



If you love something, let it go mobile: Mobile marketing and mobile social media 4x4

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Abstract Social media applications—including collaborative projects, micro-blogs/blogs, content communities, social networking sites, and virtual worlds—have become part of the standard communication repertoire for many companies. Today, with the creation of increasingly powerful mobile devices, numerous social media applications have gone mobile and new entrants are constantly appearing. The purpose of this article is to take account of this evolution, and provide an introduction to the general topic of mobile marketing and mobile social media. Herein, we define what mobile social media is, what it is not, and how it differs from other types of mobile marketing applications. Further, we discuss how firms can make use of mobile social media for marketing research, communication, sales promotions/discounts, and relationship development/loyalty programs. We present four pieces of advice for mobile social media usage, which we refer to as the ‘Four I’s’ of mobile social media. Finally, we conclude by providing some thoughts on the future evolution of this new and exciting type of application.

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1. Mobile marketing and mobile social media: The new revolution

How many of your friends own an iPad? When was the last time you met someone who did *not* have a mobile phone? And how would you feel if you had to exchange your Blackberry or Android for, let’s say, a Nokia 3310—one of the most popular 2G phones, suitable only for making calls and sending text messages? Over the past decade, mobile devices such as cellular phones and tablet computers have

become such an essential part of our lives that it is hard to imagine functioning without them. Once upon a time, people needed a dime and a public phone to arrange meeting times and places with friends. Now, however, this methodology seems as ancient as dinosaurs and black and white television. Indeed, 90% of Americans own a mobile phone, with one-third of these being a smartphone; that is, a hand-held computer capable of multiple functions in addition to placing calls. In this environment, it should come as no surprise that three out of four U.S. companies are either planning to or are currently engaged in mobile marketing.

The first mobile device capable of offering location-based services—and, therefore, capable of supporting

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mobile marketing—was the Palm VII, a PDA introduced by Palm Computing in May 1999. It allowed users to obtain zip code based weather and traffic reports, and Web browsing for an impressive \$300 per MB of transmitted data. Two years later, in December 2001, NTT DoCoMo launched the first commercial location-based service on GPS with features such as a friend finder, a restaurant guide, and a mapping tool. But it is probably safe to say that the mobile marketing revolution only truly came to pass with the June 2007 launch of the iPhone. Since then, over 100 million iPhones have been sold worldwide, giving users access to more than 250,000 applications which allow them to read books (Kindle app), to research information (Wikipedia app), to make restaurant reservations (Open Table app), and to keep in touch with their friends (Facebook app).

After the iPhone exploded onto the scene, companies such as Gowalla (founded in 2007) and Foursquare (founded in 2009) appeared on the landscape, specializing in a new form of mobile marketing called *mobile social media*. Soon thereafter, these were followed by specialized applications of leading Internet companies, including Google Latitude (2009) and Facebook Places (2010). Today, the pure player Foursquare is generally considered to be the market leader in the area of mobile social media, with nearly 10 million registered users and a growth rate of 30,000 per day. In essence, Foursquare allows one user to notify others about his or her location by ‘checking-in’ at a certain place. Mobile social media differ from traditional social media applications in important ways, and the purpose of this article is to highlight those differences and their implications for companies. In honor of Foursquare, we are structuring this article in Foursquare, four square, 4², 4x4 parts:

- A definition of mobile marketing and mobile social media (Section 1);
- A discussion of the business use of these applications (Section 2);
- Four pieces of advice on mobile social media usage (Section 3); and
- A discussion of future—and not so future—trends and challenges (Section 4).

1.1. Mobile marketing: What it is, and what it’s not

Mobile social media belongs under the wider umbrella of mobile marketing applications. For the purpose of our article, we define *mobile marketing*

as any marketing activity conducted through a ubiquitous network to which consumers are constantly connected using a personal mobile device. Mobile marketing therefore requires three conditions. The first of these is a ‘ubiquitous network,’ a term first coined by Mark D. Weiser (1991), chief scientist at Xerox PARC in Palo Alto, California. Contrary to common belief, a ubiquitous network is not necessarily one single network, but rather a combination of different networks. A user can, for example, be connected at home through a wireless LAN, switch to 3G when leaving the house, and log into a WiMAX network at work. The important factor is not the network itself, but that the switch or ‘handshake’ between different networks happens in a smooth and invisible way. The second condition entails the user having constant access to this network. For a mobile phone this stipulation is almost trivial, since many people rely so heavily on their phones that they wouldn’t dare leave home without them. For other devices—such as tablet computers—constant access depends more on the user than on the technology itself, as it requires a conscious decision to not switch off the device but instead keep it connected 24/7. The last condition involves use of a personal mobile device. A *mobile device* is any tool that allows access to a ubiquitous network beyond one specific access gate. The most common example of a mobile device is a mobile phone, but a netbook also counts if it can access different types of wireless networks (e.g., WLAN, 3G, WiMAX). For mobile marketing to make sense, this mobile device needs to be personal; that is, not shared with anyone else. This requires that each household member has their own device and that each device can be identified uniquely, as through a built-in SIM card.

