

ABSTRACT

OF A DOCTORAL DISSERTATION – Katarzyna Ziółkowska 'Legal framework of the digital transformation of public administration with the use of distributed ledger technology'

Dynamically developing distributed ledger technology (DLT) has been declared a breakthrough of significance comparable to the emergence of the Internet, the printing press, or the Rosetta Stone. Unsurprisingly, throughout the recent years, DLT has attracted strong interest in the possibilities of applying it both in the private sector as well as in the public sphere. Alas, this hype around the technology resulted in informational chaos leading to the prevalence of many myths and false promises obstructing the real view of the current level of development and potential of DLT. The perspective offered by the implementation of DLT-based solutions includes a significant improvement of the IT systems' operation by limiting resources necessary to handle a registers, whilst ensuring greater transparency, reliability, and security of information contained therein. On the other hand, due to its still largely untested functionalities and experimental character, such an implementation may involve risks and uncertainties.

Public administration, being an emanation of the State's public functions, processes and deals with the registration of much more data than most private entities. Distributed ledger technology could, therefore, be of great benefit to public authorities, especially considering the fact that they are guarantors of transparency, correctness, and security of data retained in their registers. It means, however, that the possibility to deploy new technologies is restricted by the principle of legality and the necessity to ensure the highest level of reliability of public IT systems.

In spite of that, a growing number of countries around the world (including many EU Member States) undertakes various endeavours to integrate solutions based on DLT into their public administrations. Apart from numerous reports, working groups, strategies and policies focused on exploring the potential of the technology for the benefit of the public sector, there are already examples of its ongoing implementations in the processes of providing public services.

At the same time, there are virtually no academic research on the legal aspects of such implementations of DLT in public administration; the comprehensive literature on the broader

topic of distributed ledger technology from a legal perspective is also lacking. This dissertation aims at filling this void.

Considering the fast pace of digitalisation and Europeanisation of public administrations, the analyses of the legal aspects of the use of DLT in the public domain were based on practical deployments of that technology by public authorities. Case studies were conducted in jurisdictions, which are actively involved in the using and developing DLT, ie the United Kingdom, Sweden, Estonia, Malta, and the European Union. Using information available online, documents obtained from public bodies using or testing DLT, interviews with key individuals from those entities, and legal provisions applicable to the examined projects, the dissertation explores intersections and interdependencies between legal and technological dimensions present in this research area. The conclusions on the legal framework of the use of DLT in public administration were not only presented in the summary, but also served to demonstrate the legal view on the potential of DLT deployments in Polish public administration.