Dissonance Reduction Strategies in Ride-Sharing Apps- A Case of Uber

Poster

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ABSTRACT

Ride-sharing apps have both positive and negative impact in our daily lives. To study the negative impacts especially personal safety issues, this study explores the reaction of ride-sharing app users to such safety issues. We contextualize our study using a scenario-based survey. We found empirical support to all the hypotheses by surveying 421 individuals. This study contributes to the information systems literature in providing ways to apply dissonance reduction techniques that are a strong predictor of satisfaction. In addition, this study also addresses the safety issues faced by riders using ride-sharing apps and how co-creation would help address these issues.

Keywords

Ride sharing apps, smart services, cognitive dissonance, satisfaction.

INTRODUCTION

Smart service systems are an exciting field, where ICT, service offerings, participants, and other constituents form an interactive ecosystem to provide innovation that would not be possible using any of these components in isolation. Smart service systems are systems that include technology, people, service providers and other components in a coordinated way to create human-centered services. In the context of the present study, Uber's service is initiated, managed, and tracked using an app. However, it takes technology, passengers, drivers and other participants to create a "smart" service experience.

Most extant models involving perception and evaluation of threats caused by smart services focus on how threats are addressed by other parties. The body of knowledge in this context is limited to cyber threats comprised of information shared by users with the other parties (Bibri, 2015). Another threat that has been increasingly publicized on the internet in recent years is the threat of physical harm (Al Hasib, 2009). To the best of the authors' knowledge, information systems researchers have not addressed the issue of personal safety issues created from the use of smart services.

Despite problems associated with lack of control for service delivery or quality, the number of people who use smart services has increased exponentially since these services were introduced (Roberts and Mok, 2011). It may seem that smart service users employ these services regardless of potential threats to either personal information or safety. This continued use of service is not necessarily the result of an acceptable level of service quality, but instead could signify potential hidden issues. For example, usage of service could be due to lack of acceptable alternatives, which makes the original service vulnerable to replacement or fierce competition when an alternative becomes available. Even if a company is not directly responsible for the consequences of its lack of control for service quality, resulting issues could still potentially damage the customer-supplier relationship (Roggeveen, Tsiros and Grewal, 2012). Therefore, an inconsistency between behavior and attitude may well arise when users choose to use ride-sharing services knowing that potential threats could happen to them. In this case, the actual usage behavior contradicts the user's attitude of fear for a potential threat, causing 'dissonance' to happen. According to the Cognitive Dissonance Theory (CDT), dissonance is a state of inconsistency when an individual believes something, but behaves differently (Festinger, 1957).

Dissonance triggered by fears of potential physical threats (e.g., Uber drivers studied in the present research) could motivate passengers to adopt strategies to reduce such dissonance. With this dissonance managed, discrepancies between existing and expected service are reduced, thereby improving the quality of the ride-sharing service ecosystem. This self-correction mechanism is important for smart systems since it signifies that the whole service ecosystem does possess adaptation capabilities akin to living organisms capable of reducing gaps in existing services. The original perspective of CDT research offers three forms of dissonance reduction strategies, namely (1) change one of the dissonance elements, (2) add consonant

cognitions and (3) trivialize the elements involved in the dissonant relations (Simon, Greenberg and Brehm, 1995). These three strategies of dissonance reduction are rarely studied together empirically despite the fact that the literature (Olson and Stone, 2005) suggests that consumers may simultaneously adopt multiple reduction strategies.

Active involvement of customers to overcome service failure can reduce negative cognitive dissonance (Sven Heidenreich, Wittkowski, Handrich and Falk, 2015), thus offering an alternative way to manage dissonance. Unlike the reduction strategies of original CDT research that require intrinsic manipulation of attitude, belief or thoughts, co-creation goes beyond a solo approach into a community crafted solution. As a result, role clarity, perceived value, and satisfaction of service are improved through joint efforts (Dong, Evans and Zou, 2008). As of this writing, there has been minimal scholarly evidence examining the combined effects of co-creation and three forms of dissonance reduction on service satisfaction. Therefore, this study is designed to study those effects in the context of smart services.

Based on the assessment described in the preceding paragraphs, the following research questions are designed to uncover insights from the intertwined relationships among service quality, dissonance reduction, and co-creation related to their joint effects on the adoption of smart service systems.

Q1: How do smart service users react to safety issues caused by smart services?

Q2: How might smart service users apply cognitive dissonance reduction strategies, suggested by cognitive dissonance theory, to reduce existing dissonance between expected and perceived service quality?

Q3: How do dissonance reduction strategies affect co-creation of services?

Q4: How do the dissonance reduction from CDT and co-creation from service literature jointly affect the final satisfaction and usage of smart service systems?

To address these research questions, we focus on Uber as a smart service ecosystem that uses technology to provide riding services for individuals. The Uber ecosystem consists of the app, the individual, the driver and the company. Using a scenario based survey, this study measures Uber passengers' perceptions and behaviors when they become aware of possible safety issues.

HYPOTHESES

H1: Dissonance reduction strategies have a positive effect on satisfaction.

H2: Dissonance reduction strategies are positively associated with co-creation intention.

H3: Co-creation has a positive effect on customer satisfaction.

