Mobile Social Networking Application Viability:

A Research Framework

INTRODUCTION

Mobile social networking applications (MSNAs) are fast becoming popular among the consumers today. These applications allow individuals to use a mobile device to construct a public or semi-public profile space to display their personal information, and through doing so establish new relationships, while also communicate with other users with whom they share an existing relationship (Gressgard and Stensaker, 2006; Ling and Yttri, 2002). It has been estimated that the number of such mobile social media users will grow from 650 million this year to 1.3 billion by 2016 (Hanslip, 2011). Consistent with these speculations, it has been reported that MSNA is currently among the most attractive type of mobile applications to venture capitalists (Schweitzer et al., 2009) as well as to corporations looking for promising technological investment (Kane, 2005). Indeed Facebook, which is currently the largest social networking service provider, is aggressively pursuing a mobile strategy with the launch of its mobile platform in 2011 and its mobile app called Facebook Home in 2013 to tap onto the growing mobile user population. This is unsurprising considering that of its 1.06 billion monthly active users recorded worldwide in 2012, 680 million users accessed the social networking service on mobile devices.

Despite the promising outlook, it remains unclear how MSNA providers can more
effectively leverage on these applications to derive commercial benefits. As noted in an article by the Knowledge@Wharton on 13 February 2013, “[t]he challenge for companies is developing a strategy that takes advantage of the unique characteristics of mobile platforms.” Elaborated by Saikat Chaudhuri in the same article, “[c]ompanies need to leverage uniquely mobile features such as physical location, immediacy and targeting”, but how to achieve this remains not well understood. This suggests a pressing need for a framework that can help MSNA providers to more systematically utilize the features afforded by mobile technology to ensure their commercial viability. Thus motivated, this article proposes a conceptual framework that addresses the viability issue of MSNA. Viability here is understood in terms of how desirable commercial outcomes may be derived from mobile applications specifically MSNAs.

To investigate the commercial viability of MSNAs, it is important to first understand how these applications could better fulfill their core value to the users since continuous usage is a foundation for deriving their commercial benefits. Specifically, the nature of MSNAs implies that such applications need to address the social needs of users to be interconnected and to maintain relationships with each other. The relationships of concern could transpire in several ways, involving individuals who are 1) members of a social group e.g., a family clan, or graduates of an educational institution, 2) located in close proximity e.g., residing in the same housing area; and 3) simply end-users of the same application (Beer, 2008; Boyd and Ellison, 2007). This study builds on the relevant social networking perspectives to propose an activity-based view on mobile application usage, which is then associated with a proposed set of measurement metrics.
Additionally, while there has been a sizable amount of research conducted on the MSNAs’ technical design aspects (Miluzzo et al., 2008; Tsai et al., 2009) and user behaviors (e.g., Humphreys, 2008; Sadeh et al., 2009), studies conducted specifically on how to determine whether such applications are commercially viable remain lacking, and lag far behind its rapidly increasing popularity. To the best of our knowledge, there is yet to be directed, orchestrated studies that focus on examining the link between the features of MSNAs and their assessments. We distinguish three classes of MSNA features: (i) profile-based, (ii) spatial-based, and (iii) temporal-based features. Through this conceptual framework (and the propositions), we hope to promote subsequent research to examine MSNAs in a more orchestrated manner.

**MSNA AS THE FOCAL APPLICATION**

Extant research on MSNAs primarily focuses on the technical design of such applications, such as the sensory technologies to detect MSNA devices and users (Miluzzo et al., 2008), and the network architectural design for MSNAs (Eagle and Pentland, 2005; Tsai et al., 2009). We found only two studies (Humphreys, 2008; Sadeh et al., 2009) that investigated user behavioral response to MSNAs. Among them, Humphreys investigated Dodgeball, an MSNA that aimed at facilitating social connection and coordination, and concluded that exchanging messages through Dodgeball led to a tendency for strangers to congregate in urban spaces. Interestingly, Dodgeball was bought over by Google in 2005 but was then shut down in 2009 because it could not bring forth profit to the company. In another study by Sadeh et al. (2009), an MSNA that enables users to selectively share their locations with others was developed to investigate users’ privacy
concerns via a series of laboratory and field experiments. While these studies managed to integrate the technical and users’ behavioral aspects of MSNA to obtain richer insights into how the application can benefit the users, they did not delve into how the application could be enduringly viable.

