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Quang-An Ha

National Cheng Kung University, haquangan@gmail.com

Jeng-Chung Victor Chen

National Cheng Kung University, victor@mail.ncku.edu.tw

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STRATEGY TO PROMOTE LOCATION SHARING ON SOCIAL NETWORK UNDER PERSPECTIVES OF CULTURE

Quang-An Ha, Institute of International Management, National Cheng Kung University,
Tainan, Taiwan, haquangan@gmail.com

Jeng-Chung Victor Chen, Institute of International Management, National Cheng Kung
University, Tainan, Taiwan, victor@mail.ncku.edu.tw

Abstract

The increasing number of smartphone which are pre-equipped GPS module and ability to install social network applications makes a better chance than ever to combine and exploiting the advantages of location-based technologies and social network. By using these technologies, users not only share their locations on social network but also get useful information from friends which could indirectly promote for their locations and their services. Promoting location sharing becomes an indispensable part of social network which may bring a great business opportunity. However, user from different cultures tend to have different location sharing behaviors, therefore the performance of business models of location sharing on social network are also distinctive. Thus, the purpose of this study is to investigate the role of culture in location sharing behavior among social network users by answering the question of the role of benefits, trust, and social influence on attitude to share the location information. Moreover, this study try to evaluate the impact of incentive given to the user by sharing appointed location and the impact of positive feedback on location sharing behavior.

Keywords: Location Sharing, Culture, Benefits, Trust, Social influence, Incentive, Positive feedback

1 INTRODUCTION

Location-based technologies are becoming more and more popular with the widely use of GPS on smartphone which lead to the prevalent of new services such as location-based contextual advertising, and vehicular navigation systems (Tsai, Kelley et al. 2009). With the development of social network, location base technologies are quickly integrated to the social network and become an indispensable part of this trends.

The booming number of smartphone which pre-equipped GPS module and social network application that make a better chance than ever to combine and exploiting the advantages of these 2 technologies. Therefore right now, there are many social network consists features which support the location based services and the social network services. The location based services through GPS offer the ability to points out user current location for traveling navigate, suggest the interesting places that close to their locations such as hotels, restaurants, gas stations, malls and social events. Location based services could allow the user to share his current location information and get some suggestion of places, get the location of his friends and other services' information related to that place.

With billions of people as members, social networks have pervaded all aspects of our daily life, gone beyond general social and information sharing platform, and become a kind of indispensable tool for our communication in work and life. Location sharing is a fundamental component of this trend. When one user of SN using location sharing, it will emerge a social influence to other members that connected to him. Then if the number of location sharing user are gaining will make a social norm (Venkatesh, Morris et al. 2003).

The growing of smartphone allows users to share location information on their favourite social network sites such as Facebook, Google+ or Foursquare. Tremendous number of studies have shown out the many concepts related to location sharing such as motivation (Patil, Norcie et al. 2012), personal trait, self-disclosure (Wang and Stefanone 2013, Chorley, Whitaker et al. 2015), privacy (Roick and Heuser 2013), trust, benefits and social influence (Beldad and Citra Kusumadewi 2015).

Recently, study of Chorley, Whitaker, & Allen (2015) has showed the relationship between personality traits and location sharing which related to conscientiousness, openness and neuroticism. While conscientiousness is positively correlated with location-based social network usage, openness has relationship with average distance between venues visited, venue popularity, number of check-ins ... Neuroticism has negative correlations with number of venues visited, number of sociable venues visited). Study of Beldad & Citra Kusumadewi (2015) also revealed that students' use of a specific location sharing app could be attributed to the two types of benefits of using the app (impression management and entertainment). However, beside the benefit, it also raises some perceive or risk for user because location information is associated with user's social network identity information. Thus, the competence-based trust in location sharing app and to their trust in their location sharing network members are important.

Whereas social influence strongly influences location sharing apps use among Indonesian university students, one wonders whether or not such an influence could be attributed to the cultural characteristics of users. People from a collectivist culture are more strongly influenced by the opinions of referent others (Cialdini, Wosinska et al. 1999) which suggest that they may influenced by location information shared by their friends, and respond more positively to social proof arguments that their peers have also acted similarly. So their location sharing could be expressions of the need to conform to the group they belong to or to the expectations of individuals who influence them. In contrast, individualists may share their location by different reasons, such as personal imprints... This study try to explore the questions: Are the location sharing highly influenced by user's cultural characteristic. By combination of suitable theory and concepts, we try to draw a complete pictures of the impact of cultural characteristics on location sharing on Facebook.

