

Exploring Convergence and Innovation on the Mobile Platform: Mobile Social Media Services as a Case in Point

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Abstract

This paper focuses on the nature of convergence and innovation on the mobile platform. It posits the idea that convergence on the mobile platform is about providing an interoperable technology environment which can serve as a platform for developing multiple services, repurposing web-based applications or enhancing them; and enabling a range of functions for use on mobile devices. Because of this converged platform, the nature of innovation has changed. To illustrate this concept, the evolution of innovation in the mobile social media sector is discussed. Characteristics of companies in the mobile social media arena are identified and a case study of MeetMoi, a mobile dating service is presented as representative of this genre and as an example of how the nature of innovation on the mobile platform has changed to include a more individualistic kind of innovation. Implications for the role of the manager in light of these developments are discussed.

1. Introduction

Because of the development of the Internet in the late 1990s, digital-based applications and devices which enabled the distribution of these devices, began to proliferate. As a result, managers began to realize that they needed to incorporate these new media in their cadre of businesses if they were to survive. Moreover, for the first time, it was clear that such managers needed to look outside the boundaries of their corporations to access innovative capabilities [1]. For media companies in particular, managers embraced the notion of convergence in order to respond to companies which were developing digital content which competed with the traditional physical media that had been their business mainstay for hundreds of years [2]. For example, book publishers started to use the latest technologies and blend them with physical books. Thus electronic books were developed which were based on the use of hypertext, interaction between

web-based content and paper books and extensions of traditional book publishing techniques [3] [4]. In this context, convergence assumed that one of the media involved would be subsumed by the other and that the result would be something innovative but not necessarily recognizable. The convergence of technology and physical media had an impact on the nature of innovation as managers in companies engaged in convergence had to reassess their business models; decide what business they were in --- technology or content; hire appropriate talent; and generally pursue the creation of innovative products and services in a different manner than they had been accustomed to and in a different business landscape [5]. For example, with its entrance into the music business through developing iTunes, Apple, which was founded as a technology company, signaled to the record industry that in the future the music industry landscape will have a spectrum of players in it which would include not only music producers but also hybrid content/technology companies which have both the technical know-how to develop a robust media platform as well as access to a substantial loyal user population [6].

While in the examples described above, convergence was about the blending of technologies and content, more recently it has been thought of as a way to provide an environment which would seamlessly allow the use of two technologies so that a consumer could have one device which incorporated the capabilities of two different technological devices ,e.g, the convergence of the television and the personal computer [7]. Another convergence scheme calls for the seamless interaction between fixed wirelines and mobile. Dubbed fixed/mobile convergence, this kind of convergence enables the user to employ one device and seamlessly go from a wired connection to wireless connectivity [8]. Yet another type of convergence posits the interoperability between web-based applications and wireless applications. As an example,

some social media companies enable their users to communicate with their networks using the company website from a fixed location as well as through the use of a mobile device while away from the fixed location [9].

While these definitions of convergence may be applicable for the convergence of digital and physical media and for the blending of technological systems and devices, for the mobile arena, convergence has taken on a different meaning. Rather than subsuming one technology or blending two disparate media, on the mobile platform, convergence is about providing an interoperable technology environment which can serve as a platform for developing multiple services, repurposing web-based applications or enhancing them; and enabling a range of functions for use on mobile devices.

This paper focuses on how the array of technologies, e.g., new mobile devices, software such as Location Based Services (LBS) and other applications and a stable mobile technological infrastructure have “converged” to provide a robust and diverse technology platform which has enabled innovation on the mobile platform to occur. In particular, the mobile social media sector overall has emerged in the forefront of innovation on the platform because of these technologies; companies in this sub-sector of the virtual social media industry represent a major change in how companies are organized, managed, and innovate especially in a services-based economy [10]. To illustrate how the nature of innovation has changed as a result of these converging technologies, the evolution of innovation in the mobile social media arena will be discussed. The sub-sector has been usually been designated by its commonly used term, mobile social networks. However, with the development of other kinds of companies which are not easily defined as social networking, the term mobile social media is being used as a way of expanding this genre to encompass a wider range of applications. This paper will in fact differentiate between two kinds of mobile social media, mobile social networks and mobile dating services, which share some characteristics in common but also represent two different kinds of innovation on the mobile platform (Figure 1).

