Understanding Emotion-focused and Problem-focused Threat Avoidance Behavior of Ride-sharing Service Users in China: A Focus on the Moderating Effects of Use Context

Completed Research Paper

Younghoon Chang

Hwansoo Lee

Siew Fan Wong

Alain Yee Loong Chong

Abstract

This study discusses the location-sharing services and safety features provided by China's ride-sharing firm DiDi. It focuses on the customers' response behaviors when dealing with heightening crime risk in relation to car ride-sharing services. To this end, this study introduces use contexts concept based on the perspectives of problem and emotion-focused coping and performs an empirical study on users' threat avoidance behavior. Surveys are distributed to ride-sharing service users and location-sharing service users who lived in the Guangdong Province. The survey results provide a number of theoretical and practical implications.

Keywords: Emotion-focused coping, problem-focused coping, technology threat avoidance theory, ride-sharing service, shared economy, use context, China

Introduction

Over the past few years, ride-sharing service, a business model of shared economy has become widely popular across the world. Led by Uber and Lyft in North America and Europe, successful models have cropped up all around the world including Grab and Go-Jek in Southeast Asia and DiDiChuxing (DiDi) in China. Today, these ride-sharing service companies, along with shared-lodging service firms such as Airbnb, are leading the world's shared economy, thus creating numerous new jobs and revitalizing the economy (Zervas et al., 2017). Even though the ride-sharing service brings new opportunities, it also creates serious social issues. For example, some drivers have rude behaviors and some even committed crimes. In particular, safety issues in relation to female customers have emerged as the most pressing problem that needs to be addressed before the ride-sharing industry can expand further (The New York Times, 2018).

Around the world, high-visibility incidents such as sexual harassment of customers by Uber and Lyft drivers and sexual violence and even killing of customers by DiDi and Grab drivers have posed serious obstacles for female riders (China Lab, 2018). In China, where scores of ride-sharing service firms provide services to millions of customers daily, violent crimes are committed more frequently than in any other country in the world (China Lab, 2018). Following two incidents in which women riders were murdered within six months, DiDi suspended its service for a week in August 2018 and announced that it would introduce new measures to keep passengers safe (The New York Times, 2018; China Lab, 2018). As the company resumed its service, DiDi began providing more strengthened location-sharing service and safety-related features (China Lab, 2018). In addition to the safety features offered by DiDi, Chinese female riders have begun using a location-sharing app called "PPsafety" through word of mouth.

PPsafety's service works like this: A passenger sends her location information to her family and friends before taking a ride-share or a taxi cab. If she is not in contact with her family and friends after a set period of time, the service will automatically send out emergency messages to preset contacts. According to coping theory, people tend to look for an emotional solution first when faced with danger (Lazarus, 1993, Liang et al., 2019). But, once they start looking squarely at the problem on hand, they exhibit a behavioral pattern of seeking rational solutions (Lazarus, 1993). From this point of view, PPsafety and DiDi's safety features are indeed helping ride-sharers to enhance their physical and psychological safety and avoid danger.

This study examines emotion-focused coping and problem-focused coping strategies as a way to understand ride-sharing service users' threat-avoidance behavior in response to the rising crimes committed by ride-share drivers. It also examines the relationship between threat avoidance behavior and use contexts. Even though ride-sharing services are widespread across the world, research on these technological features is lacking. The overarching theories of this study are coping theory (Lazarus, 1993), technology threat avoidance theory (Liang and Xue, 2009; Liang and Xue, 2010), use contexts concept (Kim et al., 2014; Kim et al., 2017), and theory of emotion-focused coping and problem-focused coping (Liang et al., 2019).

Literature Review

Safety-related Features and Location-sharing Apps

The largest ride-sharing app operator in China is DiDiChuxing. The company is by far the most powerful ride-sharing service provider in the country after merging with Uber China which had been its rival until 2016. DiDi offers a variety of service brands, such as Express (a taxi-hailing service), Premier (a ride-sharing service), and Hitch (a carpool service), so that customers can find services that fit their needs at any price point.

