Mobile Connection: An Examination of Antecedents to Engage Consumer in Social Network App

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Abstract--**With the popularity of mobile handset devices, such as smart phones or tablet computers, it is very convenient for consumers to access wireless service on the go and for service providers to offer very instant and location-based services (LBS) via mobile applications. Marketers prefer to adopt social network applications (SNAs) as a new customized marketing tool to connect with their consumers nowadays. As a result, consumers face a variety of choices in SNAs. How to engage consumers in one SNA should be important for the service providers and sponsoring brands of SNAs. This study intended to explore the motivation of consumer engagement in mobile SNAs by adopting the conceptual framework of content, process and social gratifications in Uses and Gratifications Theory. A questionnaire survey was designed to sampling the response of app users who reported to use any social network app on mobile devices. 543 valid questionnaires were reserved for further SEM analyses. Research findings provided the evidence that entertainment was the key content gratification that motivated more consumer engagement in SNAs. Process gratification of LBS and instant service were found to be critical to consumer engagement in SNAs. Lastly, socialization gratification of self-expression and social influence also enhanced consumer engagement in SNAs.**

I. INTRODUCTION

With the popularity of mobile handset devices, such as smart phones or tablet computers, it is very convenient for consumers to access wireless service on the go and for service providers to offer very instant and location-based services (LBS) via mobile applications. Nielson report in 2013 indicated that one popular category in mobile applications (apps) is social network applications (SNAs) [16] which emerged to connect people all the time with the advantage of mobile services and also emerged in the market with more mobile-based choices for consumers, such as Line, Whatsapp etc. out of the web-based social network platforms, such as Facebook or Twitter. Not only social function, users share instant information via SNAs. More and more marketers prefer to adopt SNAs as a new customized marketing tool to connect with their consumers nowadays. As a result, consumers face a variety of choices in SNAs, how to engage consumers in one SNA should be important for the service providers and sponsoring brands of SNAs.

According to 2013 Canalys estimate and forecast, compared with 2012, tablets and smartphones would be the only two worldwide mobile devices in big growth of the shipment units about 35.3% and 17.9% respectively [6]. GSMA in 2012 reported that global smartphone penetration rate grew from 12% in 2008 to 20% in 2010 and was forecasted up to 37% in 2014 [10]. On top of the dramatic growth of hardware, the software of mobile applications (apps) installed are what engage consumers in using mobile devices. Among various categories of mobile apps, game and SNAs are two most popular apps [16]. Distimo report [23] indicated that in two years, up to July 2012, social category grew in 193% far more than average 43% of top overall categories in terms of download volume in Apple APP store in the U.S. The most popular SNA across all countries were Facebook, Skype and Live Messenger. Asian consumers also downloaded Facebook most but following by Line and Whatsapp. Even consumers can download most apps for free, it is still very critical for an app to be kept for long in consumers' mobile devices and maintain competitive since app can be deleted easily by users. According to one study of Online Publisher Association [19], 96% of smartphone content consumers downloaded were in average 36 apps in the past year. Thus, understanding the antecedents of SNAs to enhance consumer engagement is helpful for designing new innovated services.

In order to explore what motivates consumers to engage in SNAs, the gratifications a user can get from SNAs are important antecedents. Borrowing from literature, Uses and Gratifications Theory (U&G) offered the basis of three gratification, content, process and social gratification, as essential motivations for users to surf on the Internet for the communication and interaction in Internet as media/medium. SNAs are the social media on the mobile devices, thus U&G provides a theoretical framework. Although web-based social network research indicate pleasure and fun, self expression, social support or information are major motivation of using SNSs [14][11], mobile SNAs replace/compensate consumer's usage of traditional computer-mediated SNSs should offer extra incentives to motivate consumer usage. It needs a more comprehensive model to explain the popularity of new emergent mobile SNAs. In other words, mobile SNAs can integrate the powerful functions of mobile devices to upgrade services to expand user pool and leverage the operation costs.

