

A Survey on AI and Ethics: Key factors in building AI trust and awareness across European citizens.

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Artificial Intelligence (AI) is a key field that has attracted globally huge interest of businesses, policymakers, and the public in the last years. This includes the European Union which has adopted a human-centred approach to foster AI in Europe with respect to human rights and key European values. Consider, for example, the seven principles presented in the Ethics Guidelines for Trustworthy AI [1] by the AI High-Level Expert Group. Since its release, the European Commission (EC) set the expectation to develop, through a series of actions, a European AI more beneficial and secure for all citizens.

The AI4EU Observatory on Society and AI (funded by an Horizon 2020 project) created different Working Groups (WG) to undertake a research on how European guidance has been applied in concerning the Ethical, Legal, Socio-Economic and Cultural issues on AI (ELSEC AI). In particular, the WG on Social Awareness aimed to understand the public perceptions about AI (e.g. attitude, awareness and trust) and the factors that may help in boosting trust in AI in Europe.

The survey was designed based on a literature review on previous consultations focused on public opinion on AI. This included surveys as “Public view of Machine Learning by the Royal Society” [3], the European Consultation on AI by the Atomium European Institute (ECAI) [4], the Moral Machine platform by Scalable Cooperation and the MIT Media Lab [5] and the “Trust in Artificial Intelligence: Australian Insights” by KPMG and the University of Queensland [6]. Some of the questionnaires were publicly available, such as the one by the Royal Society, while others were not fully accessible as the proposed consultation by ECAI. With our review, we highlight how a survey on AI and its social impact at a European level was still missing and that our contribution to this topic might be relevant to fill the existing gap.

The survey gathered the opinion of 4000 European citizens from Italy, Spain, France, Germany, The Netherlands, Sweden, Poland, Romania. For each country a representative sample of 500 people was selected based on gender, age (spanning from 18 to 75) and geographic areas. In our questionnaire we investigate three key factors: (i) *AI Awareness* (7 items), (ii) *AI Attitude* (5 items) and (iii) *Trust in AI* (4 items). The first category, *AI Awareness* refers to a set of questions analysing people's self-reported knowledge of AI and understanding of its impact on their life. *AI attitude* focuses on the citizen' approach toward AI and their interest to improve their current knowledge on the subject. Lastly, *Trust in AI* assesses the trust of citizens towards AI and possible entities to ensure its correct use.

The collection of the data and the process of the results has been done in collaboration with Marketing Problem Solving (MPS) through a Computer-assisted web interviewing (CAWI). The full release of the data and the final report will be publicly shared soon. An initial analysis will be presented during the workshop based on the following results:

(I) AI awareness: Most of the population don't feel competent on the topic (50%) and just a small percentage (20%) of the population believed to have a good education on AI. The perceived competence on AI seems to be associated with respondents with younger age and higher competencies in digital expertise. When interviewed on the initiative undertaken by the European Commission, the population reported the General Data Protection

Regulation (GDPR) [7] as the most well-known initiative (66%), especially in countries such as Romania, Poland and Sweden where the percentage exceeds 75%. Other official communications such as the Ethics Guidelines [1] and the Proposal for a Regulation on AI [2] were less known (around 30%).

Regarding their daily interactions, citizens reported mixed opinions in being aware/unaware to interact with a product containing AI systems (both around 30%). With respect to utilization of AI in different sectors, citizens are cognizant about many domains where it is applied, especially in the military and manufacturing sectors (ratio of cognizant citizens over unaware citizens above 6), less strongly in human resources and agriculture (ratio below 3).

(II) AI Attitude: In General, European citizens seem largely in favour of the use of AI (60%) in comparison to a lower percentage of the population disapproving its use (10%), and a resulting ratio of approving-to-opposing citizens close to 6. Approval varies by sector, surpassing 7 for the manufacturing and environmental sectors, and dipping below 4 for human resources, military and transportation. To better understand the actual approval between different AI systems, during the interview the participants were invited to give their opinion also on two case studies. The first regards an AI system used for recruitment process purposes (scenario 1), while the second presents a smart meter used to improve the home's energy consumption (scenario 2). The results demonstrated that participants were more comfortable using a smart meter (59%) in comparison with going through an application process managed by an AI (45%). Differences were found also between the countries involved. Netherlands, Germany and France were the countries, in general, the more sceptical in the usage of AI in both scenarios instead of Romania that were quite comfortable with its adoption.

(III) Trust in AI: Among the seven ethical principles suggested by the HLEG [1] privacy and data protection was reported as the aspect to prioritize to achieve a trustworthy AI. Less considered were instead the social and environmental impact of AI. To ensure the correct application of AI, participants have shown a higher trust in universities and research centers (over 70% in Italy, Spain or Romania), while social media companies have received the lowest scores of trust (36,5% on average). Surprisingly, national governments and the EU (including the Commission and the Parliament) are less trusted than private tech companies. All countries agree on the importance of an adequate education in AI, with 72% of approval. However, numbers slightly drop in the commitment to attending free educational courses on AI to 62%. Among the countries with higher enthusiasm for this opportunity were Romania, Italy and Spain (81-74% of respondents interested to attend the course) while other countries such as the Netherlands and Germany less than 50% of the respondents were reported to be interested.

Lastly, our results demonstrated that on average 9% of the respondents that took part in our test reported an increase in their perception of the impact that AI has on their life. This data was collected by asking their impression before and after the questionnaire. However, the survey aim is to be just a first step in the investigating of EU citizens on AI and ethical issues. More opinions and further evaluation might obtain more durable and long-impacting awareness in the general public.

References

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