However, DiDi is losing its customers' confidence due to the frequent criminal behaviors of its drivers. According to Win.D, the total number of crimes committed by DiDi drivers over the past three years was 89, which included 33 traffic accidents, 16 sexual assaults, as well as deceptions, verbal arguments, harassments, insults, drug transport, robbery, and manslaughter (China Lab, 2018). Of these crimes, the most hideous involved two female riders who had used the Hitch carpool service and were killed after being sexually violated within six months of each other. After taking a beating from public opinion and strongly urged by the government, DiDi suspended all of its services for one week from August 27, 2018. Soon after, it announced new safety measures for its services. Some of the measures included a privacy security feature that converts the customer's phone number into a randomly generated number, sharing of customers' location information with five pre-designated contacts, an emergency connection with the police, and, most recently, recording of all conversations with the driver (China Lab, 2018). Most importantly, DiDi has strengthened its qualification requirements for driver applicants while providing beefed-up training and a stricter code of conduct to the drivers.

In addition to the safety features offered by DiDi, a location-sharing app called PPsafety has become a robust alternative for guaranteeing passengers' safety. On PPsafety, users can share their current location, status, and itinerary with their family and friends. They can also exchange real-time messages with people on the list while sending emergency messages to pre-designated contacts. PPsafety can

indeed play the role of safeguarding its users from not only risks that may occur while riding shared cars, but also children's kidnapping risks and many other dangers that people face in everyday life. Figures 1 and 2 show the safety-related features offered by DiDi and how to use the PPsafety app.
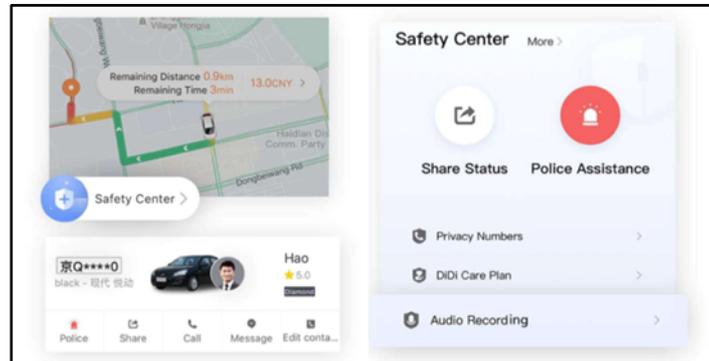

Figure 1. DiDi safety features

Figure 2. PPsafety Application

Coping Theory & Technology Threat Avoidance Theory (TTAT)

The coping theory is about people's behavioral responses that attempt to reduce a series of risks triggered by stress or external factors: these responses can be divided into the process of coping and the style of coping (Lazarus, 1993). Process of coping implies the use of continuous cognitive effort to manage internal and external demands in excess of the individual's capacity. Style of coping refers to individuals' response style against fear, stress, or danger, and their psychological completeness in these circumstances (Lazarus, 1993). In recent coping research, process of coping is more accepted than style of coping with respect to individuals, as most psychologists consider coping to be a dynamic, continuous procedure (Liang et al., 2019). Previous studies on the process of coping examine coping strategies as emotion-focused coping (EFC) and problem-focused coping (PFC) (Liang and Xue, 2010). Emotion-focused coping strategies concentrate on changes in individuals' feelings and emotions in response to a series of incidents and risks. Problem-focused coping strategies first look at whether the problem at hand comes from individuals themselves or from outside and adopts an appropriate coping strategy (Liang and Xue, 2009; Liang and Xue, 2010). Existing studies mostly deal with these conflicting coping strategies within the frameworks of psychology, physical health, social well-being, and industrial safety.

In the information system discipline, this coping theory has been modified to apply to computer and Internet security issues in the form of studies on online phishing, spyware, and information security stress of workers (Liang and Xue, 2009; Liang & Xue, 2010; Crossler, 2010; D'Arcy et al., 2014). Liang and Xue (2009), in particular, use coping theory to outline how individuals voluntarily avoid threat arising from IT environments. By integrating existing studies of coping theory in psychology,

healthcare, risk analysis, and information systems, TTAT has developed a theory capable of coping with the threats that may arise in today's information and communications technology industry (Liang and Xue, 2009; Liang and Xue, 2010).

