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The Role of Trust in Intention to Use Prescribed and Non-prescribed Connected Devices

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Abstract : The Internet of Things (IoT) emerged over the last few decades in many fields. Healthcare can significantly benefit from IoT. This study aims to examine factors influencing the adoption of IoT in eHealth. To do so, an innovative framework has been developed which applies both the Technology Acceptance Model (TAM) and the United Theory of Acceptance and Use of Technology (UTAUT) model and builds on them by analyzing trust and perceived-risk dimensions to predict intention to use IoT in eHealth. In terms of methodology, a Partial Least Approach Structural Equation Modelling was carried out on a sample of 267 French users. The findings of this research support the significant positive effect of constructs set out in the TAM (perceived ease of use) on predicting behavioral intention by adding the effects identified for UTAUT variables. This research also demonstrates how perceived risk and trust are significant factors for models examining behavioral intentions to use IoT. Perceived risk enhanced by the trust has a significant effect on patients' behavioral intentions. Moreover, the results highlight the key role of prescription as a moderator of IoT adoption in eHealth. Depending on whether an individual has a prescription to use connected devices or not, ease of use has a stronger impact on adoption, while trust has a negative impact on adoption for users without a prescription. In accordance with the empirical results, several practical implications can be proposed. All connected devices applied in a medical context should be divided into groups according to their functionality: whether they are essential for the patient's health and whether they require a prescription or not. Devices used with a prescription are easily accepted because the intention to use them is moderated by the medical trust (discussed above). For users without a prescription, ease of use is a more significant factor than for users who have a prescription. This suggests that currently, connected e-Health devices and online healthcare systems have to take this factor into account to better meet the needs and expectations of end-users.

Keywords : internet of things, Healthcare, trust, consumer acceptance
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