Even though diversified SNAs, this research aims to explore the common antecedents of SNAs which can enhance consumer engagement. The proposed model integrates the content, process and social gratification that consumers are motivated to engage mobile SNAs as a conceptual and classification scheme. The research extends the understanding of current SNSs research for better interpret a mobile social consumer behavior and findings can be apply for new service design of SNAs.

II. LITERATURE REVIEW

A. Mobile services and social media

Ever since 1997, web-based social network sites (SNSs), such as Facebook, Myspace, Cyworld launched by the innovation of Internet technology to drive users crazy about this social media [5]. "Network" emphasizes the connection of people to increase the socialization among people, no matter strangers, acquaintance or friends, without temporal or geographical barrier. Social activities are moved beyond the real life to a virtual world. While SNSs were introduced to the mobile devices, mobile-based SNAs further removed the barriers to help users connect to services anytime anywhere to keep the connection by easily click the SNA icon on their mobile devices. People who use social connection enjoy the mobility which broadens possibilities within service scale and scope that a SNA service provider can offer to the consumers. User-generated and media-sharing content in SNAs have social media popular to promote active consumer and business activities. Different from the Internet or web-based SNSs, SNAs can be categorized as types of mobile frontends, content sharing, neighborhood and mobile-specific SNAs [7]. Various characteristics of SNAs differentiate the consumer preference and engagement in these SNAs. For instance, some mobile-specific SNAs claim more the instant message function instead of neighborhood exploration or personal profile construction. These differences in SNA characteristics strengthen or weaken the level of consumer engagement.

As the popularity of smartphone, consumers check information more often on their mobile devices. Web-based SNSs offer almost full functions of services on the mobile applications. Other way around, new emerged SNAs first launched the mobile version, such as Line, also offered web version interfaces later in order to satisfy consumers' interchangeable usage pattern on both mobile and computer-mediated devices. However, it was summarized from various sources to indicate that users reply more on smartphone for socialization or communication on SNSs compared with traditional desktop [15]. It highlights the tendency that while consumers reply on mobile devices to use SNAs as these devices are available and easy to carry. This is also because the major function of instant and location-based service, such as message, photo or video sharing, and check-in service provided by SNAs benefits much from the wireless Internet and GPS function of mobile devices. Thus, service providers of SNAs cannot ignore the power of mobile devices to expand new services for users to connect to their sites on the go.

B. Consumer engagement

Service dominant logic and value co-creation with consumers emphasize the importance to engage consumers in the service value delivery process. Literature provided different definitions of consumer engagement but what are consistent as a multi-dimensional construct. Especially in online virtual environment, consumer engagement incorporates in not only B-to-C but also C-to-C interaction which characterized main actors in SNAs. Thus, the present research followed the definition of consumer engagement [25] which refers to the intensity of an individual's participation in and connection with an organization's offerings or organizational activities, which either the customer or organization initiates. Further, consumer engagement may be manifested cognitively, affectively, behaviorally, or socially. In the mobile SNAs context, the organization here incorporates SNAs providers and activity sponsorships from branding marketers. Attractive offerings and activities on SNAs can actually engage more consumers in one SNA. Customer-initiated activities on SNAs also include both brand marketers and consumers initiated activities on the SNAs which are common and popular marketing practices on SNAs.

The prosperity of online community further promotes importance of consumer engagement concept. Both SNAs providers and brand marketers use the SNAs to invite users either co-creation the new service or engage more brand activities by offering attractive incentives. In the following section, this research adopts the Uses and Gratifications Theory to propose the gratifications that may engage consumers in using SNAs.

