Economic Analysis of Business Model for

Delivering Mobile Value-Added Services in Thailand

Puree Sirasoontorn

Faculty of Economics, Thammasat University

This work was carried out with the aid of a grant from the International Development Research Centre, Canada and the Department for International Development, UK.

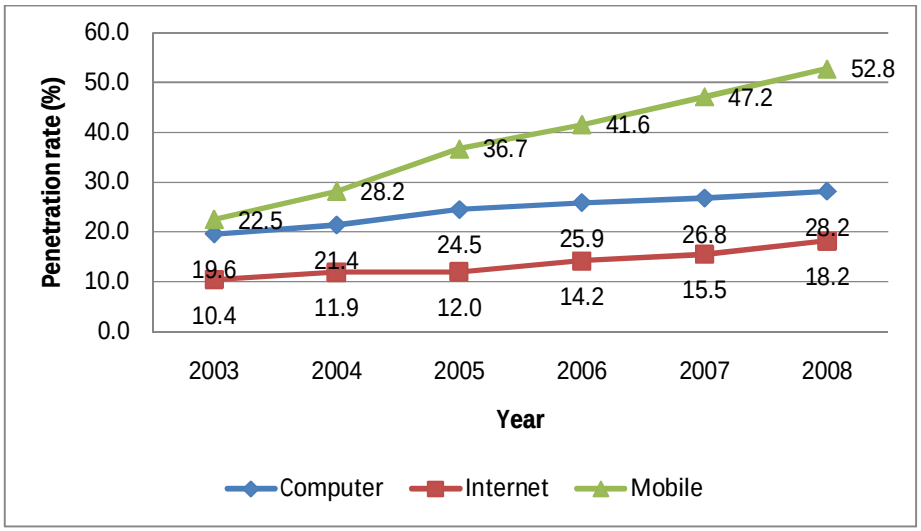
Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

1 Introduction

In Thailand, the Mobile Internet phenomena have taken place since 2000 with the introduction of Wireless Application Protocol (WAP) technology by Advanced Info Service Plc. (AIS) and Total Access Communication Plc. (DTAC). Until 2003, technology was developed to GPRS and EDGE technology which are considered as a transition period to the new technological service, 3G, via mobile phone. Although 3G is not yet adopted in Thailand, it is predicted that the technological advancement and convergence will bring dramatic changes to the ways people communicate and create, transmit and consume information at the shortest time and to the ways mobile operators, network carriers and service providers in related industries do their businesses.

In Thailand, as shown in Figure 1, mobile penetration rate has dramatically increased from 22.5 percent in 2003 to 52.8 percent in 2008 whereas internet penetration rate has increased at much slower pace from 10.4 percent to 18.2 percent. A two-fold increase in number of mobile users within five years has reassured that there is a voice and non-voice market potential for mobile operators and service providers.

Figure 1: Mobile, Internet and Computer Penetration Rate in Thailand during 2003-2008 (%)



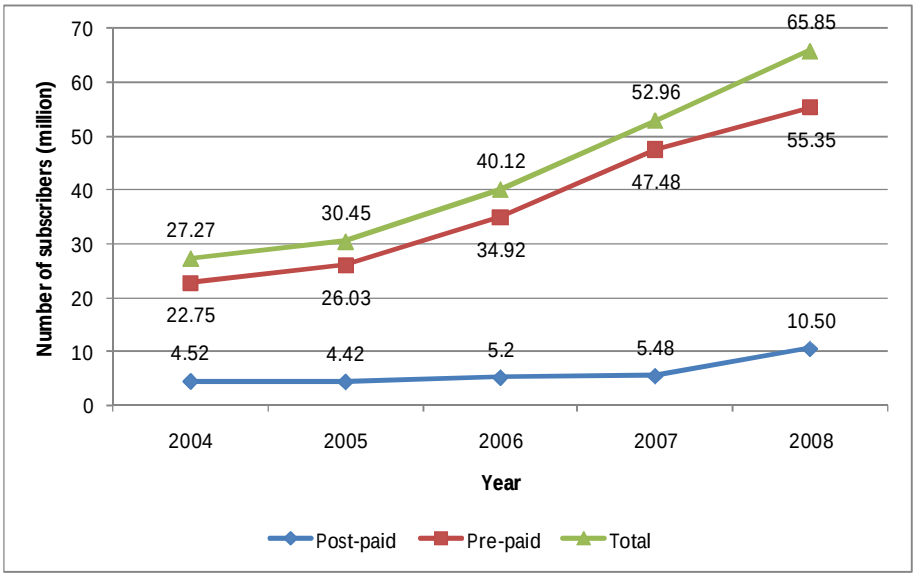
Source: National Statistical Office of Thailand

Although the number of both post-paid and pre-paid mobile subscribers have been increasing, as shown in Figure 2, average revenues per customer (ARPU) of major mobile operators[1], namely AIS, DTAC, Hutchison and True Move, from both post-paid and pre-paid services have shown decreasing trend, as shown in Figure 3 and 4. Therefore the value-added services (VAS) over the mobile are drawing increasing attention from operators and content providers. The former believe that this provides a way out of predicament of decreasing ARPU. The latter see this as a potentially powerful distribution medium, in light of the increasing likelihood that the mobile will become the primary method of accessing the internet for a majority of the population.

[1] Currently there are six mobile operators in Thailand, namely AIS, DTAC, TrueMove, Hutch, DPC and Thaimobile.

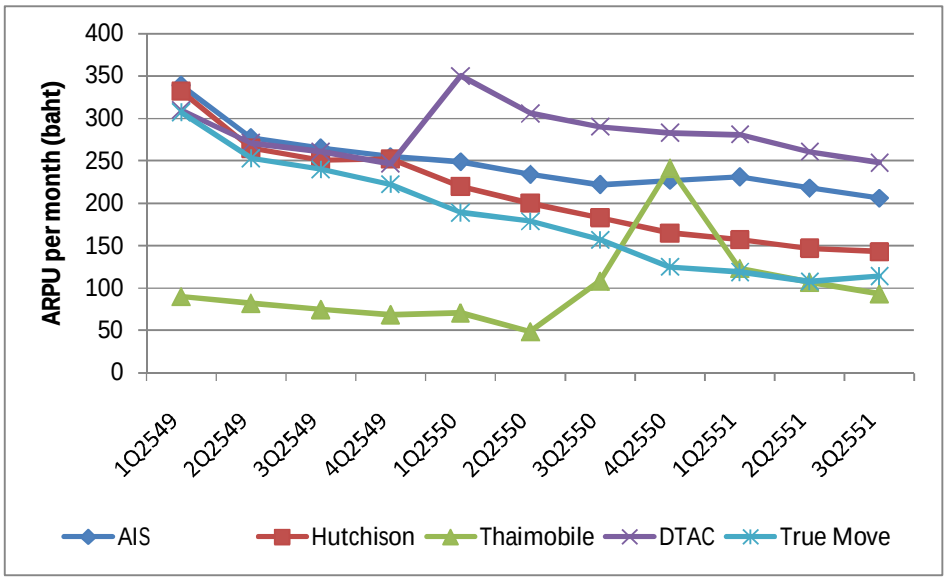
Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Figure 2: Mobile subscribers in Thailand during 2004-2008 (Million subscribers)



Source: The National Telecommunications Commission

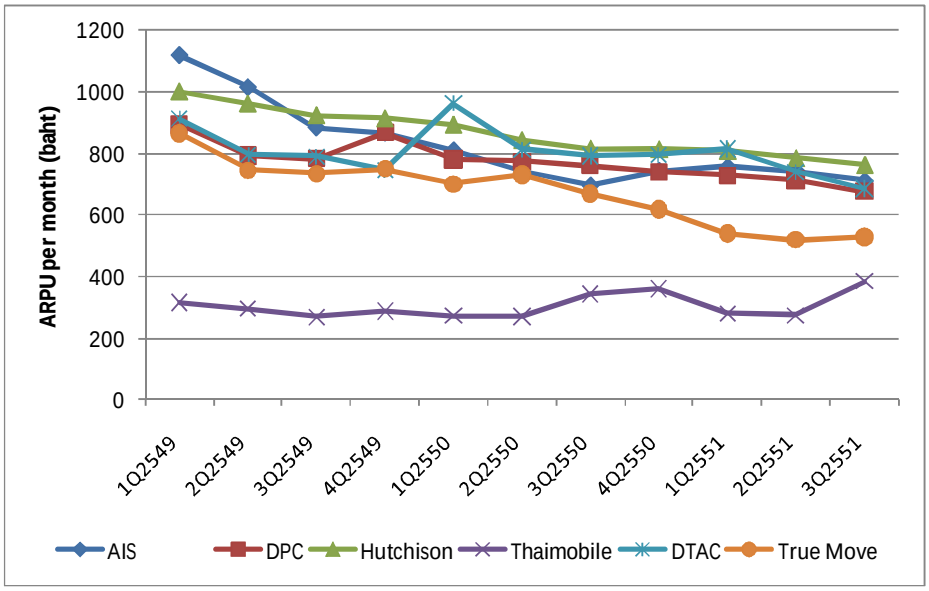
Figure 3: Average Revenue per User: Pre-paid service (baht per month)



Source: The National Telecommunications Commission

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

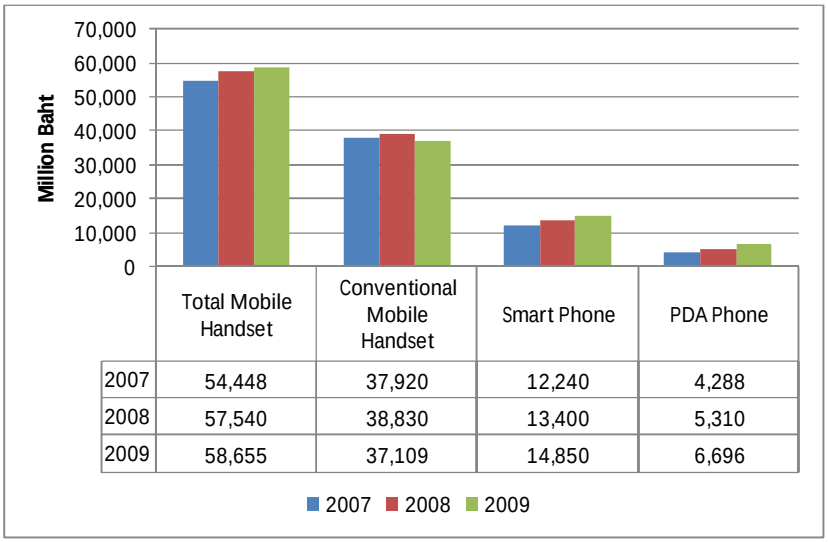
Figure 4: Average Revenue per User: Post-paid service (baht per month)



Source: The National Telecommunications Commission

Moreover, Figure 5 has revealed that market for mobile handset in Thailand has expanded from 54 billion baht in 2007 to 58 billion baht in 2009. In this market, although conventional mobile handset has highest proportion in this market, its market growth slowed down due to the price effect from Chinese mobile handsets, which is expected to drop significantly even the number of handsets has increased. On the contrary, the smart phone and PDA phone market has shown promising growth, particularly those handsets that support 3G.

