The Role of Perceived Risk in Consumer Acceptance of Health-Related Technologies

Abstract 381:

Objectives:
The primary goal of this research was to explore the factors that contribute to an individual’s decision to adopt health-related technologies. The proposed model incorporates a conceptualization of elements from the Health Belief Model, namely perceived risk, into the Technology Acceptance Model (TAM).

Methods:
In this cross-sectional, Internet-based, self-administered survey, research subjects (n=409) were recruited from a national online panel of individuals with diabetes. After reading a vignette which describes a future technology designed to allow individuals with diabetes to monitor blood sugar levels without the use of lancets or the need to draw blood, the research subjects were asked to respond to items adapted from the TAM and perceived risk literature. A two-step structural equation model was used to estimate the proposed relationships.

Results:
After accounting for common methods variance, the final research model resulted in a good fit ($\chi^2=244.49$ df=80, CFI=0.973, & RMSEA=0.071). Both perceived usefulness (standardized estimate=0.27, $p<0.01$) and perceived ease of use (std est=0.56, $p<0.01$) were found to have significant positive relationships with attitude toward the technology; however, the relationship between the two constructs was found to be non-significant (std est=0.32, $p=0.65$). As hypothesized, perceived ease of use was found to be negatively associated with perceived risk (std est=-0.42, $p<0.01$) (lower ease, higher risk). In addition, perceived risk was found to be negatively associated with attitude (std est=-0.17, $p<0.01$), but surprisingly not with perceived usefulness (std est=-0.05, $p=0.65$).

Implications/Conclusions:
This was the first known application of TAM in a disease-specific health context. Incorporating perceived risk into the TAM did not perform entirely as expected. The use of a “pre-prototype” vignette in this study may have had particular influence on the constructs perceived usefulness and perceived ease of use, and may partially explain the nonsignificant relationship between perceived risk and perceived usefulness of the device.