

COMBINING HUMAN EFFORT AND AI APPROACHES: AI ADOPTION WITHIN EVIDENCE MANAGEMENT.

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INTRODUCTION

The “Roadmap for action on artificial intelligence for evidence management in risk assessment” (“AI-RM” for short) is a project conducted by PwC EU Services EESV for the European Food Security Authority (EFSA). The project aims to deliver a roadmap of actions providing recommendations for future multi-annual, multi-partner studies or projects in the area of AI approaches, in order to build on EFSA’s vision and support EFSA’s preparedness for future risk assessment requirements.

The evidence management process is at the heart of risk assessment. It is a structured process of collecting various streams of evidence that are generated through different study types and alternative approaches and reported by different sources. Considering the state-of-the-art nature of the project, in this abstract, we report on the activities that are carried out to provide a complete overview of the tools and initiatives that focus on AI adoption within evidence management. In particular, we highlight the activities carried out to date, and also explain the next steps to be taken in the coming months. Finally, we conclude with some reflections based on the first results of the project.

METHODOLOGY

Based on the feasibility and accessibility analysis of the evidence management process, 10 specific activities were identified as being particularly relevant to EFSA and requiring further investigation within the project. Focusing on these 10 activities, a literature review was conducted, using a mixed research study, including quantitative and qualitative methods. Then, a survey was addressed towards a selected group of stakeholders in order to scope relevant initiatives and tools. Leveraging the results of the literature review and survey, selected stakeholders were identified for targeted interviews. The key objective of these interviews is to generate a detailed picture of:

- How AI is applied to the evidence management process implemented by other agencies/organisations;
- The analysis of research results in AI applied to the evidence management process;
- AI tools developed by industry players/start-ups that have been applied successfully to evidence management.

In the next phase of the project, the evidence gathered through the literature review, survey and interview will be validated in a dedicated 2-day workshop together with EFSA and targeted stakeholders.

RESULTS

Based on the results of the workshop and other relevant meetings with EFSA, five high-level recommendations will be drafted for multi-annual and multi-partner projects for EFSA, focusing on the following aspects: scope, objectives, challenges, expected impact and proposed timescale for implementation. The recommendations will also include a list of possible actions to be taken. Finally, a roadmap report and a communication strategy will be delivered which will consider recommendations for key messages, audiences and opportunities for communication and dissemination of information related to the AI-based systems for evidence management.

DISCUSSION

The literature review and the analysis of the information gathered from surveys and interviews offered insights into the ways in which AI can be adopted in 10 specific evidence management activities within risk assessment. In particular, it emerged that AI technologies are ready for use in the different stages of performing literature reviews, for example, in assessing the eligibility of studies for inclusion or exclusion, for the identification and retrieval of full-text reports, for data extraction and for risk of bias assessment. Overall, the obtained results indicate that, although some further research and development is needed for some specific activities, introducing AI technologies within the risk assessment process offers great opportunities for higher quality risk analysis and faster scientific advice, as AI contributes to reducing the time and human effort needed and also reduces human bias.