

User Acceptance and Evaluation of Ambient Assisted Living Systems

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Purpose Against the background of demographic change, ambient assisted living systems (AAL-Systems) are increasingly being attributed the potential to make a decisive contribution to the supply of people in need of care. AAL-Systems should enable these people to stay in their own homes for longer and thus support a self-determined lifestyle up to very old age (Weegh & Kampel, 2015). Current studies indicate that an extension of outpatient care in their own homes is preferred by the majority of senior citizens (Banse et al., 2015). A number of projects have been carried out on the subject of AAL, such as the Smart Service Power (2020) project funded by the EU and the state of NRW. Despite promising forecasts, the widespread introduction of technical assistance systems is still pending, which is not least attributed to low acceptance on the part of potential users (Weegh & Kampel, 2015). The main purpose of this study is to investigate the acceptance of existing AAL-Systems by the relevant users. It will be examined whether differences in gender and age can be detected and factors that can inhibit demand will be identified. **Method** For the aim of the project, a holistic assistance system was developed and a quantitative survey was conducted among 335 potential users on the topics of technology use and acceptance. This survey was supplemented by 22 qualitative interviews with the potential target group, who were able to test the AAL-System in their homes. The seniors had the opportunity to evaluate the technical developments. The results of the both surveys were then examined for possible reasons for the low number of users of the technical assistance systems. The research also examined whether digitization and technology can act as exclusion factors with regard to gender and age. (Bleja et al., 2020). **Results and Discussion** In the quantitative study, the overall use of technical equipment was significantly higher among the respondents than in other studies, such as the Digital Index (Initiative D21, 2020). The study showed that the willingness to use new technical equipment decreases with increasing age and is used less frequently. With regard to gender, hardly any differences could be found. In the qualitative investigation it was found that none of the test persons had much prior knowledge of AAL-Systems before the test phases. The participants were interested in systems for increasing comfort and safety. The seniors were rather reluctant to implement an AAL-System in their homes in the long term. This was due to the fact that they did not quite realize to what extent the technology could help them in their everyday lives. The AAL solutions presented were also not always compatible with the senior citizens' living environment and thus their needs. The studies show that many elderly people have the desire to live in their homes in a self-determined manner for a long time and would use AAL-Systems for this purpose. However, AAL-Systems should be more strongly geared to the individual needs of the target group, supplement existing services and be financially affordable. There is also a need among the target group for information and advice on technical assistance systems (Bleja, Langer, Großmann & Mörz, 2007).

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