However, the previous coping theory frameworks are inadequate for addressing individuals' service usage circumstances. Because of the advancements of mobile technology and location tracking technology, context has become an important factor that influences an individual's intentions to use various service and applications (Kim et al., 2014; Kim et al., 2017). By introducing TTAT's expanded emotion-focused coping perspective developed by Liang and Xue (2010), this study examines its relationship to mobile app use context concept and its moderating effects within TTAT constructs.

Use Contexts

As we enter the ubiquitous computing era, context has become more important than ever (Kim et al., 2017). In the disciplines of human-computer interaction (HCI) and information systems, the importance of context-aware computing is growing and gaining more attention from the academia and industry (Kim et al., 2014; Kim et al., 2017). The context-aware computing is defined as context-related issues when individuals use computers or applications (Kim et al., 2014; Kim et al., 2017). Dey (2010) identifies all the types of information that can be used to characterize each related entity in all contexts. Entities are persons, locations, or objects that are related to the user, computer, or application, which presuppose a distinction between the user, computer, and applications. Context-related cognition can be divided into agent-centric and activity-centric. Agent-centric refers to the perception of contexts by special entities such as non-human computer systems or applications, while activity-centric means contexts from the viewpoint of users who perform specific activities (Zacarias et al., 2010).

In this study, the focus is on users' activity-centric contexts. The contexts for using devices and applications in the area of HCI are locational, time-based, behavioral, social, and technological. Lately, many empirical studies focusing on the relationship between these different use contexts and technology devices and applications have been published (Kim et al., 2017; Zacarias et al., 2010; Mallat et al., 2009). In the information systems discipline, studies have focused on areas in which use contexts such as time, location, or social situations become critical, such as mobile games and mobile ticketing (Kim et al., 2014; Kim et al., 2017; Mallat et al., 2009). By introducing the concept of use contexts in Kim et al. (2014) and Kim et al. (2017) and expanding the existing TTAT theory, this study will try to verify the model, based on the assumption that individuals' use contexts such as time, location, social situation, or technical network situation are critical factors for DiDi's safety features and PPsafety that might have moderating effects.

Hypotheses and Research Model

Based on our theoretical background and literature review, we develop our hypotheses and research model. Figure 3 shows the research model of this study.
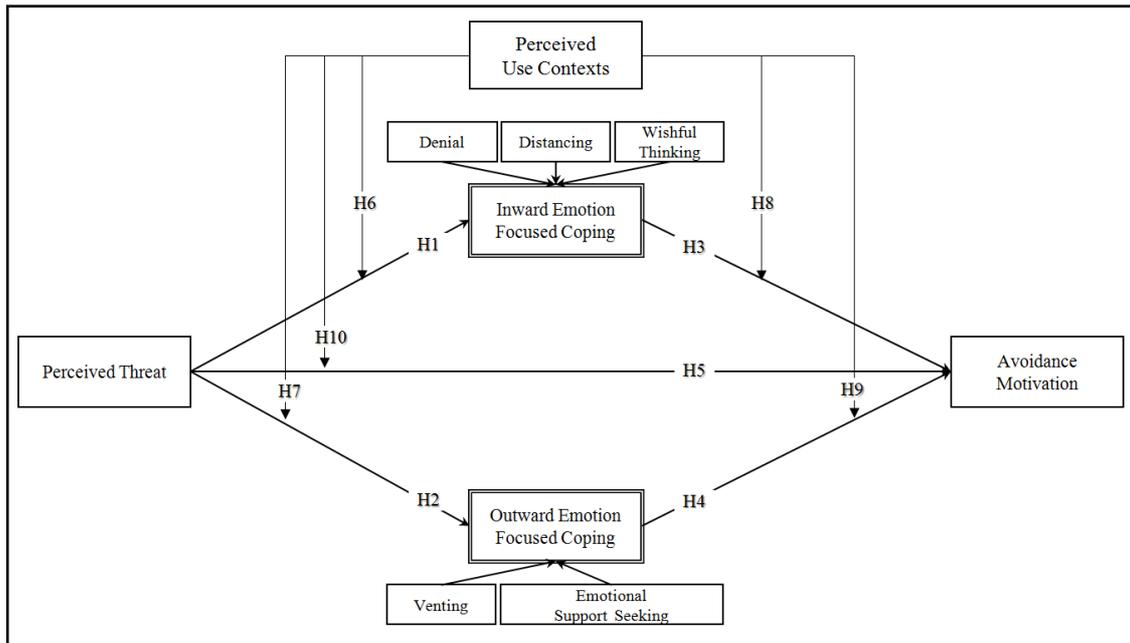
Figure 3. Research Model

