

Predicting Crimes Using Agent Based Modelling: An Ethical and Societal Impact Assessment from the PROTON Project

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Agent-Based Modelling (ABM) is a computational method that enables researchers to create computerized models where agents interact within an environment. Agents are autonomous systems that behave on the basis of simplified representations of mechanisms identified in the real world. Data to build the model are derived from experiments and desk researches (reviews and metanalysis). The ABM can be used to evaluate how different initial conditions and agents' behavioral mechanisms affect the model's outcomes. ABM approaches are rapidly surpassing classical statistical methods in predictive criminology as they allow to examine crimes from different perspectives and to predict the outcomes of social and behavioral preventive interventions.

We performed the ethical and societal impact assessment of the PROTON project, funded by the EU Commission under the Horizon 2020 framework. We will present the main results issued from our research.

The aim of the project is to use ABM to develop a simulation that will enable to assess how environmental, social, psychological and economic changes may affect recruitment in organized crime (OC) and terrorism networks (TN).

We applied the Tool 16/Identification and Screening of Impacts by the European Commission to categorize the societal impacts of the different risk factors for recruitment in OC and TN identified by the project. We evaluated the impact on Fundamental Rights of the selected risk factors for recruitment and of the use of ABM itself in predictive criminology. We provided safeguards to avoid stigma and discrimination toward minorities or stakeholders. We used Anticipatory Ethics Assessment tools to analyze the ethical impact of such technologies in researches aiming to study and predict human behaviors. We suggested dissemination and communication strategies and safeguards to inform the citizens and the policy makers on the proper use of simulation tools in criminology, in behavioral psychology and in social studies.

References

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