AI AND XAI: BRIDGING THE AWARENESS GAP AMONG UNDERREPRESENTED COMMUNITIES

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Introduction

— Widespread deployment of AI systems, especially in high-stake domains ...
  * **... high demand for algorithmic accountability and fairness [1]**
— Algorithmic fairness and ethical issues are heavily shaped by MEDC or Western viewpoint [3, 4]
  * **... inclusivity and accessibility require diverse perspective and local demographics to considered**
  * **.... especially in areas in the Global South (outside the MEDC)**

Our Approach

— Focus on geolocation(s) with a diverse population outside the MEDC
  * **...to gather insights on algorithmic perception, need and expectation [2]**

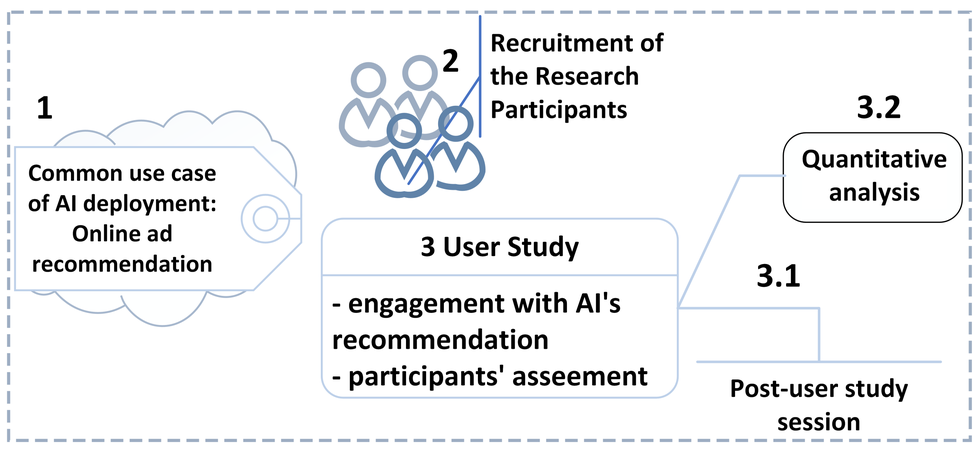

Figure 1: An overview of the user study ($n = 43$) to understand the degree of AI awareness within communities not traditionally served by AI technology

Demographics

Table 1: Demographics of the research participants.

Gender	Age	Digital Skill	Education	Employment
Female **27.9%**	min. **18yrs**	Satisfactory **12%**	Sec. Edu **11.6%**	Student **44.2%**
Male **72.1%**	max. **48yrs**	Good 42%	Higher Inst. **11.6%**	Self-employed **20.9%**
—	–	Excellent **46%**	BSc **62.8%**	Full-time **25.6%**
—	–	–	MSc **14%**	Unspecified **9.3%**

Outcome

Awareness, Relevance and Trust in AI

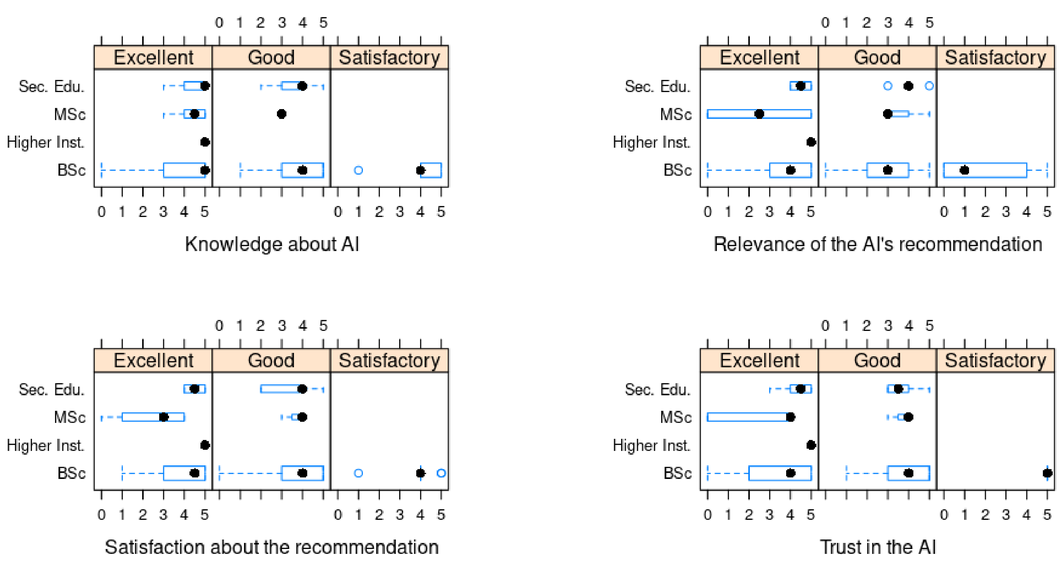

Figure 2: Knowledge about AI, the relevancy of its recommendation and trust

— awareness about the AI is generally high
— the recommended ads appeared to be relevant
— trust in the system is rather low
— **low scores for the self-reported 'Satisfactory' Digital Skill**