Technology Threat Avoidance Theory (TTAT)

"Perceived threat" from the perspective of threat and risk evaluation is an important construct of TTAT. This construct pertains to how much individuals perceive danger from certain external risk factors (Liang and Xue, 2010). Liang and Xue (2010) showed that individuals' desire to use certain safety features exerts a positive impact on their threat-avoidance motivation, which in turn has a positive influence on their avoidance behavior. In particular, Liang and Xue (2010) argued that individuals' threat avoidance as exhibited in avoiding spyware may be affected by their self-efficacy, as well as by the cost of anti-virus programs and safety features' effectiveness. Liang et al. (2019), which expanded the research outcomes of Liang and Xue (2010), also demonstrated that perceived threats and perceived avoidability tend to increase the inward emotion-focused coping and outward-focused coping behaviors, which again influence avoidance motivation, which is one of the problem-focused coping behaviors.

In the case of ride-sharing services, such an emotion-focused coping strategy comes about when the driver exhibits an aggressive attitude verbally or behaviorally, or drives recklessly. Previous studies also reported that individuals do rely on emotion-focused coping strategies when face with health- or safety-related risks (Lazarus, 1993). Emotion-focused coping may start even before problem-focused coping after perceiving certain risks. In this case, the emotion-focused coping mechanism is divided into inward and outward emotion-focused coping. Inward EFC refers to individuals' internal coping approaches for themselves and it is not unobservable by others (Liang et al., 2019). It is like the antecedent-focused emotion regulation that relates to three antecedent of emotion (attention, situation, and appraisal) (Liang et al., 2019). These three antecedent of emotion try to prevent negative emotion before it is generated by an individual (Gross and Thompson, 2007). Meanwhile, outward EFC refers to "individuals' direct adjustment of emotional responses or outcome of the emotion-generating process" (Liang et al., 2019, p.3). It surfaces after individuals experience negative emotions, which is easily observable by others (Liang et al., 2019). Outward EFC is related to communicative strategies that regulate individual's physiological and experiential sides of emotions that happen when the negative effect of the emotions is lessened (Liang et al., 2019).

H1: *Perceived threat will positively influence inward EFC.*

H2: *Perceived threat will positively influence outward EFC.*

H3: *Inward EFC will negatively influence avoidance motivation.*

H4: *Outward EFC will positively influence avoidance motivation.*

H5: Perceived threat will positively influence avoidance motivation.

Use Contexts

Activity-centric contexts encompass all the information and factors that may influence users when they use devices, systems, or applications (Kim et al., 2017; Zacarias et al., 2010). Zimmermann et al. (2007) define all the information that can be used to characterize situations as use contexts which have multidimensional characteristics. Of these, there are four different contexts namely time, location, and social and technological. Time use contexts are divided into the time of day, day of the week, weekdays and weekends, while location use contexts are classified into indoors/outdoors, public space, surrounding noise, movement of proximate objects, and the like. Social use contexts include home/workplace, what kind of people you are with, and what kind of event you are a part of. Technological use contexts are broken up into network connectivity and linked devices (Kim et al., 2014; Kim et al., 2017).

