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## Law and Policy of the Media in a Comparative Perspective

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# Digital social services: the impact of AI on social housing sector

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BY ALESSANDRA MATTOSCIO ON OCTOBER 4, 2023 SYMPOSIUM: TRANS-NATIONAL CHALLENGES POSED BY ARTIFICIAL INTELLIGENCE

TAGS: ARTIFICIAL INTELLIGENCE, DIGITALIZATION, SOCIAL DIGITAL SERVICES, SOCIAL HOUSING

#### 1. Introduction

The process of digitalization, or better, of digital transformation, is now increasingly affecting the sector of social services as well. It is thus possible to think of a new category of digital public services, and it is that of digital social services. These are all those services aimed at implementing the social rights of the national constitution and European Union Charter of Fundamental Rights, with reference to the European context, and therefore ensuring the Digital Welfare State. A remarkable point of analysis refers to the impact that digitalization produces on the provision of services and the implementation of related social services. One of the most relevant areas of social digital services is that of housing services, but this area is not yet under the lens of scholars and scientific literature has not addressed the issue.

### 2. The impact of the AI on social housing sector

With reference to housing services, digitalization affects several aspects. The dematerialization of performance, in fact, may not concern the asset to which one aspires, and thus the housing, but a whole series of profiles that precede the assignment, from the development of urban areas to the procedures for applying for the housing itself, in addition to the profiles that instead are subsequent, and thus concern the maintenance and management of housing. Given the lack of scholarly literature on the topic, this short paper aims to highlight the most interesting profiles of the relationship between the use of artificial intelligence and the provision of housing services in order to understand the current state of the digital transformation process and the prospects for development in the field.

A first useful and interesting profile is that of the digitalization of public housing application and assignment procedures, in order to alleviate and reduce some of the burdens that tenants face in applying for housing.

With reference to the management of the housing units, another profile of interest is that of the energy efficiency of real estate assets, which is made possible, on the one hand, by the installation of a series of devices in new buildings or those undergoing renovation that make it possible to monitor consumption and needs, and, on the other, by material activities such as wall insulation systems (the so-called "thermal coat"). Indeed, consider that the buildings sector is responsible for about 40 percent of final energy consumption and 36 percent of CO2 emissions[1]. In addition to energy data sensing, housing can also be equipped with various sensors, such as sensors or hazard detectors for housing for the elderly or those with certain disabilities, thus constructing a suitable

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of certain urban spaces[2], thereby being able to identify areas of higher poverty, with higher flows of immigrant people, and thus the risks of these areas being subject to segregation and exclusion. It can also help to detect, through the intersection of a range of data, the need to develop targeted interventions on specific areas and promote specific housing policies for social housing. Artificial intelligence would thus prove to be an ally, a useful tool for a better definition of the needs of a given area, and, thus, subsequent fruition of the housing service.

Another profile is then found in the promotion of citizen participation in neighbourhood social life, which is an important element for a new idea of social housing and creation of a relative community around it. Promoting citizen participation in the relationships between those who manage and maintain social housing is instrumental in implementing consistent responses and efficient solutions.

A final profile then pertains to the use of digitized processes in the construction of new buildings, including those to be used for social housing. These are BIM procedures, Building Information Modelling (technology for representing the data of a building). It is a digital information system, related to buildings and infrastructure, integrated with physical, performance and functional data of the work, which contains information on the entire life cycle of the work: from design to construction to its demolition and decommissioning. This model is essential not only for the new building and infrastructure projects, but also, though less obviously, for the existing built heritage. This is the frontier of digitalization in the construction and public administration sectors. What is desired is not only digitalization, but digital transformation. The latter term refers to the change in the way the construction process is thought about and the opportunity to transform it into a network of interoperable information relationships. With reference to National Recovery and Resilience Plan commitments, Ministerial Decree No. 312/2021 is the instrument aimed at implementing a digital transition program for the construction market, through digitized processes for public contracting stations, capable of producing relevant effects for the private market as well. The BIM methodology then presupposes, in order to increase the transition process, an exchange of knowledge, covering not only the actors in the construction process, but also the information management tools, i.e., all functional components of construction.

#### 3. Some concrete examples

It is interesting to delve into some concrete examples of this landscape. With reference to the first analysed profile, a first attempt emerges under the 2014-2020 PON Metro in the city of Roma Capitale. With this project it was possible to digitize the services provided to citizens in housing assistance. It involves the creation of evolved application interfaces and new online services for the submission of applications for access to the various forms of housing assistance and inclusion in the social housing rankings, such as to allow increasingly standardized and integrated management with other systems and databases. There is still a long way to go, obviously.

With reference to the use of artificial intelligence in the housing sector, some relevant examples come from Austria. They are the project moduLAAr/Leichter Wohnen ran and ZentrAAL – smart homes. The first project dates back about ten years and it was addressed to 50 houses of older people living alone. Their houses were equipped with «sensors in bathrooms, doors and windows as an accident prevention and notification system»[3]. This system of sensors was also connected to a platform for the interaction with carers and relatives. The second project, instead, involved 60 households for 15 months and these households were composed of young «active seniors (60-75 years) with initial signs of needing support and security»[4]. It equipped them with several devices, from tablets to digital door peepholes, from stove monitoring systems to contacts at windows and doors, from radio light switches to digital scales and fitness and emergency watches. Therefore, these projects are connected also to another digital social service: telehealth service.

Finally, another interesting project is based in Bradford, and it involves the Manningham Housing Association, which manages about 1.500 homes and 6.000 residents. The Manningham is striving for an ever-increasing use of artificial intelligence in conducting its business and managing tenants. The Al is crucial to improve the provision of services, because it allows to predict maintenance needs by analysing data from sensors and other sources, and to optimise energy use in housing facilities by analysing data on energy consumption patterns.

### 4. Conclusion

The way is still long and research all to be done, but the connection between artificial intelligence and the housing sector is very relevant for the digital transition. This emerging research area obviously has many benefits and some risks as well. First, the positive aspects are the possibility to increase the qualitative and quantitative level of services through a more accurate understanding of the needs of the target audience. Second, the key contribution to the ecological transition through risk management, land knowledge and energy efficiency of buildings. Third, the capacity to represent an innovation in the social relationships woven around housing services, from the relations

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