Our reviews of the previous works on MSNAs highlight several gaps that need to be bridged to advance research. Specifically, the review points to the opportunities to integrate the different themes of research to advance the investigation on MSNAs. Essentially, the research opportunities can be translated into the following research questions. First, by tying up the themes on technical design, user behavior, and business consideration, we seek to answer the question: “What are the technological design features of MSNAs pertinent to mobile use behavior that can be leveraged for attaining the viability objective?” Second, given that consumers interact among themselves and form social groups, there is a need to understand consumers as groups rather than isolated individuals. This leads to the next question: “How can we understand and leverage the mobile social networks afforded by MSNAs to enhance their viability objective in conjunction with the pertinent design features?” Answering these questions allow us to assess the value of MSNAs that can be extracted from consumer interaction with each other through the applications. The technological design of MSNAs may also guide researchers and practitioners in developing the MSNA for their research/commercial pursuits.

**SOCIAL NETWORK PARADIGM AS THE THEORETICAL UNDERPINNING**

When mobile users are interconnected and communicate with one another e.g., through the
use of MSNAs, a social network is formed. A social network is typically manifested by a set of actors (e.g., mobile application users) connected by a set of ties (e.g., friendship ties). Individuals tend to adapt and imitate the behavior of others in the social network. This led to the emergence of a number of social network perspectives (see Valente (2006) for a review) to explain the social influence among individuals in adopting an idea, practice, product, or information. A summary of these social network perspectives is presented in Table 1.

**INSERT TABLE1 ABOUT HERE**

The central thrust of the social networking paradigm is the concept of interpersonal influence as a form of social contagion, i.e., *how individuals influence each other*; and who influences whom in the contagion process. Under this paradigm, scholars have examined individuals who are more influential (e.g., opinion leadership principle) (Katz et al., 1963; Harben and Kim, 2007; Goldsmith and Clark, 2008), individuals who are more/less likely to be influenced and the breadth of influence (e.g., strength of weak ties principle (Granovetter, 1983)), and individuals who can bridge disconnected groups of people (e.g., structural hole model (Burt 1992)). These derivations subsequently spin off a series of investigations to complement the initial development underpinnings. For instance, explained through the opinion leadership model, research has found that opinion leaders could influence consumers’ perception of advertising messages (Harben and Kim, 2007) as well as their fashion preferences (Goldsmith and Clark, 2008). The opinion leadership model, however, does not clearly dictate how an individual is more likely to be influenced (Watts and Dodds, 2007). This gap is addressed in different ways by the network closure (Coleman, 1988), structural equivalence (Borgatti and Everett, 1992; Burt,
1987), and thresholds models (Granovetter, 1978; Rogers, 2003).

Taking a dynamic view, some researchers argue that an individual who is more likely to be influenced by others may also become more influential as well, which is espoused in the dynamic model (Myers, 2000). The dynamic model is typically depicted in the form of a susceptible-infectious-recovery framework, which has been applied extensively in epidemiology (Anderson, 1991; Bailey, 1975). Two key concepts are examined by this model with respect to the social influence among individuals i.e., susceptibility and infectiousness. Apart from the number of adopters surrounding an individual, the susceptibility of the individual (to an influence) is also dependent on the degree to which he/she gets into contact with the adopters i.e., the individual will be more susceptible if he/she meets his/her adopter friends more frequently. Further, once an individual has been converted from being susceptible to “infected” (i.e., becoming an adopter), he then becomes infectious (i.e., more influential) to others in the network, implying a dynamic process of how social influence operates.

Collectively, the social network paradigm may inform useful strategies that merchants can formulate to improve the diffusion and adoption of commercial messages. For instance, merchants can locate the opinion leaders in a social network and engage them with appropriate incentives to more effectively influence the others (Valente and Davis, 1999). However, it is often difficult for merchants to know their customers well and get them to frequently get in touch with each other for such social influence to operate. We contend that MSNAs, through acting as the platform for social interaction among the users and allowing the users to conduct social and economic activities at the actual physical context, will equip merchants with the needed
understanding of customers to improve commercial viability.

