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A Framework for User Acceptance of Push Messaging in Mobile Apps

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Extended Abstract

As of June 2016, there are over 5 million applications currently available for download onto mobile devices [1]. Smartphone app notifications help marketers deliver the right message to the right person at the right time and is now central to new hyper local marketing efforts. Mobile marketing focuses on communicating with customers using time and location sensitive data to enable behavioural targeting of personalised promote of goods, services and ideas. Hence, the focus of this research is to create an understanding of user acceptance of push messaging on smartphones to explain the user intention of adopting micro-location push notification services. Micro location-based push notifications refer to communications where push notification messages are tailored based on individuals' spatial, temporal, and personal information. These highly customised messages are communicated to the individual via smart phone apps that have been downloaded by individuals and permissions granted as required for services, notably location information sharing.

This thesis proposes and tests an adapted theoretical model that explores and explains the relative influence of the determining factors for the acceptance of push messaging. The research addresses a lacuna in the research domain as few previous empirical studies have explored micro-local push message acceptance. Vast majority of existing research has relied heavily on the Technology Acceptance Model [2]. This works extends the seminal work of the TAM Model by encapsulating the unique factors relevant to the mobile usage context. Prior research that has modelled behavioural intention to adopt mobile services has been primarily limited to mobile commerce [3] and mobile ticketing services [4]. Hence, a key research focus of this thesis examines the effect of a contextual spatial-temporal factor, 'geo-temporal conditions', on user acceptance. The effect of this factor is examined across three groups of users: (1) control push messages recipients; (2) geolocation push messages recipients; and (3) micro-location push messages recipients. The micro-location push message group offers insights into the effect of close proximity tracking through the use of micro-local proximity sensors in a micro-local geofence.

This research was an empirical investigation carried out with 62 participants. Participants installed a canteen app developed for this experiment that was capable of receiving: (1) standard push messages; (2) geolocation push messages; and (3) micro-location push messages. The empirical results showed that the proposed structured model was appropriate for predicting user acceptance of push messages, proving that geo-temporal conditions have an effect on perceived usefulness and perceived ease of use. Results also revealed that those who experience micro-location technology and micro-local push messaging are significantly more likely to accept push messaging in this context.

The conclusions and implications within this thesis provides other researchers and practitioners with a strong theoretical model for predicting user acceptance of push messages. Moreover, this research contributes to a body of knowledge in the areas of spatial-temporal context and micro-local geo-fencing. This research particularly contributes knowledge for those developing smartphone applications and deploying proximity sensors.

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