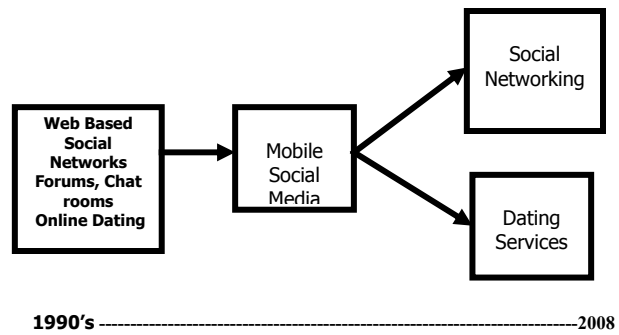


Figure 1 – Evolution of Virtual Social Media

This paper is composed of three sections. The first section will discuss the characteristics of mobile social media that have been delineated as a result of previous research on companies in this arena. The second section will focus on mobile dating services and include a case study of MeetMoi, a mobile dating service which is based in New York City. MeetMoi exhibits some of the common characteristics of other mobile social media companies but represents a new kind of innovation in this sector. The final section will draw some conclusions based on the case study on the future of innovation on the mobile platform, and implications for managers who are engaged in creating value in a business environment which includes a converged mobile platform.

2. Characteristics of mobile social media

The development of virtual social networking, that is, groups of people who congregate online and interact with one another overwhelmingly for social purposes, is a somewhat recent phenomenon although when the World Wide Web first became available to the average user, some social networking groups did use the technological infrastructure to form communities and like-minded user groups. For example, Usenet groups were established around particular subject matter, and chat rooms were formed to provide a forum for users who wanted to ‘meet’ online and communicate with one another on specific issues [11]. Other companies as Facebook and MySpace have created platforms on which users develop their own content, e.g., personal profiles, photos, blogs, and journals and share it with their others [12].

With the emergence of a more robust mobile platform, and the availability of a large variety of mobile devices such as multi-functional PDAs and cell phones, mobile social networks began to proliferate. However, they did not develop at the pace of web-

based applications. This was primarily due to the fact that content innovation on the mobile platform in the United States had been fairly stagnant. Indeed, most of the innovation centered around the development of devices, e.g., mobile phones, and other hand-held devices and the building of the infrastructure to support the services which were provided by the carriers [13]. As voice services became more of a utility and customers began to buy carriers' services based on price and coverage, the mobile carriers realized that they needed another source of revenue. Content provisioning became a central part of the carrier's business strategy as they sought to control the types of content that their customers had on their devices and become the intermediary to major content providers. At this stage, content providers were still focused on developing digital content for the Internet and many did not see the value of developing content for a platform which had multiple devices, lacked standards and interoperability between the various networks owned by the carrier [14].

As the mobile platform matured, this situation began to change and mobile operators formed more equitable partnerships with major content carriers and also allowed smaller organizations to develop content for use on their devices and networks. In addition to the more open environment for creating content, there was now a more stable technological infrastructure which could support complex content offerings and a plethora of devices which allowed users to do more with their phones than just receive and make phone calls [15]. Moreover, a new set of technologies called Location Based Services (LBS) had emerged which enabled systems developers to pinpoint the location of a mobile user and integrate this information into mobile applications. Thus, the software could keep track of where a user was and transmit this information to a user as needed. These technologies gave users the capability of finding their way to particular locations and alerting others to their locations in an urban setting [16]. With all of these technological advances in place, mobile social media emerged as an important sub-sector of the virtual social media industry and is representative of the next wave of innovation in this burgeoning industry.