C. Uses and Gratifications Theory (U&G)

Past internet research which focused on Internet as a media and a medium for user interaction would suggest to adopt Uses and Gratifications paradigm to explore user's motivation of using a new media. This paradigm introduces the motivations of people who use mass media and includes content, process and socialization part [24]. As they pointed out that U&G fits best with the motivational theories for the consumer choices of new media innovations because of its theoretical focus is personal and consumer-oriented. Mobile SNAs are the extension of Internet web-based SNSs and are added with the value of mobility technology. This research based on the three basic dimensions of Internet usages and gratifications, content, process and social gratifications, as a conceptual framework to classify and propose the antecedents of consumer engagement in mobile SNAs.

III. RESEARCH HYPOTHESES AND PROPOSED MODEL

A. Content gratification

Content gratification originally concerns the message carried by the medium. Message is the main content of traditional mass media. In mobile content of SNAs, message format has various and multi-media characteristics which also include the information out of wordings and even interactive contents, such as video, game and coupon etc. User-generated contents promote more consumer engagement in SNAs. Facebook research [13][21] showed that entertainment, information sharing, self expression and interpersonal interaction are important motives for usage. SNAs are often

designed as portals to connect with many mobile game apps to spread effectively via users' social network for the success of game apps. Rewards include monetary and non-monetary incentives which are provided by SNA service providers or brand marketers to encourage users to participate activities and even product/service trial for value co-creation. All of these content gratifications consumers get from SNAs are hypothesized to positively enhance consumer engagement.

H1: Entertainment is positively related to consumer engagement in SNAs on mobile devices.
H2: Reward is positively related to consumer engagement in SNAs on mobile devices.
H3: Information seeking is positively related to consumer engagement in SNAs on mobile devices.

B. Process gratification

Process gratification refers to the actual use of medium itself, like searching, surfing or technology etc. Contrast to Internet, the very powerful characteristics mobile services offer consumers instant and location-based services which benefit consumers' social connection to SNAs to post and reveal personal information. Different from the usage experience of SNSs on the Internet requires users to active input location data (sometimes the fake information), mobile technology equipped with GPS allows the devices to navigate location-based information. Consumers easily update personal status or experience immediately and almost timeless show up in personal SNA profile. It also benefits marketers to take these advantages to improve the process in delivering mobile services to bundle with SNAs. Reference of [12] use a case study of Dodgeball, a LBS mobile service, to conclude this kind of SNAs an emerging normative use of communication technology and the social production of space. Thus, LBS and instant service of SNAs motivate users to more engage in a certain SNAs because these process gratifications enhance social interaction.

However, privacy is reported to be a concern for consumers to use either Internet or mobile services. Actually, enjoying the convenience of LBS or information access and sharing via mobile devices in SNAs is a double-edged sword by rising personal privacy concern. Some SNAs provide more privacy control for users to present and hide personal information and gradually improved as they were aware of users' concern. In the other side, research indicated privacy paradox to describe SNAs a paradoxical world where a public space without full privacy but especially teenagers tend to reveal intimate thoughts and behavior there [2][5]. Age could be a factor of privacy paradox. In general, while consumers perceive more privacy control of SNAs, more consumer engagement in SNAs is expected.

H4: Privacy control is positively related to consumer engagement in SNAs on mobile devices.
H5: Location-based service is positively related to consumer engagement in SNAs on mobile devices.
H6: Instant service is positively related to consumer engagement in SNAs on mobile devices.

C. Social gratification

Borrowing from the U&G research about Internet, social gratification cannot be overlooked for consumers who use mobile SNAs to strengthen personal social tie virtually or in reality. Self-expression is the presentation of one's point of view or creative work [13]. Extending the self-expressive motives in blog sites, SNAs, like Facebook and Myspace provide more comprehensive functions for consumers to express themselves on the net. Content and process gratifications mentioned above also support the social function for a user to express self on SNAs. Research has focused on impression management and friendship performance to study the self-expression motivation to use social network sites. Reference of [4] indicated that some social networks, like Friendster, allowed users to control the presentation of self. Thus, if a consumer feels more self-expressive with the assistance of SNA, more consumer engagement is expected thereafter.