RESEARCH PROPOSITIONS

Drawing on the social networking paradigm, we can identify that the commercial viability of a MSNA is contingent on the breadth and intensity of the communication and interaction activity among the application users, which bonds and sustains the interest of the users to continue using it. To this end, we can conceive the application viability as best manifested in terms of the explicit social networking relationships among users in two ways: dynamic communication and dynamic evolution. Dynamic communication perspective is reflected by the rate and quality of message responses made by users of the same application. This is built on the conjecture that if message communications are able to inspire responses from the users both in terms of intensity and quality, this implies that users find meaning in the communications, which makes it more likely for them to continue using the application to receive commercial messages. Dynamic evolution perspective is more straightforward and was developed based on the viral marketing literature (Bampo et al., 2008; Wiedemann et al., 2008a; 2008b). The deployment of the MSNAs can be perceived as a form of viral marketing, whereby the MSNA can serve as a technological tool to facilitate the dissemination of messages to the targeted consumers in existing social networks so as to achieve marketing objectives. The central thesis of this perspective rests on the measurement concept of the spread of message i.e., message relaying from one individual to another (Ewing, 2009).

Considering both perspectives, we can conceptualize the commercial viability of MSNA in
three ways: 1) rate of message response, 2) quality of message response, and 3) spread of a message. While rate of message response refers to how many targeted customers respond to a commercial message, quality of message response refers to how well a commercial message is received by the targeted customers. Spread of a message refers to how fast a commercial message (e.g., information about a product, or discount offer) can be propagated or relayed to targeted customers (Vernette, 2004).

MSNAs, being an increasingly pertinent form of mobile applications, possess three classes of features i.e., profile-based, spatial-based, and temporal-based features, that together aid in the attainment of their commercial benefits. Profile-based features of MSNAs leverage on users’ profiles, social network contacts, and interaction patterns to offer targeted information and/or services to the users. Spatial-based features rely on information about the physical space (i.e., geographical location and surroundings) in offering information and/or services to the users. Temporal-based features map users’ needs to different dimensions of time, which we will discuss in the subsequent sections. These three classes of features, when viewed in isolation, are not exclusive to MSNAs. For instance, web-based SNAs typically offer profile-based features to associate users with their relevant social networks/groups. Likewise, mobile applications may include spatial-based features (e.g., GPS functions) to facilitate users in locating places of interest such as restaurants. These features, as offered in SNAs or mobile applications, could by themselves bring about desirable commercial viability, but it is the combination of profile-, spatial-, and temporal-based features and their complementary nature that make the MSNAs a particularly efficacious commercial tool to merchants.
Figure 1 depicts the overarching research framework. We posit that the fostering and bridging of networks of high-affinity customers are facilitated by MSNAs that can provide the means (how) to better reach the customers (who) with the right product/service (what) at the right place (where) and at the right time (when).

**INSERT FIGURE 1 ABOUT HERE**

**Propositions related to Profile-based Features**

Profile-based features of MSNAs fundamentally leverage on the notions of user profile and profiling to meet commercial objectives. The importance of users’ profile information can be understood from the social identity perspective (Erickson, 1968). Users’ profile information reflects their social identity, which has a bearing on how they appraise themselves and behave in their interaction with others (Whitbourne and Connolly, 1999). User profiling entailed in MSNAs typically involves the creation of a database that contains information about users’ demographics, hobbies, lifestyles, social roles, and most importantly their social network information which is at the heart of MSNAs. All this information has their established utility for merchants to perform market segmentation on both their potential and existing customers so as to offer customized products or services (Raghu et al., 2001).