1.2. Mobile marketing: Classification of mobile marketing applications

Within this definition, we use two variables to differentiate between four types of mobile marketing applications: (1) the degree of consumer knowledge and (2) the trigger of communication. Regarding the degree of consumer knowledge, the use of a personal device allows companies to customize their messages to each individual user, similar to the idea of one-to-one marketing (Peppers, Rogers, & Dorf, 1999). It is, however, important to realize that this technical ability for personalization does not imply that all mobile marketing needs to be—or even should be—on a one-to-one basis. Also, we can differentiate between the degree of consumer knowledge of the network operator (e.g., the mobile phone company or Internet service provider) and that of the initiator of the mobile marketing

Table 1. Classification of mobile marketing applications

		Trigger of communication	
		Push	Pull
Degree of consumer knowledge	High	<p>Victims</p> <p>AT&T sent SMS text messages to 75 million customers suggesting they watch <i>American Idol</i> and vote for candidates using their AT&T phone</p>	<p>Patrons</p> <p>Pop icon Britney Spears enabled fans to receive—for \$2.99 per month—<i>Britney’s Diary</i>: a weekly text message about her life during a concert tour</p>
	Low	<p>Strangers</p> <p>Toyota teamed up with Fox Broadcasting to insert 10-second commercials into 26 short mobile movies, so-called ‘mobisodes,’ for the TV show <i>Prison Break</i></p>	<p>Groupies</p> <p>Calvin Klein used Quick Response codes on billboards in New York to allow users to pull up an exclusive 40-second commercial</p>

campaign, as they are not usually identical. Regarding the trigger of communication, we differentiate between push communication, which is initiated by the company, and pull communication, which is initiated by the consumer (Table 1).

Within the first group (low knowledge/push), companies broadcast a general message to a large number of mobile users. Given that the firm cannot know which customers have ultimately been reached by the message, we refer to this group as *strangers*. Within the second group (low knowledge/pull), customers opt to receive information but do not identify themselves when doing so. The company therefore does not know which specific clients it is dealing with exactly, which is why we call this cohort *groupies*. In the third group (high knowledge/push), companies know their customers and can send them messages and information without first asking permission. We refer to this group as *victims*. The last group (high knowledge/pull) covers situations where customers actively give permission to be contacted and provide personal information about themselves. This allows for one-to-one communication without running the risk of annoying your clients, and we refer to this group as *patrons*.

1.3. Mobile social media: Definition and typology

Building on this definition of mobile marketing, as well as our previously-published definition of traditional social media (Kaplan & Haenlein, 2010), we now define *mobile social media* as a group of mobile marketing applications that allow the creation and exchange of user-generated content. Companies engaging in mobile social media will often have some sort of knowledge about the consumers with whom

they’re dealing, such as current geographical position in time or space. Additionally, these users will nearly always agree to receiving information from the company, for example by ‘checking-in’ at certain locations. This makes mobile social media users a specific form of patrons in our mobile marketing classification. Similar to mobile marketing in general, we differentiate between four types of mobile social media applications, depending on whether the message takes account of the specific location of the user (location-sensitivity) and whether it is received and processed by the user instantaneously or with a time delay (time-sensitivity) (Table 2).

Location-sensitivity in a broader sense is not new to marketing, and geographic factors have previously been considered in marketing decision making. Examples of this include retail location planning (Inman, Winer, & Ferraro, 2009; Ozimec, Natter, & Reutterer, 2010) and demand forecasting (Yang & Allenby, 2003). Today, however, technologies such as GPS, GSM, Bluetooth, and RFID make it possible to identify the exact location of a specific mobile device at a particular moment. Similarly, time-sensitivity allows the creation and transmission of messages that are of relevance at a particular moment. A company can, for example, spontaneously decide to launch a sales promotion that is only valid for 1-2 hours and broadcast this information to all mobile devices within a certain range. We refer to applications that are neither location- nor time-sensitive as *slow-timers*, and to applications that take account of time and place simultaneously as *space-timers*. Applications that only reflect one of these two dimensions are referred to as either *space-locators* (location-sensitive but not time-sensitive) or *quick-timers* (time-sensitive but not location-sensitive). Based on this classification, it is evident

Table 2. Classification of mobile social media applications

		Location-sensitivity	
		No	Yes
Time-sensitivity	Yes	Quick-timers Transfer of traditional social media applications to mobile devices to increase immediacy (e.g., posting Twitter messages or Facebook status updates)	Space-timers Exchange of messages with relevance for one specific location at one specific point-in time (e.g., Facebook Places; Foursquare; Gowalla)
	No	Slow-timers Transfer of traditional social media applications to mobile devices (e.g., watching a YouTube video or reading a Wikipedia entry)	Space-locators Exchange of messages, with relevance for one specific location, which are tagged to a certain place and read later by others (e.g., Yelp; Qype)

that space-timers are the most sophisticated form of mobile social marketing applications. The remainder of this article will therefore focus on this type of mobile social media.