Figure 5: Market Value of Mobile Handset in Thailand during 2007-2009 (million baht)



	Total Mobile Handset	Conventional Mobile Handset	Smart Phone	PDA Phone
2007	54,448	37,920	12,240	4,288
2008	57,540	38,830	13,400	5,310
2009	58,655	37,109	14,850	6,696

Source: Thailand ICT Market 2008 and Outlook 2009, Software Industry Promotion Agency

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

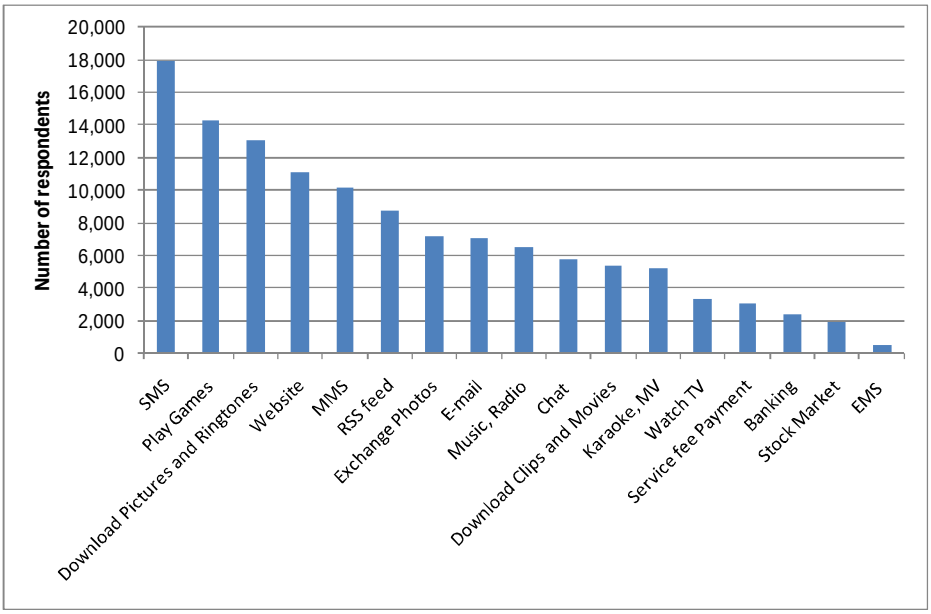
As shown in Table 1 in 2008 mobile voice service in Thailand was worth 163 billion baht with 3.7 percent rate of growth whereas mobile non-voice service was worth only 16 billion baht but with high growth rate at 16.6 percent. The significant driving forces for the mobile non-voice communication service market are SMS and MMS services. This evidence was confirmed by Internet User Profile of Thailand (NECTEC, 2007). In 2007 the survey has revealed that the most popular mobile activities of Thai mobile users are SMS, playing games, downloading pictures and ringtones, visiting websites, MMS, reading news and articles, exchanging photos, and checking and sending emails, as shown in Figure 6. NECTEC (2007) has conducted surveyed of Thai mobile internet users and found that the major factors of using mobile internet are convenience, novelty and modernity and cheap mobile internet service.

Table 1: Mobile Communication Market in Thailand during 2007-2009

Communication Services	Value (Mil. Baht)			Year to Year Growth (%)	
	2007	2008	2009	07/08	08/09
Mobile Voice	154,484	163,135	169,150	5.6	3.7
Mobile Non voice	14,197	16,213	18,904	14.2	16.6

Source: Thailand ICT Market 2008 and Outlook 2009, Software Industry Promotion Agency

Figure 6: Mobile Activities of Thai Users in 2007



Source: Internet User Profile of Thailand 2007, NECTEC

High market potential for mobile internet has attracted mobile operators and content providers into this market. Four of mobile operators in Thailand, namely AIS, DTAC, HUTCH and True Move, provide mobile internet services. Most of services are Short Message Service (SMS)/Multimedia Messaging Service (MMS), information, infotainment, and downloading services. Through their own portal, mobile operators provide mobile contents to their customers. Due to their dominant power over the network, the small and medium content providers could not survive in the

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

content provision business by receiving small and unfair revenue sharing. Most of local content providers exit the market. Some survive. Some of business models for content providers have emerged to overcome these market dominances in Thailand. Empirical evidence in Thailand on the development of mobile internet business models still lags behind those studies in the other developing countries. This study attempts to fill this gap.

The objective of this study is to gain understanding of what business model works in Thailand and what the explanatory factors determining success and failure of the model in Thailand. The scope of this study will be in the area of mobile internet. The single case research design will be employed. The choice of BuzzCity as a single case study was based on the consideration that BuzzCtiy's main customer base is in developing countries.

Established in 1999 in Singapore, BuzzCity as multiple international award winners, now operates the world's largest mobile community, myGamma.com, for two distinct audiences: the newly connected emerging middle class in developing markets and the blue collar sector in developed regions. BuzzCity provides marketers to reach over 3 million members in 80 countries via advertising, merchant and publisher programs. The BuzzCity service has been established in Thailand since 2005 and has more than 200,000 members.

In the next section, this paper will provide review of literatures on mobile contents, mobile internet and business models. In Section 3, research questions will be set and research methodology employed in this study will be explained. Next, BuzzCity business models will be explored and analyzed. The last section will conclude the paper.

2 Review of literatures

In this section, theoretical and empirical literatures on mobile contents and business models will be reviewed to provide basic understanding of business models in mobile internet services. It starts with categories of contents, business models and their design and factors influencing choice of business models.

Feijóo et al. (2009) found that mobile content domain is a heterogeneous and fragmented digital ecosystem. They considered characteristics of mobility and creativeness dimension of mobile content when classifying mobile contents. Therefore, mobile content can be categorized into four broad categories.

The first category is 'information adapted mobile content' for existing information that has been adjusted for display and use in a mobile environment such as mobile news.

'Repurposed mobile content' is creative content that has been re-used and adapted to mobility such as mobile music, mobile TV and mobile entertainment.

Next is 'specific mobile content' for creative content that has been designed with mobility in mind such as user-generated content, mobile search and mobile social networking.

The last class is 'augmented mobile content' that uses the additional and specific properties of mobile systems to increase its value and interest for users such as location-aware content.

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

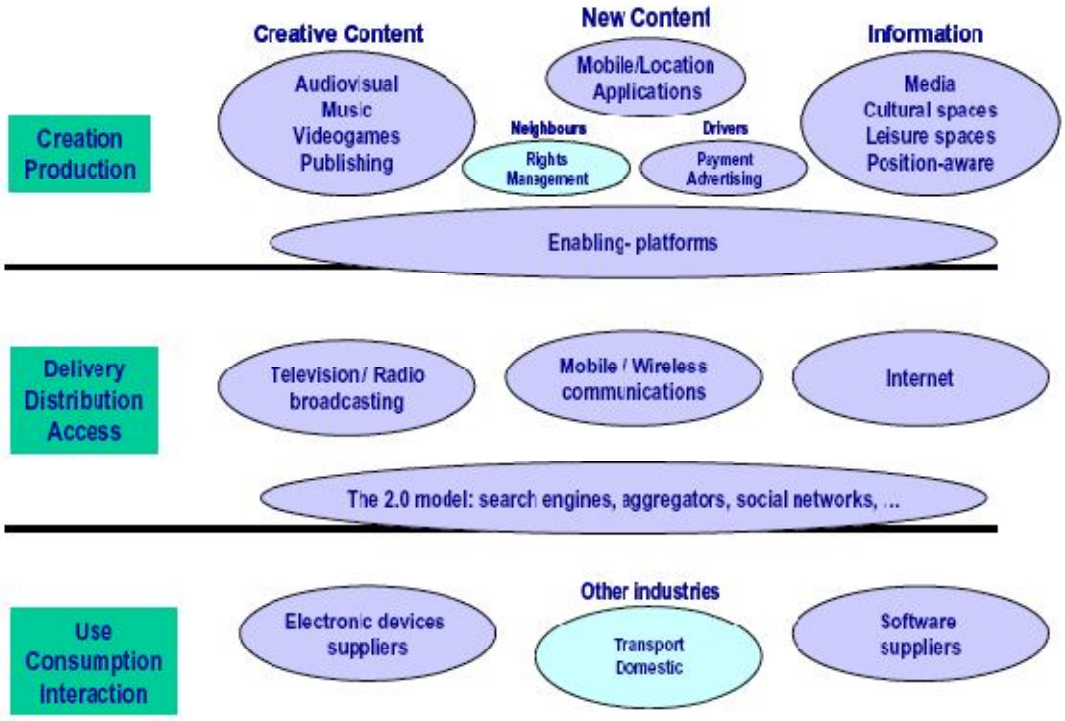
There are various activities and players involved in the mobile content ecosystem to cater for user demands. The main segments are creation and production of mobile content; delivery, distribution and access to mobile content; and use, consumption and interaction of mobile content. Each segment involves different players in various industries, as shown in Figure 7.

'Creation and production of mobile content' includes the creative content industries, information and media industries, content providers, application providers, advertising and marketing industries, management and marketing of creative content, and mobile content enablement platforms.

'Delivery, distribution and access to mobile content' include digital television and radio broadcasting, mobile communications systems, internet, mobile content brokers, mobile search engines, mobile content aggregators, mobile content readers, mobile content tags and markers, mobile social networks and etc.

'Use, consumption and interaction with mobile content' involves mobile device suppliers, software developers and suppliers for mobile devices, providers of technologies for interaction and knowledge of the surrounding environment and other industries where mobile content is an appealing environment.

Figure 7: Players and segments involved in mobile content services



Source: Feijóo et al. (2009)

Due to heterogeneous and fragmented characteristics of mobile content, its success requires a segmented and different business models. While mobile industry focuses on how to generate

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

revenues from mobile content, content industries try to find how to use the mobile channel as different source of revenues.

In literatures focusing on online and mobile content services, a 'business model' is defined as the method of doing business by which a company can generate revenue (Rappa, 2007) or as the strategy used to generate revenue by specifying markets, products, customers and the position of the business in the value networks (Yunos et al., 2003). It can be defined as the description of an organization or network of organizations involved in creating and capturing value from technological innovation (Reuver and Haaker, 2009). Shafer el al. (2005) attempted to parse the term 'business model' as 'business is fundamentally concerned with creating value and capturing returns from the value, and a model is simply a representation of reality'. By this definition, components of business model are value creation, strategic choices, value capturing and value network.

From recent literatures, the elements of business models can be summarized as shown in Table 2. Alt and Zimmermann (2001), Afuah and Tucci (2003), and Osterwalder and Pigneur (2002) suggest different sets of elements that constitute an online business model. Although they are categorized differently, when applying with mobile business models, these elements can be clustered into four domains: service domain, technological domain, organizational domain and financial domain (Bouwman et al., 2008).

Table 2: Elements of Business Models in Various Literatures

Literature/Elements	Description
Alt and Zimmermann (2001)	
Mission	Overall vision, strategic objectives and value proposition, as well as the basic features of a product or service
Structure	Actors involved, and the roles they play within a specific business environment, the specific market segments, customers and products
Process	Concrete translation of the mission and the structure of the business model into more operational terms
Revenues	Investments needed in the medium and long term, cost structures, and the revenues being generated
Afuah and Tucci (2003)	Business model is a system of components: customer value, scope pricing, revenue sources, connected activities, implementation, capabilities and sustainability; and relationships between these components.
Osterwalder and Pigneur (2002)	
Product innovation	Value proposition, the target customer, the capabilities needed to offer the value

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Customer relationship	Information strategy, delivery channels, trust and loyalty
Infrastructure management	Configuration of the company and its partner network and resources
Financials	Revenue model, cost model and profit model
Bouwman et al. (2008)	
Service domain	Description of value proposition and the market segment at which the offering is aimed
Technological domain	Description of the technical functionality required to realize the service offering
Organizational domain	Description of the structure of the multi-actor value network required to create and distribute the service offering and to describe the focal firm's position within the value network
Financial domain	Description of the way a value network intends to generate revenues from a particular service offering and of the way risks, investments and revenues are divided among the various actors in a value network

The design choices in business model components have to be considered together and should be balanced in order to develop viable business model. Reuver and Haaker (2009) have derived the generic mobile business model from Bouwman et al. (2008) as summarized in Table 3. Within the service domain, targeting, value-creating elements, branding and customer retention are key design issues. Security, quality of service, system integration, accessibility of customers and management of user profiles are major components in technology domain. Partner selection, network openness and governance are major design elements of the organizational domain. Lastly in the financial domain, pricing of a service, division of investments, costs and revenues, and valuing the contributions and benefits are key components. These design variables are important to investigate the viability and sustainability of any business model.