The profile-based features are expected to play a part in contributing towards the attainment of commercial viability in the following ways. First, by capturing the users’ social network information (who knows who) and their social interactions among themselves (e.g., their sharing of comments on product or discount information), the features may aid in the identification of
opinion leaders among the customers. Through measuring the centrality of each individual, a merchant can identify how many others an individual can potentially influence and then engage these opinion leaders as agents to initiate and accelerate the diffusion of a commercial message (Katz et al., 1963; Rogers, 2003). Through mining the connections and interaction patterns among the customers, customers’ network structures may be constructed and analyzed to detect the existence of structural holes (Burt, 1992), for which certain individuals may be engaged to bridge the disconnected groups of potential customers to enhance the extent of marketing information dissemination. Knowledge about the network structure may also be employed to identify consumers who occupy similar network positions i.e., having structural equivalence with each other. A subset of these consumers may be targeted and invited to try out a new product to instill the comparison tendency of their structurally equivalent others (Burt, 1987).

With the social network information, merchants may also locate groups of people with a high density of interactions (i.e., high network closure), and capitalize on the trust and norms within the groups to influence those connected to them (Coleman, 1988).

Second, customers’ profile information, such as demographics and interests, can be employed to match their social network information to increase the effectiveness of the social influence for disseminating commercial messages i.e., through profile-matching. As noted by Katz and Lazarsfeld (1955), social influence is primarily a matter of communication among those with shared interests. The greater the degree of similarities between two parties e.g., in terms of interests and demographics, the greater the attraction between them, which in turn eases their communication and fosters their relationships. Consequently, effort can be made to channel
the influence of opinions leaders to those who share similar profile information e.g., having common interests, so as to make their influence more salient. Similarly, to better capitalize on the influence of a customer to his structurally equivalent others, merchants could focus on promoting products related to their shared interests or lifestyles. Merchants could also assess the procurement threshold level of an individual based on his/her past responses to commercial campaigns. For instance, some individuals might habitually respond to a commercial message (such as using a coupon to buy a product) only after a large percentage of their social network contacts had done so, as recorded by the profile-based features. Merchants may thus employ such information to identify individuals with relatively low thresholds and target them as early adopters of a product or service. Based on the discussion, we propose:

**Proposition 1**: Embedding profile-based features into MSNAs could contribute towards the materialization of commercial viability by affording personalization to consumers; and aiding merchants in identifying consumers occupying important social network positions (e.g., opinion leaders and bridges), and leveraging on their behaviors through profile-matching.

**Propositions related to Spatial-based Features**

People tend to congregate at a place with knowledge of each other’s locations that is often not pre-planned (Humphreys, 2008). Such a tendency could occur among people who know each other e.g., close friends, or it could involve two or more strangers who fancy spontaneous meetings e.g., on a Friday night at a pub. From the perspective of the dynamic model, specifically the susceptible-infectious-recovery framework, individuals’ proximity may increase
both their susceptibility and infectiousness with regard to the diffusion of a commercial product, service, or idea. Key to the contagion process in the framework is increased social interaction among people (Sorenson and Stuart, 2001), which often emerges among individuals who are spatially proximate to each other (Hawley, 1950). Indeed previous literature has noted that proximity could facilitate communication and information exchanges (Saxeman, 1994), thus stimulating diffusion of information. The spatial-based features in MSNAs may contribute towards the materialization of commercial viability through fostering the proximity among the consumers and exploiting the distance information between consumers and merchants.

The central theme of spatial-based features in MSNAs is the concept of space, which serves as a container for places whose meanings are shaped by what one does in them (Curry, 1999). The sharing of location information among users of an MSNA in real time may afford people with opportunity to act on it spontaneously and may change the way they conduct social activities (Humphreys 2008). This information enables the merchants to conduct group-based promotions, whereby a certain number of shoppers are needed to enjoy an attractive product discount rate. An MSNA can be used to alert shoppers on the number of others who are near the shop and are interested in joining in the purchase of the product. With the help of the MSNA, the interested shoppers may then organize themselves together and proceed to purchase the discounted product at the shop.

Previous research shows that people prefer to interact with others while shopping rather than doing it in isolation (O’Hara and Perry, 2001). Of particular interest is the finding that conversations among customers about their product consumption experience may influence
attitudes towards the product and induce preference shifts (Schlosser and Shavitt, 2002). The importance of social interaction in shopping activity is evident in the recent emergence of web-based collaborative shopping tools. However, these web-based tools remains lacking in terms of the social-experiential elements and rich communications that are present in face-to-face interactions (Jahng et al., 2007); all of which can be afforded by the MSNAs. The ability for MSNA users to be at the actual physical context (e.g., in a shop that sells audio systems) would facilitate the deeper sharing of product knowledge among the consumers (e.g., how to visually and audibly differentiate between a good and a mediocre audio system). With respect to this, merchants may provide appropriate stimuli to induce information sharing among proximate consumers about a target product or service.