1.4. Mobile social media: Theoretical foundations and implications

Like any type of communication device, mobile social media require two actors: (1) a sender who is willing to share information and (2) a receiver who is willing to listen to it. This raises two relevant questions. First, why would somebody expend the effort to check in at a certain location, simply to provide information regarding their detailed whereabouts? One reason for this lies in the concept of self-presentation and self-disclosure (Goffman, 1959; Schau & Gilly, 2003), which states that people are willing to reveal information about themselves if this information is consistent with the way they would like to be seen by others. For example, a trendsetter will happily check in at Saks Fifth Avenue in New York, but probably be more reluctant to let everyone know that it's time again for weekly grocery shopping at the Wal-Mart Super Center on Staten Island. A second reason can be found in impulsiveness theory (Ainslie, 1975; Hoch & Loewenstein, 1991; Thaler & Shefrin, 1981), which states that people constantly struggle between displaying long-term control and giving into short-term temptations. People might therefore be willing to post status updates and upload videos on their way to work for exactly the same reasons they would purchase a candy bar at the drugstore check-out, although it is incompatible with their plan to live a healthier life.

The second, and equally important, question is: Why do others—that is, friends and firms—care to read and react upon this type of information? For

friends, the reason may lie in the concept of ambient awareness; that is, awareness created through regular and constant reception, and/or exchange of information fragments through social media. Knowing the places a person has been throughout the day, combined with some casual comments here and there, might tell you more about your friend than a 2-page email. For firms, mobile social media allow marketing messages to be distributed that are relevant only for specific locations and/or time periods. The excitement that results from the expiration date of these messages can prompt more effective marketing communication. This is similar to what can be observed in the context of price promotions, where it has been shown that—in addition to any potential financial windfall—sweepstakes and contests create value for consumers through their mere entertainment character (Chandon, Wansink, & Laurent, 2000).

2. Mobile social media and the firm: Business use and potential

By now, it should be clear that traditional social media offer a variety of opportunities for companies in a wide range of business sectors. This is true for social media in general (Kaplan & Haenlein, 2010), as well as specific applications like virtual social worlds (Kaplan & Haenlein, 2009) and micro-blogs (Kaplan & Haenlein, 2011a). Social media have, for example, been shown to be particularly powerful in generating viral marketing phenomena (Kaplan & Haenlein, 2011b) and supporting new product launches (Kaplan & Haenlein, 2012). Nevertheless, mobile social media—and, particularly, space-timer applications—differ significantly from traditional

social media. Next, we discuss how companies can make use of these specific characteristics in areas as different as marketing research, communication, sales promotions/discounts, and relationship development/loyalty programs.

2.1. Marketing research

Mobile social media applications offer data about offline consumer movements at a level of detail heretofore limited to online companies. Any firm can now know the exact time at which a customer entered one of its outlets, as well as comments made during the visit. Historically, companies have gone to great lengths to put a face to their anonymous customer base. Today, though, applications like Foursquare make it easy to obtain general statistics, such as number of check-ins per time of day, gender, or age group; as well as individual ones, such as which customers have checked in most often or most recently. Combining this information with sophisticated data-mining techniques gives traditional grocery retailers, music stores, and auction houses the ability to become as efficient as Amazon, iTunes, or eBay. While social media in general have been claimed to give more power to end-consumers (Kaplan & Haenlein, 2010), mobile social media might return some of that power back to companies.

For some inspiration, consider a recent collaboration between Safeway—North America's second-largest supermarket chain—PepsiCo, and Foursquare (Angrisani, 2010). During the 3-month pilot program, Safeway offered a set of exclusive discounts on selected PepsiCo products to all customers who linked their Foursquare account to their VonsClub loyalty program card. Discount coupons were, following presentation of the loyalty card, printed directly at the check-out and tailored to each customer depending on his or her Foursquare habits. Are you a morning person, indicated by many early check-ins at different places? Saving money on Tropicana orange juice and Quaker Oats might just be for you. Do you own the 'Gym Rat Badge,' which can be earned by checking in at the gym 10 times in 30 days? If so, you may appreciate that discount on SoBe Lifewater to hydrate after your next training session.

