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Accounting for the human-machine interface – social science as complementary science to developing AI tools

Abstract: To ensure successful real-world application of AI tools, social science expertise could be employed at different stages of development. Social science expertise is needed whenever AI tools are expected to interact with humans, whenever we observe a human-machine interface. For successful interaction, cooperation, and adoption of AI tools, user perspectives need to be taken into consideration at conception, design, and evaluation of technology.

In the conception phase, social sciences can inform about attitudes and acceptance of technologies in different fields. In the design phase, user perspectives can be included through, for instance, focus groups and prototype testing. Finally, evaluation of the product should account for socio-environmental factors to impact model performance. One also needs to ensure training data is diverse and representative for a socially robust model. Social sciences can aid in the sampling process. We therefore see social science as *complementing* AI development rather than being an *accompanying science*.