The distance information provided by the spatial-based features based on the location information of users and merchants may also improve the attainment of the desirable commercial viability. Prior research has suggested that physical distance plays an important role in the price that consumers are willing to pay for a product or service (Balasubramanian et al., 2002). Recent research also shows that location-based mobile promotions may stimulate consumers’ unplanned purchases in a supermarket context (Hui et al., 2013). Our discussion leads to the following proposition:

**Proposition 2:** Embedding spatial-based features into MSNAs could contribute towards the materialization of commercial viability by fostering the proximity among customers for enhanced social shopping experience and to increase customers’ susceptibility and infectiousness to information sharing and diffusion; and exploiting distance information to tailor offerings to
Propositions related to Temporal-based Features

The temporal-based features in MSNAs could contribute towards the materialization of better commercial viability through predicting and fulfilling users’ needs along four perspectives of time experience i.e., clock time, organic time, strategic time, and spasmodic time (Bulter, 1995). Clock time is linear and is the most common form of time experienced and understood. For organic time, ideas and actions are developed through consensus building and congruence over a possible future, but where the past is relatively uncodified and linked in an indeterminate way to those futures (Bulter, 1995). Accordingly, decision making about when to send a particular advertisement will be based on principles of satisficing rather than achieving optimal solution. In the strategic time perspective, the future depends on the prediction of the actions of other people, even though their views of possible futures may not always be congruent with one’s views (Bulter, 1995). Examples of temporal-based features that take advantage of strategic time are features that send discount coupons for electronic gadgets shortly before Black Friday. Finally, time experience can also be conceptualized as spasmodic time. With spasmodic time, the present is experienced through events that are irregular, highly novel, movable, and with many concurrent events impinging (Bulter, 1995). In such circumstances, product/service choices often occur in a haphazard way with the time scale bearing little relation to clock time. Temporal-based features that take advantage of spasmodic time are those that send information which depreciates quickly in value e.g., a time-limited group discount event (Balasubramanian et
The essential message is that MSNAs, being applications installed on a mobile phone that is always with the users, could blend into the rhythms of time experienced by the users in conducting their everyday activities (Green and Harvey, 1999). The preceding characteristic of MSNAs is particularly pertinent when one considers the tendency for people to organize and coordinate their social activities e.g., shopping and gathering, in a spontaneous nature (Ling and Yittri, 2002). The gathering of young pub goers on Friday nights (clock time) serves as a good example for this tendency. With confidence that the mobile phone is always with the users, a pub operator can send out promotional messages (e.g., free flow of beer) half an hour before the “Happy Hour”, during which the pub goers are able to organize a gathering at the pub through the application “on the spot” while the message is still fresh in their mind. In terms of organic time, merchants may grab the opportunity to send out information on overcoat sales to shoppers when there is a sudden drop in temperature accompanied by strong, cold wind in an evening during the seemingly early winter. Again the action is made possible with the “always with users” nature of the mobile phone. For temporal-based features capturing strategic time, advertisements about the limited stock availability of a latest electronic gadget can be sent to shoppers when a queue has already built up to purchase the gadget on Black Friday. This may stir the curiosity of shoppers which may in turn help to further popularize the product. Finally, the “always with users” nature of MSNAs is a natural companion for the temporal-based features capturing spasmodic time. This is due to the importance to heighten a sense of urgency in shoppers at a particular moment with respect to a limited-time promotional message tapping on
their spasmodic time experience. Our preceding discussion leads us to propose the following:

**Proposition 3**: Embedding temporal-based features into MSNAs could contribute towards the materialization of commercial viability through assisting in the prediction and fulfillment of users’ needs along the four forms of time experience (clock time, organic time, strategic time, and spasmodic time), and by blending into the temporal rhythms experienced by users in their everyday activities.