In an earlier analysis of mobile social networking companies, an important arena in the mobile social media sector, some commonalities and important characteristics of these companies were described [17]. The most significant characteristic which defines this genre is that these companies have very few products and overwhelmingly are formed to service users who create the products or co-create them with employees of the company. Thus users are at the center of these companies and are their *raison d'être*. An example of this is Upoc, a mobile social

networking company based in New York City whose core competency is providing a robust technology platform for its 40,000 community groups. One of the first mobile social networking companies established in the United States, Upoc services about 4 million unique users. Such users belong to community groups whose topics range from music and dating to religion. Users in these communities participate in creating content such as microblogs and interact with one another on a regular basis. Indeed the community itself which uses the platform and services of the host company becomes a seedbed of innovation. Another example of user-centricity is Dodgeball, a New York based subsidiary of Google. Dodgeball's core service model entails providing users with a platform on which they can meet their friends or friends of friends in an urban setting. Using a simple set of mobile technologies, the company provides an online venue where users can create content about themselves and about the places they have visited with their 'community of friends' [18].

Related to the user-centric nature of mobile social networking organizations is another important characteristic of these companies, namely, that they are continually engaged in virtual community building. Each of these mobile communities attracts a different kind of demographic. For example, Upoc's users are overwhelmingly blue collar workers such as truck drivers, firemen, and nurses who need to communicate in the field with one another on a continual basis. A key characteristic of Upoc's communities is that they are persistent, that is, the members tend to remain part of the community for an extended period of time [19]. Tapuz Mobile, based in Israel attracts users to its 1100 communities from a wide spectrum of ages, socio-economic groups and interests. In effect, these companies have elevated the idea of interaction beyond just posting profiles and photos to a more engaged set of users intent on building a community [20].

In order for community building to be successful, companies such as Tapuz and Upoc have incorporated some form of moderator which is needed to keep the conversation going as well as ensure that participants do not deliberately disrupt conversations or use the groups for illegal activities. At Upoc, any user can become a moderator of a community. However, the company has a set of in-house managers who periodically check in with the groups to make sure the discussions are proceeding well and that group members are behaving appropriately. In some cases, the CEO or a member of the management team assumes the role of community manager. At Tapuz, community moderators who also come from the user communities have to be vetted by the management of Tapuz before assuming the role.

All of the community-based innovation and participation by users could not take place without mobile social networking companies being techno-centric, that is having a robust technology platform that integrates rather than subsumes an array of technologies which they or their partners provide. Thus Upoc has a complex technology strategy which includes provides applications for such as SMS, WAP, voice, and MMS for the consumers, carriers, media companies and marketers who use Upoc's services. Indeed, its platform integrates text, voice, the Web and the wireless Internet and works on any mobile phone. Both Tapuz and Upoc have partnerships with major telecommunications carriers which enables them to have sustainable business models and add the technological capabilities of these carriers to the constellation of technologies they offer to their users. The presence of a unique set of technological capabilities distinguishes these services from the virtual social networking services that have thrived for the most part in a web-based environment and limit their users to interacting with one another through their respective websites.

Because of this set of enabling technologies as well as Location Based Services applications, mobile social networks provide multi-locational services to their user base. Some of these companies have localized their services and are more urban based. Dodgeball, an early example of a social networking organization, uses Location Based Services such as GPS (Global Positioning System) to enable their community members to find each other and physically meet one another at selected locations in cities such as New York, Los Angeles, and Chicago. Upoc is more multi-locational as it provides users with the ability to connect in a local setting using the services of local carriers as well as on-the-go in a more national setting. Thus, one Upoc community during the 2007 holiday season counted among its users both those in urban environments as well as those who were in rural settings and relied on pre-paid phone cards to participate in the community dialogues [21]. Since Tapuz offers its users a hybrid environment in which both Web-based and wireless based applications are used, community members are based not only in Israeli urban environments but in international locations, thus giving Tapuz a global flavor.

The robust converged technological infrastructure which includes an array of devices, infrastructure provided by the mobile carriers, and applications that provide advanced functionality to users has enabled the mobile social networking arena to thrive and expand. The characteristics defined above also provide a basis for developing a model for the overall mobile social media sector. Indeed, this sub-sector of virtual social media represents a new kind of

innovation on two levels. The first is with regard to users as sources of innovation. The idea of users as potential sources of innovation has been an important stream in management literature. Indeed, a series of studies centered on the manufacturing sector, concluded that a significant source of innovation were users who created new products outside of the traditional company boundaries, and then offered these innovative products to companies. Such users operated within communities which fostered an environment of creativity and sharing amongst the members of the community to enable innovation to take place [22]. Others suggested that companies adopt the philosophy of 'open innovation' and look outside their traditional boundaries for great ideas [23] [24]. In the mobile social media arena, users have assumed a central role in the development of companies as they create digital products and services not only for their own use as in web-based services but also for the users who participate in their communities with them and interact with them.