2.2. Communication

Mobile social media communication takes two forms, the first of which is *company-to-consumer* communication. An example of this can be found in Metro International, a Swedish media firm, which uses Foursquare to communicate around its free daily newspaper, *Metro Canada*. Customers who follow *Metro Canada* on Foursquare receive location-based

content, such as reviews for restaurants in close proximity. In a similar spirit, the UK artist Cheryl Ann Cole relied on Facebook Places to promote her 2010 album, *Messy Little Raindrops* (Hosea, 2011). People passing by one of 114 poster locations in London and Cole's hometown of Newcastle were invited to check in at the respective billboard. Once this was done, they were automatically connected to Cheryl's presence on Facebook and entered into a drawing for two free tickets plus travel accommodations to one of her X-Factor shows. The check-in was also shared on the artist's and user's Facebook pages, which made it—as well as the corresponding promotion of the album—visible to all of the user's Facebook friends. Besides being an interesting example in itself, such applications also demonstrate the potential of mobile social media to track exposure and effectiveness of the medium.

The second type of communication is *user-generated content* (UGC). If your company does something truly extraordinary, chances are that the Foursquare community will talk about it and probably transform a simple company message into a viral marketing phenomenon (Kaplan & Haenlein, 2011b). On the 2010 Foursquare Day—April 16, or 4/16—McDonald's offered \$5 and \$10 gift cards to 100 users randomly selected among those checking in at one of the restaurants. This promotion increased check-ins by 33% (from 2,146 to 2,865), resulted in over 50 articles and blog posts, and prompted several hundred thousand news feeds and Twitter messages. Not bad results for an investment of less than \$1,000! Given the high power of viral marketing, Foursquare is supporting the creation of UGC by offering a 'shout' function, which allows leaving messages in the form of virtual graffiti at a location and awarding 'Swarm Badges' if more than 50 Foursquare users check in at the same place at the same time.

2.3. Sales promotions and discounts

As illustrated, Foursquare offers many ways of taking sales promotions and discounts to the next level. Forget the old days, when coupons were printed in newspapers and clipped by consumers. Today, Foursquare allows the tailoring of promotions not only to specific users, but also specific time periods. The business newspaper *Financial Times*, for example, offers a premium FT.com subscription worth \$300—but only to Foursquare users who check in regularly at certain coffee shop locations around the London School of Economics and New York's Columbia University. If you have a new product to promote, follow the example of Virgin America. In launching its California-Cancun service, users who checked in through Loopt at one of three designated

Border Grill taco trucks in San Francisco and Los Angeles between 11 am and 3 pm on August 31, 2010, could get two tacos for \$1 and two flights to Mexico for the price of one. In San Francisco alone, 1,300 people checked in during the 4-hour window, 80% of whom actually purchased tickets from Virgin America (Olson, 2011; Quinton, 2010).

Such promotions do not necessarily need to be associated with tangible benefits. The coffeehouse chain Starbucks, for example, offers users a 'Barista Badge' if they check in at five different Starbucks locations. In a similar spirit, the German airline Lufthansa created an Oktoberfest promotion on Foursquare. Customers flying to Munich during the period of the Oktoberfest received a message inviting them to check in at three different venues in Munich from a list posted on the Lufthansa Foursquare page. Upon doing so, they received the 'Oktoberfest Badge' and a €20 voucher toward their next ticket purchase. Sales promotions are often considered the ugly duckling of marketing: necessary and efficient, but terribly boring. Yet, with applications such as Foursquare, they might just become the beautiful swan of mobile social media.

2.4. Relationship development and loyalty programs

Ultimately, long-term growth does not stem from the one-time transactions that can be triggered by sales promotions, but rather from repeat business and customer loyalty. Google Latitude offers customers the option to gain bronze, silver, or gold status at places where they check in regularly; American Eagle Outfitters remunerates such customers with a tiered 10%, 15%, or 20% discount on their total purchase; and at Foursquare, users loyal to a certain location—that is, checking in most often during the previous 60 days—become 'mayor' of that place, garnering potentially considerable benefits. At Domino's Pizza in the UK, the mayor receives a free pizza each Wednesday. Likewise, at the Golden Corral restaurant chain, mayors can eat and drink for free once a day.