**Propositions Combining Profile-, Spatial-, and Temporal-based Features**

While we have placed separate focuses on the three features in how they may each contribute towards commercial viability, we contend that it is the synergy created from simultaneously utilizing the three features in MSNAs that allows their commercial potential to be fully unleashed. Specifically, the spatial- and temporal-based features are expected to augment the profile-based features in bringing about commercial viability in terms of 1) higher rate of message response, 2) higher quality of message response, and 3) wider spread of a message.

Time and space are both valuable resources, and are among the most fundamental dimensions of all economic activities (Balasubramanian et al., 2002). As noted by Ohta (1993; pp. 1), “If time is the warp of economics, then space is its woof”. Extending this analogy, we contend that MSNAs, through encompassing both spatial- and temporal-based features, would empower merchants to better weave the warp and woof of their commercial activities, particularly in augmenting the profile-based features to attain the desirable commercial viability. More specifically, with the help of the three features collectively, merchants will be able to
integrate their understanding about customers’ characteristics and their social networks together with information about the settings of their social and economic activities (i.e., time, place, and surrounding conditions) to formulate targeted commercial strategies.

Consider the following example -- knowing that a group of white-collar movie lovers often organize spontaneous movie or beer drinking sessions after work, a restaurant operator may offer group dining with bar beer drinking discounts to these potential customers (through profile-based features) when they are near the area (through spatial-based features) at the particular hours (through temporal-based features) to improve their business. The discounts can be designed such that the larger the size of the groups, the greater discounts they can enjoy. With the spatial-based features that foster proximity among users, such commercial initiatives could further add to the “pull factor” of gathering a large crowd of customers to the restaurant. Likewise, movie distributors and cinemas may also send promotional materials of a new movie in the form of pictures and trailers to these customers’ mobile devices during their gathering and before the movie screenings (i.e., through temporal-based features). These examples involve both clock time, i.e., after work, and organic time, i.e., spontaneous gatherings that may occur on any of the weekdays but which the tendency of occurrence on certain weekdays may be approximated over time. The aim is to increase awareness and stimulate discussions among customers about the movie (Trusov et al., 2009).

Continuing from the example above, opinion leaders within this group of customers can be identified with the help of the profile-based features to enhance the word-of-mouth effect. Based on their indicated preferences, the opinion leaders may be invited to attend the preview of a
movie of their favorite genre, after which they will be requested to share their opinions about the movie with others in the group. The request may be sent when the opinion leaders are detected to be with his/her friends. The information propagation through the opinion leaders will serve to intensify the social influence among customers in diffusing a commercial message (in this case, information about the movie). The proximity between the opinion leaders and the other group members during the gathering also increases their mutual exposure and interaction, and may create continuous cycles of members within the group being susceptible and infectious to each other. Furthermore, the spontaneous propagation of messages to those who join the group once in a while (i.e., weak ties) through the MSNA may help to enhance the reach of the messages to different groups of consumers. Together these led us to the following hypothesis:

**Proposition 4:** Integrating the profile-, spatial-, and temporal-based features in MSNAs would offer merchants a more holistic understanding about their customers. Subsequently, appropriate commercial messages could then be sent to the consumers that yield (a) faster spread of message, (b) higher response rate, and (c) better response quality.

**DISCUSSION AND IMPLICATIONS**

To recapitulate, we focus on three manifestations of commercial viability based on a review of the viral marketing literature. The propositions on MSNAs offer valuable insights into how such emerging mobile applications should be developed and molded to bring about greater benefits to both their providers and consumers.
While we have derived an important set of MSNA features and proposed an assessable set of propositions in relation to commercial viability, we did not provide empirical validation of these propositions. Our aim has been to systematically tie together relevant literatures through the social network paradigm to propose a conceptual framework on which future research on MSNAs can leverage.

Additionally, we did not embed some areas of research into this article to keep our scope manageable. First, our focus on the profile-, spatial-, and temporal-based features unavoidably leaves out some other potentially important features of these applications that deserve attention, e.g., decision support features. Nonetheless, we believe that it is important in its own right to unveil in-depth insights into how the profile-, spatial-, and temporal-based features of MSNAs can lead to the attainment of their commercial viability.