Table 3: Summary and description of generic mobile services business model design issues

Domain	Design variable	Description
Service	Targeting	Target group of a service such as niche market or mass market, consumers or business users
	Value-creating elements	Value proposition for end-users such as fun, efficiency, accuracy, speed, personalization
	Branding	Brand to reach the targeted customers and influence the perceived value of service offerings

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

	Customer retention	Marketing strategies aimed at keeping customers satisfied and loyal to the product and service
Technology	Security	Security in technological architecture to gain trust on the part of end-users and customers regarding a service offering
	Quality of service	Balance between quality of service and cost is needed.
	System integration	Adoption of new service is partly determined by the extent to which it can be integrated into the existing technological infrastructure.
	Accessibility for customers	It is influenced by the choice of platform, devices and architecture.
	Management of user profiles	For personalization of a service, a user profile must be created and maintained.
Organization	Partner selection	Partner selection is important to acquire access to the resources and capabilities needed to realize a service offering.
	Network openness	Network openness indicates the degree to which new business actors can join the value network and are allowed to provide services to customers.
	Governance	Governance is relevant as there is often a dominant actor who has access to customers and end users or who has developed the service offering.
Finance	Pricing	The perceived customer value must at least balance and preferable exceed pricing of a service.
	Division of investments	Developing and introducing a new service involve financial risks
	Division of costs and revenues	Division of costs and revenues may follow different rationales eg. cost-based or value-based
	Valuing contributions and benefits	Valuing the contributions and benefits of each partner to the service offering is important for fair and viable revenue sharing eg. Based on actor's access to resources and strategic interests.

Source: Reuver and Haaker (2009)

There are various categories of business on the web as summarized by Rappa (2007) and shown in Table 4. These include brokerage, advertising, infomediary, merchant, manufacturer,

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

affiliate, community, subscription and utility models. In each model, it is implemented in diverse ways, as shown in Table 5. A firm can combine several different models as part of its overall internet business strategy.

Table 4: Basic categories of online business models

Category	Description
Brokerage model	Brokers are market-makers who bring buyers and sellers together and facilitate transactions. They play a role in business-to-business, business-to-consumer or consumer-to-consumer markets. Usually a broker charges a fee or commission for each transaction it enables.
Advertising model	The web advertising model is an extension of the traditional media broadcast model. The broadcaster in a website provides content and services mixed with advertising messages in the form of banner ads. The banner ads maybe the major or sole source of revenue for the broadcaster. The broadcaster maybe a content creator or a distributor of content created elsewhere. The advertising model works best when the volume of viewer traffic is large or highly specialized.
Infomediary model	Data about consumers and their consumption habits are valuable, especially when that information is carefully analyzed and used to target marketing campaigns. Independently collected data about producers and their products are useful to consumers when considering a purchase. Some firms function as infomediaries assisting buyers and/or sellers understand a given market.
Merchant model	Wholesalers and retailers of goods and services. Sales may be made based on list prices or through auction.
Manufacturer model	The manufacturer or “direct model” is predicated on the power of the web to allow a manufacturer to reach buyers directly and thereby compress the distribution channel. The manufacturer model can be based on efficiency, improved customer service, and a better understanding of consumer preferences.
Affiliate model	In contrast to the generalized portal, the affiliate model provides purchase opportunities wherever people may be surfing. It offers financial incentives in form of a percentage of revenue to affiliated partner sites. The affiliates provide purchase-point click-through to the merchant. It is a pay-for-performance model. If an affiliate does not generate sales, it represents no cost to the merchant. The affiliate model is inherently well-suited to the web, which explains its popularity. Variations include banner exchange, pay-per-click and revenue-sharing programs.
Community model	The viability of the community model is based on user loyalty. Users have a high investment in both time and emotion. Revenue can be based on the

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

	sale of ancillary products and services or voluntary contributions; or revenue may be tied to contextual advertising and subscriptions for premium services. The internet is inherently suited to community business models and this is one of the most fertile areas of development as seen in rise of social networking.
Subscription model	Users are charged a periodic fee to subscribe to a service. It is not uncommon for sites to combine free content with premium content for subscribers or members only. Subscription fees are incurred irrespective of actual usage rates. Subscription and advertising models are frequently combined.
Utility model	The utility or "on-demand" model is based on metering usage, or a "pay as you go" approach. Unlike subscriber services, metered services are based on actual usage rates. Traditionally, metering has been used for essential services such as electricity, water, long-distance telephone services. Internet service providers in some parts of the world operate as utilities, charging customers for connection minutes, as opposed to the subscriber model.

Source: Rappa (2007)

Table 5: Examples of business models under each category

Category	Business model	Description
Brokerage model	Marketplace exchange	It offers a full range of services covering the transaction process, from market assessment to negotiation and fulfillment. Exchanges operate independently or are backed by an industry consortium.
	Buy/Sell fulfillment	It takes customer orders to buy or sell a product or service, including terms like price and delivery.
	Demand collection system	The patented "name-your-price" model pioneered by Priceline.com. Prospective buyer makes a final bid for a specified good or service, and the broker arranges fulfillment.
	Auction broker	Broker conducts auctions for sellers (individual or merchants). Broker charges the seller a listing fee and commission scaled with the value of the transaction. Auctions vary widely in terms of the offering and bidding rules.

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

	Transaction broker	Broker provides a third-party payment mechanism for buyers and sellers to settle a transaction.
	Distributor	Distributor is a catalog operation that connects a large number of product manufacturers with volume and retail buyers. Broker facilitates business transactions between franchised distributors and their trading partners.
	Search agent	A software agent or robot used to search-out the price and availability for a good or service specified by the buyer, or to locate hard to find information.
	Virtual marketplace	Virtual marketplace or virtual mall, a hosting service for online merchants that charges setup, monthly listing, and/or transaction fees. It may also provide automated transaction and relationship marketing services.
Advertising model	Portal	Portal usually a search engine that may include varied content or services. A high volume of user traffic makes advertising profitable and permits further diversification of site services. A personalized portal allows customization of the interface and content to the user. A niche portal cultivates a well-defined user demographic.
	Classifieds	Classifieds list items for sale or wanted for purchase. Listing fees are common, but there also may be a membership fee.
	User registration	Content-based sites that are free to access but require users to register and provide demographic data. Registration allows inter-session tracking of user surfing habits and thereby generates data of potential value in targeted advertising campaigns.
	Query-based paid placement	It sells favorable link positioning or advertising keyed to particular search terms in a user query, such as Overture's trademark "pay-for-performance" model.
	Contextual advertising/Behavioral marketing	Freeware developers bundle adware with their product. For example, a browser extension that automates authentication and form fill-ins, also delivers advertising links or pop-ups as the user surfs the web. Contextual advertisers can sell targeted advertising based on an individual user's surfing

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

		activity.
	Content-targeted advertising	It is pioneered by Google. It extends the precision of search advertising to the rest of the web. Google identifies the meaning of a web page and then automatically delivers relevant ads when a user visits the page.
	Intromercials	It is an animated full-screen ads placed at the entry of a site before a user reaches the intended content.
	Ultramercials	Interactive online ads require the user to respond intermittently in order to wade through the message before reaching the intended content.
Infomediary model	Advertising networks	Feed banner ads to a network of member sites, thereby enabling advertisers to deploy large marketing campaigns. Ad networks collect data about web users that can be used to analyze marketing effectiveness.
	Audience measurement services	Online audience market research agencies such as Nielsen.
	Incentive marketing	Customer loyalty program provides incentives to customers such as redeemable points or coupons for making purchases from associated retailers. Data collected about users is sold for targeted advertising.
	Metamediary	It facilitates transactions between buyer and sellers by providing comprehensive information and ancillary services, without being involved in the actual exchange of goods and services between the parties.
Merchant model	Virtual merchant	Virtual merchant is a retail merchant that operates solely over the web.
	Catalog merchant	Mail-order business with a web-based catalog. It combines mail, telephone and online ordering.
	Click and Mortar	Traditional brick-and-mortar retail establishment with web storefront.
	Bit Vendor	A merchant deals strictly in digital products and services and, in its purest form, conducts both sales and distribution over the web.

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Manufacturer model	Purchase	The sale of a product in which the right of ownership is transferred to the buyer.
	Lease	In exchange for a rental fee, the buyer receives the right to use the product under a “terms of use” agreement. The product is returned to the seller upon expiration or default of the lease agreement. One type of agreement may include a right of purchase upon expiration of the lease.
	License	The sale of a product that involves only the transfer of usage rights to the buyer, in accordance with a “terms of use” agreement. Ownership rights remain with the manufacturer.
	Brand integrated content	In contrast to the sponsored-content approach (such as the advertising model), brand-integrated content is created by the manufacturer itself for the sole basis of product placement.
Affiliate model	Banner exchange	Trades banner placement among a network of affiliated sites.
	Pay-per-click	Site pays affiliates for a user click-through.
	Revenue sharing	Revenue sharing offers a percent-of-sale commission based on a user click-through in which the user subsequently purchases a product.
Community model	Open source	Software is developed collaboratively by a global community of programmers who share code openly. Instead of licensing code for a fee, open source relie on revenue generated from related services like systems integration, product support, tutorials, and user documentation.
	Open content	Openly accessible content is developed collaboratively by a global community of contributors who work voluntarily.
	Public broadcasting	User-supported model used by not-for-profit radio and television broadcasting extended to the web. A community of users supports the site through voluntary donations.
	Social networking services	Sites provide individuals with the ability to connect to other individuals along a defined common interest. Social networking services can provide

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

		opportunities for contextual advertising and subscriptions for premium services.
Subscription model	Content services	They provide text, audio, or video content to users who subscribe for a fee to gain access to the service.
	Person-to-person networking services	They are conduits for the distribution of user-submitted information, such as individuals searching for former schoolmates.
	Trust services	They come in the form of membership associations that abide by an explicit code of conduct, and in which members pay a subscription fee.
	Internet services providers	They offer network connectivity and related services on a monthly subscription.
Utility model	Metered usage	Measures and bills users based on actual usage of a service.
	Metered subscriptions	It allows subscribers to purchase access to content in metered portions such as number of pages viewed.

Source: Rappa (2007)

For example, community or social networking sites can generate create and capture value using different types of business models. Enders et al., (2008) study two German social networking sites – StayFriends and XING and found that suitable revenue models for social networking sites are advertising, subscription and transaction models.

Enders et al. (2008) found that to be profitable revenue models based on advertising require high levels of website traffic. Therefore the key revenue driver for this revenue model is the number of users. The most attractive path is viral growth which is driven by user recommendation. By inviting other contact to join the network, users expand their individual online network and lengthen their long tail of social networking.

Another source of revenues for social networking sites consists of subscription models where a website offers its users content or services and charges a subscription fee for access to some or all of its offerings. The key driver for subscription-based models is the creation of high levels of unique customer value, which determines their willingness to pay for a service. To maximize the willingness to pay, the community provider must aim at creating customer value, which can be achieved by increasing levels of user generated content, by providing functionalities and incentives so that members frequently update and expand their profiles and by offering multiple membership packages with different pricing schemes.

A third possibility for social networking sites to generate revenues is through a transaction model, where a company receives a fee for enabling or executing a transaction. Two types of

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

transaction models can be distinguished: endogenous and exogenous transaction. Endogenous transactions are carried out when users buy physical or digital goods and services from the platform provider such as virtual gifts whereas exogenous transactions take place when the social networking site provider sells third party content to its users or enable transaction between users. To create sustainable revenues from a transaction model, a critical mass of users is essential.

Feijóo et al. (2009) explores the mobile content ecosystem from the content and media perspective and found that the online business models as described in Table 6 that can be translated to the mobile content environment are subscription, pay-per-use, advertising, brokerage, infomediary, merchant, direct-to-consumer, affiliation and community models, as shown in Table 6.

Table 6: Mobile Service Business models from content and media perspective

Business model	Description
Subscription	Users are charged a periodic (daily, monthly or annual) fee to subscribe to mobile content. It is a common practice to combine free content with premium content. Subscription fees are incurred irrespective of actual usage rates. Subscription is frequently combined with advertising.
Pay-per-use	Also called the utility model, on-demand model or pay-as-you-go. It is based on metering usage and pay-per-use is based on actual usage rates.
Advertising	-
Brokerage	The broker usually charges a fee or a commission for each transaction it enables. Brokerage models of interest for mobile content are services for marketplace exchange, virtual marketplaces, buy and sell fulfillment, transaction brokers, distributors and search agents.
Infomediary	These are information intermediaries who assist buyers and/or sellers to understand and use a market. They usually profile consumes, consumption habits, producers, products, and target marketing campaigns.
Merchant	Simple wholesalers and retailers of mobile content, goods and services.
Direct-to-customer	The producer of content can reach consumers directly and thereby avoid the distribution channel.
Affiliation	The affiliates provide purchase-point click-through to the merchant. Variations include banner exchange and pay-per-click. This business model is highly complementary with advertising.
Community	User loyalty to the community is used to produce revenue from selling ancillary content or through voluntary contributions. It is typically complementary with advertising and subscription for premium services.

