and public hospital and health services (hereafter the hospital sector).

Examining the impact of digitalisation on job quality, the research questions of the project included the following:

- What forms does digitalisation of work take?
- How has digitalisation changed the nature, content and implementation processes of the tasks involved in the jobs of public servants?
- What are the outcomes of these changes for the public service workers themselves?
- What are the challenges and opportunities brought about by the digitalisation of work in public services?
- Has the digitalisation of work in the public services affected the quality of the public services provided to users?

A specific and original feature of DIGIQU@LPUB is the emphasis placed on the experience of workers themselves in assessing the changes that digitalisation has triggered in their daily work tasks and lives. The researchers first took a traditional top-down approach, involving a review of the national and international academic and institutional literature. This was then combined with a bottom-up approach, based on interviews and focus groups[1], to enrich the exploratory research with the assessments of trade union representatives and workers of the tangible outcomes of digitalisation for workers' jobs, and to examine the challenges faced and practices adopted by trade unions to address the consequences of digitalisation. Workers' voices came through even more strongly thanks to the organisation of a detailed online survey among workers in the three

[1] On the one hand, the project partners conducted semi-structured interviews with trade union representatives at sectoral and cross-industry levels in their own countries. On the other hand, the national partners also organised focus groups with workers in each of the three public sectors, to discuss their perceptions of the impacts of digitalisation on their day-to-day work. A detailed and nuanced overview of this valuable information is available in the national studies and the comparative reports, which can be found on the project website: see the 'Find out more' section at the end of this document.

public sectors/services, in the eight Member States covered by the study. The survey was completed by no less than 5597 public service workers[2].

The full extent of the information gathered through these channels enables us to shed light on some of the positive and negative aspects of the effects of digitalisation on the various dimensions of job quality and the related outcomes for workers, and to highlight convergence and national specificities in the different public sectors/services covered[3].

2. DIGIQU@LPUB KEY FINDINGS[4]

Digitalisation is pervasive and is currently integrated into the working practices of the vast majority of public service workers

The project survey sheds light on the extent to which digital tools and methods are used by public service workers. More than eight out of ten surveyed workers confirm regular use of tablets, laptops and smartphones, as well as the use of Information and Communication Tools (ICT) in their daily tasks. When it comes to the use of machines operated by digital commands to perform certain operations (for example, lifting heavy loads or persons, monitoring equipment or persons), the share of users is lower, ranging from less than one worker out of ten in the public administration to around one out of four workers in the other sectors.

Almost half of the surveyed public service workers in the public electricity production services and the public administration claim to currently have partial or full access to telework from home. Around one third of respondents work at service users' premises, or in decentralised professional structures. Remote work is much less common in hospital services, where almost eight out of ten workers declare that they have no opportunity to work away from their professional workplace.

[2] Because of the way in which the questionnaire was disseminated, through the channels of national trade unions, the survey sample is what is known as a 'convenience sample'. As such, it is not intended to be representative of the population as a whole in the countries and sectors considered, but only of the population responding to the survey. Caution should therefore be exercised when interpreting the results in general terms.

[3] This Policy Brief on the impact of digitalisation on job quality goes hand in hand with another thematic Policy Brief focusing on the findings regarding the impact of digitalisation on social dialogue in the same countries and public services: Leonardi S. (2023) Digitalisation – slowly moving up the social dialogue agenda?, DIGIQU@LPUB Policy Brief. OSE Working Paper Series, Briefing paper No. 15, Brussels, European Social Observatory, September.

[4] For a comprehensive overview of the project findings see: Peña-Casas R. and Ghailani D. (2023) The ambivalent and ambiguous impacts of digitalisation on job quality of workers in public services in the European Union: the case of electricity production and supply, hospital, and public administration sectors. DIGIQU@LPUB project. OSE Working Paper Series, Research Paper No. 61, Brussels: European Social Observatory, September.