Interpersonal communication and social networking have people connection over the net closer. Social influence as the transmission of miscellaneous pieces of information among people who are connected to each other [17] is one of the reasons behind the phenomenon. Network effect of gathering more users of SNAs reflect the fact that we need more friends to participate on one SNA platform so as to enjoy the benefits of virtual social network. Interpersonal influence which represents one of social influence could be normative or informational [3]. Thus, while a consumer is more susceptible to social influence, it motivates him/her to engagement in SNAs for the network effect of connecting each others.

H7: Self-expression will positively affect consumer engagement in SNAs on mobile devices.
H8: Social influence will positively affect consumer engagement in SNAs on mobile devices.

IV. METHODOLOGY

A questionnaire survey was designed to sampling the response of app users who reported to use any social network app on mobile devices. This survey was conducted in Taiwan where the penetration of mobile devices was in fast growth. According to Google survey, the popularity of smart-phone ownership was 51% in Q1 of 2013 and in growth of 32% compared with the same period of previous year. In the same study indicated that above 90% of smart phone users in Taiwan use their mobile phone to visit social media. Data collection was administered during March to May of 2013 via both online and pencil-and –paper questionnaires by inviting participants from social network platforms and snowball rolling method. In total, 617 respondents rolled in finally. By excluding 33 respondents without the experience of using social network app on mobile devices and 44 incomplete questionnaires, 543 valid questionnaires were reserved for further analyses. Table 1 indicates the respondent profile.

TABLE 1. DEMOGRAPHIC AND USAGE DATA OF RESPONDENTS

Items	Options	Sample	Percentage (%)
Sex	Male	215	39.6%
	Female	328	60.4%
Age	<18	100	18.4%
	19~22	252	46.6%
	23~29	113	20.8%
	30~39	47	8.7%
	40~49	30	5.5%
	>50	1	0.2%
Education level	Junior high school	20	3.7%
	Senior high school	165	30.4%
	Bachelor	289	53.2%
	Master	66	12.2%
	Doctor	3	0.6%
Average income monthly	>10,000	346	63.7%
	10,001~20,000	59	10.9%
	20,001~30,000	49	9.0%
	30,001~40,000	44	8.1%
	40,001~50,000	18	3.3%
	>50,000	27	5.0%
One social networking apps used mostly by yourself	WeChat	15	2.8%
	Whatapp	29	5.3%
	Line	212	39%
	M+	1	0.2%
	Facebook	265	48.8%
	Twitter	1	0.2%
	Other	0	0

Considering younger profile of social network app, the majority respondents in sampling approached included the students across high schools to college. The usage experience of Internet-accessed mobile devices from the respondents was mostly below one year (36.5%) and one to two years (32.8%). Free wifi (31.7%) and all-you-can-eat paid 3G service (50.1%) accounted for two major ways of accessing Internet. Facebook (48.8%) and Line (39%) were reported as the social network app used most often.

The measurement of entertainment and information seeking adopted and modified from past literature [20]. Reward and privacy control adopted and modified from literature measurement [26]. Self-expression and social influence also adopted from the appropriate existing scales [14] and the susceptibility to interpersonal influence scale [3]. The major dependent construct, consumer engagement, which included affective, cognitive and participative dimensions were adopted from literature as well [22]. LBS and instant service were developed for this research. All of these variables were measured in 7-point Likert scales with 1 indicating mostly disagree and 7 indicating mostly agree. Pre-test was conducted to ensure the description of question item understandable and the satisfactory reliability of two self-developed variables. In this research, LBS measured the extent to which consumers used the services offered by a specific social network app taking into account information relevant to geographic location of users. Sample question was addressed like "Through LBS and linking the information of check-in, I can recognize the location-related information." Instant service measured the extent to which consumers use the timely service offered by a specific social network app. The sample question was addressed like "The social network app would instantly inform me the latest news about products or services." Both variables achieved above 0.8 in Cronbach's alpha value which demonstrated satisfactory reliability.

