The TAC Toolkit: Supporting design for user acceptance of health technologies from a macro-temporal perspective

Engaging Content Engaging People

A World Leading SFI Research Centre

Science Foundation Ireland For what's next

Camille Nadal Trinity College Dublin

Shane McCully Trinity College Dublin

Kevin Doherty Technical University of Denmark

Corina Sas Lancaster University

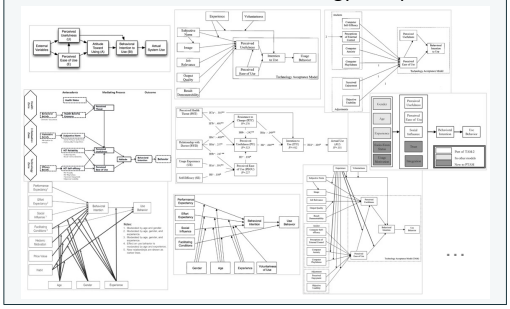
Gavin Doherty Trinity College Dublin

MOTIVATION

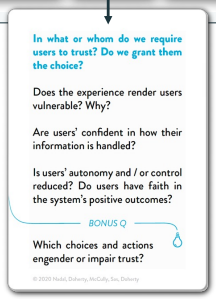
Health technologies are increasingly used to support diagnosis, treatment, and symptom monitoring. In this context, health technology which is not well accepted can result in people discontinuing or refusing care. Many factors influence a person's acceptance of technology, for instance one's trust in the technology or those who provide it. Designers have been trying to account for facilitators and barriers to technology acceptance. However, they are often unsure of how to use the numerous theories of user acceptance in their own practice.

BACKGROUND

- 13 validated models of technology acceptance



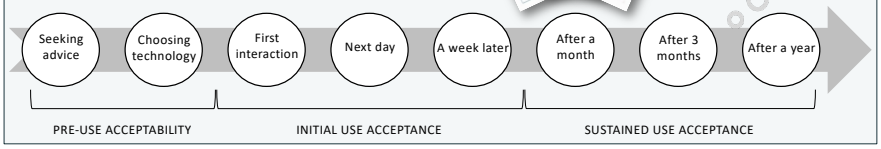
TECHNOLOGY ACCEPTANCE (TAC) TOOLKIT



RQ: What is the value of the TAC Toolkit for supporting refection on technology acceptance and designing for acceptance from a macro-temporal perspective?

METHODS

- 21 digital health designers (experts in HCI, clinical psychology, engineering, ...)
- 7 design workshops (1h)
- Individual post-study interviews (30min)
- Thematic analysis on the recordings



« You made me realize that you have to consider acceptability at different points and that this acceptability may change because the needs of the user may change over time. »

Participant 14, Senior Researcher (industry)

FINDINGS

The TAC Toolkit …

Bridged theory and design practice

« Without the moderation of the cards, when I think about user acceptance, well I think about it at a very abstract level... it [the toolkit] helped navigate our thinking to one certain area in depth » P15, PhD Candidate in Digital Mental Health

Helped design for long-term user acceptance

« Have these [cards] to hand in that kind of design phase to ensure that we're having the right conversations. » P6, Clinical Psychologist

Facilitated conversations on user acceptance

« The cards are like your invitation to join the party. » P7, Lecturer in Psychology

« All of us shared an understanding of the factors. » P14, Clinical Psychologist

Get your free copy of the TAC Toolkit!

FUTURE WORK

As acceptance theories are evolving: keep trying to facilitate their integration into real design practice.

As new acceptance factors are exposed: revise existing design tools to account them.

As anticipating acceptance issues can be challenging: help designers visualise future user experiences.

IMPACT

This work won a **Best Paper award** at CHI 2022 (top 1% of submissions). Since publication, **over 100 TAC Toolkits** have been distributed to research teams worldwide. Finally, the toolkit has been used in **real design practice** at NetwellCASALA (Dundalk), Cumulus Neuroscience (Belfast), CACHET (Copenhagen) and for **teaching** at Munster Technological University.

Nadal, McCully, Doherty, Sas & Doherty. (2022). **The TAC Toolkit: Supporting Design for User Acceptance of Health Technologies from a Macro-Temporal Perspective.** In Proc. of the 2022 CHI Conference on Human Factors in Computing Systems.

This research was conducted with the financial support of Science Foundation Ireland at ADAPT, the SFI Research Centre for AI-Driven Digital Content Technology at TCD [13/RC/2106_P2].

For the purpose of Open Access, the author has applied a CC BY public copyright licence to any Author Accepted Manuscript version arising from this submission.

Trinity College Dublin
The University of Dublin