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Ethical Framework For Artificial Intelligence: What Role For Lotteries?

Digitalization, data economy and artificial intelligence (AI) have become hot topics on the EU's agenda. With technological innovations such as AI and machine learning, gambling operators gained a powerful tool to systematically monitor players' behavior and gather their personal data in order to predict their future performance, offer more personalized customer service, render relevant messaging, and implement RG tools.

However, the advances in AI, robotics and machine learning usher in all manner of questions regarding consumer and data protection rights. With the recent 'Cambridge Analytica' scandal that has undermined consumers' trust in the operators of digital technology, the question of how to establish a sustainable approach towards AI is now becoming more and more relevant. The advances in machine learning (especially 'deep learning') and the so-called 'autonomous' systems have also triggered a range of complex ethical considerations. What are the main ethical challenges for the further development of AI and how should lotteries adapt to these new circumstances?

AI is considered to be one of the most important technological advancements that can revolutionize the gambling industry.

The technological innovations have opened many doors for unique possibilities to monitor how an individual player interacts with a game, and to react in real-time to his behavioral patterns, and to use this information to enhance the entire player experience.

According to some experts, this type of monitoring is already taking place on certain social gaming platforms where in principle a random number generator ('RNG') is used. Even though the device is normally designed to generate a sequence of numbers that appear in completely random order, the use of AI enables the operator to adapt the RNG in free games to the player's style of playing. Thereby the customer is made to believe that due to her skills, she can influence the outcome of the game. The player feels that she is influencing the outcome in spite of the fact that the outcome is actually RNG. Such techniques that aim to encourage players to move into the paid gaming service raise several important ethical questions that should be addressed by lotteries.

Deep learning enables machines to 'learn' how to perform and look for new data to analyse peoples' behaviour without human scrutiny. The so-called 'autonomous' systems, such as high-tech robotics and software such as bots, function increasingly

independently of humans and can execute tasks without any human intervention. Thus, even though new technologies should not mean new values, with respect to the European Union's common values and fundamental rights, a sustainable framework on AI must be created.

EU's fundamental rights and ethical standards

Article 2 of the Treaty on EU provides that "the Union is founded on the values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities."¹

Respect for private and family life and protection of personal data are also the fundamental rights under Articles 7 and 8 of the Charter of Fundamental Rights of the EU ('the Charter').² Article 7 provides the right to respect for his or her private and family life, home and communications, whereas Article 8 ensures the right to the protection of personal data which must be processed fairly, based upon the consent or legitimate basis laid down by law and for a specific purposes. Further, the Charter provides the right of access and rectification of data.

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The General Data Protection Regulation

These provisions of the Charter on personal data go hand in hand with the new General Data Protection Regulation ('GDPR')³ which becomes enforceable on 25 May 2018. The considerations with regard to AI and personal data have been already addressed in the European Data Protection Supervisor's ('the EDPS') opinion on online manipulation and personal data.⁴ The EDPS has called for the data subjects to be treated 'as an individual not simply as a consumer or user' and underlined ethical issues around the effects of predictive profiling and algorithmic personalization of individuals.

With the GDPR just around the corner, the use of AI and its intersection with data subjects' rights provided by the Regulation has become a matter of intense debate. The GDPR already contains the following provisions on decision-making based solely on automated means.⁵

Firstly, the data subjects have a right to be informed about profiling, and, in certain circumstances, a right to object to such process. Articles 13 – 15 of the GDPR guarantee the data subjects the right of access and information on 'the existence of automated decision-making, including profiling, referred to in Article 22(1) and (4) and, at least in those cases, **meaningful information about the logic involved, as well as the significance and the envisaged consequences of such processing for the data subject.**'

Secondly, Article 22 of the GDPR confers individuals with the right not to be subject to automated decision-making, including profiling, if: (i) such decision is based solely on automated processing, and; (ii) produces legal effects concerning the data subject or similarly significantly affects them. In other words, the GDPR gives data subjects, except in certain circumstances, **the right to human review of algorithmic decisions.**

These are two main implications of the GDPR as regards the artificial intelligence technology. Gambling operators will have to make sure that 'meaningful information' is provided to players regarding the existence of automated decision-making processes, e.g. the 'RNG' and that the logic behind such processing is explained to their customers. Thus, particular attention should be placed on explainability and transparency of AI systems.

The EU's policy on Artificial Intelligence

Some of the ethical and legal considerations regarding AI have already been addressed by the European Commission's Communication on Artificial Intelligence.⁶ In Communication titled 'Artificial Intelligence for Europe', the Commission presents a series of measures on AI to boost the EU's competitiveness and ensure sustainable developments of the AI technology based

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on European values. As stated in the Communication 'as with any transformative technology, some AI applications may raise new ethical and legal questions, for example related to liability or potentially biased decision-making.'

In line with the European values and the EU Charter of Fundamental Rights, the EU is appropriately positioned to take a lead and set the global standard for a sustainable approach towards the AI. That is why the Commission aims to ensure an appropriate ethical and legal framework for the AI. This includes development of AI ethics guidelines by the end of the year. Such guidelines, drafted in cooperation with the European Group in Ethics in Science and New Technologies, shall address the issues of algorithmic transparency, safety, security, social inclusion, as well as the impact of AI on fundamental rights including privacy and personal data.

Taking these challenges into account, the European Group on Ethics in Science and New Technologies has already suggested to establish a set of fundamental ethical principles based on the above-mentioned values.⁷ The proposed set of ethical principles and democratic prerequisites for using the AI include: (a) human dignity, that must not be violated by 'autonomous' technologies; (b) autonomy, including transparency and predictability of 'autonomous' systems; (c) responsibility, meaning awareness, precautionary approach and social accountability of developers; (d) justice, equity and solidarity; (e) democracy; (f) rule of law and accountability; (g) security, safety, bodily

and mental integrity; (h) data protection and privacy, including the consideration to introduce two new rights: 'the right to meaningful human contact and the right not to be profiled, measured, analysed, coached or nudged'; (i) sustainability.

Role for lotteries

The advent of these new tools to enhance the player experience represents an opportunity for lotteries to develop their own

ethical standards and guidelines for AI. New additional CSR and RG guidelines for lottery operators may provide a set of benchmarks in creating the regulatory and ethical frameworks for developing and using AI technologies.

Lotteries should take the lead to develop ethical standards and guidelines for AI in the gambling sector and (together with regulators) take firm steps to avoid abuses of AI by (online) gambling operators.

Explanation of the mechanisms behind the 'autonomous' systems, and the understanding of how the technology works, will also strengthen trust among the consumers. Given the sensitivities of the gambling sector and the importance of consumer protection and Responsible Gaming, incorporating the AI ethical principles into their Corporate Social Responsibilities (CSR) strategies will augment the brand value and sustainability of the lottery model. ■

¹ Treaty on European Union, OJ C 326, 26.10.2012, p. 13–390.

² Charter of Fundamental Rights of the European Union, OJ C 202, 7.6.2016, p. 389–405.

³ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), OJ L 119, 4.5.2016, p. 1–88.

⁴ Opinion 3/2018 EDPS Opinion on online manipulation and personal data, 19.03.2018.

⁵ Article 13 (2)(f), Article 14(2)(g) and Article 15(1)(h) of the GDPR.

⁶ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Artificial Intelligence for Europe, Brussels, 25.4.2018 COM(2018) 237 final.

⁷ The Statement on Artificial Intelligence, Robotics and Autonomous Systems of the European Group on Ethics in Science and New Technologies, 9.03.2018.