Towards a mapping of ADM systems in 8 European countries

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The introduction of automated decision-making (ADM) systems to welfare regimes is an ongoing process in Europe and across the world, which deeply affects citizens' rights and opportunities. Despite the relevance of such a process, investigations on this topic are still scant and based on specific case studies. In this paper, we present some early findings of an ongoing research project based on a cross-country comparative research design that contrasts a number of case studies located in 8 European countries characterized by different levels of digitalization and different welfare state models, approaches and policies: Austria, Denmark, Estonia, Germany, Italy, Poland, Portugal, and Sweden.

More specifically, the paper presents the results of the first stage of the research project, that consisted into a systematic mapping of (potential) case studies to be investigated in the second stage of the research project. The case studies were mapped in two domains: core national welfare sectors and communal welfare infrastructures. Such a mapping occurred through a comprehensive desk research looking at all available reports, documents, and databases that include information about ADM-supported welfare applications on the communal, the regional, and as well as national and trans-regional level with regard to the most important welfare state sectors in public institutions and municipal digital infrastructures. In addition, we had expert interviews with academics and public officials. The resulting ensemble of case studies included cases of trial projects, discontinued enterprises as well as endeavours that were still in a planning state. After having mapped the case studies, we clustered them considering the type of algorithmic system, the welfare sector they were used in, and the degree of automation included in the case.

Thanks to the desk research and the mapping of case studies in the 8 countries under investigation, we could detect three main trends.

First, while there is an enthusiastic discourse around the role of ADM in public administration, its actual usage is difficult to untangle in the case studies that we mapped since documents and actors indeed refer to a variety of technologies that may or may not include ADM devices. Hence, we found a wealth of rather loose declarations about the type of technologies employed to sustain welfare services, ranging from general references to digitization and datafication to more specific mentions of algorithms. In short, semantic slippage was at work in many of the case studies according to which the welfare providers included a wide range of 'any

technologically advanced, digital procedure or decision process' when referring to the presence of automation in welfare services. This leaves us wondering what it in fact is that we are looking at exactly when inquiring into ADM systems. And it begs the question if there are many ADM systems implemented yet.

Second, we have selected case studies where algorithms were actually implemented to sustain welfare provisions and are frequently employed to replace analysis and decision-making by humans. That way, algorithms play a role in mediating social processes, governmental decisions and how people perceive, understand, and interact with the quantification and measurability of data. More specifically, we clustered the selected case studies in three groups, according to the type of algorithms they employed: (a) Profiling and classification algorithms that identify target groups, shape and manage them; (b) Data mining algorithms that promise to make sense of behavioural data generated by the Internet of Things devices; (c) Machine learning algorithms that automatically identify and process data.

Third, the desk research already let emerge the presence of specific interpretations related to the employment of ADM in welfare provisions. Most of the time, adopting automated decision-making systems is motivated in recurse to the growing administrative workloads. Hence, ADM shall help reduce workload, increase the quality of information and provide decision support, increase the legitimation of those decisions, reduce the waiting time for citizens, and increase efficiency and efficacy. Finally, the language and rhetoric employed in the case studies are mainly inspired by new public management lingo, that is, efficiency, standardization, optimization, cost reduction, decreased discretion and arbitrariness, quantification, and scoring. According to this interpretation, automation is framed as a considerably more accurate monitoring tool than human operators.

Thanks to these early findings, we argue that replacing humans with algorithms as decision-makers in matters of public service is, in many respects, a kind of normative shift, a change in thinking about the role and responsibilities of welfare. For sure, risk stratification in welfare sectors is not a new issue. The emergence of the welfare state lies intertwined with the social regulation of risk in modernization processes. However, ADM systems increase the multiplicity of forms of risk in the process of standardizing individual welfare services, including political austerity rationales calling for efficiency and efficacy, all responding to profound cuts in public budgets and cost reduction policies .