Digitalisation has ambivalent impacts on job quality, notably concerning work organisation

The assessment of the workers from the public administrations and public electricity production and supply services, when questioned in the project survey on the impact of digitalisation on work organisation, is mostly positive. As well as a positive assessment of the impact of digitalisation on work organisation, there are also significant negative aspects. In the hospital sector, contrasting with the two other public service sectors, this assessment is mainly negative. There is a positive perception of, for instance, digital tools used to improve individual flexibility and autonomy at work, to allow flexibility and optimisation of the availability and circulation of information, standardisation of procedures and ultimately to enhance the quality of the public services provided to users. Negative aspects include the increased intensity and pace of work, the 'paradox of autonomy'[5], and digitalisation-related risks associated with the pervasive real-time monitoring of work and workers.

The rapid spread, in the public services, of alternative working practices allowing workers to perform job tasks outside the usual workplace, such as remote work, has generated more individual opportunities but also responsibilities for workers and employers

Partially freed from time and space restrictions (working anytime anywhere), these new forms of work give workers greater flexibility to adapt their workplaces, their jobs and their working times to their respective needs. The use of these alternative forms of work accelerated significantly following the drastic adjustments to working practices resulting from the prolonged closure of workplaces during the COVID-19 pandemic. However, there are marked differences in the incidence of remote work across the sectors under scrutiny. The various forms of remote work[6] are generally more widespread in the electricity and the public administrations sectors. In contrast, teleworking is much less common in the hospital sector, where almost eight out of ten workers have no opportunity to work away from their professional workplace.

Digitalisation increased work intensity and overload of public services workers, but is not necessarily perceived as the main cause for this

The public workers surveyed mainly state that digitalisation has not changed features of their contractual working time. Interviewees and focus group workers provide a more nuanced view.

[5] On the one hand, digitalisation has the potential to increase worker autonomy, by enhancing availability and circulation of information while reducing routine repetitive tasks. On the other hand, digitalisation comes with new routine repetitive tasks (such as reporting) that partly replace previous analogue routines. Digitalised work also amplifies the near real-time monitoring of job tasks and workers. The use of management algorithms in certain digital applications to operationalize the workflow is another factor reducing the autonomy of public service workers. This creates a 'paradox of autonomy', where workers may simultaneously experience greater freedom and greater surveillance.

[6] There are three main forms of remote digital work: teleworking from the worker's home, in satellite decentralised workplaces, or at users' premises/homes.

They stress that labour intensity and work overload have indeed been increased by the digital standardisation of tasks. However, they relativise the importance of its effect by referring to the influence of other structural factors specific to the public services, such as the ongoing staff shortages or the underfunding of services. The impacts of digitalisation on work intensification mentioned by the interviewees and the workers included: the massive flow of monitoring and reporting information generated in real time by digitalisation; decentralisation; the significant increase in teleworking among workers; a tendency to give more work to people who are teleworking because of distrust among managers; the limited possibilities, or impossibility, for teleworkers to make use of existing negotiated procedures in the workplace to regulate working time (fixed time slots, start and end time pointers).

Enhanced reconciliation of work and private life does not emerge as a benefit of digitalisation for the public services workers surveyed, nor as a major concern for them

The issue of work-life balance and the blurring of work-life boundaries was rarely mentioned in unionists' interviews or in the workers' focus groups, while the survey results tend towards a relatively neutral assessment of this issue. This may be partly because reconciliation was discussed beforehand, in connection with other closely related topics concerning work organisation and working time, notably overtime, overload and the prevalence of teleworking. However, in the electricity sector, some of the reports draw attention to the intrusive and disruptive effects on the work-life balance of the increasing use of digital tools and devices that imply a perceived and/or real need to be constantly connected. Some workers from the public administrations underline the limited but nevertheless welcome existence of legal tools (laws, collective agreements) governing the use of telework and the protection of private life (right to disconnect). In the hospitals, dedicated web platforms or instant messaging group apps enable medical technicians, and particularly nurses, to be contacted at any time to meet service needs and staff availability issues.