The second level where the nature of innovation has changed relates to the larger communities formed by these users. Indeed, these communities and the managers who moderate them represent a new type of organizational innovation which has been identified as one of the key areas of innovation in services-based companies [25]. Indeed, in the current post-industrial business environment that began to emerge during the late 1990s, the traditional organizational structure of the firm and its decision making processes have of necessity become very different. Instead of the hierarchical structure, organizations must take into account a more complex and volatile environment, and an increase in the availability of large amounts of information [26]. Moreover, innovation is characterized by a great degree of uncertainty and relies on the tacit knowledge of organizational members who operate out of different organizational units within a much more decentralized structure [27].

This new kind of organization is reflected in the mobile social media arena where community endeavors are a natural extension of the companies which service them and become in effect one of the most important organizational entities within these companies' structures. It is also evident in the organizational structures of many of these companies which are flat and have a lean organizational team [28]. Moreover, as community manager/moderators play a more important role in building virtual communities that are nodes in their organizational network, the lines of what constitutes a manager are becoming increasingly blurred and need to be defined in a new way if innovation is to occur.

With this background in mobile social media, a case study was conducted on MeetMoi, a mobile dating service to provide further insight into the mobile social media sector and discern whether the characteristics already identified applied to these new companies and/or whether these companies represent a change in the nature of innovation on the mobile platform.

3. Mobile Dating Services: MeetMoi as a Case in Point

In order to understand the emergence of mobile dating services, it is important to have some background in the development of the online dating sector. This sector, which used the web as a platform for developing dating and matchmaking services was established in the early days of the Internet and became one of the most lucrative categories of paid online content. Indeed, a 1999 survey found that 1 in 12 US adult singles had used an online matchmaking service [29]. Growth in this sector was substantial especially during 2003 with companies such as eHarmony signing up 10,000 users every day.

The dating sites, which were subscription based, offered various services to their clientele. Some like Match.com, which was founded in 1995, offer users the ability to create profiles of themselves and post them online as well as look for suitable matches. Others such as eharmony founded in 2000, have users fill out lengthy questionnaires and match them with others according to scientific compatibility principles [30] There are other sites specifically devoted to ethnic groups, e.g. Jdate (for Jewish singles). Some dating sites have expanded their services outside of the United States. Thus Match.com claims that it is the biggest online dating service in the world with 15 million users in six continents [31].

Though these web-based dating services provided users with a wider range of possible matches than they could have found through standard physically based matchmaking services, such companies were not innovative in terms of the use of technology and relied on standard web-based applications including search, email, and databases. Moreover, establishing relationships often took a considerable amount of effort as users had to set up a profile, search through databases of profiles in a zip code that could span a large geographical area for potential matches, and send out emails to these matches hoping for a response from other users who often did not reply for weeks or months [32]. Even though some dating sites tried to reinvigorate their offerings by providing such services as advice on how to develop a profile, or a more focused kind of dating in which the service selects dates based on personality types and potential

chemistry between the two people [33], the static nature of these websites in terms of innovative capabilities, and the inability of users to have more 'spontaneous' relationships, has led to a slowdown in customer growth [34]. Along with a dropoff in customers, there are many more sites vying for such customers; of January 2006, one research firm estimated that there were close to 1500 lifestyle/dating services on the Internet 61% more than a year ago [35].

With the emergence of new devices which allowed users to trade rich content, e.g., photos, a new kind of dating service became possible. In these new mobile dating services, users who were interested in meeting someone in their immediate neighborhoods could do so instantaneously without having to go through the process of setting up profiles and waiting for days to receive emails. Services are based on the premise that users want immediate feedback and are not so much interested in compatibility or common interests as where and when people are available to meet them [36]. Thus, these services such as Jumbuck, Zogo, and Fast Flirt, provide users with potential dates in a matter of hours and leave much of the information gathering to the daters once they meet [37].