V. FINDINGS

A. Measurement model

First of all, this research conducted exploratory factor analysis (EFA) to purify the measurement items. Factor loading under 0.5 and cross-loading items were eliminated at this stage. As a result, three items of normative influence in the variable of social influence and one item of instant service which measured "…thought the instant service in social network app I can communicate with friends instantly." were deleted. The factor pattern of EFA also indicates two dimensions of consumer engagement instead of three dimensions. A closer look at the question items, two dimensions "flow" and "connection and participation" were named after the composite question items.

Confirmatory factor analysis (CFA) was conducted for all reserved items from EFA to further ensure the fit of measurement. Modification Index indicated two items of LBS and instant service respectively, three items of information seeking, as well as one item of self-expression and consumer engagement should be modified for their original categorized variables. Thus, after evaluated the question meanings, these items were eliminated. All item loadings were significantly above 0.7. CRs, AVE and Cronbach's alpha exceeded the recommended threshold value of 0.7, 0.5 and 0.7, which showed good convergent validity and reliability [1][9][18]. Secondly, table 2 also provided the evidence of good discriminant validity which required the correlation between variables should at least below the square root of AVE to reflect the difference of these two variables [8]. Finally, model fit indexes indicated this measurement model achieved the satisfactory level (χ^2/df = 1.754; GFI = 0.918; CFI = 0.974; RMSEA = 0.037).

TABLE 2. THE SQUARE ROOT OF AVES AND CORRELATION COEFFICIENTS

	SIF	ET	RW	IFS	LBS	IS	PVC	SE	CE
SIF	**0.837**								
ET	0.509	**0.812**							
RW	0.372	0.264	**0.823**						
IFS	0.513	0.396	0.522	**0.933**					
LBS	0.353	0.435	0.253	0.481	**0.856**				
IS	0.526	0.594	0.317	0.490	0.483	**0.802**			
PVC	0.270	0.377	0.132	0.303	0.482	0.551	**0.881**		
SE	0.634	0.544	0.203	0.424	0.423	0.586	0.350	**0.821**	
CE	0.609	0.703	0.229	0.400	0.483	0.630	0.424	0.682	**0.834**

B. Hypotheses testing: structural equation model

In order to verify the hypotheses, a structural equation model (SEM) using consumer engagement as a second-order construct was conducted and the model fit indexes demonstrated satisfactory model fit (χ^2/df = 2.053; GFI = 0.892; CFI = 0.954; RMSEA = 0.044). To further examine the standardized path coefficient hypothesized, as Table 3 indicates, entertainment ($\beta = 0.31$, $p < 0.001$), LBS ($\beta = 0.11$, $p < 0.05$), instant service ($\beta = 0.15$, $p < 0.01$), self-expression ($\beta = 0.27$, $p < 0.001$) and social influence ($\beta = 0.18$, $p < 0.01$) of social network apps significantly enhance consumer engagement as the hypotheses. The data showed that reward ($\beta = -0.04$, $p = 0.341$), information seeking ($\beta = -0.02$, $p = 0.611$) and privacy control ($\beta = 0.07$, $p = 0.154$) could not significantly affect consumer engagement in social network apps. For the second-order dimensions of consumer engagement, coefficient of flow ($\beta = 0.667$, $p < 0.01$) and connection and participation ($\beta = 0.91$, $p < 0.001$) were both significant.

