

Smart services in healthcare: A risk-benefit-analysis of pay-as-you-live services from customer perspective in Germany

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Abstract The recent boom in wearable technologies generates enormous vital data sets, which are the ideal starting point for new service offers by Big Data Analytics. In a Pay-As-You-Live (PAYL) service, insured track activities, transfer current data on the lifestyles of users, who receive rewards from their insurance companies. The aim of this study is to investigate the readiness of customers to adopt PAYL services using wearable technology by comparing perceived privacy risks and perceived benefits. The research model is developed on a basis of a literature review and expert interviews. By conducting an online survey involving 353 participants, a structural equation modelling approach is used to test the research model. The results show that current privacy risk factors dominate the perceived value of an individual to use PAYL services. Insurance companies, service providers and manufacturers of wearables must therefore primarily work together and offer solutions for greater data security and data protection before focusing on gamification and functional congruence.

Keywords Pay-As-You-Live service · Wearable technologies · perceived privacy risk · perceived benefit · intention to use

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Introduction

Developments over the past few years have shown that an increasing number of products are becoming “smart”, e.g. the fitness belt animates us to do more exercise, the refrigerator orders food independently. With regard to this consumer-generated data, for example, health insurance companies are interested in subsidizing the purchase of fitness bracelets and setting up bonus programs (Kolany-Raiser 2016). Additionally, more and more health oriented people record their fitness and health data using wearable technology (Berglund et al. 2016). The trend of self-monitoring (quantified self) and the corresponding growth of the wearables market, are increasingly developing a mass market with a projected market size of over 34 billion US dollars and with anticipated sales of 411 million smart wearables in 2020 (CSS Insight 2016). These devices range from activity trackers (e.g. Fitbit, Jawbone) and Google Glasses to smart clothing (e.g. biometric shirts) which track steps, heart rate or physical activity. People wearing wearables generate a large amount of health data through their daily routine rather than by excessive sport performance (Sultan 2015). Due to increasing digitization, insurance companies can most notably use these emerging technologies to promote preventive healthcare measurements while simultaneously introducing smart services and reward systems (Rundshagen 2015). Smart services are a combination of physical and digital value-added services based on smart products like wearables (Wei 2014). Smart services rely on large quantities of aggregated data provided by smart/intelligent products (Allmendinger and Lombreglia 2005). For example, Generali recently introduced “Vitality”, a new service structure based on data collected from wearable devices that encourage healthy behaviour with all kind of rewards. The service is designed to cover life-insurance, disability-insurance and health-insurance. This is intended to motivate customers by rewarding their progress and providing