Another option is to link your own loyalty program to Foursquare, similar to the aforementioned collaboration between Safeway and PepsiCo. The New York-based company Tasti D-Lite, known for its frozen desserts, encourages customers to connect their Foursquare and Twitter accounts to their Tasti D-Lite membership cards (Clifford, 2010). Those who agree to do so earn additional points for every purchase. In exchange, their Foursquare and Twitter accounts are automatically updated each time the card is swiped at a Tasti D-Lite store. This increases brand awareness for Tasti-D-Lite, and the company is

experimenting with combining these automatic updates with coupons that a customer's friends and followers can later redeem. Additionally, it encourages Tasti D-Lite store owners, who operate under a franchising system, to engage with customers and obtain performance-based metrics for their relationship development efforts. This represents a win/win/win/win system for Tasti D-Lite, franchisees, customers, and customers' friends.

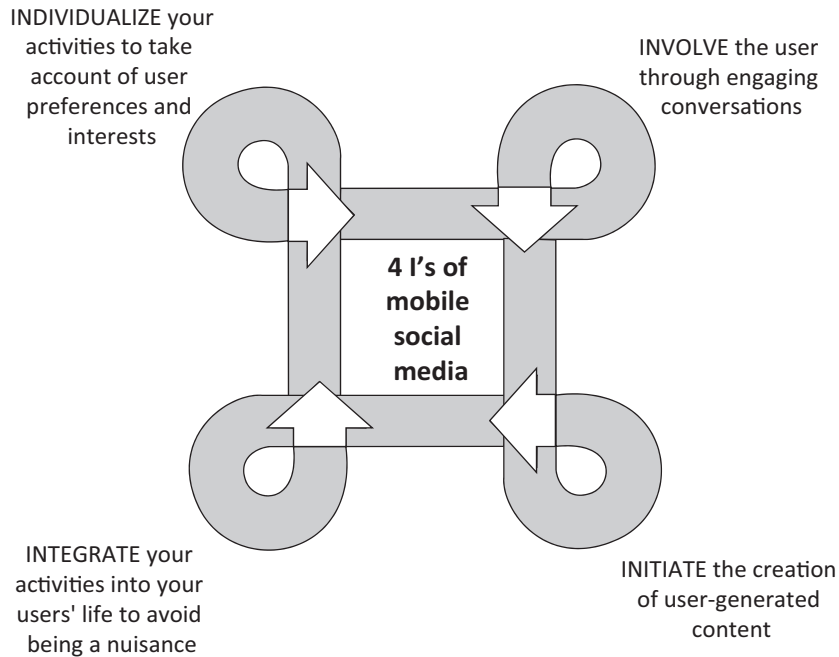
3. Four I's see more than two: Mobile social media advice

While myriad opportunities exist by way of this novel communication channel, companies undertaking the practice must also be aware of the associated challenges. Mobile social media offer two pieces of information not available through any other channel: data on the consumer's time and place. This makes it possible for businesses to see clients in a completely different light. And since it is commonly said that four eyes see more than two, we have developed the 'Four I's' of mobile social media usage to help firms entertaining this new environment. First—and to the greatest extent possible—companies should try to *integrate* their mobile social media activities into the lives of users, to avoid being a nuisance. Second, such integration can be achieved by *individualizing* activities to take account of each user's preferences and interests, and provide the opportunity to, third, *involve* the user through engaging in conversation. If firms are really lucky, they might, fourth, even *initiate* the creation of user-generated content and word-of-mouth, which allows for tighter integration of activities into users' lives. As we detail next, although these four pieces of advice are targeted toward space-timers, they can be equally relevant for the other three types of mobile social media applications (Figure 1).

3.1. Integrate your activities into users' lives, to avoid being a nuisance

As privacy is key in the area of mobile social media, companies should avoid disturbing their customers at all cost. Whereas computers are used mainly for business, searches, and transactions, mobile devices serve primarily to communicate with friends. If a customer installs your application, or checks in at one of your outlets for that matter, this can be seen as a strong sign of trust and indicates willingness to enter a commercial friendship with your company (Price & Arnould, 1999). Firms should avoid abusing this trust; for example, by bombarding their users with off-the-shelf advertising

Figure 1. Mobile social media advice



messages or customer surveys. Otherwise, companies risk the friendship breaking up before it has actually started. Never forget that users can delete the application or block your messages with only a couple of clicks. While this rule applies to all types of mobile social media applications, it has special relevance for time-sensitive applications (quick-timers and space-timers) since companies have a higher tendency to over-communicate if the information is only relevant for a short period of time.

One way of integrating your activities into the daily life of users is reflected by the 'Louisville Tour,' a city tour organized in collaboration between Gowalla and the *Louisville Courier-Journal*, in anticipation of the Kentucky Derby (Indvik, 2010). To allow visitors to get the most out of their trip to Louisville, Gowalla and the *Courier-Journal* created a series of eight suggested Gowalla check-ins at major landmarks, including Louisville Slugger Field and the Kentucky Derby Museum. For those interested more in entertainment than culture, the city also offered the 'Louisville Bar Crawl,' comprised of a set of 10 restaurants, bars, and club venues that users could check in to. All users who checked into either the 8 major landmarks or the 10 entertainment venues, or even both, were awarded a badge as proof of their achievement.