Second, the advantages of MSNAs do come with their drawbacks. One of the major concerns is users’ fear of privacy invasion which has been highlighted by previous studies on MSNAs (Sadeh et al. 2009). Previous studies have highlighted privacy issue as a major factor inhibiting users’ acceptance of new technologies (Stewart and Segars 2002). Nonetheless, this issue may be alleviated given careful design of mobile applications such that users can enjoy its functionalities while having their privacy protected (Sutanto et al. forthcoming).

Implications for Research

This article contributes to research on several fronts. First, extant research has placed
separate focus on the technical design; user behavior; and potential commercial opportunities of mobile applications including MSNAs. This research undertakes a coherent integration of the three seemingly disparate themes by examining user behavior together with the business aspects of MSNAs, and proposing the technological design considerations to fulfill the needs and interests of the users for enhancing their commercial viability.

Focusing on three key features of MSNAs i.e., profile-, spatial-, and temporal-based features individually and collectively, we explore the question of how these features may effectively reach the right customers (profile-based) with the right products/services at the right place (spatial-based) and right time (temporal-based). We contend that the answer to this question lies in an understanding of consumer behavior in terms of their usage of the MSNA to perform social and economic activities. First, individuals use these applications to interact with one another and form social groups. To aid in understanding how individuals’ social networks can be leveraged on, we have provided a comprehensive explanation of the different social network perspectives that may inform future research. Individuals can also use the applications to organize their social and economic activities within the actual physical context. For merchants, this could mean the opportunity to obtain a better understanding of their customers’ context while performing a shopping activity. For this we have organized our discussion on how the different features can lead to the attainment of commercial viability of MSNAs through a rich collection of pertinent social network perspectives that have mostly been employed in isolation in previous research endeavors.

The propositions that link the features to achieve commercial viability can be further
formulated into specific hypotheses for empirical validation. Researchers may identify the specific, individual features of interest. For instance, researchers may test the effectiveness of a spatial-based feature that delivers promotional messages from nearby shops to users when they are within the area. They may also test these features in combination.

Implications for Practice

For the providers of MSNAs, merchants, and marketing managers, this article suggests possible measures to tap on MSNAs to maximize returns on their investments. Specifically, this can be achieved via two leverages: 1) the social networks formed among the customers through the applications; and 2) the contextualization afforded by the applications whereby the customers are able to conduct social and economic activities at the actual physical contexts.

For the first leverage, this article provides detailed discussion on the different mechanisms through which the social networks of customers can be interpreted, analyzed, and tapped on. The key for this is the effective use of the profile-based features to identify customers who are more influential e.g., opinion leaders, and those who can be more easily influenced. It is also important to improve the connectivity of the customers’ networks e.g., by bridging structural holes and exploiting weak ties in the networks. Additionally, practitioners need to be aware of the dynamic nature of social influence among the customers, such that the social contagion among the customers should be viewed as a continuous process with mutual influence between customers who are more influential and those who are more easily influenced.

The above potential exploitation of customers’ social networks is made more viable with the
capabilities of MSNAs that enable customers to conduct social and economic activities at the actual physical context. The implications to practitioners with regard to this second leverage is that it is vital to encourage the customers to make full use of the spatial- and temporal-based features of these applications to conduct and organize their activities such as social gatherings and shopping activities. It is also important to construct a reliable and effective system to deal with and respond to the contextual information of customers in real time.

However, caution needs to be taken in exploiting the aforementioned features for this purpose, such that the afforded delivery of highly targeted commercial messages could irritate the users due to privacy concern. For this practitioners may consider designing their applications such that all personal and contextual information are kept within users’ mobile phone to give them a feeling of psychological comfort that their privacy is preserved (Sutanto et al. forthcoming).

CONCLUSION

Mobile commerce and the possibility to harness the power of consumers’ social networks constitute two emerging areas of research and practice that have received growing attention in recent years. The combination of the two gives rise to the MSNA that can serve as a powerful tool to help practitioners unleash the commercial opportunities of modern information and communication technologies. This article can serve to provide timely and useful guidance for future research and practice on this promising IT artifact.
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