C. Separate models of Facebook and Line users

Due to two major social network groups sampled in this research, it is meaningful to investigate two separate models for Facebook and Line users. The analysis showed the difference in terms of benefits that might result in the consumer engagement of these two popular social media. SEM of both groups were above the recommended level of fit in major indexes (Facebook model: χ^2/df = 1.308; GFI = 0.871; CFI = 0.975; RMSEA = 0.034; line model: χ^2/df = 1.36; GFI = 0.845; CFI = 0.960; RMSEA = 0.041). Further investigation of standardized path coefficients in Table 5 indicated the different variables enhancing consumer engagement on these two social network giants. For Facebook model, entertainment ($\beta = 0.24$, $p < 0.001$), LBS ($\beta = 0.26$, $p < 0.05$), instant service ($\beta = 0.18$, $p < 0.05$), self-expression ($\beta = 0.17$, $p < 0.05$) and social influence ($\beta = 0.15$, $p < 0.05$) significantly contributed to the engagement of Facebook users. In contrast, for Line model, entertainment ($\beta = 0.49$, $p < 0.001$), information seeking ($\beta = -0.2$, $p < 0.05$), LBS ($\beta = 0.127$, $p < 0.1$), self-expression ($\beta = 0.21$, $p < 0.05$) were significant variables for enhancing consumer engagement of line users. Social influence ($\beta = 0.16$, $p < 0.1$) was marginally significant. The results indicated what in common for engaging users were entertainment, LBS, self-expression and social influence benefits of social network apps. The difference reflects that instant and location-based services are two key benefits to engage consumers in Facebook. Taking the advantages of mobile devices, Facebook users appreciate the convenience of instant service, such as communication or latest product news and LBS, such as check-in option to post personal status on Facebook. For Line users, social influence and LBS are marginally contributors for their user engagement, and especially information seeking even negatively engaging users which highlights entertainment and social functions are the strengths of Line. Line app is positioned as a free social communication app. A Line user can communicate to a group of even more focused friend group compared with that of Facebook. Use Line as a portal for consumers to spontaneously explore more information is even appreciated for Line users.

TABLE 3. STANDARDIZED PATH COEFFICIENT IN RESEARCH, FACEBOOK AND LINE MODEL

Variables/Construct	Research model	Facebook model	Line model
Content gratification:			
Entertainment	0.31^{***}	0.24^{***}	0.49^{***}
Reward	-0.04	-0.04	0.10
Information seeking	-0.02	0.08	-0.20^{*}
Process gratification:			
LBS	0.11^{*}	0.26^{**}	0.13
Instant Service	0.15^{**}	0.18^{*}	0.02
Privacy control	0.07	0.04	0.08
Social gratification:			
Self-expression	0.27^{***}	0.17^{*}	0.21^{*}
Social Influence	0.18^{***}	0.15^{*}	0.16
N	543	265	212

VI. CONCLUSION AND DISCUSSION

The prevalence of mobile devices, such as smartphone and tablet/pablet computers provides a new way of communication and engages more consumer usage of SNAs. Growth of ownership in mobile devices highlights the new opportunity of marketers approach consumers via the connection of SNAs. This study intended to explore the motivation of consumer engagement in mobile SNAs by adopting the conceptual framework of U&G paradigm. Research findings provided the evidence that entertainment is the key content gratification that motivates more consumer engagement in SNAs. While consumers have more choices of SNAs, it is found in practice that entertainment benefits are designed as added value for users, such as self-developed games of Line, portal connection of Candy Crush Saga to Facebook.

Instant communications and services are the key benefit of some new emerging popular SNAs. The finding also verified that process gratification of LBS and instant service found to be critical to consumer engagement in SNAs. This makes the difference between web-based SNAs and mobile SNAs cause the later takes the advantage of mobile devices spontaneously locating the users and wireless connection to services even on the go. LBS and instant services provided social network users to enjoy mobility and information as well as providing marketers a new marketing channel to connect with consumers at the time and location they need the services.