For about half of the public service workers surveyed, the digitalisation of work has not impacted their state of physical and mental health, but around one third of workers report a negative impact of digitalisation on their physical and/or mental health

The main physical disorders reported are vision problems, back pains and neck pains, followed to a lesser extent by headaches. The main mental health issues mentioned in the survey are mental fatigue, stress, demotivation and anxiety. Another common feature of the three sectors, reported by about half of the workers in the project survey, is the increased exposure to psychological risks, including harassment or bullying by colleagues and managers, but also verbal or even physical violence from colleagues and managers or from users of public services. Mental health problems have been related to the increased stress among workers, generated by enhanced work intensity resulting from the use of digital tools and the greater flexibility in work organisation. The

individualisation of digitalised work and the resulting social isolation of workers were highlighted as among the factors generating stress and mental exhaustion, with damaging outcomes such as nervous breakdowns or burn-out.

Nearly two thirds of public service workers acknowledge the need to be trained in digital skills and report that formal training is given by their employers

For around one out of four surveyed workers, however, the learning is informal and takes place on the job. Around three out of five workers assess that the matching of training with their personal needs is limited, and that regular updates are necessary. The use of digital tools for training and learning is seen as a positive contribution of digitalisation, but some negative aspects are also highlighted, such as the lack of certification of many digital training modules. In a context of work overload, moreover, it make be difficult to take e-training courses during working hours, so this is frequently postponed to outside statutory working time, increasing the risk of overtime and unpaid working hours; also, e-training deprives workers of the dynamic of learning through direct interaction with the trainer and also with colleagues, and potentially increases the inequalities between workers, for instance between older staff and younger workers already at home in a digital culture.

The impact of digitalisation on job security and career prospects is perceived differently by individual public service workers

According to the project survey, for approximately four out of ten workers digitalisation has had no repercussions on their job security and career prospects, whereas about one in three workers see these effects as positive, and another third of workers see them as negative. This more negative sentiment is more prevalent in the hospital sector than in other sectors. The topics of job security and career prospects are scarcely discussed in the national reports, and if so, mainly to highlight the expected positive effects of learning new digital skills on career prospects.

Workers' rights: very few information/consultation procedures have taken place across the sectors

Across all the sectors, fewer than 10% of the public service workers questioned in the project survey state that they have benefited from a formal information/consultation procedure, either at individual level, through the unions or through a combination of the two methods. Almost one in four workers stated more affirmatively that no information and consultation procedure on the implementation of digitalisation had been organised in their workplace. Around half of the workers in the public services did not know whether a formal information/consultation procedure had been organised in their workplace.

The right to disconnect is overwhelmingly perceived by public service workers as an important right to consider in regulation and social dialogue

Just over a third of workers in the public services feel pressure to be permanently or frequently connected. The vast majority of respondents (generally more than three quarters of responses) from the three public services emphasise the importance to them of the right to disconnect as a workers' right, and the need to include it in labour law and social dialogue at all levels, from cross-industry to the workplace level.

There is a generation gap in the learning and implementation of digitalisation

While gender, education or origin were rarely mentioned, by the unionists interviewed or the workers taking part in the focus groups, as factors holding back digitalisation in the public services, the existence of a generation gap in the acquisition and use of digital tools was highlighted several times, and for all sectors. Older workers have greater difficulty in learning and integrating digitised work and need to be given special attention in this respect.

Digitalisation is enabling and/or exacerbating a gradual weakening of public workers' relationships at the workplace

In individual interactions within working teams, digital modes of communication (emails, video conferencing, instant messaging groups), the increased use of remote working possibilities and/or digital task planners are increasingly replacing direct physical interaction with colleagues. For some public service workers, the digitalisation of tasks fails to include 'unproductive but socially useful time' in the digital planning of tasks. These moments of exchange, for informal communication with users, are valued by public workers (and users) and are perceived as being at the heart of their work and the public services' role vis-a-vis citizens. This potential conflict of values can cause a feeling of demotivation among public workers and increase risks of depression or burn-out.