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Source: Feijóo et al. (2009)

Tsalgatidou and Pitoura (2001) summarized some of the most successful business models in Internet e-commerce. These models can be used as a basis for mobile commerce business models such as E-shop, E-auctions, Third party marketplace, value-chain integration model, hub or portal model, value chain service providers, information brokerage, trust services, process outsourcing model, virtual organization, and application service provider.

Feijóo et al. (2009) and Tsalgatidou and Pitoura (2001) also found that from perspective of mobile operators, mobile businesses have been characterized by the dominant role of mobile operators in ecosystem. Mobile operators have ability to control many elements in their value chain from network and services to applications and content. As a result, from perspective of mobile content and applications, mobile business model is 'walled garden' or 'on-portal', where content and application revenues are generated by operators within their own value structure and where users are guided to stay within this structure as much as possible. However a business model for mobile carriers has evolved as demand for unrestricted and wide choice of content and application has been increasing. Mobile operators become mere providers of connectivity. In this connectivity model, revenues for mobile content accrue to content providers, enablers and brokers.

The choice of business model that various actors, ranging from device manufacturers, equipment vendors, content providers, application vendors, payment agents, mobile network operators to regulatory authorities and users, in mobile business adopt relies on economic characteristics underlying the mobile business: mobility, network externalities and exclusive control over network assets (Camponovo and Pigneur, 2003).

These characteristics draw attention from the marketers. Mobile marketing use the mobile network and its link to subscribers for consumer acquisition, sales promotions, customer interaction, m-commerce and awareness or loyalty campaigns whereas mobile advertising is used in combination with other marketing campaigns and channel activity in order to influence purchasing perceptions and also behavior (Sharmar and Wildman, 2009).

User behavior and attitude are important factors to determine success of mobile internet services (Taylor et al., 2008 and Haghirian et al., 2008). The study of mobile internet motivations and behaviors of early U.S. mobile internet adopters revealed that awareness and desire to kill time or alleviate boredom were the most frequent motivation usually satisfied with status checking behavior, which includes of checking a specific piece of non-static information such as weather, news, email and social networking web site. Most of activities took place at work and home. They used their phone frequently even when a computer or laptop was available because of comfort and convenience. Since people used mobile internet in non-mobile settings, more value mobile internet services can be targeted to stationary settings.

There are very limited literatures on online and mobile internet in Thailand. The only literature found focuses on consumer behavior and acceptance of mobile internet in Thailand. Phuangthong and Malisuwan (2008) found that the services and applications available in Thai mobile market are mostly on voice, voice mail, voice and fax mail, SMS, but very few on information services

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

via automatic voice response and mobile internet. They further examined the factors affecting the user acceptance of Multimedia Mobile Internet in Thailand by employing technology acceptance model incorporating with diffusion of innovation model. They found that entertainment service and application is the most popular applications for both students and employees, particularly music, chat and games. However, the frequency of access and user spending on these mobile services are still low because their lower speed and higher price comparing to accessing Internet via personal computer.

They also found that compatibility, usefulness, ease of use and result demonstrability are important factors affecting behavioral intention to use mobile internet. Most of people feel that their mobile handsets provides them for more convenience when they are not available to access the Internet by personal computer. They will use Mobile Internet more if they already had experience of using it and they found it useful and easy to use. Therefore efforts to make mobile internet easier to use would improve user's motivations to increase actual usage.

Since there is a lack of empirical study on business model of mobile internet services in Thailand, this study will fill this gap.

3 Research questions and methodology

The research question will be addressed in this study is what the mobile internet business models work in Thailand. Moreover this study attempts to explore the economic explanatory factors explaining why the models become dominant.

Single-case research design will be employed in this study. The case studies are epistemologically justifiable when research questions focus on reasons behind observed phenomena, when behavioral events are not controlled and when the emphasis is on contemporary events (Yin, 1989). Moreover, case method is appropriate and essential where either theory does not yet exist or is unlikely to apply or where theory exists but the environmental context is different (Stuart et al., 2002). This study satisfies these criteria. Research on mobile internet is in an early stage of theoretical development especially in the developing countries. The generalizability of research conducted in the developed countries is questionable in context of developing countries.

Case-based research requires a sampling approach focusing on theoretically useful cases. Eisenhardt (1989) stated that the best practices models provide good candidates for a case research methodology.

BuzzCity was established in 1999 in Singapore as a web portal. BuzzCity is a multi-award winner. In 2008, BuzzCity's myGamma mobile advertising network was awarded the Most Innovative Infocomm Product/Service by National Infocomm Awards in Singapore. In the same year, BuzzCity won a Silver Medal for contribution to Web 2.0 in the Future Mobile Awards and myGamma was awarded the "Best Mobile Social Networking service" by the Mobile World Congress.

As a multiple international award winner, BuzzCity's model can be considered as a best practice model for mobile internet serving the users in the developing countries. The choice of BuzzCity was also based on the consideration that BuzzCity's main customer base is from lower middle income group. Moreover I had direct top management access to the BuzzCity so I decided to conduct the in-depth case study with this company.

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

To collect secondary data, BuzzCity web site, press articles and internal company documents will be examined to identify the underlying business models. To answer research questions, this study will employ the secondary data to study the key features of BuzzCity's business.

The primary data gathering methodology through semi-structured interviews with experts and top management members of company will be used to capture the knowledge of practitioners and experts. The survey was performed within six-month period in 2009 to examine the evolution of BuzzCity's business models in Thailand through time. Apparently within short period of time BuzzCity has changed focus from merchant business to advertising business. Therefore this study will further explore evolution of BuzzCity business models in Thailand.

The interviews focus on exploring the nature of BuzzCity's business models and economic explanatory factors explaining why the models become dominant. Referring to Bouwman et al. (2008)'s design issues, these factors determining choice and success of business models includes of such factors as technology, service targeting, market structure, pricing and revenue sharing models.

The unique features of mobile internet business are the use of mobility-and-internet-based technologies and data collection mechanisms to target and track specific users and to automate the buying and selling of mobile content. The market structure will be examined whether the business is heavily concentrated, particularly in Thailand and which player in ecosystem has market power. Moreover the financial model, including of revenue generating model from services and revenue sharing model, will be examined.

4 BuzzCity business models

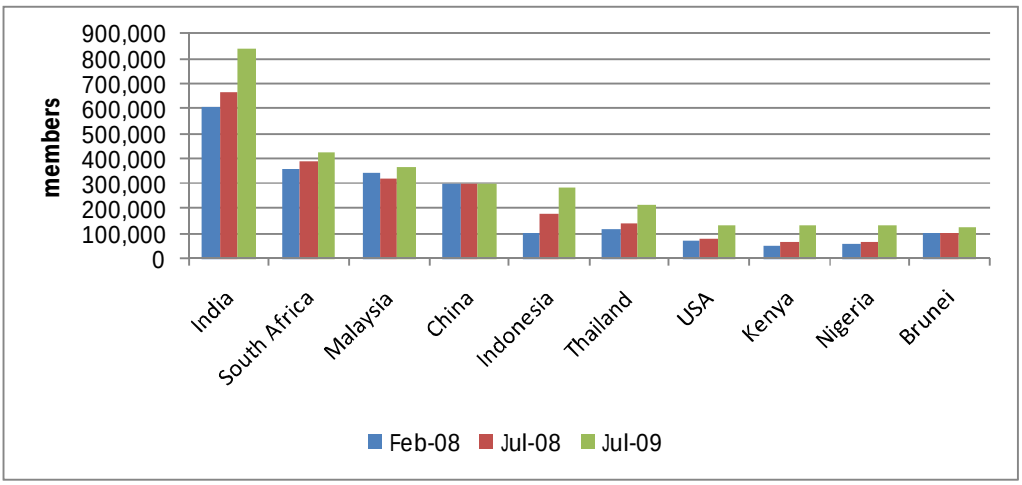
BuzzCity manages advertising-funded mobile community called myGamma. Through myGamma they market and distribute mobile content directly to consumers in Asia, Europe and the United States, serving more than 19.5 billion ads across the entire network in 2008. BuzzCity's growth rate is 48 percent quarter-on-quarter growth in the last quarter in 2008.

The company has two groups of targets for its mobile social networking services: the blue-collar workers in developed countries and the newly connected middle class across emerging markets. These unwired consumers are able to use the internet on their mobile phones.

As of December 2008, BuzzCity's members are more than three million across 80 countries. In July 2009, there were 210,952 myGamma members in Thailand since being launched in 2005. As shown in Figure 8, comparing with other countries, Thailand was ranked as the sixth largest myGamma members, following India, South Africa, Malaysia, China and Indonesia. Growth rate of myGamma members in Thailand, on average, was 4.07 percent in 2008 and declined to 2.64 percent in 2009. Although Thailand's myGamma members have been increasing at reasonably high rate, Thailand's rank has moved down, from the fifth in 2008 to the sixth in 2009. The most common reason for using myGamma in Thailand is to communicate with friends and to extend their social networks in order to gain social acceptance. In the real world, there are many products that myGamma members cannot afford such as condominiums, houses or cars, so they enjoy buying contents in myGamma.

Figure 8: The Number of MyGamma Members in Top Ten Countries

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)



Source: BuzzCity

The growth of mobile internet advertising, represented by advertising inventory sold across the BuzzCity mobile internet advertising network, in the first quarter of 2009, is 11 percent. Over 8.5 billion advertiser banners were delivered across the entire network. In Thailand, advertiser banners served has increased by 59 percent from 41 million in the last quarter in 2008 to 65.8 million in the first quarter in 2009. Although Thailand was ranked the eighteenth among top 20 countries in term of ad banners served, the growth rate is relatively high when comparing with other countries, as shown in Table 7.

Table 7: Ad Banners Served: BuzzCity Mobile Internet Advertising Network

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Ranking		Country	Quarter 4 2008	Quarter 1 2009	Quarter on Quarter Growth
	Q1'09				
1	1	Indonesia	3,564,832,448	4,378,945,983	23%
2	2	India	726,935,723	841,620,420	16%
4	3	United States	382,450,258	527,622,153	38%
3	4	South Africa	465,312,929	427,839,867	-8%
6	5	Egypt	150,393,150	162,183,711	8%
7	6	Romania	135,501,235	161,369,084	19%
12	7	China	77,857,151	129,649,411	67%
9	8	Philippines	115,524,851	125,078,495	8%
14	9	United Kingdom	73,601,656	113,369,462	54%
8	10	Bangladesh	134,627,619	112,814,133	-16%
16	11	Nigeria	70,690,190	90,917,538	29%
10	12	Libya	100,801,729	86,307,837	-14%
11	13	Tanzania	97,661,460	83,765,354	-14%
5	14	Kenya	241,106,915	80,404,957	-67%
13	15	Malaysia	75,414,933	79,887,471	6%
17	16	Canada	65,115,586	75,565,080	16%
15	17	Brunei	73,466,562	73,019,631	-1%
21	***18***	***Thailand***	***41,350,200***	***65,813,320***	***59%***
25	19	Saudi Arabia	33,630,687	56,586,799	68%
22	20	Pakistan	40,102,760	46,374,608	16%

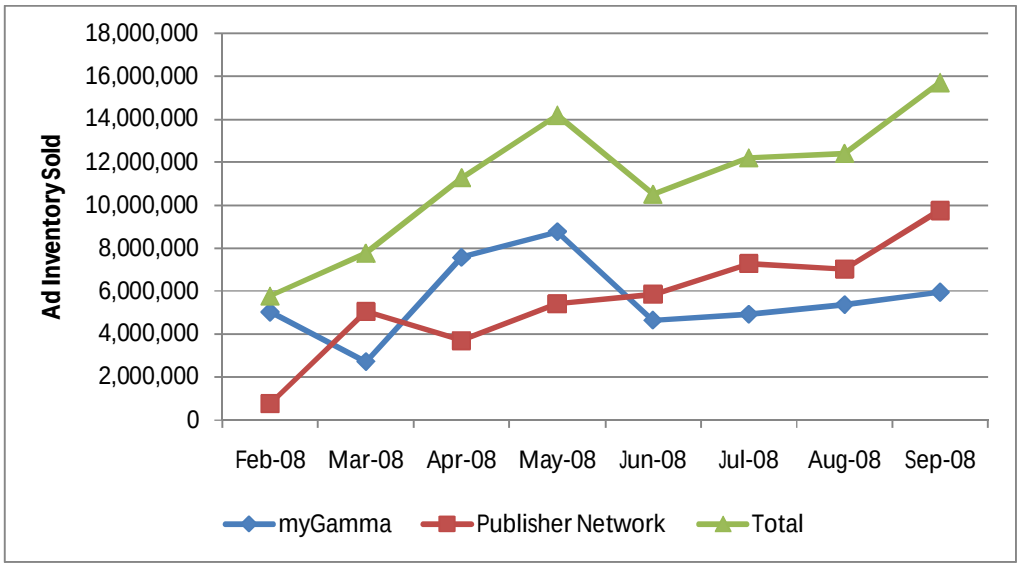
Banners served on Top 20 Countries	6,666,378,042	7,719,135,314	14%
Banners served across the network	7,546,469,278	8,523,586,447	11%
Top 20 countries represent 91% of all banners served			

Source: BuzzCity (2009)

As shown in Figure 9, in Thailand, ad inventory sold experienced up and down trend. The external publishers has more important role. Ad inventory sold via the external publishers has increased continuously since June 2008 and surpassed ad inventory sold via myGamma.