Socialization is the focus why we need SNAs. The finding provides that socialization gratification of self-expression and social influence also enhances consumer engagement in SNAs. Expression of emotion and feeling on the Internet is much easier for some users than face-to-face communication. Self-expression on the SNAs uses either verbal or non-verbal languages are equipped with plentiful choices, such as facial icons or symbols to represent mood which enhances the interests of interpersonal interaction and socialization on the SNAs. Research of Facebook also found that self-expression the key feature for users to create and decorate personal profile and share with friends [13]. The findings indicate that social influence represented by information influence is the main reason to engage consumer in SNAs. While users consult friends or family about one SNA before usage, they tend to engage more in that SNA thereafter. The findings reveal consumer engagement a second-order construct to include flow as well as connection/participation. Self-expression and social influence of SNAs do benefit to the flow and connection/participation at using SNAs as along as one SNA offers more incentive for users to express themselves and spread the words to influence others join and connect in its social platform.

Reward, information seeking and privacy control are three antecedents not supported in this finding. Relative to the above antecedents, these three could not explain the SNA engagement of the respondents this research has surveyed. Some alternative explanations help to clarify the unsupported hypotheses. Relative to entertainment of content gratification, reward and information seeking are not the key drivers for consumer engagement in SNAs. Except the social functions, current SNAs vary in other key functions out of rewards. Rewards measured in terms of the virtual benefits, such as free points, honors or monetary rewards which cannot explain the variance of consumer engagement in different SNA brands. Rewards as incentives may induce consumers to approach and so as to privacy control a barrier to avoid a new SNA. Privacy paradox is also the possible reason to explain why privacy control cannot explain the consumer engagement just because younger generation still engage in SNAs even they are different in privacy control mechanism. But for a long-term user relationships as well as engaging consumer in SNA still relies on the use gratifications mentioned above. The other explanation of the unsupported information seeking hypothesis may due to the substitute function of search engine that consumer can use as main tool on the mobile devices. More of the information sought from SNAs could be delivered from instant or LBS services both of which are identified to be important contributors of consumer engagement in SNAs. Therefore, while SNAs managers design the information function, to bundle the information service with these two process gratification, LBS and instant service can add more value to the mobile service.

This research finding also categorized two groups of SNA users, those of Facebook and Line consumers, in order to differentiate key contributors of the two popular SNAs on mobile devices. The results indicated the strong contributors in main model are also what in common for engaging users to these two SNAs are entertainment, LBS, self-expression and social influence benefits of social network apps. What differentiates Facebook and Line is instant service and information seeking. Consumers engage more in Facebook because of the instant services offered. In contrast with Line service, immediate service, latest update of promotional and product information etc. are the instant services from Facebook to engage their consumers on the service. This finding demonstrates that instant service could be one of the strength to differentiate Facebook service from other SNAs. Line emphasized more personal instant communication to targeted friends or group. Even users can put brands into the friend list to get latest brand information or promotion activities, the data of this finding does not support instant service the significant contributor at engaging Line users. Furthermore, consumers who seek information would reduce engaging in Line service which has the implications of the free communication type of SNAs to design the direction of new service or strengthen current service content.

VII. LIMITATION AND FUTURE SUGGESTION

Facebook and Line which are two popular SNAs in the market separately accounted for around 40% of the respondents who claimed to use most often. As a result, one

limitation is that the result comes from data provided by frequent users of these two big SNAs. As more SNAs are innovated to the market, to generalize current findings to predict a new SNA needs to be cautious. Future research out of these two SNAs could further verify the current model and proposed gratifications.

Current SNAs often offer both web and mobile version interfaces for consumers to use interchangeably on different devices. The second limitation is that the current research only surveyed the usage experience and perception of mobile version SNAs without taking into consideration the interchangeable usage behavior. That is due to current research focused on the service part of mobile applications. SNAs also offering web version interfaces provided more options for users may encourage users to select based on location and convenience. However, in the other hand, SNAs on mobile devices may replace the usage of social network sites on the desktop which could be explored in future research if mobile devices already change the consumer usage behavior for the mobility advantage outweigh disadvantage. The last limitation is the convenient sampling to recruit respondents to offer their perception and usage experience.

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