
The potential of incorporating mindsponge into the Technological Acceptance Model

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Harvesting non-conscious emotional data from humans is a major issue in modern society, where artificial intelligence (AI) technology requires such inputs to process humans' psychological states and responses. People's perceptions of the practice and the corresponding AI technology must be examined well regarding the significant social, cultural, and ethical implications of such data-harvesting activities.

In a recent study titled "Machines that feel: behavioral determinants of attitude towards affect recognition technology – upgrading technology acceptance theory with the mindsponge model," published in the journal *Humanities and Social Sciences Communications* [1], the authors incorporated mindsponge framework [2,3] into the Technological Acceptance Model (TAM), a useful well-established theory [4]. It aimed to extend and strengthen TAM using the dynamic information-processing-based approach to study complex and constantly changing problems in the new digital infosphere.

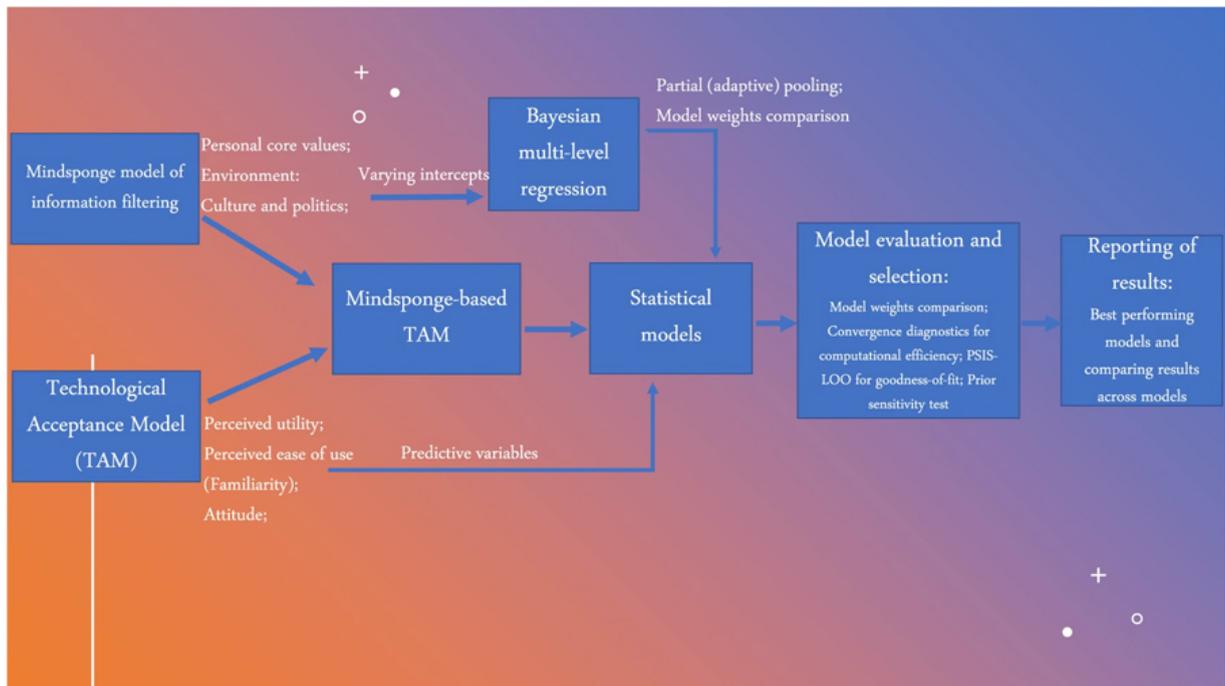


Figure. The research strategy of incorporating mindsponge elements into TAM [1] (CC BY 4.0)

The study employed 1015 students from Ritsumeikan Asia Pacific University (Japan) survey data with Bayesian multi-level modeling. The analysis results showed that attitudes toward non-conscious emotional data harvesting are influenced by complex context-dependent factors, especially in cultural settings. Specifically, young adults who are familiar with and perceive more utilities in AI technologies and are more restrained from arguments on social media feel less threatened by non-conscious data harvesting.

It should be noted that the research protocol applied in the study – Bayesian Mindsponge Framework (BMF) analytics [5] – has also shown the effectiveness and flexibility of using mindsponge elements to examine human perceptions of AI characteristics and behaviors [6,7].

Mindsponge helps extend and upgrade the well-known TAM to be even more effective for research in modern contexts. This contribution from mindsponge elements suggests that the information-processing approach can support and elaborate major established theories on human perceptions. Now and in the near future, Mindsponge-based TAM (or MTAM) has a wide range of unexplored applications as well as room for further development.

References

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