These individuals' use contexts have an impact on user's motivation to use location-sharing apps and safety features at certain times, locations or under certain social, and technical circumstances (Kim et al., 2014; Kim et al., 2017). For example, if a woman, alone in her 20s tries to use the DiDi ride-sharing service at 11pm in a remoted area and the driver seems rude and angry, her inward emotion-focused coping (distancing, denial, wishful thinking) and outward emotion-focused coping (emotional support-seeking, venting) behavior will follow after her increased perception of threat. This will increase her motivation to use the safety features in DiDi's own app or other location-sharing services. This act of trying to use such services late at night in a remoted area is none other than use contexts. Kim et al. (2019), which focused on mobile games, also showed empirically that individuals' behavioral belief which is perceived usefulness have moderating effects on behavioral intention by use context. Based on the assumption that individuals' usage contexts will have moderating effects between inward and outward emotion-focused coping and threat avoidance motivation, we propose the following

H6: Perceived use contexts will negatively moderate the relationship between perceived threat and inward EFC.

H7: Perceived use contexts will negatively moderate the relationship between perceived threat and outward EFC.

H8: Perceived use contexts will positively moderate the relationship between inward EFC and avoidance motivation.

H9: Perceived use contexts will negatively moderate the relationship between outward EFC and avoidance motivation.

H10: Perceived use contexts will negatively moderate the relationship between perceived threat and avoidance motivation.

Methods

Measurement Items

The measurement items used in this study have been modified from those used in other studies. Variables such as perceived threat, avoidance motivation, and safety device effectiveness were derived from Liang and Xue (2010), safety-related self-efficacy came from Crossler (2010), and time/location/social/technical use contexts were borrowed from Kim et al.(2017) and Kim et al. (2018) In addition, distancing, denial, wishful thinking, emotional support seeking, and venting were introduced by Liang et al. (2019) and Vitaliano et al. (1985). All items are based on the Likert 7-point scale.

Sample Collection

The study uses an online sample of students who attend a university in Zhuhai, Guangdong Province. They are regular users of the DiDi car ride-sharing service who also utilize the safety features of DiDi's

own app or PPsafety location-sharing app. The respondents who completed the questionnaire were given a small token. A total of 167 responses were collected, of which 41 were men and 126 were women. Of these, 76% used DiDi's own safety features while 4% used PPsafety. Of the remaining 20%, 10% used both apps, and 10% used other location-sharing apps. SmartPLS 3.0, a structural equation modeling tool, is used to analyze the data. Table 1 shows the characteristics of the sample.

Table 1. Sample Characteristics

| Characteristic		Frequency (N=167)	Ratio
Gender	Male	41	25%
	Female	126	75%
Age	10~	39	23%
	20~	128	77%
Types of feature	DiDi Chuxing	127	76%
	PP safety	7	4%
	Both	16	10%
	Others	17	10%
When do you use the personal safety features?	Once in a while	49	29%
	Urgent situation	57	34%
	Few times a week	41	25%
	Use all the times	20	12%
How many times do you use didi per week?	1 time or less	113	68%
	2-3 times	45	27%
	4-5 times	6	4%
	more than 6 times	3	2%

Results

As the test results of the reliability and validity of the constructs of research model, all of the constructs except for one construct (Distancing) were found to have appropriate reliability and validity. Reliability was confirmed by Cronbach's Alpha and composite reliability. The distancing construct, which is a first order construct of the inward emotion focused coping and the 5th item of perceived use contexts was discarded from the research model as it has a reliability and validity issue. As shown in Table 2, the coefficients of constructs are more than 0.7 which is the cut-off value of each reliability index. The AVE of all constructs was over 0.5, a recommended value of convergent validity. For the discriminant validity, both the Fornell-Larcker criterion and heterotrait-monotrait ratio of correlations (HTMT) were checked (Henseler, et al., 2016). All correlation satisfied the Fornell-Larcker criterion and the highest HTMT value was 0.725, so it was confirmed that discriminant validity is acquired.

As the inward emotion focused coping and outward emotion focused coping are second-order constructs, the reliability and validity of the first order factors were also tested. There was no issue of internal consistency and validity in the first order construct. Thus, it was confirmed that the measurement model of this study satisfy the criterion of reliability and validity (See Table 1). Full collinearity test was conducted to check common method bias (CMB). It is recommended that the variance inflation factor (VIF) from the full collinearity test is less than 3 (Kock and Lynn, 2012). Since the highest VIF value was 1.828, CMB was not an issue in this study. Correlation coefficients among constructs also show that our research model is secured from the issue.