Figure 9: Ad Inventory Sold through myGamma and Publisher Network in Thailand

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)



Source: BuzzCity

4.1 Key players and business models

There are a number of players in the mobile business value chain ranging from technology platform vendors, infrastructure and equipment vendors to content providers and mobile service providers. Regarding the participating entities in a mobile internet transaction, they depend on the underlying business model.

BuzzCity primarily deals with advertisers, publishers, content providers or content aggregators and mobile operators or carriers including of access providers. BuzzCity also works with advertising agencies and media houses or broadcasters to persuade more advertisers to join BuzzCity mobile advertising network; and with service providers dealing with billing and mobile internet site building and hosting. In the ecosystem, BuzzCity serves as middleman to match advertisers with publishers in mobile advertising business. It should be noted that business actors and their roles refer to the various activities that have to be performed in order to create value in mobile internet. The activities are also connected to the technology used. Some actors may perform more than one activity, thus reducing the number of actors in the ecosystem

In the case of BuzzCity, the following entities are the main participants in an ecosystem.

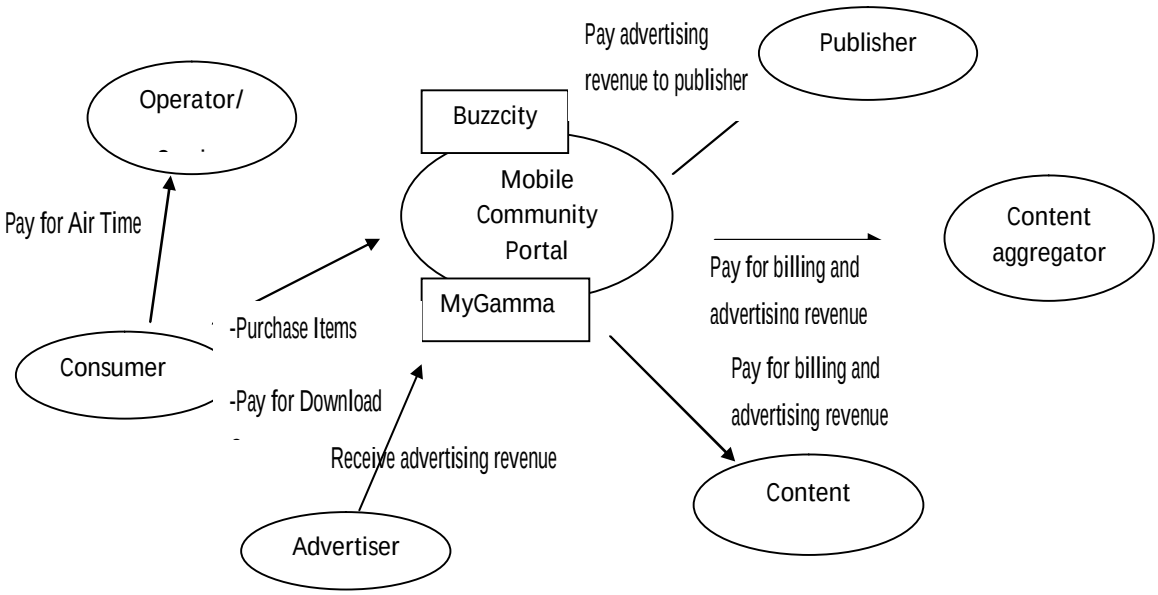
- Mobile operators or carriers. The roles of mobile operators can vary from simple mobile network providers to an intermediary, portal or publishers, advertisers or content aggregators.
- Publishers or web portal who own sites offer personalized and localized services to consumers. Mobile portal can service mobile consumers anywhere at any time. Mobile portal is characterized by a greater degree of personalization and localization.
- Advertisers who advertise their products or contents through myGamma and publishers. They can freely set advertising campaign and target worldwide.

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

- Content providers or owners who provide specific contents to a customer through myGamma and publishers. Contents can be distributed through a WAP Gateway which can be hosted at the mobile operators or though a portal that can be hosted at the operator's WAP server or anywhere else.
- Content aggregators who aggregate contents and provide contents to consumers through myGamma and publishers. Contents can be distributed in the same ways as those distributed by content providers.
- Consumers who is online and/or mobile. Consumer will pay for internet or air time to mobile operator and/or purchase items or pay for downloading contents to BuzzCity. Consumers also use myGamma network

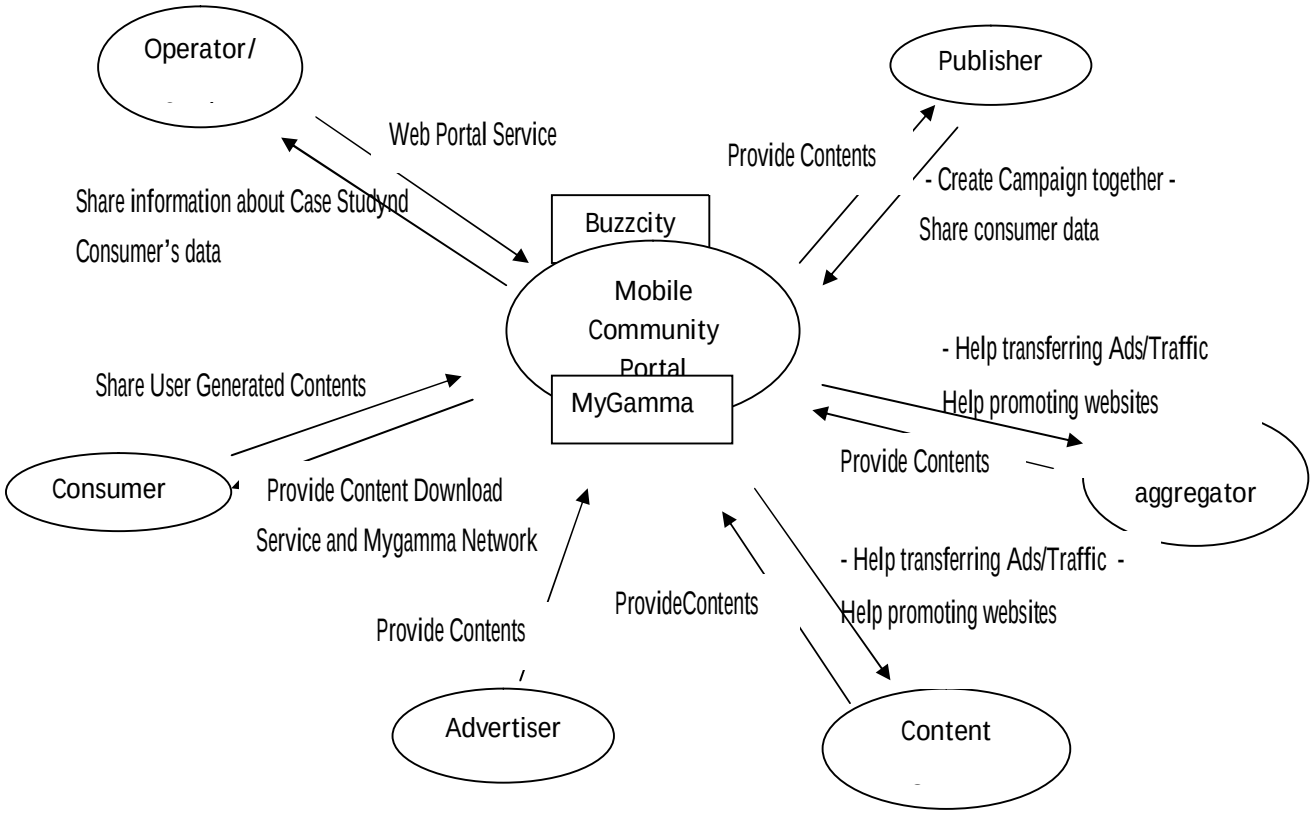
Depending on the way the participating entities are related to each other, the different BuzzCity's business models dealing with different entities are developed. The service and money flow of BuzzCtiy business models are shown in Figure 10 and 11, respectively.

Figure 10: BuzzCity in Ecosystem: Money Flow



Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Figure 11: BuzzCity in Ecosystem: ServiceInformation Flow



Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

4.1.1 Content Providers and Content Aggregators

In the early stage, the online social networking site, myGamma, was launched in 1999. On myGamma, users create their own profile and connect to each other. Majority of users are between 20-35 years old. They are lower middle income users who are looking for connecting with others and feeling accepted. MyGamma is monetized through advertisements, virtual items and contents. The content providers or aggregators can sell their content through myGamma. The contents are developed from the large or small and medium companies. Individuals also develop some user-generated contents and offer or sell it through myGamma. These contents are subsequently offered to mobile users.

Content providers or aggregators integrate the Gamma Wallet onto their sites in order to charge their visitors and reach the community of myGamma members, who have Gamma Dollar (G$) to spend on their contents. Contents include tones, games, pictures, news, byte-size content, discount coupons, horoscopes, fortune-telling, passes to premium areas, movies, mp3 and others. They can monitor their site's transactions from the earning reports.

BuzzCity provides the myGamma developer platform to allow them to create networking applications that leverage the growing popularity of the mobile internet. The platform provides developers seamless application with myGamma and access to community of mobile and online internet users. These contents can cover the myriad ways people connect such as party planner or movie recommender or the tools that help people with their daily lives such as money management. Approved application will appear as a link in developers' myGamma profile page and in the myGamma application page.

Monetization path is clear. Merchants need to integrate the Gamma Wallet onto their sites. They are able to charge their visitors as well as reach the community of myGamma members, all of whom have G$ to spend on their products. All first time users will register for a free Gamma Wallet and users can add G$ to this wallet via WAP, premium SMS and other channels. Users can spend G$ up to 1,000 G$ per day. The mobile operator will receive 60 percent of the revenue.

The most popular applications in myGamma are ones that allow users to have fun and express themselves. For example, there is a Tarot card application that tells members' future and let them share Tarot cards with their friends. Another popular application is called HugMe. Users can give each other virtual hugs and show each other they care. Virtual gifting is growing and is a part of a successful monetization scheme for BuzzCity.

4.1.2 Publishers or Web Portal

BuzzCity offer web portal or publishers which have their own sites both cost per click and cost per impression models[2] in order that BuzzCity can place both graphical and text advertisement or banners on the network.

[2] Cost per click (CPC) is related to cost per thousand impressions (CPM). For example, if CPC is 15 US cent and click through rate is 1 percent, thousand impression will result in 10 clicks. Therefore CPM is USD 1.5.

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Publishers can select various types of ads to appear in their pages which are graphical ads, text ads, ad page (a link to an ad page), WAPMaster ToolBox (a link to WAP tools such as community, groups, moblogs, classifieds, weather, wikipedia, etc.) or their combination. They can accept or reject individual ads. They can select the category of advertisers they would like to serve ads for. With myGamma link exchange, publishers can increase their traffic. Through BuzzCity's earning report, publishers can monitor their earning with detail such as number of exposure and click; click through rate; earning; cost per click; and cost per impression. This information assists publishers to maximize their monetization of their traffic.