We also aim to enrich current literature of location sharing behavior among social network users by answering the question of the role of benefits, trust, and social influence on attitude to share the location

information and therefore affect to the location sharing behavior. Moreover, this study try to evaluate the impact of incentive given to the user by sharing appointed location and the impact of positive feedback on location sharing behavior.

Especially, by using perspective in Hofstede's cultural dimensions theory, we try to analyse the whole model under different kind of culture (in this study is individualism-collectivism). By this approach, we hope to find out the differences in location sharing behavior.

2 LITERATURE REVIEW

2.1 Social network and location sharing

As mentioned in previous part, the combination of 2 development trends are personal GPS support devices and social network has create new social network local-based services which involved the location sharing with many services such as hotels, restaurants, gas stations, malls, social events, people finding... The popular of location based services become an attractive topic for researcher who interest in find out the reason why people are willing to disclose their location. Most of previous research mainly use Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris et al. 2003), therefore we will try to use some concepts which obtained from 2 theories to clarify the relationship between Social norm, Perceived benefit, Trust to the app and Incentive to the attitude to location sharing and sharing behavior.

2.2 Location sharing on social network and impact of culture

According to Hofstede's cultural dimensions theory, we could easily differentiate the effects of location sharing of two different cultures base on some dimensions such as Long-term orientation vs. Short-term orientation, Individualism–Collectivism, Uncertainty avoidance index... In our study, we choose individualism–collectivism as the main dimension of culture to investigate the effect off location sharing because in social network, one's sharing activities are not equal between his friends and strangers (or between in-group and out-group). The Individualism–collectivism is the only dimension could provide a reasonable answer for the question “which group should I share the location”. In other word, the understanding of in-group and out-group location sharing behavior of user could affect the business strategies of whom benefited from this technology.

Individualism–collectivism is a measure of the extent to which the self-concept of people in a country revolves around that of the individual, or of a member of a group (Clark 1990; Hofstede 1991). Many research have tried to build the characteristic of these dimensions: (Ali, Taqi et al. 1997, Chung and Mallery 2000, McCarty and Shrum 2001, Chen, Peng et al. 2002, Voronov and Singer 2002, Dunlop and Walker 2015). The summary of Individualism–collectivism are listed below (Sia, Lim et al. 2009):

In individualism, the values, goals of the individual take priority over the groups' values, goals. Individualists view both in-group and out-group members more equitably, and don't view and treat out-group members less favourably than collectivists. Individualists are characterized by autonomy, self-reliance, and emotional distance from in-groups. Individualists display greater willingness to trust out-group members than collectivists.

In collectivism, values, goals of the group take priority over the individual. Collectivists emphasize interdependence and sociability and have more positive attitudes towards and trust people from their in-group than those from their out-group, strongly influenced by the opinions of referent others (family members or peers). They are more favourably toward in-group members. Collectivists have greater preference for interacting with in-group members and often make group-based decisions.

2.3 Social norm and attitude to location sharing:

According to Theory of Planned Behavior, social norm is mentioned as the customary codes of behavior in a group or people which could be considered normative or standard for them. Social norms can be a motivating factor of society for people to disclose location information and this motivation could encourage collective action that lead to more people would be acting similarly all the time (Koochikamali, Gerhart et al. 2015). Collectivists tend to have lesser positive opinions of out-group members. They also tend to behave less favourably towards out-group entities, compared to individualists. In this case friends on friend list play the role as the in-group member.

Hypothesis 1a: Social norm of Friends on friend list will have the stronger impact to attitude sharing location than social norm of Stranger

Hypothesis 1b: Social norm of friends on friend list will have the stronger impact to attitude sharing location in collectivistic cultures than in individualistic cultures.