Table 2. Reliability and validity test results

Construct	α	rho_A	C.R.	AVE	1	2	3	4	5
Perceived Threat	0.928	0.928	0.949	0.822	**0.907**				
Inward Emotion Focused Coping	0.756	0.779	0.844	0.578	-0.304	**0.760**			
Outward Emotion Focused Coping	0.790	0.854	0.857	0.564	0.645	-0.176	**0.751**		
Avoidance Motivation	0.920	0.922	0.949	0.862	0.431	-0.062	0.438	**0.928**	
Perceived Use Contexts	0.903	0.915	0.933	0.777	0.502	-0.231	0.498	0.619	**0.882**
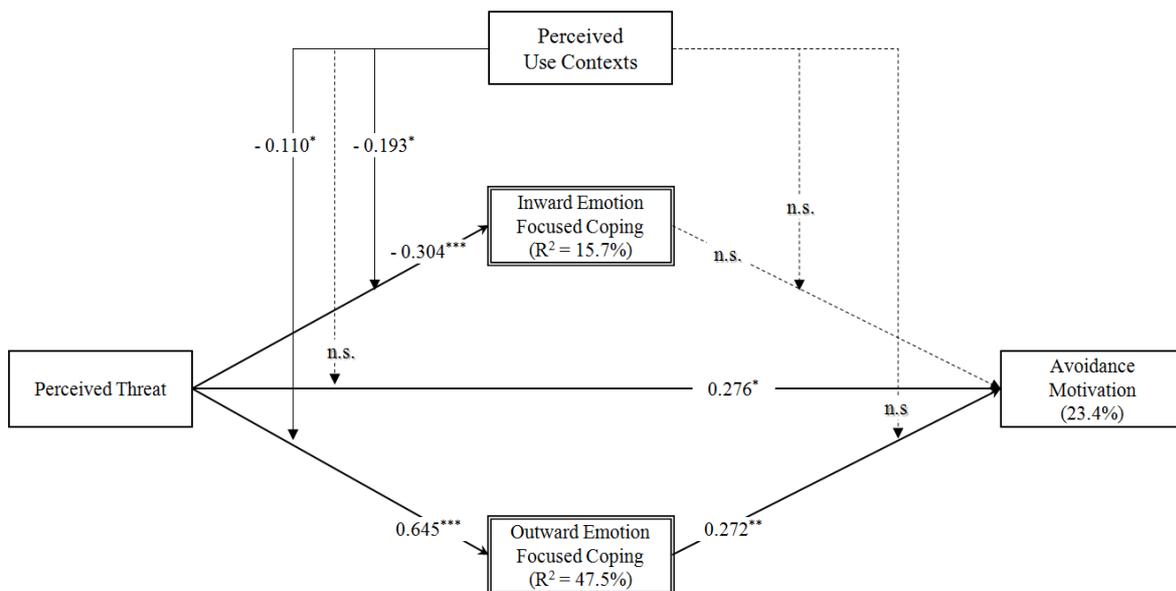
Figure 4. Hypotheses testing results

In order to test the significance of hypotheses, a bootstrapping re-sampling technique (n=500) was employed to calculate the corresponding t-values for each hypothesis. Hypotheses testing results are presented in Table 2. 4 hypotheses among 5 main hypotheses were supported. Perceived threat is a significant factor influencing inward emotion focused coping, outward emotion focused coping, and avoid motivation (H1: path coefficient = - 0.304, t-value = 5.124, p<0.001; H2: path coefficient = 0.645, t-value = 12.365, p<0.001; H5: path coefficient = 0.276, t-value = 2.469, p<0.05). Outward emotion focused coping also significantly influences avoid motivation but inward emotion focused coping does not (H4: path coefficient = 0.272, t-value = 2.573, p<0.001). R^2 of inward emotion focused coping, outward emotion focused coping, and avoid motivation are 9.2%, 41.5%, and 23.4% respectively. Two significant moderating effects were found among five hypotheses. Between perceived threat and inward

