From Analog Risk Assessment Instruments to Digital Ones: Mapping the Concerns

Vlada Druță[1,*], Clement Guitton[2], Aurelia Tamò-Larrieux[1] and Gijs van Dijck[3]

[1]Faculty of Law, Université de Lausanne (UNIL), Quartier Centre, 1015 Lausanne
[2]Institute of Computer Science, University of St. Gallen, Rosenbergstrasse 30, 9000 St. Gallen
[4]Faculty of Law, Maastricht University, Minderbroedersberg 4-6, 6211 LK Maastricht, Netherlands

Abstract

Digital RAIs raise significant concerns, including opacity and discrimination. However, limited to no knowledge exists on the transition from analogue to digital RAIs and on reasons for non-adoption of technology. To investigate this, we reviewed newspaper archives for debates on RAIs and conducted interviews with high-ranking officials from Moldova. The study yielded considerations for the non-adoption of RAIs and the (non-)transition from analogue to digital RAIs. It highlighted a gap: The lack of a unified theory for technology non-adoption, which can be addressed by drawing insights from innovation resistance and adoption theories.

Keywords

RAIs, eJustice, Technology, Acceptance, AI, Data Analytics, Automated Decision-Making

Our study focuses on Moldova, a jurisdiction yet to adopt digital RAIs. We conducted archival research on public and parliamentary discussions and ten semi-structured interviews with key stakeholders. Newspaper archives from 1990-2022 showed no evidence of discussions on RAIs, so we conducted 10 interviews with public officials and legal professionals to capture informal insights. Interviews, held between July-September 2022 (see Appendix B), were transcribed and analyzed, categorizing findings into political, social, economic, legal, and technical perspectives.

The interviewees highlighted several important issues regarding the use of non-digital RAIs, some of which have been identified in previous research such as the lack of resources, disregard for personal circumstances, fairness concerns, fear of replacement, legal frameworks, local factors, and modernity [1, 2]. These factors are key reasons to explain non-adoption of digital RAIs in Moldova, and provide valuable insights when anticipating the future role of digital RAIs.

Specifically, six out of ten interviewees emphasized *limited financial resources*, with one of them making a comparison to Germany. Five interviewees pointed to the *lack of human resources*, the *scarcity of research centers*, and *the importance of continued professional education* to keep up with new developments. Four interviewees emphasized *institutional trust*, noting that the judicial role is seen as a human domain and transferring it to algorithms could cause

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*Vlada Druță
vlada.druta@unil.ch (V. Druță); clement.guitton@unisg.ch (C. Guitton); aurelia.tamo-larrieux@unil.ch (A. Tamò-Larrieux); gijs.vandijck@maastrichtuniversity.nl (G. v. Dijck)
0009-0006-3408-1410 (V. Druță); 0000-0003-2009-9047 (C. Guitton); 0000-0003-3404-7643 (A. Tamò-Larrieux); 0000-0003-4102-4415 (G. v. Dijck)

mistrust. Four interviewees highlighted the *issue of individualization versus generalization*, arguing that digital RAIs oversimplify complex cases, leading to inadequate decisions. Five interviewees focused on *algorithm fairness*, questioning whether RAIs can support rehabilitation and prevention of wrongdoers effectively. Linked to this, two interviewees expressed *distrust* in RAIs' objectivity, citing the lack of empathy in algorithmic assessments. Three interviewees discussed the *fear of being displaced or replaced* by technology, citing concerns that RAIs could potentially undermine the authority of legal professionals.

With regard to values, one interviewee pointed out that, similar to European countries, Moldova has been hesitant to adopt algorithmic risk assessment due to *cultural views on crime*, which is seen as stemming not only from personal attitudes but also from social context. Within this context, a theme brought forward by five interviewees is *modernity*, emphasizing that the cultural readiness to adopt new technologies is central to the development of RAIs. Furthermore, four interviewees highlighted concerns that these tools would *not be applied adequately* due to a lack of well-regulated procedures for efficient implementation and issues of corruption. Turning to *legal issues*, one interviewee noted that current legislation does not permit the use of RAIs at the execution phase, while another raised concerns about potential conflicts with Moldovan law, which mandates consideration of all individual circumstances. Finally, three interviewees cited *competing priorities* such as energy and health issues, alongside the crucial role of lobbying, as significant constraints for the implementation of RAIs.

Based on the above analysis, among the criticisms voiced against digital RAIs [3], only the issue of model performance has been addressed in a somewhat direct way. Furthermore, when relating our research to the theory of acceptance and utilisation of technology, our findings suggest that three of the four moderating factors from UTAUT could play a role in explaining non-adoption: age, experience, and voluntariness. Yet our findings introduce two factors that provide nuances to UTAUT categories: distrust of the technology being of poor quality and lack of capabilities to manage the technology. Finally, interviewees' concerns underscore a gap in UTAUT, which can be addressed by integrating insights from innovation resistance and adoption theories. These insights are relevant to policymakers, legislators, researchers, practitioners, and stakeholders interested in adopting technologies like RAIs. We refer readers to supplementary materials under https://shorturl.at/aqwR0 concerning the keywords used for the archive work, and separately the details of the interviews conducted.

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