2.4 Perceived benefit and attitude to location sharing

The motivation for a user to share his/her location is that he or she has to perceive the benefit of this sharing. Previous research have showed many benefit of user behind this sharing activity. Firstly, the user feel that sharing information about locations that he/she visit could positively impact on society (Koochikamali, Gerhart et al. 2015). For example the location sharing with some comment could help other people to reduce the time to investigate the place, avoid to come to the places which have negative notification on the social network location based services, therefore useful to others. So if one person perceived value of this context, they will have an disclosure behavior (Tow, Dell et al. 2010). All of these motivation to disclosure behavior come from the altruistic of the user, so we could call this phenomenon is extrinsic motivation.

Beside the perceive benefit to the outside, the location based services user also benefit from their own feeling such as entertainment or impression to someone (Beldad and Citra Kusumadewi 2015). (Wagner, Lopez et al. 2010) in their research have showed out that people sharing their location to satisfy their entertainment needs.

Research of Hagger, Rentzelas, & Chatzisarantis (2014) showed that individualism participants in a group norm the personal exhibited greater intrinsic motivation. Thus this group norm setting could be generalize to the environment of social network where the individualist are willing to share to location with the intrinsic motivation.

Hypothesis 2a: Perceived Benefit from intrinsic motivation of location sharing will have the stronger impact to attitude to share location in individualistic cultures than in collectivistic cultures.

Collectivists are more strongly influenced by in-group member and tend to acted similarly like their peers than people from individualistic cultures. So we have the Hypothesis 2b:

Hypothesis 2b: Perceived Benefit from extrinsic motivation of location sharing will have the stronger impact to attitude to share location in collectivistic cultures than in individualistic cultures.

2.5 Trust to the App and attitude to location sharing

Information disclosed to social network includes not only location information but also visited interesting places and daily routes, which could generate precious information about person (Michael & Michael, 2011). From the very beginning presence of location based services on mobile networks, privacy of user are seriously concerns (Barkhuus and Dey 2003) and location information is disclosed also become a primary concern with mobile technology (Xu, Teo et al. 2012). Based on the idea of

Beldad, De Jong, and Steehouder (2011), we could argue that trust in the location sharing provider's is important because the service provider has to secure users' information from unwarranted third-party intrusion, and prevent the risks of unauthorized third-party access to disclosed information for risky use. Based on the characteristic of Trust of the app and characteristic of cultural dimension, we create hypothesis:

Hypothesis 3: Trust to the app of location sharing will have the stronger impact to attitude to share location in individualistic cultures than in collectivistic cultures.

Individualists display greater willingness to trust out-group members than collectivists. People in individualistic cultures tend to willing to trust members of the social network, whether they are friend or not. Thus we create a hypothesis

Hypothesis 4a: The trust to members who are not in the friend list of location based social network on attitude to share location in individualistic cultures will be stronger than that in collectivistic cultures.

In contrast to individualist, collectivists behave more favorably toward in-group members and they tend to have greater preference for interacting with in-group members.

Hypothesis 4b: The trust to members who are in the friend list of location based social network on attitude to share location in collectivistic cultures will be stronger than that in individualistic cultures.

2.6 Positive feedback

In many online systems, feedback features play an important role in satisfy they users hence increase the customers return and loyalty. Feedback is also a desired feature in this kind of system and makes users more willing to share their location information (Tsai, Kelley et al. 2009).

However, we couldn't view the feedback of location sharing simply by one dimension of the presence of feedback. The content of feedback are various from no meaning to negative and positive feedback and also have the serious impact to behavior (Johnson and Van Der Heide 2015). Thus in our scope of study, we are focus on the positive feedback only.

Luque & Sommer (2000) reviewed the potential for cultural characteristics to impact the feedback seeking process. Base on the characteristic of these culture dimensions, we propose 3 hypothesis

Hypothesis 5a: The positive feedback to user's location sharing have a positive impact on location sharing behavior compare to user get no feedback at all.

Hypothesis 5b: The impact of positive feedback of friends to location sharing behavior in collectivistic cultures will be stronger than that in individualistic cultures.