Digitalisation alters the traditional hierarchical structure while allowing unprecedented permanent monitoring of work and workers

For some, the introduction and implementation of digitalisation has generated some mistrust in the hierarchy and a feeling that the hierarchical relationship has become weaker, as digital tools can sometimes partially replace managers in the planning and organisation of work tasks (algorithmic management methods[7]). A related negative concern is the potentially excessive and

[7] According to Ponce Del Castillo and Naranjo (2022), algorithmic management could be defined as automated or semi-automated computing processes that perform one or more of the following functions: (1) workforce planning and work task allocation, (2) dynamic piece rate pay setting per task, (3) controlling workers by monitoring, steering or rating their work and the time they need to perform specific tasks, nudging their behaviour, (4) measuring actual worker performance against predicted time and/or effort required to complete tasks and providing recommendations on how to improve worker performance and (5) penalising workers, for example, through termination or suspension of their accounts (Ponce Del Castillo, A. and Naranjo, D. (2022), Regulating algorithmic management - An assessment of the EC's draft Directive on improving working conditions in platform work, ETUI Policy Brief 2022.08, European Trade Union Institute, Brussels).

unprecedented level of surveillance of work and workers' performance allowed by digitalisation. The pervasive nature of digital tools implies a de facto increase in the monitoring not only of work but also of workers, anywhere and at any time. This brings risks related not only to the permanent monitoring in itself but also to deferred use by managing software and its underlying algorithms of the raw mass of information collected during the process in order to evaluate the work/worker's performance.

3. CROSS-CUTTING CONCLUSION: THE PERVASIVE AND AMBIVALENT IMPACTS OF DIGITALISATION ON JOB QUALITY

The technological changes brought about by digitalisation, the multiplication of digital interfaces combined with the digitisation of documents and the possibility of staying permanently connected to professional information flows have all contributed to the development of new forms of work organisation, such as remote work and particularly teleworking from home. The incidence of remote work has increased dramatically in recent years among public service workers. In 2022 almost half of the surveyed workers claim to currently have partial or full access to teleworking from home. This proportion falls to around one third of respondents who work at service users' premises, or in decentralised professional structures.

Even more than the previous wave of technological transformation in public services (computerisation and networking), the digitalisation of work has spread rapidly to all the aspects of daily work, via individual devices such as laptops, tablets and smartphones, and the so-called Internet of Things (IoT). The COVID-19 pandemic acted as a powerful catalyst in accelerating and intensifying the use of digitalised work among private and public workers.

The DIGIQU@PUB findings on the consequences of digitalisation on the job quality of public service workers also highlight the ambivalent nature of these changes for public services and their workers. On the one hand, digitalisation undeniably contributes to a certain improvement in the work carried out by public service workers, and hence in the quality of the services provided, in terms of efficiency and effectiveness. Expected positive impacts on the job quality of workers include greater flexibility in time and space (remote work), more autonomy at work, reduction of routine repetitive tasks, better work-life balance, improved collaboration, communication and knowledge sharing with colleagues and users, the reduction of absenteeism, and physical and mental health outcomes. All these changes are expected to improve the job performance and ultimately job satisfaction of public service workers. On the other hand, there are also negative impacts of digitalisation on workers' well-being. To mention just a few: work intensification, de-personalisation of service tasks (less 'social time'), individualisation of work relationships with colleagues and managers, control and monitoring of workers and their job tasks, blurring of boundaries between work and private life, physical and mental health hazards.

The ambivalent effects of digitalisation on the nature of work organisation in the public services generate paradoxical tensions: workers must cope with these in order to strike a proper balance. These tensions include greater flexibility in time and space vs. respect of effective contractual working hours, work-life balance vs. hyper-connectivity, individualised work vs. teamwork, enhanced information vs. information overload, increased autonomy vs. increased control, upskilling vs. deskilling, better public services vs. distancing from the users.

The evidence collected in the DIGIQU@LPUB project shows ambiguous perceptions among public service workers of the impact of digitalisation on the features of job quality. According to the web survey of the project, the main emerging picture is that for roughly one half of the respondents, digitalisation has had a neutral (no change) impact on job quality, for around one third of workers it has had positive effects, while for about one fifth of respondents the change has been seen as negative. Obviously, this aggregated overview masks a certain variability between the aspects of job quality, the sectors and the countries considered. For instance, workers from the public hospital and healthcare services stand out from the other public services considered in the project by expressing stronger negative impressions and describing a less positive impact.

