IT CONTINUOUS USE IN MOBILE RIDESHARING APPLICATIONS: DRIVER PERSPECTIVE

Reem Alsaedi¹, Thomas Chesney² and Robert Pasely³

Business School, University of Nottingham, Nottingham, UK

¹*PhD candidate*

²*Prof*

³*Dr*

ABSTRACT

Information and communication technologies have boosted a new culture of consumption, the so-called sharing economy. Sharing economy (SE) can be defined as a peer-to-peer (P2P) online marketplace where individuals (a peer-provider) connect with other individuals (a peer-consumer) through online platform for sharing, swapping, or lending resources. As an off shoot of SE, ridesharing mobile apps (RMA) such as Uber and Lyft have been introduced. RMA have achieved incredible growth and success in the taxi business. However, it is noticed that there are many campaigns against RMA that are organized by peer-drivers. This can mean that while peer-drivers' satisfaction is low with RMA, they still continue use these apps. This is inconsistent with predictions from the extant theories in information systems (IS).

The reason behind this inexplicable behaviour might be that, in RMA, how user attitudes formed and value experienced is fundamentally changed as more entities are involved. Ridesharing apps are experienced within the triple-interaction; peer-peer interaction, and peer-app interaction rather than double-interaction; user-app interaction as in the conventional IT in previous research. This new innovative context of IT has been neglected in current IT use research and IT theories. To address these gaps, this research plans to understand this phenomenon through incorporating not only past-and current-related factors (as in previous studies) but also future-related factors into the prediction of IT continuance models. This is because these IT are rapidly growing and individual expectations about future are changing fast. Based on the expectation-confirmation theory, the unified theory of acceptance and use of technology, and some constructs of psychological literatures, this study will focus on the effect of integrating future-related factors into IT continuance model on the interpretation of continuance intention in RMA. This aim will be achieved through conducting several quantitative studies (i.e. questionnaire and experiment) on the Uber app as a case study. The first study will develop a research framework and test it through collecting data from Uber drivers through questionnaires. Based on the results of the first study, other studies will be designed. It is hoped that this research will extend IS continuance models to include future aspects of user experience rather than only past and present experiences. In addition, the findings of investigating continuous use behaviour will add more understanding for user needs in the disruptive phenomenon of SE.

KEYWORDS

Sharing Economy, Ridesharing Apps, Usage Behavior

1. INTRODUCTION

1.1 Background

Sharing economy is variously called a collaborative consumption (Malhotra and van Alstyne, 2014), a peer economy (Bellotti et al., 2015), and access-based consumption (Bardhi and Eckhardt, 2012). These overlapping terms characterize by: 1) they are operationalized by the Internet capabilities and mobile technologies where value is co-created between users; 2) they are distinguished by efficient use of underutilizing resources such as labour, cars, and skills (Bellotti et al., 2015).

As an off shoot of SE, RMA have been introduced. The innovative idea of RMA is to create a platform of peer-drivers with their own cars who offer transportation services to peer-passengers and charge a service fee via apps. The sustained success of RMA is primarily based on understanding the participation behaviour of potential drivers who own cars and supply transportation services and the passengers who need these services.

While RMA have achieved incredible growth and success in the taxi business, they have raised significant debate worldwide, as well as concerns regarding drivers' rights and their well-being (Laufer, 2019). For example, Uber drivers have conducted several campaigns against Uber with the aim of improving several features of apps such as adding tipping, displaying the fare price, and increasing security (Bhuiyan, 2018). At the same time, Uber is still considered one of the most dynamically growing startups in the world (Hall and Krueger 2018). This leads to the puzzling phenomenon where drivers might continue to use RMA even though their satisfaction is low. This is inconsistent with predictions from the extant theories in IS as the main assumption of information technology (IT) continuance theories posits that users' continuous intention is determined by satisfaction, and in turn, satisfaction is determined by perceived usefulness with the past IS use (Bhattacharjee, 2001a). In addition, this issue might lead to consideration the role of non-monetary factors in shaping the user satisfactions in RMA.

Based on the above discussion, it can be postulated that continuance theories and IT might be one of the areas influenced by disruptive innovation of SE technologies. SE disrupted a broad variety of conventional business models, spurred by proliferation of mobile apps and ubiquitous internet access that allow individuals to trust each other's, share underutilized assets and trade with low transaction costs (Guttentag 2015). It has disrupted the most existing traditional models of the different sectors such as the business, law, politics, and IT (Guttentag, 2015; Cramer and Krueger, 2016). Moreover, through P2P apps, how user attitudes formed and value experienced is fundamentally changed as more entities are involved. P2P apps are experienced within the triadic interaction; peer-peer interaction, and peer-app interaction rather than dyadic interaction user-app interaction as in the conventional IT. For example, from peer-provider perspective, the experience is evaluated based on the relationships between peer-provider and peer-customer from one side and between peer-provider and an app from the other side. This new form of IT experience has been overlooked in current IT use research.