2.7 Incentive

Incentive is like perceive of benefit, however it's different that it has the direct effect on information disclosure because its stronger power could change one's mind immediately. Without incentive, people even have positive attitude about location sharing but still dare to disclose location due to other reasons (Koohikamali, Gerhart et al. 2015), for example, people who are too lazy to full the phone out of their pocket. But when the incentive exist, it could play as a nudge to motivate people to participate the check-in. So in this part, we assume that incentive have a direct impact on sharing behaviour regardless of people's previous attitude.

Research of Clark (1992) showed that incentive pay model has greater predictive power among relatively individualistic employees than among those of relatively collectivistic value sets.

Hypothesis 6a: The incentive to share a location will have a positive impact on location sharing behavior compare to no incentive at all

Hypothesis 6b: The incentive impact to sharing behavior will stronger in individualistic culture than in collectivistic cultures.

3 RESEARCH DESIGN AND METHODOLOGY

In this chapter, firstly we will introduce the conceptual model of research constructs. After that, the research designs of 2 Studies will be described. Finally, the hypotheses and the construct measurement of this research are presented.

Identical experimental procedures, tasks, and mobile applications were used in each 2 countries that have the differences in culture (US and Taiwan) to ensure comparability of results.

3.1 Conceptual Model

The research model of this study is shown below

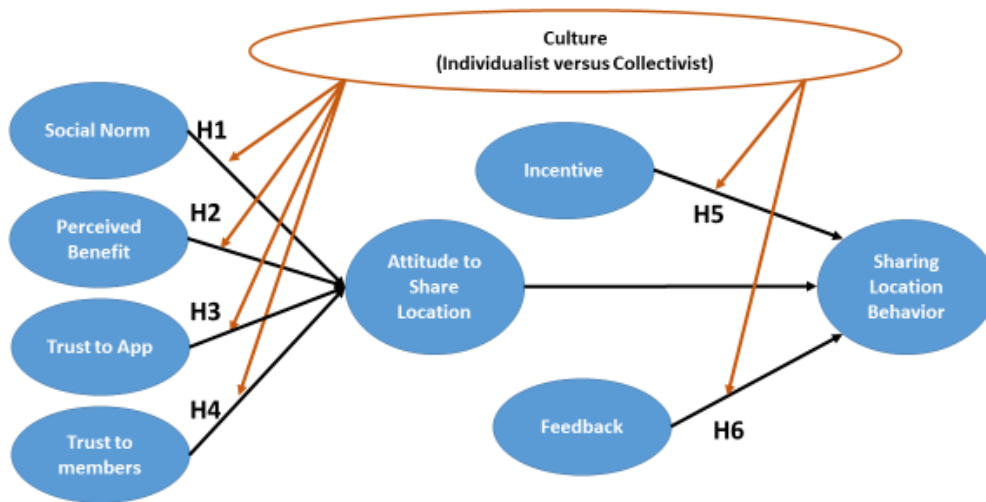


Figure 3.1: The Research Model of this Research

3.2 Research design

3.2.1 Social network and Mobiles applications to be used in Experiment

We choose to study Facebook because it is the most popular social network with many functions that could help us collect information for the whole research. Especially, it could support the third-party apps that could integrate to Facebook and become a part of this social network. We make an App on Facebook name "I'm here!" - a location sharing app that could help Facebook users sharing their location and interact with different user. Moreover, this app has the ability to take the information of users such as number of friends of app user, name of each user's friends, their avatars, number of interactions between friends of app user and the app user (who like user's FB wall post, number of likes, number of comments...). All these information will be send to server, then by using some calculation could know exactly the level of interaction between app user and his friends. This will help us to pick up the best in-group friend of user for further experiment. Then we develop a mobile app with same name and this app could connect with server and will use all the information that take from Facebook App for experiment. This mobile app will have interface like a Facebook, with 2 main tab/window: The first tab/ main window: timeline newsfeeds displaying posts of user's friends. Each post of user friend will include

name, avatar and the map of 1 location of user's friend. Below the location map, there is a "like" and "comments" sections. The second tab/window: only display the personal location sharing post of user

3.2.2 Subjects

We ask 100 peoples in US and 100 peoples in Taiwan to install the "I'm here!" software on their smartphone.

3.2.3 Procedure

We divided our study into 2 phases and then combine the data to run the data analysis.