The prevalence of 'no change' and positive assessments of the impact of digitalisation on job quality by a majority of public workers in the survey seems to indicate that digitalisation is perceived by workers as an additional factor, rather than the cause of fundamental changes in the quality and organisation of work in the public services. Technical advances allowed by digitalisation exacerbate trends towards reorganisation, flexibilisation and individualisation of work which were already affecting EU public services. These trends are the outcome of the packages of reforms implemented as part of the process of privatising public services, the overwhelming application of the 'New Public Management' organisational paradigm in a context of constrained austerity of public expenses, including limitations of public workforce size.

4. POLICY POINTERS AND RECOMMENDATIONS

The project's findings highlight the multiple ramifications and ambivalence of the effects of digitalisation on the job quality of public sector workers. These impacts, both positive and negative, are diverse and experienced differently depending on the individual characteristics of the workers and the tasks performed in the course of their daily work, as well as on the specific features of each public service at national, regional or local levels.

Policy pointers and recommendations are organised around four main axes:

- Provide workers with adequate training and learning opportunities on digital skills
- Involve workers from design to implementation of work digitalisation

- Improve the financing of public services to foster a sustainable and fair digital transition for public service workers
- Proceed to systematic impact assessments and encourage dedicated scientific research

4.1 Providing workers with adequate training and learning opportunities on digital skills

All the national reports have highlighted the training deficits that exist when it comes to managing the new digitised work processes. However, support and training for workers is essential to make work teams more effective in the digitalised world of work. Skills upgrading is important both in the sectors and the workplace for public workers, but also more broadly for citizens, to foster the development of a genuine digital culture through the education systems, lifelong learning opportunities and vocational training. From this perspective, it is essential to:

- Increase training and ensure continuous (digital) skills development for the whole workforce, from elementary to high-skilled occupational profiles, from cleaners to managers.

- Ensure that skills development includes both generic digitalisation skills, such as 'understanding technology', basic digital skills and digital communication, and training in specific technologies and systems for specific tasks/jobs, etc.

- Take better account of individual needs in the development of training. As regards the acquisition and implementation of new digital technologies and software, the usual processes seem to be organised in an excessively top-down manner. These processes should include genuine consultation and dialogue with public service workers, who are the end-users of the applied technological developments but also the front providers of qualitative public services.

- Guarantee the right to training during statutory working hours, with workplace arrangements ensuring that effective training takes place, so that it is not postponed outside working hours, squeezed into break times or even does not happen at all.

- Ensure that the training provided is accompanied by appropriate certification and portability of skills to foster the personal development and career prospects of public sector workers.

- Identify transparently the new needs, in terms of professional profiles, which may be appropriate given the integration of new technologies, and set up training and/or retraining programmes.

- Pay particular attention to the training of older workers in digital tools and encourage intergenerational cooperation in the workplace.

- Increase the participation of people with insufficient digital skills in education and lifelong learning, as those with digital skills currently participate much more in continuing education than their less skilled counterparts. To include those with poor or no digital capabilities, sufficient analogue learning instruments should be maintained and/or strengthened. While e-learning is a powerful and effective way to promote learning, it is unfortunately not accessible to all.

4.2 Involving workers from design to implementation of work digitalisation

National reports stress the importance of ensuring the application and management of the digitalisation of public work in a participative manner, to include workers and their representatives from conception to end-user operationalisation of digitalised work. Several difficulties of implementation and misconceptions were highlighted in the focus groups and interviews, notably poorly functioning systems, lack of coordination, lack of time and resources to implement digital technologies, or a mismatch between the digitalised ways of working and the daily tasks and practices of the workers. It is usually not the technologies that are the problem, but their implementation and organisation. Therefore, it would be appropriate to elaborate policies and/or collectively bargain in order to:

- Fully integrate workers' know-how and perceptions into the whole process of digitalisation of work. This ranges from the preliminary design of the process to the development and selection of adequate digital instruments, the implementation of new digital tools and approaches and possibilities for correcting problems related to any malfunctions. This enhanced participation would help to avoid purely top-down approaches, disconnected from the field, fuelling dissatisfaction and negatively affecting motivation among public workers (and their representatives) while ultimately bringing down the quality of public services.

- Ensure that the overall aim, objectives, targets and expected results of digitalisation are clear to workers and for the enhancement of public services. This would increase the relevance of the tools implemented and their acceptance.