3.2. Individualize your activities to take account of user preferences and interests

Another dimension in which mobile devices differ from computers is that they are usually not

shared, but rather belong to one individual. This allows for highly personalized company-to-consumer communication, an opportunity firms should capitalize upon. One way of doing this entails customizing messages based on the geographic area in which the user is present. This makes individualization a highly relevant option for location-specific applications (space-timers and space-locators). The mobile social media application Fearsquare, for example, compares check-ins to official police statistics, which include—among others—robberies and violent crime, to give people an impression of the safety of their current location. Another way is to rely on stated information about customer tastes and preferences. At the fast-food chain 4Food, users can customize their own burgers and then check in their ingredients, rather than themselves. Points and a 25-cent credit are awarded every time another customer orders the same burger, and winning burgers are displayed on a leader board in the restaurant.

Campaigns employing generic, as opposed to individualized, messages usually perform less well; indeed, these may even do more harm than good! Consider the Foursquare promotion for Sylvester Stallone's movie, *The Expendables* (Van Grove, 2010). In 11 cities across the United States, users checking in at certain locations received messages such as: "With over 250,000 ways to order your burger it's no wonder that Five Guys burgers are considered bad ass. Brought to you by The Expendables opening August 13!" and "Ask for Thad! The most bad ass tattoo artist in San Diego! Brought to you

by The Expendables opening August 13!” In essence, these messages combined general statements about the specific location, which was already known to most users checking in, with a reference to *The Expendables* that was often unrelated to the location itself. This lack of individualization resulted in harsh criticism by the Foursquare community.

3.3. *Involve the user through engaging conversations*

The real-time response capabilities of mobile devices, combined with the potential for geo-localization, allows for the creation of highly engaging conversations with current and prospective customers. The most effective mobile social media campaigns therefore often involve the user in some form of interactive story or game to create a shared experience between the company, the user, and possibly even the user’s own social network. Time-sensitive applications (quick-timers and space-timers), especially, require high levels of involvement as they rely on synchronous and instantaneous communication. In these cases, companies have a very brief time window in which to speak with their customers; if they miss the occasion, there may not be a second chance. In April 2010, the NBA’s New Jersey Nets partnered with Gowalla to distribute tickets for the team’s game against the Charlotte Bobcats (Dilworth, 2010). Five hundred tickets could be found throughout New York and New Jersey by checking in at various sports-related locations such as bars, gyms, and equipment stores. Fifteen percent of all people who found a ticket actually attended the game—a huge success, given the Nets’ bad season and the fact that the game took place on a Monday night.

Firms must, though, pay close attention to keeping their employees in the loop when organizing this type of event. Otherwise, they may find themselves in the same situation as the retail clothing store chain Gap, which organized a promotion granting 25% off all purchases to Foursquare users—but did not inform employees. As a result, instead of applying the discount, Gap staff members made fun of the event in front of customers. One client, for example, received the response: “Oh, the hopscotch special with the magic code. Right, let me enter that in!” This resulted in feelings of insult and embarrassment, instead of appreciation. Disappointed patrons so negatively discussed the incidents on their blogs and Twitter accounts that many other users refused to even give it a try. Events like this are always critical, but when they involve a highly interactive medium such as mobile social media, they may turn into public relations nightmares.

3.4. *Initiate the creation of user-generated content*

Even when a firm respects all of the aforementioned rules and engages in integrated, individualized, and involving conversations with its customers, corporate messages will never be as effective as word-of-mouth communication between consumers. The Holy Grail of mobile social media usage is, therefore, to initiate the creation of user-generated content in order to ignite truly powerful viral marketing campaigns (Kaplan & Haenlein, 2011b). This is particularly true for space-locators, who get their value from comments which users have made and attached to certain locations. Negative comments are certainly not good for your business, but no comments might even be worse; in this case, no news can indeed be bad news. Check out the Foursquare application of the restaurant guide, Zagat (<https://fouraquare.com/zagat>). Users who check in at Zagat-rated restaurants can not only obtain the ‘Foodie Badge,’ but also have access to comments left by other users, including suggestions for activities or dishes to order at the specific venue. To engage the user community even further, Foursquare users who obtain mayorship at certain restaurants have the chance to be featured on the Zagat website in the form of a video interview in the ‘Meet the Mayor’ section (Maul, 2010).