Algorithmic Transparency and Related Issues

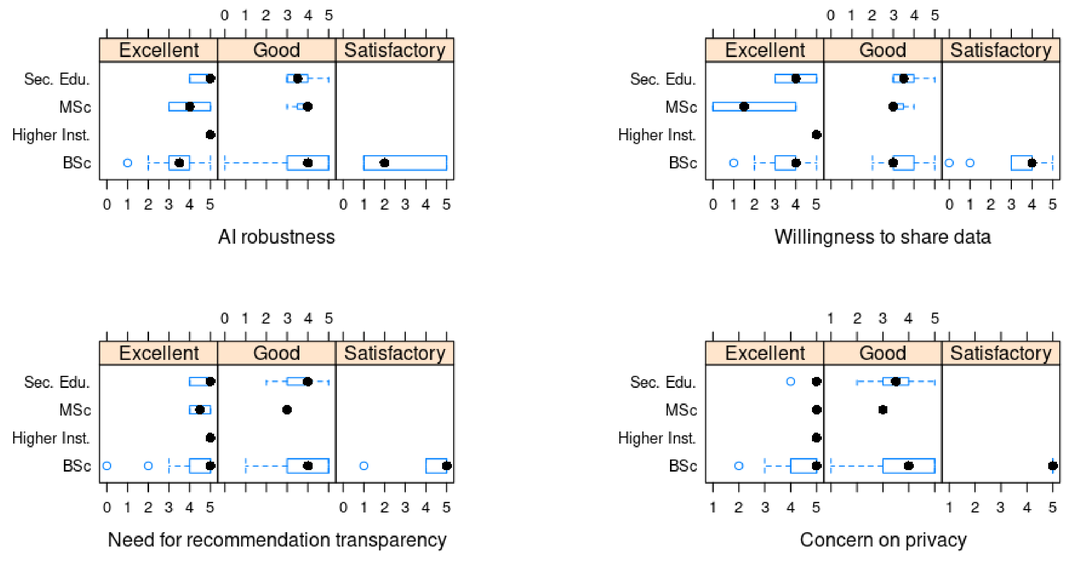

Figure 3: Perception about the AI's robustness, willingness to share data for personalised service, need for transparency and privacy concern

— strong urge for better explanations (transparency)
  * current explanation styles could be improved, see **Main Takeaway**
— high degree of concern on privacy

Post-User Study Session

— explanations tend to be vague and generic
  * using relatable explanations would help
— avenues to widen access and accountable algorithmic decision
— need for explicit mentioning of the information used in the decision-making

Main Takeaway

— embracing diverse perspectives and demographics
  * **... to mitigate (un)intended algorithmic bias**
— channels to create more awareness about the role of AI's in our day-to-day dealings
— special attention should be paid to users with low digital skill
  * **...especially the self-reported *'Satisfactory'* digital skill**
— **Future work:**
  * engage with various stakeholders from diverse background
  * develop a conceptual framework for promoting algorithmic transparency and fairness
  * explanations efficacy, for instance
    - comparing explanations presented in English language and in local language(s)
  * **Collaborators welcome ...**

References

[1] A. Adadi and M. Berrada. Peeking inside the black-box: a survey on explainable artificial intelligence (xai). *IEEE access*, 6:52138–52160, 2018.

[2] R. R. Hoffman, S. T. Mueller, G. Klein, and J. Litman. Metrics for explainable ai: Challenges and prospects. *arXiv preprint arXiv:1812.04608*, 2018.

[3] A. Jobin, M. Ienca, and E. Vayena. The global landscape of ai ethics guidelines. *Nature Machine Intelligence*, 1(9):389–399, 2019.

[4] N. Sambasivan, E. Arnesen, B. Hutchinson, T. Doshi, and V. Prabhakaran. Reimagining algorithmic fairness in india and beyond. In *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency*, pages 315–328, 2021.

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