On average, BuzzCity offer publishers 65 percent of revenue received from advertisers whereas the rest belongs to BuzzCity. Only clicking through myGamma, as one of BuzzCity's publishers, will result in 97 percent of revenue to BuzzCity. Dealing with publishers is considered as cost to BuzzCity. However BuzzCity benefits from increase in traffic. Moreover, BuzzCity and publishers cooperate to create and design advertising campaign together and to share consumer data.

4.1.3 Advertisers

The advertising agency or advertiser can design and manage advertisement to promote their products and services through BuzzCity's publishers. BuzzCity's ad management allows the advertisers to take full control and flexibility to set effective and productive targeted campaigns. The advertisers can freely set advertising campaign and target on any country, region, telecommunication companies or carriers, time, handset, platform and publisher channel for their campaigns. BuzzCtiy's database of myGamma members and the profile information of the members for targeting the ad are gathered and updated which are very useful for advertisers to design the advertisement.

Advertisers can set target channels through more than 2,000 BuzzCity's publshier sites worldwide including of myGamma; community sites (social networking, chat, message ,WAP domain hosts, dating, forums and membership); search/portal/services sites (search engine, link exchanges, mobile services and emails); entertainment and lifestyle sites (music, movies, hobbies, dictionary, translators and fashion); information/news/sports sites (news, classified, guides, travel, weather and sport scores); mobile content sites (downloads, applications, Java and WAP games, pictures, comics, ring tones and MP3); and adult sites (any sites that feature erotic, nudity or topless contents). Through BuzzCity mobile ad network, audience will be reached widely and will be easily segmented according to their common characteristics.

The advertisers can effectively manage and target their campaign directly to their audience, via ad targeting technology. Advertisers can specifically choose single or multiple campaigns with graphical and text banners, select the campaign duration, target single or multiple groups of audience in specific countries, and select the handsets that their advertising want to be shown.

The banners are in various forms such as opt-in survey (eg. market survey, user feedback, user profiling, data mining, contest); click-to-call banner (eg. call centers, tele-sales support, chat services); click-to-action banner (eg. digital coupon, ticketing); and click-to-download banner (eg. movie trailer, video, MP3). BuzzCity provides services on banner design and advertisement plan in order for assisting the advertisers to make their ad and website attractive and generating more

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

BuzzCity's revenues from clicks. Banners are changed on mobile screen regularly to attract user attention. Publishers can balance how many banners and where to put them on the screen.

Advertisers can work on their campaign budget through bidding system. They can bid anything higher than the minimum price of USD 0.01 per click. The higher they bid, the more frequent their advertisement will appear. On average costs per click (CPC) are different across countries. For example, cost per click in South Africa, 15 US cent, is the highest rate among all countries BuzzCity serves. Cost per click in India is 3 US cent whereas in Indonesia and Thailand 2.2 US cent. The advertiser charges can be pre-paid or via auction network, which is conveniently operated in BuzzCity website. When the consumers click at the ad through any publishers, BuzzCity will earn revenue.

Advertisers can set a daily budget and campaigns for each target market. During the course of a campaign, advertisers can generate a campaign report that shows click-through activity for each campaign. They can edit the campaign parameters or stop the campaign altogether at any time. They have flexibility to edit campaign settings, to control budget and make online payment.

BuzzCity's proprietary ad management system will allow targeting and up to the minute reporting to efficiently manage advertisers' budget. Reporting include track exposures, clicks, click-through-rates, daily/monthly spending, and by day/country/campaign. It also produces reports on these information, click log (detailed click data for last few days of the campaign) and click analytics (demographic breakdown of myGamma members who click on banners) with capabilities to export in spreadsheet.

4.1.4 Mobile operators or carriers

The role of mobile operators is vital for the BuzzCity's services. Its role can vary from a simple and passive mobile network provider to a very active and dynamic by being strategically positioned between customers and content providers or aggregators and offer portal or trusted third party services.

Mobile operators can provides a WAP Gate way for enabling the exchange of information between a customer holding a WAP terminal and Internet merchant who does not provide WAP-compliant contents.

The mobile operators can act as a portal offering advertising services and providing mobile contents and at the same time enabling content providers to reach customers via the operator's portal. Mobile operators have a major advantage over other portal players because they have an existing customer relationship and personal data and they can identify the location of subscriber. It is common that mobile operators offer mobile portal services to its customers and offer services similar to the ones offered by Internet portals. BuzzCity also shares information and consumer data with mobile operators and employs the mobile operators' web portal service to promote myGamma.

4.2 Market and competitive analysis

In global market BuzzCity is acting as middleman to link advertisers with publishers. The major players in billing network are Bango, IPX and C365 whereas in social networking websites are

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Peperoni, TagTag and Waptrick. The major players in long-tail ad network are Admob, Google and Decktrade and in mobile advertising network are Thirdscreen, Enpocket and Screentonic.

BuzzCity's main business is on the mobile internet. In developing countries, the mobile internet becomes more popular owing to several reasons. The mobile internet can be accessed via the mobile phone using a 3G or GPRS data plan. It can also be accessed via the WIFI if the phone supports it. Most new handsets are equipped with internet surfing capabilities. Cost of mobile internet surfing has been decreasing. Due to limited screen space, mobile sites are generally simple and straightforward. Recently mobile internet has become an important media.

Users, particularly the middle income class in developing countries, are on mobile internet because mobile devices are always on, at hand, personal and rarely shared and affordable. Some users may never own a personal computer hence their only way of accessing internet is via the mobile internet. Moreover there is emergence of media convergence in online and mobile media. Mobile site has become an alternative to website, television and billboard for advertising. Mobile web is used as extension to wire-line internet for knowledge workers with smart-phones such as iPhone and Blackberry and as primary tool of accessing internet for blue collars with mass market phones.

Buzzcity found that the margin on billing network business is thin. Currently the content provision business is dominated by mobile operators. Premium content market is shrinking globally. On the contrary, mobile internet is expanding because data cost declines. Cost per click is declining to the sustainable level. Mobile phone becomes a primary tool of accessing internet. Presently BuzzCity link 200 advertisers with more than 2,000 publishers worldwide.

In addition, globally mobile communities have been growing owing to several factors. Firstly mobile internet data cost is time-based flat or quasi flat rate. The mobile internet charges are segmented into business users and mass market users. Secondly it is now easy to use the mobile community applications and the handsets. Lastly there are no predatory practices by mobile operator.

BuzzCity generates revenues from advertising on myGamma and advertising network comprising third-party publishers; member's spending in myGamma; and mobile billing commissions from content providers selling into the myGamma community. Currently 94 percent of BuzzCity's revenues comes from advertisers whereas 4 and 2 percent are from myGamma and billing business, respectively.

Revenue from billings includes of revenue from merchant business via selling mobile contents, billing content aggregators or carriers, selling virtual items or votes in myGamma and topping up Gamma dollar via WAP and premium SMS. BuzzCity's gross margins on myGamma are 50 percent whereas gross margin on merchant business is very small, 10 percent. Typically in merchant business, revenues are roughly divided into three portions, 40-50 percent of revenues belong to mobile operators, of which is called carrier collection charge; 10 percent is billing aggregator fee; and 40 percent is revenue shared to merchants. Moreover due to receiving low revenue sharing in mobile billing business, BuzzCity recently shifts to focus on mobile advertising business.

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Advertising revenues includes of revenue from content aggregators, content owners, Internet community portal and advertising agencies who advertise in myGamma. BuzzCity maximizes revenues from maximizing click through rate and cost per click and/or cost per thousand impressions. To attract more click, position of banners on mobile screen is very important. Due to small and narrow screen of mobile phones, the banners are usually placed in the middle or at the bottom of screen so that users read through the whole screen before clicking ad banner. The ads will be randomly shown at the same place or there are one-two placements on screens so that users do not get bored with the same ads all the time.

The gross margins on mobile advertising business are relatively high. In mobile billing business, BuzzCity receives at 97 percent of revenue on myGamma whereas in mobile advertising business, it receives 30-40 percent of revenue on external publishers. External publishers receive 60-70 percent of mobile advertising revenues. Typically in mobile advertising business, 3 percent of revenues are collection and remittance fees and 65 percent is revenue shared to publishers.

The revenue sharing with external publishers is determined by pageviews. In order to encourage publishers to improve their websites and increase pageviews, BuzzCity pay the external publishers relatively lower for 150,000-200,000 pageviews per day than myGamma which pageviews is around 400,000-500,000 pageviews per day.

Advertisers tend to reduce their overall advertising budget and shift from online to mobile internet. The big brands such as Toyota, Dell, Renault and others uses mobile phones to reach consumers. Moreover, BuzzCity has partners in advertising network with over 2,000 publishers worldwide.

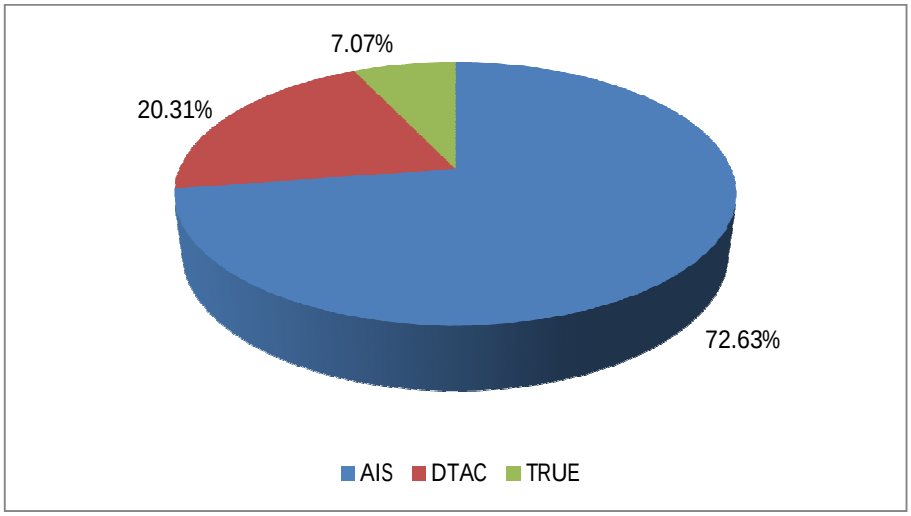
4.2.1 Market and competitive analysis in Thailand

In BuzzCity's view, Thailand is considered as potential market for mobile internet because the number of mobile subscribers in Thailand has been continuously increasing. Moreover in Thailand, mobile internet is increasingly popular. Mobile penetration rates have drastically increased from 22.5 percent in 2003 to 52.8 percent in 2008.

As for BuzzCity's advertising network outreach, Thailand has a daily average of about 1 million exposures. As of August 2009 (Figure 12-16), the main distributors are AIS (72.63 percent of myGamma members tracked by IP address), DTAC (20.31 percent) and TRUE (7.07 percent). Sixty two percent of myGamma members tracked by member profile are male and rest is female. The major location of members is Bangkok (39 percent), following with Central region (20 percent). Most of members are in age of 25-30 years old (35 percent), 20-24 years old (31 percent) and 18-19 years old (12 percent). Seventy seven percent used Nokia. Thai users have various occupations ranging from government officials, small business owners to employees in large enterprises. Thai myGamma members prefer to visit websites entertainment and lifestyle.