While the mobile dating sector is small, it is an emerging area of innovation on the mobile platform. In order to get some insight into this sector and identify its salient characteristics and the nature of innovation occurring in it, field research was conducted on MeetMoi, a New York City-based mobile dating company.

MeetMoi was founded in early 2007 and provides users with the ability to date in real time. Users who are interested in the service sign up either on a website or from a cell phone and provide an address and other pertinent information as well as upload a photo of themselves. After the company verifies the phone number and sends a text message to the user, users become part of the database. When a user wants to go on a date, he or she sends a text message to MeetMoi with a current location., i.e., zip code and street address in the message. The system then registers the user as available and send the profile via text message to potential dates who meet the criteria and are in the proximity of the user. The profiles can be as simple as 'man aged 25 to 30 who is athletic' and can include pictures which are sent to the recipient's phone if this phone accepts pictures. Users can then send text messages to those profiles they find interesting. All discussions take place on the MeetMoi platform and members have the option of chatting without revealing their phone numbers and locations. Users can also refer other users to the service. This entails having the user provide the service with a list of people willing to provide a personal written reference on the user including confirming the accuracy of the

user's profile and answering the question: So what's so great about your friend? The references must be in the gender the user is looking to date. The system has been set up so that anyone who has data service, that is, access to the Internet on his or her phone can use the service. The service has partnered with the major carriers, e.g., AT&T, TMobile, and Verizon to offer users a subscription fee of \$9.99 a month for unlimited messages. or users are charged \$.99 for individual chat messages. MeetMoi is currently available only in the United States but the company has plans to expand globally [38].

As a mobile social media company, MeetMoi exhibits some of the same characteristics already described. The company is clearly based on a user-centric model in which the service is essentially set up as a platform with some services on which users create the products which define the company, e.g., their profiles and the interaction between them. Indeed, users are essential to the growth of the company and are viewed as an important source of innovation. The management team engages in a continual dialogue with these users through the website to solicit their feedback and a member of the management team reads all emails which come into the company regarding suggestions for changes. The management team considers these suggestions and may incorporate all or some of these suggestions in the service's applications. For example, a new release of the service which is scheduled for Spring 2008, greatly expands the functionality of the service; the new functions have been added directly as a result of the feedback garnered from users. The company like others in its ilk, has a lean management team composed of the CEO, a CTO, and an Vice President of Business Development. In addition, there is a marketing group is a group of developers who are based in India and in New York City who develop the technological capabilities of the company [39].

Another common characteristic that MeetMoi exhibits is that it is techno-centric, that is, as a service, MeetMoi could not exist without a robust converged technology platform that integrates both the infrastructure provided by mobile carriers such as Verizon and TMobile, enhanced mobile devices, and a set of proprietary technologies that operate in concert with these other technologies to provide users with an optimal experience. MeetMoi's LBS application differs from earlier ones developed by companies such as DodgeBall in that Dodgeball incorporated GPS locational software which geo-coded each location in a particular urban setting while MeetMoi's LBS application pinpoints users in a particular geographical location, e.g., street, or number of miles that a user is located from another user. Thus, within the constellation of mobile social media, MeetMoi is more of a localized service like Dodgeball rather than a

multi-locational environment such as Upoc or Tapuz Mobile.

The virtual community building that was identified as a salient characteristic of earlier mobile social media companies is not as apparent with MeetMoi. Dodgeball, Upoc and Tapuz have among their aims the development and maintenance of a community of users who may be friends and friends of friends in the case of Dodgeball, or a targeted community such as the truck drivers who communicate with one another using the Upoc platform. Indeed, MeetMoi is more focused on the individual and his or her one-on-one relationships with other users. There are no community moderators either from the company or self-appointed ones to moderate discussions; rather, each user initiates conversations with other users.

4. Discussion

As the description of MeetMoi a mobile dating service indicates, such services exhibit some of the common characteristics and innovative traits of earlier companies in this genre, most importantly, their continual interaction and feedback with the company which services them. Convergence here includes access to technologies such as LBS and a robust mobile infrastructure on which a new type of service has been created for users who wish to date. In effect, the technological platform created by MeetMoi has enabled the re-purposing of a web-based application, namely online dating, into a more innovative application. Other enabling technologies which are currently being developed such as high density interconnected wiring boards, improved VGA displays, increased battery life, and better antenna technologies will make the mobile technological platform even more inviting for the development of new applications [40].