In all honesty, triggering such user-generated content is far from straightforward and many companies may not achieve this objective, no matter how much effort they put into it. Nevertheless, at the very least, firms should pay close attention to avoiding negative comments made about their actions within the Foursquare community; and with such a demanding group of customers, negative comments may be plentiful. Starbucks received, for example, harsh reviews when it became public that many mayors of Starbucks cafés are actually the baristas working there. Other firms were criticized because they offered inappropriate compensation to their mayors. Consider Pizza Hut, where mayors receive a single order of breadsticks worth \$4; this compares poorly to the free pizza offered by Domino’s and the free meal offered by Golden Corral. Burger King was also blasted for its reward: a free cup of coffee—with three check-ins at the restaurant and a full-price burger purchase.

4. What tomorrow brings: The future of mobile social media

The world of social media is evolving at warp speed; what is considered science fiction today might be

reality tomorrow. Still, there are several areas in which we think mobile social media will make the most significant progress in years to come. Most notably, mobile devices will likely penetrate the world with increasing pace, becoming the only means of communication that allows true global reach of customers in different countries and demographic groups. Also, the devices themselves will evolve substantially and transform from simple communicators to—in *Star Trek* parlance—tricorders. By helping social media shrug off its chains, mobile social media has the potential to bridge the gap between the virtual sphere and real life and, in doing so, might prove to be an even more important evolution than the initial introduction of social media itself.

4.1. Global reach: Anywhere, anytime, anyone

In the United States, the penetration of mobile phones and personal computers is just about equal, with 9 of 10 Americans having access to both devices. In emerging markets such as the BRIC countries (Brazil, Russia, India, China), however, the numbers look very different. According to the Boston Consulting Group, there are nearly four times as many mobile-phone subscriptions in BRIC states as PCs in use (1.65 billion vs. 0.43 billion). On a global scale, there are five billion mobile phone connections for 6.9 billion people, leading to an overall penetration rate of 70%. In several countries—including Hong Kong, Italy, and Germany—penetration rates exceed 100%, as many consumers own at least two mobile devices. It should therefore come as no surprise that the Pew Research Center, a think tank located in Washington DC, estimates that by 2020 a mobile device will be the primary Internet connection tool for most people around the world.

Even companies intent on focusing locally would be wise to turn to mobile devices if they're interested in reaching *Generation Z* or the *Net Generation*: customers born between 1990 and 2000. Those teenagers and 20-somethings don't read newspapers (which is why newspapers will likely disappear in the near future), don't watch regular TV (at least not without passing it through a TiVo), and are surrounded by their personal mobile devices most of the time (which makes it nearly impossible to reach them through billboards or radio). But the fact that social media have always been part of their lives—Facebook was founded in 2004, YouTube in 2005, and Twitter in 2006—makes them perfect candidates for mobile social media applications. Today, the market is still small and only 5% of the U.S. population uses location-based social media applications. Tomorrow, however,

it is likely to become the main channel of communication for most companies around the globe.

4.2. Communicator or tricorder: The mobile device as ultimate control center

In addition to being used by more and more people, mobile devices will evolve from simple cordless phones to multi-function control centers. In January 2011, Starbucks launched the largest mobile payment program in the United States (Protalinski, 2011), consisting of an application that can turn any smartphone into a Starbucks card. Instead of paying for a non-fat latte using cash, customers with this app can simply wave their phone in front of a sensor and be ready to go. The inspiration for this technology comes from Japan, where mobile phones already commonly serve as keycards, personal ID, airline boarding tickets, and so forth. Other companies have developed mobile phones with inbuilt projectors that allow pictures and movies to be shown on any surface, and virtual keyboards that project a full typewriter-size keyboard on the desk surface with laser technology to recognize key strokes. Compare the first 1G phones to today's iPhone 4 and you may get a glimpse of how much things will change over years to come.

Technological advances will also lead to new types of applications that make today's efforts look like beta-tests. Instead of tediously typing information into Google or Wikipedia, just take a photograph of a nearby monument. A 'point-and-find' application will match your picture to an image database and tell you that the nice-looking cathedral in front of you is actually Paris' Notre Dame. The same technology can be used to automatically show the trailer of a new blockbuster movie, and even buy a ticket instantly, when the user points their phone to a billboard advertisement. It works with people, too. Imagine taking a photo of a new friend and getting transferred immediately to their Facebook page so that you can stay in touch. Do you remember KITT, the supercomputer on wheels from *Knight Rider*, or the tricorder from *Star Trek*? In the future, your mobile phone might just be playing in the same league!