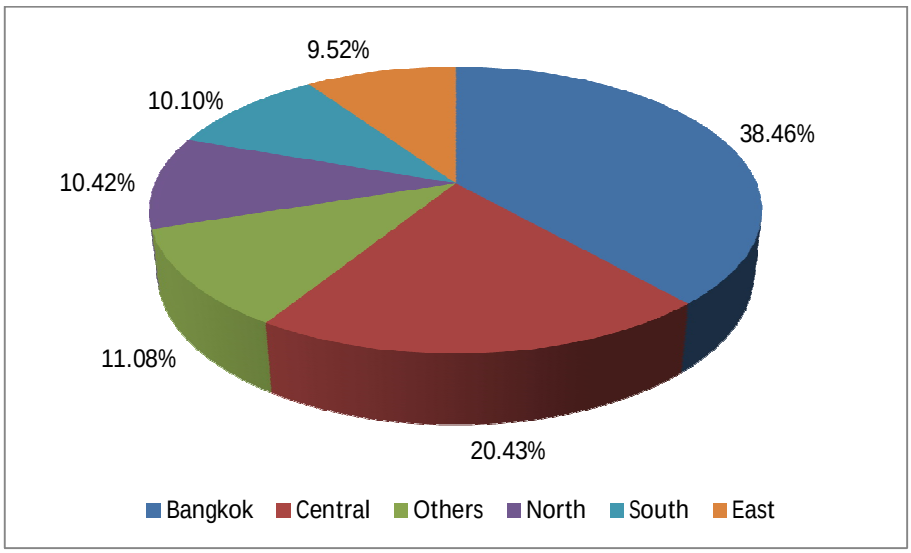
Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Figure 12: MyGamma Members in Thailand classified by Mobile Operators, as of August 2009



Source: BuzzCity

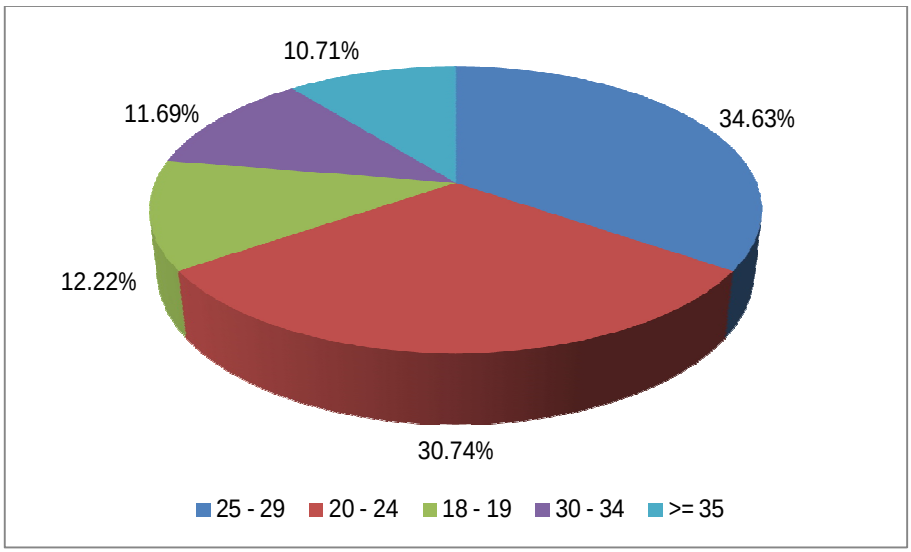
Figure 13: MyGamma Members in Thailand classified by Region, as of August 2009



Source: BuzzCity

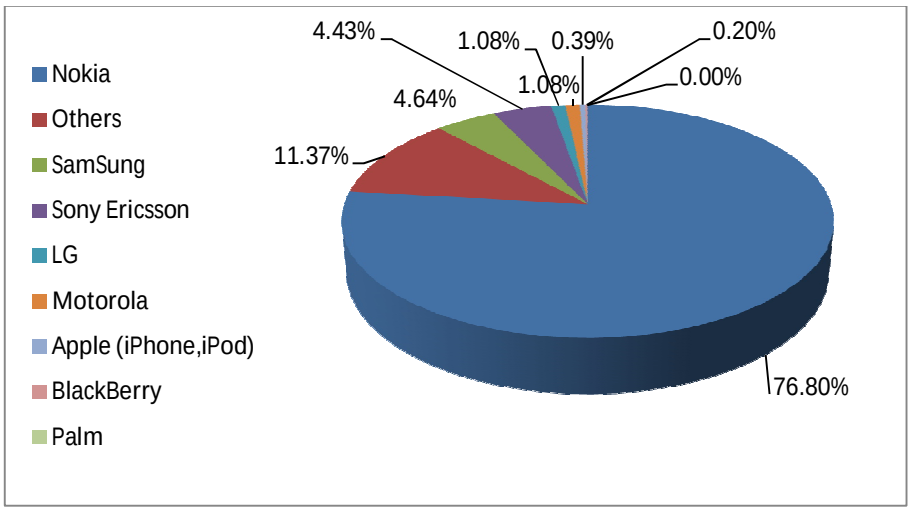
Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Figure 14: MyGamma Members in Thailand classified by Age, as of August 2009



Source: BuzzCity

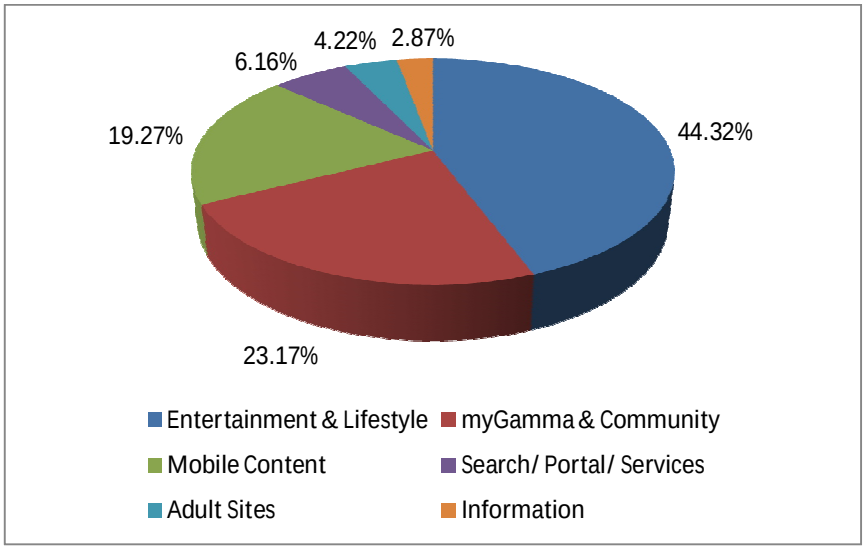
Figure 15: MyGamma Members in Thailand classified by Handset Makers, as of August 2009



Source: BuzzCity

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Figure 16: MyGamma Members in Thailand classified by Channels, as of August 2009



Source: BuzzCity

From mobile internet user survey in Thailand in 2008 (BuzzCity, 2008), the evidence shows that respondents hold high educations ranging from secondary school, diploma or college to university or postgraduate degree. Their income level is not very high. Most of them earn less than 10,000 baht. Some earn 10,000-20,000 baht and 20,001-30,000 baht. They are mainly adults who work as freelancers; administrative, retailing and sales assistance personnel; and service personnel or having own business. Most of respondents use the mobile internet to communicate with friends via chat, blogging and discussing groups. Very few use the mobile internet for entertainment (such as playing game), surfing for information, education and email. Thai go online more frequently than users from other countries. They access on mobile internet more than five times a day. And they visit mobile internet sites at home and at work. From the survey, most of Thai respondents communicate with friend via mobile internet

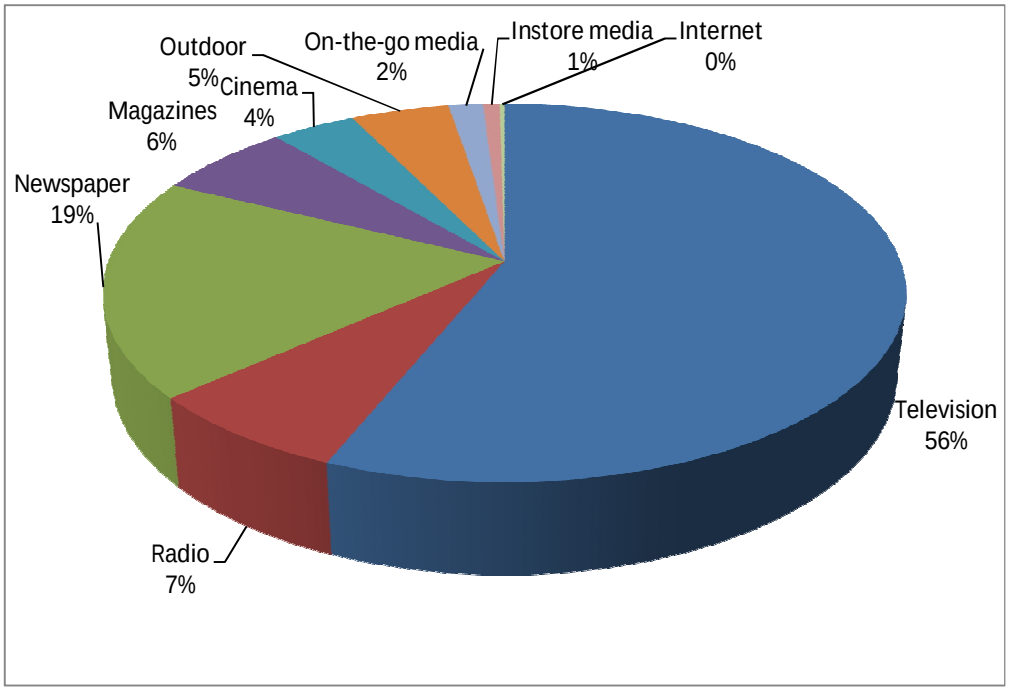
BuzzCity perceives Thailand as high potential market for mobile advertising and that social mobile networking, such as myGamma, can serve the advertisers. Various campaign tools are offered by BuzzCity, depending on campaign strategies. Advertising campaign strategies can be for creation of strong brand awareness and brand positioning and brand identity, for growth in exposure and influence through mobile message dissemination, for patronage by increasing footfalls at ultimately sales and even for market research.

However the evidence reveals that there are not many Thai advertisers since mobile advertising is very new and there is very few advertising agency in Thailand who actively encourages their clients to advertise through this media. The example of Thai advertising agencies who engages in mobile advertising are Set Digital, Media Connect and Group M. The advertising budget on online and mobile media is negligible comparing to television, as shown in Figure 17. Most of advertisements are on television since they are clear and understandable for consumers. Even in the Thai agency, there is no media buyer who is responsible for mobile advertising. As of December

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

2009, there are 35 Thai advertisers who are using BuzzCity services and 15 foreign advertisers targeting Thai users. Most of them are mobile content providers.

Figure 17: Proportion of Advertising Budget Classified by Types of Media in Thailand in March 2009



Source: Neilsen Media Research

They are in content provision business such as N-content and Mobafone; fast moving consumer goods such as drinks, mobile accessories, contact lens; and small and medium enterprises such as massage chairs. Since small and medium enterprises do not have large marketing and advertising budget but aim to venture global, advertising through BuzzCity ad network can fulfill their goals.

In mobile advertising business in Thailand, the potential BuzzCity competitor is Mycombar, new ad network providing the mobile advertising services. Mycombar was introduced by cooperation of DTAC and BEC World (television media) in Thailand. However currently the price of cost per impression (CPM) charged by Mycombar is 2,000 baht per CPM which is a lot higher than the rate that Buzzcity charges at 90 baht per CPM.

In Thailand, through BuzzCity, content providers mostly provide ringtones, mobile game, horoscopes and photo wallpapers. Examples of Thai content providers are Grammy, RS, Sony Music, M contents, and Chicky Club. Sometimes they send content to BuzzCity in bundle. Thai consumers purchase ringtones, photo wallpapers, mobile game and horoscopes. However, as of December 2009 there are only 3 Thai merchants, selling contents through myGamma whereas there are around 10 merchants worldwide selling into Thailand. Although BuzzCity engages with more than 2,000 publishers, only around 22 publishers that Thai members click through, most of which are mobile internet site such as Sanook or mobile content providers.

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

In case of Thailand, mobile operators' revenue sharing is as high as 60 percent whereas the rest of revenue belongs to content providers and aggregators. Moreover, mobile operators, such as AIS, the largest mobile operator in Thailand, exercise its dominant power over the network and play the dominant role in content provision business. As a result, the small and medium content providers exit the market. Through its own portal, AIS provide mobile music and segmented content such as game through mobile, and other mobile internet services such as mobile map, mobile chat, self location, real-time traffic camera and real-time accident report. AIS's mobile internet business has expanded. AIS's proportion of mobile internet business is 96 percent from content and only 4 percent from mobile advertising.

All in all, evidence in Thailand has revealed that BuzzCity has shifted from content providing business to mobile advertising business. Although there are a huge number of Thai myGamma members, there are not many Thai merchants and advertisers. Even foreign merchants and advertisers seem not to target Thai market. The next section will analyze the factors determining potential successBuzzCity's business model in Thailand.

