MISQ Archivist

User Service Innovation on Mobile Phone Platforms: Investigating Impacts of Lead Userness, Toolkit Support, and Design Autonomy

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Abstract

User participation is increasingly being seen as a way to mitigate the challenges that firms face in innovation, such as high costs and uncertainty of customer acceptance of their innovations. Thus, firms are establishing online platforms to support users in innovating services, such as iOS and Android platforms for mobile data service (MDS) innovation. Mobile phone platforms are characterized by technology (toolkits) and policy (rules) components that could influence user's innovation. Additionally, attributes of user innovators (lead userness) are expected to drive their innovation behavior. Yet it is unclear how these characteristics jointly impact users' service innovation outcomes. To address this knowledge gap, we propose a model that builds on user innovation theory and the work design literature to explain the influences of lead userness, design autonomy, toolkit support, and their interactions on user's innovation outcomes (innovation quantity) on these platforms. We conceptualize toolkit support in terms of two constructs (i.e., ease of effort and exploration) and design autonomy in terms of three constructs (i.e., decision-making autonomy, scheduling autonomy, and work method autonomy). The model was tested using survey and archival data from two dominant mobile phone platforms (i.e., iOS and Android). As hypothesized, lead userness, exploration through toolkits, and ease of effort through toolkits positively affect users' innovation quantity. Additionally, decision- making autonomy and work method autonomy influence innovation quantity, but scheduling autonomy does not. Further, the proposed three-way interactions between lead userness, toolkit support, and design autonomy constructs on users' quantity of MDS innovation are largely supported. The findings enhance our understanding of user innovation on mobile phone platforms.

Keywords: User innovation, mobile phone platform, design autonomy, toolkit support, lead userness, three-way interaction