In phase 1, we try to test the impact of Social Norm, Perceived of Benefit, Trust to members of SN and Trust to the App to Attitude to location sharing under different cultures.

Table 1: Research Design of Phase 1

Independent Variables		Culture	
		Individualist	Collectivist
Social Norm	Friends (In-group)	1	2
	Strangers (out-group)	3	4
Perceived Benefit	Extrinsic Motivation	5	6
	Intrinsic Motivation	7	8
Trust to App		9	10
Trust to Member	Friends (In-group)	11	12
	Strangers (out-group)	13	14

In Friends (in-group) setting, for each participant we take 10 of participant's "close" friends (avatar, name), then make 10 posts on the participant's App timeline newsfeed about the location that his friends have just visited. "Close friends" has been determined by the number of interactions (likes, posts on wall...) among the participant and all of his friends.

In Strangers (out-group) setting, for each participant we take 10 fake avatar and name of 10 people that he/she doesn't know, then make 10 fake posts on the user's App timeline newsfeed about the location that these strangers visited.

All the participant won't be noticed that these posts of location sharing are fake.

After seeing the newsfeeds, all participants will answer the given questionnaire about the Social Norm, Perceived Benefit, Trust to App, Trust to Member and the Attitude to Share.

Then all participants will enter phase 2 is to test the impact of Feedback and Incentive on location sharing behavior under different cultures.

Table 2: Research Design of Phase 2

Independent Variables		Culture			
		Individualist		Collectivist	
		Incentive	No Incentive	Incentive	No Incentive
Positive Feedback	Friends (In-group)	1	2	3	4
	Strangers (out-group)	5	6	7	8
	No feedback	9	10	11	12

In this phase, we ask all participant to reset the app, then set the app to the mode of Phase 2. In this mode, the app will pre-create 1 post that look like the post which created by participant. This post will be adapted to 6 situations which are listed above (3 feedback x 2 Incentive) and this will apply to participant of both countries.

Giving the example of the most complex situation, the app of participants in Cell 1 and 3 (both have a feedback from friend and have an incentive form the location) will get one ready-made post look like he/she created few days ago. In this post, beside the information of location, the post has several “comments”, “likes” from participant’s “close” friends. Then user do a questionnaire to check their believe about whether his/her friends will continue to have a positive feedback on user’s post in the future to make sure the manipulation is successful. Few days after manipulation check, all the participants in Cell 1 and 3 will receive a message from the app which told that if they share the location where they are, they will receive a gift for that sharing. Finally, they answer the questionnaire related to the Incentive, Positive feedback and the sharing behavior.

3.3 Construct Measurements.

Social Norm: 3 items (Koohikamali, Gerhart et al. 2015); Perceived benefit: 14 items, 6 items from Koohikamali, Gerhart et al. (2015); 8 items from Beldad and Citra Kusumadewi (2015); Trust to the App: 7 items (Beldad and Citra Kusumadewi 2015); Trust to the members: 2 items (Koohikamali, Gerhart et al. 2015); Attitude to Share Location by Location Sharing App: 6 items (Koohikamali, Gerhart et al. 2015); Incentives: 4 items (Koohikamali, Gerhart et al. 2015); Positive feedback: 2 items (new item)

3.4 Data Analysis.

In order to understand more deeply about the characteristic of each variable, descriptive statically analysis will be used to illustrate the mean and the standard deviation of each variable. The demographic variable will be also demonstrated in term of means and frequency using descriptive statically analysis techniques. Structural Equation Modeling (SEM) is conceptual representation of the hypothesized structural relationships between constructs. By using SEM, all the variables will be examined in the interrelationships with the others. Partial least squares (PLS), a second-generation causal modeling technique (Chin 1998; Fornell 1982; Wold 1982), is used to test the research model. To compare the research model across the 2 different culture, a multigroup PLS analysis was conducted by comparing differences in coefficients of the corresponding structural paths for the each research sites.

4 CONCLUSION

This Research-in-Progress Papers hopes give the readers a point of view of the role of cultural dimension, namely individualism/collectivism on location sharing behaviors on social network sites. We expect that the result of this research could enrich the literature of location sharing behaviors and give some suggestions about the strategy to promote this activity to boost up the business performance of social network sites.

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