The Difference between Acceptability and Acceptance: A Case Study in Fall Prevention

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Although the evaluation of practical aspects (e.g.,usability, reliability, cost) is crucial for the design of Human Machine Interfaces (HMIs), social factors play a vital role in the way a system is used and perceived. To this end, users' acceptance does not necessarily guarantee an adequate degree of acceptability of technological aids.
Moreover, especially in particular circumstances (i.e., infirmity or presence of handicaps), the adoption of new Assistive Technologies and Healthcare Systems (HT) lacks studies about social acceptability. As a result, assistive systems are tolerated impositions rather than desirable choices: users have the only possibility to receive devices, as well as they endure their special physical and psychological conditions. However, if technology has a low level of acceptability, it results in poor adherence with treatment, in misuse of aids, in discontinuation of rehabilitation, and in failures of treatments.

In this paper, we bring in the difference between the concepts of acceptance and acceptability in the context of assistive HMIs, and we underline the dynamics beneath. Also, we discuss the relationship between functional aspects, and the social cues of technology that impact on user acceptance. Finally, we present the case study of pervasive systems for fall prevention. The results of our evaluation confirm that, in this particular scenario, acceptance does not correspond to a sufficient degree of acceptability. Our findings may help understand the risks associated with the introduction of new interfaces, and they may contribute to the design of more effective devices that might reduce many potential cases of patients' non-compliance and treatment discontinuation.

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