- Ensure that new technologies and digital tools are adapted to the end-users, e.g. by designing interfaces that are suitable for different groups of workers.

- Raise awareness of the nature of technology-induced change in general (including the non-neutral nature of digitalisation) and train workers in change management, so that

individuals, teams and organisations can make informed choices about how best to implement new technologies while respecting/improving the job quality of workers and ultimately the quality of public services.

- Pay particular attention to the outcomes, for the quality of public work and workers' rights, of management algorithms underpinning – almost invisibly – digitalised tools and methods. Assessing the nature and privacy of the massive amount of personal data used by these algorithms is a primary cross-cutting concern for nearly all private and public sectors and a wide range of occupational profiles, notably technicians and professionals. Recently, this concern has been renewed through the debates on the need to regulate the growing introduction of artificial intelligence (AI) to operate these algorithmic management processes. Strong legal safeguards are necessary to ensure fair and transparent algorithmic management, strengthening the ability of workers to fully exercise their rights of data privacy protection by monitoring processing possibilities and data portability, as well as allowing workers transparent access to their own data, to correct or delete information and to check the actual use of this data by employers and authorities.

4.3 Improving financing of public services to foster a sustainable and fair digital changeover for public service workers

The interviews of unionists and the assessment of public service workers in the project refer to the crucial question of the resources that need to be made available in order to foster an efficient, sustainable and fair integration of digital tools and methods of work. It is therefore important to:

- Focus on policies and initiatives that provide solutions across systems, professions and localities, to improve cross-sectoral coordination and communication. The exchange and comparison of best practices could foster innovation in European public services.

- Allocate sufficient human and financial resources needed by public services to develop an internal digital know-how in terms of understanding, definition and implementation of digital tools and methods, as well as the capacity to provide public workers with sufficient and adequate in-house adapted training. This would make it possible to take better account of the specific characteristics of public services, and would help significantly to improve both the quality of life of public sector workers and the quality of the public services they continue to provide to citizens.

4.4 Carrying out systematic impact assessments and fostering dedicated scientific research

In order to anticipate the ambivalent effects of digitalisation on (public) workers, regular and detailed assessments of the quality of digitalised work are needed, as well as an enhancement of

scientific knowledge on the topic. These are required elements to help policy makers and social dialogue stakeholders make well-informed decisions on the policies and/or collective agreements aimed at improving the job quality of workers – in all its complexity and diversity – within public services in the European Union. Impact assessments are also important to ground the work done by legal authorities (labour inspection services) and in social dialogue to protect workers' (digital) rights.

- It would therefore be advisable to systematically carry out an assessment of the impact on work and workers – before the introduction of new digital technologies, but also once they have been implemented, to further enhance their design and adequacy. The effects of digitalisation should be analysed not only from a sectoral point of view, but also from an occupational point of view within the sectors, given the uneven impact of digitalisation on different occupational categories. These systematic assessments would highlight the key conditions for a successful further implementation of digitalisation in public workplaces: improved processes, employment resources, working conditions or qualification needs and (re)training needs.

- The multiplicity and ambivalence of the impacts of digitalisation on work also call for an improvement in the scientific knowledge base regarding such impacts in the context of digital economies and societies. This is particularly the case where European public services are concerned. The research undertaken as part of the DIGIQU@LPUB project illustrates the relative paucity of studies currently available, both at national level and for international comparison, on the impact of digitalisation on work and workers in the European Union public services. Yet this is a subject of considerable importance for the world of public work and ultimately for all European citizens benefiting from these public services.

FIND OUT MORE

Readers who want to find out more are invited to take a look at the more detailed deliverables of the DIGIQU@LPUB project on the project website, notably:

- In-depth case studies in the eight Country reports, which include executive summaries.
- Two analytical reports which provide a cross-cutting analysis, covering the eight countries under scrutiny.
- Eight OSE Research papers discussing selected aspects of how digitalisation is affecting work and service quality in the electricity, public administration and healthcare sectors in Denmark, France, Finland, Germany, Hungary, Italy, Poland and Spain.

- A Policy Brief describing the main findings concerning the impact of digitalisation on social dialogue.
- The country-specific results of the DIGIQU@LPUB survey analysis.