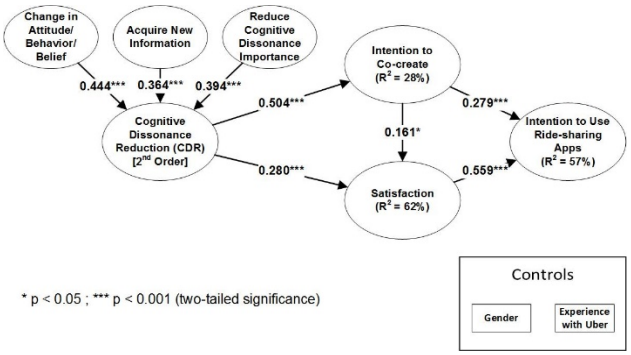
H4: Customer co-creation intention has a positive effect on consumer intention to use ride-sharing services apps.

H5: Consumer satisfaction has a positive effect on consumer intention to use ride-sharing services apps.

RESEARCH METHODOLOGY

To test our research model (see Figure 1), we used a combination of previously validated and self-developed items. We used a 7-point scale from 1 to 7. Data was collected using an online survey from students at two universities in U.S. The total number of the participants in the survey was 421. We used a scenario-based questionnaire to operationalize our study. In our study, participants read an online article that summarized safety issues reported by Uber passengers. We believe that the act of reading about safety issues would increase cognitive dissonance among the survey takers towards the Uber ecosystem. Once the summary of safety issues were read, we applied three dissonance reduction techniques -- (1) change in attitude/behavior/belief, (2) acquire new information and (3) reduction of the importance of cognitive dissonance to determine effects on cognitive dissonance. Value co-creation, satisfaction and intention to use ride-sharing apps were also measured after the three dissonance reduction techniques were applied.

INITIAL RESULTS



DISCUSSION

This study explores three passive forms of dissonance reduction strategies together with co-creation as an interactive strategy to manage physical threats in the Uber digital ecosystem. Our results have implications for both practitioners and the academy. First, dissonance reduction strategies chosen by customers, and their ability to implement these strategies are also important motivators of co-creation intention. Our work adds to the body of knowledge by suggesting that not only a customer's ability matters in the co-creation process, but also the psychological or physical options related to dissonance reduction techniques play an important role in a customer's assessment of opportunities to co-create. Second, we also found that no cognitive reduction strategy works alone. Users adopt multiple reduction strategies at the same time, especially when a safety issue arises In addition, we consider the user, the technology and the organization as

part of one digital ecosystem and study its impact on the personal safety of users. Hence, the holistic view presented in the current study is crucial since just relying on only one aspect (e.g., quality resulting from general services) of service quality will result in missing key components relating to ride-sharing apps. Third, personal safety issues associated with the use of ride-sharing apps has not yet received much attention by IS researchers. In many cases, the economies of scale that rise from using IT in the service domain diminishes control that service providers can exert over business processes, employees, and users. A potential outcome from this lack of control involves safety issues for service users. This study fills the existing gap in the literature examining how digital service ecosystems address safety issues. Applying cognitive dissonance reduction strategies, we ask service users to respond to potential safety issues. Future research can apply the three dissonance reduction strategies discussed in this study to evaluate digital system users' reaction to the other types of threats, and in other digital service platforms.

This study also has several implications for practitioners. Improved understanding of customer satisfaction will help digital service providers deliver better customer experiences, and enhance their value chains. If service providers recognize patterns of dissonance in their customers, they can help resolve dissonance quickly, resulting in improved customer experiences. Co-creation gives service providers expanded opportunities for innovation because groups of loyal customers are contributing to idea pipelines. Thorough comprehension of digital system ecosystems will produce systems that more closely align with customer expectations and attitudes, and increase value throughout the ecosystem.

LIMITATIONS AND FUTURE RESEARCH

Our work addresses some aspects of how multiple dissonance reduction strategies taken together simultaneously affect co-creation and satisfaction in smart service systems. Although an empirical study that treats IT, participants and service providers as key elements of a holistic smart service is quite new in a sea of IT/IS centric studies, our findings offer early insights into this symbiotic relationship. However, there is room for improvement in the future.

First, despite the fact that Uber is the largest service provider in its category, our work reflects only insights derived from Uber users. It does not necessarily cover other forms of public and private transportation. Therefore, generalization into other forms of transportation requires caution. Second, our respondents are mostly young people. Although this is quite consistent with anecdotal reports (e.g., Smith, 2016) that Uber's user base tends to be young adults, urbanities and college students, dissonance reduction strategies may vary across different demographic groups. Third, we uncovered insights of multiple dissonance reduction strategies through a survey. Therefore, we are also bound by the limitations inherently derived from survey methodology. Future studies may also consider other forms of data collection from simultaneous adoption of multiple reduction strategies.

CONCLUSION

In conclusion, the objective of this study was to explore three research questions. First, the reaction of smart service users to potential safety issues posed by smart ride-sharing services. Second, dissonance reduction strategies that would help reduce existing dissonance between expected and perceived service quality. Finally, the impact of those strategies on satisfaction and behavior of users of ride-sharing apps. This study contributes to the research on both smart service systems and cognitive dissonance reduction strategies.

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