With focusing on new IT aspects in ridesharing, there are other disruptive aspects. While RMA is characterized that have two-side end users with two different interfaces and two-side rating systems, driver-peer acts as a user of apps and as an employee in the same time (Baron, 2018). In addition, as users communicate face-to-face with strangers with different backgrounds and situations, RMA have generated a need to the emotional users to deal with problematic psychological events, such as unpleasant thoughts and feelings which might happen when dealing with difficult peer-customers (Biron and van Veldhoven, 2012; Berger *et al.*, 2018; Glöss *et al.*, 2016). Regarding the positive side of the disruption, flexibility of apps usage appears clearly in this new generation of utilitarian IT (Baron, 2018). Users can access apps and gain the benefits at any time and in any place as these apps are a place-based presence through utilizing GPS. In addition, real images of users and their possessions (i.e. cars) is a requirement to take the full benefits of RMA.

In addition to the new IT aspects, determining the usage context of RMA is a new challenge of disruption. The usage context of RMA can be considered as a combination of different contexts. To demonstrate that, and based on extant literature in IT, the usage context taxonomy (Figure.1) is developed in order to facilitate where RMA can be classified as a context usage. The first dimension is the IT usage area, technology can either be used for work purposes or for private purposes. The second dimension is the extent of voluntariness as a technology usage can be mandatory or voluntary. After investigating literature in ridesharing (e.g. Baj-Rogowska, 2018; Hall and Krueger, 2018; Cramer and Krueger, 2016; Berger, Chen and Frey, 2018), RMA can be placed on the middle of this taxonomy as they have aspects of all these classifications. This is considered a new context in IT usage as the most investigated IT in literature tend to be more mandatory for work purposes such as document management systems (Bhattacharjee & Lin 2015) or voluntary for private purpose such as social apps (Hsiao *et al.*, 2016).

Figure 1. IT usage context taxonomy

Hence, it appears that the concurrence of advanced internet technologies raised a SE disruption, and in turn, this disruption has promoted IT with new capabilities and challenges. Therefore, the focus of this research is to understand peer-drivers' continuance behaviour in the disruptive phenomenon of SE.

1.2 Knowledge Gap

Based on the above discussion, it can be demonstrated that there are a new context of IT (i.e. ridesharing), a new IT experience (triadic interaction and shared experience), a new usage context (i.e. mixed) and new abilities of IT. IT usage research postulates that the new innovative technologies and IT context usage are important as they determine individual behaviour and its antecedents (Brown and Venkatesh, 2005; Venkatesh and Brown, 2001). This might partly explain the occurrence of the puzzling phenomenon and imply that there are other influencing factors should be investigated in this new phenomenon.

Although there is little research on the information systems facet of the ridesharing phenomenon, there is no research on the continuing use of RMA based on the best of our knowledge. Therefore, to address these gaps, this research plans to understand this phenomenon by incorporating not only previous experience but also current and anticipated future user experiences into the prediction of IT continuance models. By considering the anticipated future consequences, this research addresses another gap founded in IT continuance models. In existing IT continuance model, user behaviour has been studied based on prior and present-moment experience without considering the impact of the anticipated future experience. However, the evidence from psychology and service literature posits that consumer behaviour is constructed based on previous, current, and imaginary future experiences (Strathman et al, 1994; Helkkula et al. 2012a). This postulate may apply to IT users as the IT research considers the users as consumers of IT (Bhattacharjee, 2001b).

In addition, affective factors such as unfairness, and emotional personality traits such as the emotional flexibility, and self-disclosure will be integrated with the cognitive factors of continuous use theories in order to try explain why ridesharing app users (i.e. drivers) continue using apps even if their satisfaction is low. This can be justified that as this new innovative IT (i.e. SE apps) generated emotional users, it is important to incorporate appropriate emotional factors with continuous use theories. Especially, if we know that the extant IT continuance models tend to be more cognitive.

The trend of using only one service of apps is also one of the behaviour that is noticed in ridesharing. For example, most of Uber drivers are used only UberX service (Cramer & Krueger 2016; Hall & Krueger 2018) although there are more than six services of Uber app provide the same benefits. Therefore, this postadoption behaviour also will be investigated in this research as to date there have been no research studies undertaken to explain this behaviour based on the best of our knowledge.

Therefore, based on the expectation-confirmation model, unified theory of acceptance and use of technology, and some psychological theories, this study will focus on the effect of integrating emotions and future expectations into ECM on the interpretation of post-adoption behaviour in SE apps.

1.3 Research Aim and Objectives

The main aim of this research is to investigate the influencing factors on drivers' postadoption behaviour. To achieve this goal, the research objectives are developed as the following:

1. To clarify the SE phenomenon within IT context.
2. To identify and evaluate theories for assessing the adoption and postadoption of IT with the current generation of technology.
3. To establish research framework for explaining the factors that influence RMA driver' continuance intention with particular focus on the role of 'consideration of future expectations'.
4. To understand the main factors influencing the drivers' satisfaction.
5. To conduct an empirical test of the research framework.
6. To evaluate and provide the implications of the empirical results for interested stakeholders and future studies.

These aims will be achieved through conducting several quantitative studies. The first study was developed a research framework and tested it through collecting data from RMA drivers through questionnaires. Based on the results of the first study, other studies have been designed. It is hoped that this research will extend IS continuance models to include future aspects of user experience rather than only past and present experiences. In addition, the findings of investigating continuous use behaviour will add more understanding for user needs in the disruptive phenomenon of SE.

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