4.3. So far and yet so near: The human face of the virtual sphere

From a broader perspective, mobile social media allow for a tighter integration of virtual and real life. With status updates on Facebook and Twitter, users can know what their friends are doing at any particular moment; but through their Facebook Places and Foursquare check-ins, they see where they are physically located and actually join them in their

activities. In the same way that impulsiveness can lead people to post messages on mobile social media, such messages can evoke the impulsive decision to act on them and catch up with friends face-to-face. Previously, researchers believed that the Internet would result in less communication, less social involvement, and less well-being (Kraut et al., 1998). Today, we know the opposite is true (Kraut et al., 2002), and it is likely that mobile social media amplify these positive effects even further. Social networking sites are frequently used to stay in touch with old work colleagues or high school friends; with their extension to mobile devices, they have the potential to bring people living in the same area or neighborhood closer together. Social networking technology may even satisfy a hidden need for exhibitionism, to post where you are right now and see whether people react by coming to join you. Interestingly, this is exactly what social networking sites were created for in the first place. Don't forget that the initial intention of Mark Zuckerberg was to build an application that helped him get, and stay, in touch with his fellow female dorm mates.

The melding of virtual and real life allows for the creation of revolutionary, new ways of communication on the part of companies. Granata Pet, a German manufacturer of premium pet food, has for example developed a type of interactive billboard called 'check-in snack-out.' Anytime a user checks in at the billboard using Foursquare, a signal is sent to a built-in food dispenser which gives out a small sample of dog food for the user's furry friend. The solution is very easy to implement technically since it only requires a small device in the billboard that is linked to the Foursquare check-in database. If your dog is remotely similar to those of Pavlov, it will quickly learn where the free food is coming from and likely want to return; in an effort to please your pet, you will make checking in and watching your dog enjoy the treats part of your daily routine. As an added bonus, the positive effects of such a strategy are not limited to animals, since classical conditioning has also been observed for human beings in advertising research. This is, for example, behind the reason why companies use famous endorsers for their products (Petty, Cacioppo, & Schumann, 1983), and that 'attitude toward the ad' has such a prominent position in research analyzing the relationship between ad exposure and purchase intent (Mitchell & Olson, 1981; Shimp, 1981).

4.4. Lost chains: Future evolution of mobile social media

The opportunities outlined above involve specific challenges and hurdles that must be accounted for.

The most prominent of these relate to security, privacy, and trust. Facebook Places, Gowalla, Foursquare, and technology like them reveal a lot about users based on personal data and physical check-ins. Understandably, such information can be used for both constructive and nefarious purposes. To illustrate the danger of the latter, a group of technology developers from the Netherlands created PleaseRobMe.com. This website aggregates Foursquare check-ins that are automatically posted on Twitter. An algorithm then analyzes these check-ins to identify a user's home address, as well as his/her current location. Once the two become far enough apart, the user becomes a prime candidate for robbery. It is likely that this application, as well as others in the same spirit of illustrating the risk of oversharing information, will make users more reluctant to reveal certain pieces of information in the future.

Legislators in both the United States and Europe are beginning to address and deal with this problem, albeit from different angles. In the U.S., the Do-Not-Track Online Act of 2011 uses an opt-out possibility that forces companies to honor a user's choice of whether he/she wants data regarding online activities to be stored or not. In case a company fails to respond to such a request, the Federal Trade Commission is authorized to pursue action against the firm. In Europe, the New Challenges for the Protection of Personal Data Act of 2010 advocates the use of an opt-in solution, which requires firms to ask users before any data can be collected. Additionally, users are granted the 'right to be forgotten'—that is, the right to have data deleted once it is no longer needed for legitimate purposes.

In our article, *Users of the world, unite! The challenges and opportunities of social media*, we claimed that the specter of social media would help consumers to lose their chains and become more powerfully knowledgeable (Kaplan & Haenlein, 2010). Today, 2 years later, we see social media applications have literally lost their chains by migrating from desktop computers to mobile devices. Many questions remain in the area of mobile social media, though, and only the future can provide answers. Which players will survive the gold rush in this new industry? How will users and consumers actually integrate mobile social media into their day-to-day lives? The numbers speak for themselves: In June 2010, Foursquare obtained \$20 million in fresh venture capital from—among others—Union Square Ventures, a New-York based venture capital fund that also invested in Twitter and Zynga, the developer of Farmville. In July 2010, Foursquare registered its 100th million check-in, only 2 months after having vaulted the 40 million check-in hurdle. Today, the company's estimated worth is between

\$500 million and \$1 billion—not bad results for a firm that was only launched in March 2009. We cannot say what the future will bring, or whether Foursquare will still be around in 10 years. Maybe it will have been acquired by another firm; maybe it will have a different name; or maybe by then it will be a major player in the mobile social media scene, similar to Google, Amazon, and eBay. On thing, however, is certain: Even if the name changes on the surface, the underlying theories and basic concepts will not.

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