However, along with this repurposing on the mobile platform, there appears to be a paradigm shift in the nature of innovation with regard to these service-based companies (Figure 2).

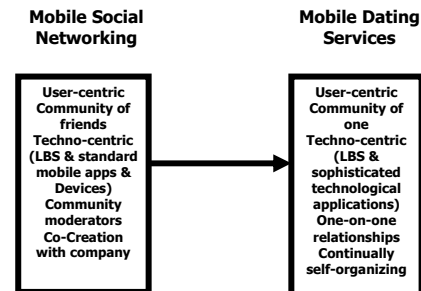


Figure 2
Paradigm Shift in Mobile Social Media

On a fundamental level, mobile dating services exhibit an extreme kind of user-centric innovation which enables users to be individual nodes on a network establishing their own kind of 'communities of one' in which they co-create not with a large number of members but with other individuals of their choosing. Taking advantage of an integrated array of technologies, users can go beyond just communicating with text messaging and alerts and send more elaborate profiles that include pictures and other pertinent data. They can engage in instantaneous feedback between themselves on a very personal level. In this environment, innovation centers on the users' ability to nurture one-on-one relationships in a continually changing environment in which users move from one locale to another with the service supporting this continual movement by updating a user's location each time the user moves. Moreover, users can continually self-organize their relationships, pursuing good ones and discarding bad ones with lightening speed because of the technological capabilities that they can avail themselves of. Thus unlike the community-based innovation which is the hallmark of other mobile social media companies, MeetMoi is at the leading edge of a more individualized kind of innovation and R&D.

For managers in forward looking organizations who seek to embrace innovation on the mobile platform, the rise of services such as mobile dating with their emphasis on the individual rather than the community, presents particular challenges. As noted above in the Introduction, because of advances in digital-based technologies and the necessity of accessing innovation from users and other sources, managers must create an organization which takes advantage of the larger networked environment, its customers, the new technological advances, and the recognition that the nature of innovation has changed to include both community-based innovation and individual-based innovation.

As the mobile platform evolves, users can be counted on not only to provide feedback to organizations and be an important source of innovation; they will also be developing their own communities and as has been seen in the development of mobile dating services, innovating on the fly without interference from a large community, or company and more for self development.

As a result, the manager's role will change and necessitate that he or she be able to operate on multiple levels in order to foster innovation. On one level, managers will need to interact with communities of users which are forming on this network such as those developed by mobile social networking organizations. On another level, managers will need to constantly co-create with users and other experts who

would provide continual feedback, either instantaneously or in a more deliberate manner. Not only will they need to respond to users who see their roles as co-creators and want to provide feedback. In addition, an essential function of management will be to scan the environment for such 'communities of one' who operate 'below the radar' and create their own products and services outside of the mainstream. In a sense, this is a further iteration of the e-lance economy, a term which has been used to describe an economy in which 'the fundamental unit of the economy is not the corporation but the individual [41]. In this kind of economy, tasks are not assigned in a stable organizational environment but rather depend on independent worker/contractors who possess particular skills to come together temporarily to work on a particular project. At its most extreme, this would mean that corporations would devolve into temporary, free-flowing networks of individuals. This is already happening in industries such as the motion picture industry where movie producers are likely to assemble a diverse number of people to work on a project who do not reside within the confines of the traditional studio setting [42] and will continue to happen as technological platforms provide more functionalities that support such individuals.

Mobile social media is a burgeoning arena where it is clear that the innovation is occurring in community based innovation as well as more individualized innovation, e.g., mobile dating. More research needs to be done as this sub-sector of the virtual social media sector evolves. The integration and convergence of a wide set of technologies has enabled different kinds of innovation to occur on a strong platform in which users are at the center of the innovative process. Such users have created different kinds of venues in which they innovate, i.e., communities and one-on-one relationships. As the mobile platform continues to evolve and provide a richer technological environment, more opportunities will be provided for innovation to flourish in the mobile social media sector and other burgeoning arenas.

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