

Understanding smartphone users' app usage with restricted permissions

Smartphone
users' app
usage

Haroon Iqbal Maseeh and Charles Jebarajakirthy
Griffith Business School Gold Coast Campus, Southport, Australia

Achchuthan Sivapalan
*Faculty of Management Studies and Commerce, University of Jaffna,
Jaffna, Sri Lanka*

Mitchell Ross
Griffith Business School Gold Coast Campus, Southport, Australia, and

Mehak Rehman
*Department of Marketing, Griffith Business School Gold Coast Campus,
Southport, Australia*

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Abstract

Purpose – Smartphone apps collect users' personal information, which triggers privacy concerns for app users. Consequently, app users restrict apps from accessing their personal information. This may impact the effectiveness of in-app advertising. However, research has not yet demonstrated what factors impact app users' decisions to use apps with restricted permissions. This study is aimed to bridge this gap.

Design/methodology/approach – Using a quantitative research method, the authors collected the data from 384 app users via a structured questionnaire. The data were analysed using AMOS and fuzzy-set qualitative comparative analysis (fsQCA).

Findings – The findings suggest privacy concerns and risks have a significant positive effect on app usage with restricted permissions, whilst reputation, trust and perceived benefits have significant negative impact on it. Some app-related factors, such as the number of apps installed and type of apps, also impact app usage with restricted permissions.

Practical implications – Based on the findings, the authors provided several implications for app stores, app developers and app marketers.

Originality/value – This study examines the factors that influence smartphone users' decisions to use apps with restricted permission requests. By doing this, the authors' study contributes to the consumer behaviour literature in the context of smartphone app usage. Also, by explaining the underlying mechanisms through which the principles of communication privacy management theory operate in smartphone app context, the authors' research contributes to the communication privacy management theory.

Keywords Privacy concerns, Smartphone apps, App usage, Permission requests, fsQCA

Paper type Research paper

1. Introduction

Smartphone applications (hereafter referred to as apps) provide a variety of services to their users, such as social networking, gaming, navigation, photo and video editing (Garg and Telang, 2013; Lee *et al.*, 2021). Such apps are abundantly available on various app stores, for example, Google Play Store and Apple App Store. Currently, more than five million apps are available on various app stores with approximately 4,000 new apps being added every day (Ho and Chung, 2020). Due to an increasing trend of app usage, the worldwide app market generated over USD 105.2 bn revenue in 2021 (Lee *et al.*, 2021) and this revenue is expected to raise up to USD one trillion in 2024 (Dinsmore *et al.*, 2021). High smartphone adoption rate, strong in-app consumer spending and a relatively higher number of app downloads are