emotion focused coping, perceived use contexts has significant moderating effect (H6: path coefficient = - 0.193, t-value = 2.150, p<0.05). R^2 was also significantly increased to 15.7%. Perceived use contexts also had a moderating effect on the relationship between perceived threat and outward emotion focused coping (H7: path coefficient = - 0.110, t-value = 2.261, p<0.05) and the increased R^2 was 47.5%. However, H7, 8, and 9 were not significant. The GoF (Goodness of fit) value of the research model is 0.456, which exceeds the cut-off value and closes to the large effect sizes (Tenenhaus et al., 2005). The overall results are shown in Figure 4.

Conclusion

This study examined emotion-focused coping and problem-focused coping strategies as a way to understand ride-sharing service users' threat-avoidance behavior in response to the rising crimes committed by ride-share drivers. It considered an expanded model based on technology threat avoidance theory and use context concept, as well as the two coping strategies. Although this study conducted a pilot test through relatively small samples, this provides meaningful findings and various insights. First, the results show that different coping behavior can be shown when users feel threats in the PP usage situation. According to hypotheses testing results, perceived threat increases outward emotion focused coping, whereas decrease inward emotion focused coping. This means that when using the safety feature, users are more likely to be more active coping, rather than passive coping against threats. It is expected that the information and safe functions provided through the app will help users to make immediate decisions and respond against threat.

Second, this study also shows that the safety features of location sharing app differently affect the coping behavior of users according to the usage context. Negative moderating effects of the perceived use contexts were confirmed between perceived threat and in/outward coping, which means the safety feature performs the role of relieving the coping behavior even though users perceive threats. The cause of this result can be interpreted in many ways. One cause is because the safety features ensure that the user is safe, thereby reducing unnecessary emotional responses. This may be the result of the user being aware of the threat while using the app, thus preferring to respond systemically through the app rather than responding emotionally.

Another interesting finding is that inward emotion focused coping does not lead to avoidance motivation. This implies that coping behaviors may be different depending on users' characteristics or tendencies. Individual with a strong introspective tendency can have difficulties in moving to actual action, and in the same context, inward focused coping may not lead to avoid motivation or behavior. These discussions should be additionally verified by further studies, but these are very important findings and should be considered in the development of safety features of location sharing apps.

From an academic point of view, existing coping and technology threat avoidance theory are insufficient to encompass the new threat avoidance behaviors arising from ubiquitous mobile based sharing economy business model, as these theories were mostly used by security-related threats and risks from computers and the Internet. In response, this study has introduced four different use context variables that have been used extensively in HCI. It has used these variables in combination with perceived threat, inward and outward emotion-focused coping, problem-based coping, and avoidance motivations to analyze the expanded technology threat avoidance theory. In this sense, our study suggests an alternative theory to fit the context of shared economy. In addition, this study is meaningful in that it combines the use contexts used in information system theories to apply them to issues of physical safety of users who utilize mobile services and sharing economy apps, and empirically verifying the robustness of the model.

Practical implications that can be derived from this study are that car ride-sharing service providers and companies developing safety apps must be able to create systems that can protect users by continuously observing how they perceive threat, under what situation and conditions, what kind of avoidance motivation they have, and how they behave accordingly. They also must be able to provide services safely and quickly by carefully studying under what use contexts, at what time and location, and under what network context users exhibit emotional change, and how their threat avoidance motivation gets stronger. The most visible limitation of this study is that it has only 167 respondents in

its sample, which is not sufficient to determine users' threat avoidance behavior. However, the model has proved its robustness in terms of measurement items and variables, which implies that the same model can be used in future studies.

References

Chin, W. W. (1998). "The partial least squares approach to structural equation modeling," *Modern methods for business research,* Vol. 295, No. 2, pp.295-336.

China Lab (2018). "Now I'm afraid to get a DiDi: How to use it safely", September 3, 2018. https://blog.naver.com/china_lab/221351394905.

