

Age-sensitive adaptations of technology acceptance models: Linking gerontological theories to technology

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Studying adoption processes of new technologies has a long tradition in information systems research since the 1980s. Starting with research in professional work contexts technology acceptance has since become a relevant research field in various scientific disciplines, including gerontology (Venkatesh et al., 2007). However, as reported by Schulz and col-leagues (Schulz et al., 2015) the research field of technology and aging is fragmented and technological aspects have only been integrated unsystematically into gerontological theories. The Technology Acceptance Model (TAM) is the most widespread model to examine technology adoption (King & He, 2006). Despite many changes and adaptations to the original model the basic structure and central assumptions of the TAM, including perceived usefulness, perceived ease of use, and intention to use, have remained the same in all refined versions. The TAM poses that cognitive evaluations are the main determinant of intentions and the use of technology is described as an immediately following, active, and one-time decision. While research has shown that planning and self-efficacy are important to mediate between intentions and behaviour (Sniehotta et al., 2005) these aspects are not sufficiently considered to explain behavior change in the field of technology acceptance.

Against this background, the question arises to what extent the research logic of the TAM and the findings of technology acceptance research are applicable to investigate technology acceptance of modern technologies in older adults.

The paper addresses these aspects and discusses the TAM in the context of selected gerontological theories. One relevant theoretical perspective involves aspects of person-environment (P-E) interactions (Wahl & Gerstorf, 2018). A central question in this context is how modern technologies are part of the environment of older adults and how these P-E interactions can be integrated into technology acceptance research. The TAM is well suited to describe deliberate decisions to use technology (i.e., aspects of agency), but not to explain affective evaluations of technology (i.e., aspects of belonging or experiences of stress). The SOC (selective optimization with compensation) model (Baltes & Baltes, 1990) serves as an additional gerontological reference point. It will be discussed to what extent technology is relevant for the processes of selection, optimization, and compensation and how this may influence technology acceptance in advanced age.

To ensure that technology acceptance research can make reliable statements about the technology acceptance of older adults, gerontological expertise should be given more intensive consideration in this research field. At the same time, it is the task of gerontological research to establish itself more strongly with its own theories and models in the research field of technology acceptance research.

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