Crossler, R. E. (2010, January). "Protection motivation theory: Understanding determinants to backing up personal data," *In System Sciences (HICSS), 2010 43rd Hawaii International Conference on IEEE,* pp. 1-10.

D'Arcy, J., Herath, T., & Shoss, M. K. (2014). "Understanding employee responses to stressful information security requirements: A coping perspective," *Journal of Management Information Systems*, Vol. 31, No. 2, pp.285-318.

Dey, A. K. (2001). "Understanding and using context," *Personal and ubiquitous computing*, Vol. 5, No. 1, pp.4-7.

Gross, J., and Thompson, R. A. 2007. "Emotion Regulation: Conceptual Foundations," in Handbook of Emotion Regulation, J. J. Gross (ed.), New York: Guilford Press, pp. 3-24.

Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. Industrial management & data systems, Vol. 116, No. 1, pp. 2-20.

Kock, N., & Lynn, G. (2012). Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations. Journal of the Association for Information Systems, Vol. 13, No. 7, pp. 546-580.

Kim, J., Chang, Y., Chong, A.Y.L., & Park, M.C. (2019). "Do perceived use contexts influence usage behavior? An instrument development of perceived use context," *Information & Management*, in-press.

Kim, J., Chang, Y., Wong, S. F., & Park, M. C. (2014). "A Study on the Use Contexts of Personal Computing Devices Using a Diary Study Method," *In Cyber-Enabled Distributed Computing and Knowledge Discovery (CyberC), 2014 International Conference on IEEE*, pp. 290-296.

Kim, J., Choi, G., Chang, Y., & Park, M. C. (2017). "Use contexts of personal computing devices: determinants of use context changes," *Industrial Management & Data Systems*, Vol. 117, No. 10, pp.2431-2451.

Lazarus, R. S. (1993). "Coping theory and research: Past, present, and future," *Fifty years of the research and theory of RS Lazarus: An analysis of historical and perennial issues*, pp. 366-388.

Lee, C., Rahafrooz, M., & Lee, O. K. D. (2017). What are the Concerns of Using a Ride-Sharing Service?: An Investigation of Uber., AMCIS

Liang, H., & Xue, Y. (2009). "Avoidance of information technology threats: a theoretical perspective," *MIS quarterly*, Vol. 33, No. 1, pp.71-90.

Liang, H., & Xue, Y. (2010). "Understanding security behaviors in personal computer usage: A threat avoidance perspective," *Journal of the Association for Information Systems*, Vol. 11, No. 7, pp.394-413.

Liang, H., Xue, Y., Pinsonneault, A., & Wu, Y. (2019). "What Users Do Besides Problem-Focused Coping When Facing IT Security Threats: An Emotion-Focused Coping Perspective," MIS Quarterly, in-press, DOI: 10.25300/MISQ/2019/14360.

Mallat, N., Rossi, M., Tuunainen, V. K., & Öörni, A. (2009). "The impact of use context on mobile services acceptance: The case of mobile ticketing," *Information & management*, Vol. 46, No. 3, pp.190-195.

Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. Computational statistics & data analysis, Vol. 48, No. 1, pp. 159-205.

The New York Times (2018). "Didi Suspends Carpooling Service in China After 2nd Passenger Is Killed", August 26, 2018. https://www.nytimes.com/2018/08/26/business/didi-chuxing-murder-rape-women.html.

Zacarias, M., Pinto, H. S., Magalhães, R., & Tribolet, J. (2010). "A 'context-aware'and agent-centric perspective for the alignment between individuals and organizations," *Information Systems*, Vol. 35, No. 4, pp.441-466.

Zervas, G., Proserpio, D., & Byers, J. W. (2017). The rise of the sharing economy: Estimating the impact of Airbnb on the hotel industry. *Journal of marketing research*, 54(5), 687-705.

Zimmermann, A., Lorenz, A., & Oppermann, R. (2007, August). "An operational definition of context'" *In International and Interdisciplinary Conference on Modeling and Using Context* (pp. 558-571). Springer, Berlin, Heidelberg.