5 Business model analysis in Thailand: Case of BuzzCity

BuzzCity's business model is a combination of community, advertising, and affiliation model. BuzzCity has its own social networking portal, as one of publisher, together with more than 2,000 publishers or affiliates, BuzzCity provides advertisers with choices to set up campaign and target to reach their audience. The roles of advertisers, merchants and publishers are not definitely defined. Some of firms can play all of roles. For example, Grammy (the largest music company in Thailand) can advertise new album through ad net work, sell music content via myGamma and with its own websites allow ads from other advertisers to appear in Grammy website. Business model of BuzzCity in Thailand is similar to BuzzCity in other countries. Although by the time of writing the number of Thai advertisers and publishers are not many, there are a lot of potential in Thai market as perceived by BuzzCity. In this section, the factors determining the potential success of business model in Thailand will be analyzed as following.

5.1 Technology

One of the factors determining the success of BuzzCity's business model is its in-house technology. With the wide range of technologies, BuzzCity has developed simple platform for developers to create networking applications and has created mobile ad and international billing network. Standardization processes and open interfaces are seen as essential for an effective and fast development of mobile content services.

Ad optimization technology was developed to optimize click-through rate and frequency of banner appearance. This technology helps to enhance a bidding system. The higher advertisers bid for cost per click or cost per thousand impressions, the more frequent their advertisement will appear. Moreover, ad targeting technology will target ads to appropriate publishers. Both ad optimization and targeting technology will be run every 15-30 minutes to search for the optimized click-through rate and frequency of banner appearance and for appropriate publshiers.

Based on this technology, Buzzcity maximize revenue. The advertising platform needs to estimate the click-through rate for the bid and allocate ad to bidders to maximize BuzzCity's

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

revenue. The programs will balance the value of each bid of cost per click with their frequency in order that not only the highest-bid ad will appear on the screen all the time but the appropriate mixture of ads with various values of bid will sequentially appear on the screen.

BuzzCity has technology to support advertisers and publishers to target the right consumers. There is earning report and site stat for assisting advertisers and publishers to follow their business outcomes.

In addition, technological advancement of mobile devices also support the marketing message oriented functionalities in order to provide various mobile advertising campaigns offering links between consumers and advertisers with the various response mechanisms such as click to call, click to competition, click to survey, click for sample, and mobile WAP sites with a combination of text links, graphical banners Sharma and Wildman (2009). Markets for mobile phones in Thailand are broadened, selling and buying wide range of mobile phone from simple, old-fashioned mobile phones, to smart phones and PDA. However Thailand still lags behind most of developing countries, particularly in infrastructure like 3G which has not been fully functioning in Thailand. Moreover the price of mobile has drastically decreased.

5.2 Service Targeting

BuzzCity targets its services to the advertisers. In Thailand the number of mobile advertisers is limited because they do not have the knowhow, time or resources to learn how to use new technology efficiently. Very few numbers of Thai advertisers reflects that slow adoption of mobile internet as new media. BuzzCity is aware of this limitation and provides advertisers assistance to create the mobile ads, insert the mobile ads into the system and set up the target criteria for the advertiser so that the advertiser only needs to follow the reports on the number of consumers that have been receiving the company's message. This service is offered to small advertisers who may lack in advertising knowledge and of an Internet connection so they can use mobile advertising as a new advertising channel. At the same time, large advertisers may use mobile advertising as a way to communicate with their loyal customers by using their own instead of the application provider's customer data bases.

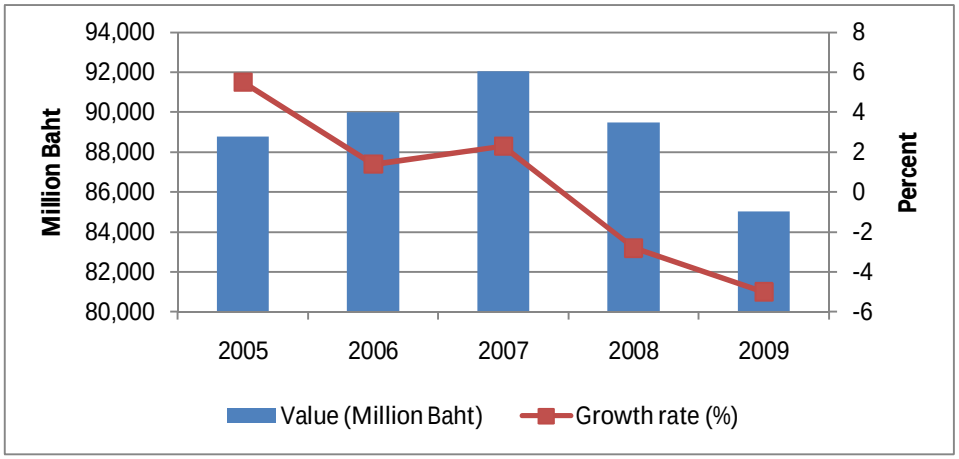
Consumer attitude toward advertisements is considered a significant explanatory variable in measuring advertising response. Lee et al (2006) stipulate that there is a strong relationship between the intention to receive mobile advertising messages and the attitude toward them. Leppaniemi and Karjaluoto (2005) found that consumers' willingness to accept mobile advertising messages is based on the design of the message and the related technology. For mobile advertisement to be successful, the key factors are the role of the mobile medium in the marketing mix, the development of technology, individualization and a regulatory framework.

In case of Thailand, Thai consumers' attitude toward SMS or MMS as mobile advertisement is not so positive. They found that these SMS are annoying and not relevant to their need and behavior and so tends to ignore or not read them. BuzzCity realized these problems and assist the advertisers to design the advertising campaign targeting the specific group of consumers, based on their user profile. Moreover BuzzCity provides services to the advertisers to make message more attractive. Advertisers should make sure that their mobile advertising messages contain information that is useful to the recipients (Haghirian et al., 2008).

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

However in Thailand, recently the advertising industry has been shrinking due to economic slowdown, as shown in Figure 18. Moreover, the proportion of advertising budget on mobile and online media in the marketing mix is still negligible, as shown in Figure 17. Therefore market size of mobile advertising in Thailand is still small and has slow growth that is ultimately a major hindrance for BuzzCity's mobile advertising business.

Figure 18: Market Value and Growth Rate of Advertising Industry in Thailand



Source: Neilsen Media Research
Note: 2009 data is from Kasikorn Bank Research Centre

5.3 Consumer targeting

Consumer behaviors are key factor to determine success of BuzzCity's business model in Thailand. BuzzCity targets at lower middle and middle income group in Thailand. These groups of consumers use mobile phone because of accessibility and convenience. They mostly use phones for normal activities, which are taking and receiving phone calls, and sending and receiving missed calls and text messages. With other features of the mobile phones, they use phone for checking bill and credit balance, listening to the radio and downloaded music, playing games and browsing internet and sending or receiving or downloading or uploading other content (e.g. ringtones, wallpapers, pictures, games and video clips).

Thai consumers are aware of non-voice services that can be accessed or obtained through either telephones or computer. Although they are aware of services, some chose not to use these services such as making or receiving payment or sending or receiving money. The major reasons for not using these services through telephone or computer are that they do not know how to use it; it is not applicable to them; and they are already satisfied with their present mode of obtaining these services. Moreover, most of consumers in lower middle income groups do not own computer. They may have heard about the internet but have not accessed it. For those who use the internet, they access the internet through computer whereas only few access through mobile phone (NECTEC, 2008).

However, the evidence from study by Phuangthong and Malisawan (2008) revealed that there are market opportunities in non-voice mobile services in Thailand because Thai users are ready

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

to accept and use mobile internet because it is convenient to access the internet when they are not be able to access the internet via computers. The major obstacle to hinder growth of this market is long period of Thai consumer technology adoption.

BuzzCity successfully target at consumers in the lower middle and middle income groups in Thailand. It can attract a large number of myGamma members in Thailand. However, BuzzCity's advertising business in Thailand has not expanded in the recent years. Thai advertising agencies and advertisers are also aware of their behaviors and doubt whether their advertisement banners will be able to reach and receive click response from audience.

Another reason of slow growth is that Thai consumers in lower middle income group prefer to consume content in Thai language and/or in Thai style. Therefore advertisement in other language cannot attract them much. This is a major hindrance for foreign advertisers to target Thais. Moreover Thai language is barrier for Thai advertisers to advertise their products abroad as well.

5.4 Role of mobile operators

The role of mobile operators is not clearly defined or separated. The role can vary from simple and passive to active and dynamic role by being strategically positioned between customers and content/service providers and offer portal services. Mobile operators can extend their operation to cover new roles such as content providers and/or aggregator, publishers and advertiser. Their roles can affect the billing and payment of mobile internet services. Mobile operators by nature already possess valuable information regarding their customers so they could also become important information providers. Mobile operators also already have a billing relation with most users of future services so they are expected to become powerful players within the emerging services.

Mobile operators in Thailand play dominant roles in billing business. Their revenue sharing is at least as high as 60 percent, leaving the rest of revenue to content providers and aggregators. Therefore in recent years small and medium content providers and aggregators cannot survive with slim profit margin and finally exit the market.

In addition to facilitating transactions between customers and content providers or aggregators, Thai mobile operators also provide portal services. The operator can facilitate customers to locate appropriate service providers and at the same time enable content providers to reach customers through the mobile operators' portal. In Thailand, there are six major mobile carriers, namely AIS, DTAC, TrueMove, Hutch, DPC and Thaimobile. Currently four of them offer mobile internet service to their customers through their own web portals. AIS as a market leader provides the content services through "Mobilelife", DTAC through "Djuice", TrueMove through "Truelife" and Hutch through "Hutch". The services which are offered include a list of content and service providers with provided services, products and prices. The contents are in the area of entertainment, news, SMS, MMS, and lifestyle contents.

Owing to the dominant role of mobile operators and shrinking profit margin in billing and content services, BuzzCity have decided to shift from merchant business to mobile advertising business. Currently in Thailand mobile operators have not yet entered into this market due to lack of knowledge and specialization in advertising business. Therefore shifting to mobile advertising

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

business will assist BuzzCity to avoid low revenue sharing from mobile operators in billing business and to retain 97 percent of revenue from mobile advertising on myGamma and 30-40 percent on external publishers. The low competition in Thai market and BuzzCity specialization in mobile advertising business worldwide are key factors for BuzzCity to enter into this business in Thailand.

5.5 Network externality

Network externality occurs when a transaction between two actors affects, as a side effect, a third party that is external to the transaction. A product presents a network externality if the utility that a user derives from consumption of the good increases with the number of other agents consuming the good.

Direct network externalities also exist in myGamma social networking. The utility of joining social network is positively related to the number of its members. A member joining myGamma confers a benefit to all other members because the number of potential interaction increases. Direct network effects are in the forms of being able to communicate with a larger number of other members. Moreover, the large ad network allows the advertisers to have choices to advertise in any publishers. Therefore due to the positive network externalities, BuzzCity can attract more members to join myGamma and subsequently more advertisers to join ad network and to be able to reach members in myGamma.

Communication network also show signs of indirect externalities, where users indirectly benefit from network size. For example an additional member potentially increases the number of services available to other members, because due to the increasing demand for services, service provision become more profitable and more firms (merchants and advertisers) would be willing to offer them.

In addition, BuzzCity's long tail mobile advertising network aggregates around 2,000 smaller sites to capture value offered by the smaller sites so that advertisers are able to reach a diverse audience. Attracting few users from different sites is better than more users from the same site.

6 Conclusion

In Thailand mobile ownership and penetration rate have increased at faster rate than those of computer and internet, creating business opportunity in mobile business. Mobile internet in Thailand becomes popular due to several reasons. The mobile internet can be accessed via mobile phone using a 3G, GPRS data plan or via the WIFI if the phone supports it. Costs of mobile handsets and mobile internet surfing has been declining. Users are on mobile internet because mobile devices are always on, at hand, personal, rarely shared and affordable. Some users may never own a personal computer hence their only way of accessing internet is via the mobile internet. Mobile site has slowly become an alternative to website, television and billboard for advertising.

The study explores and examines the business models for delivering mobile value-added services that can be successfully employed in the developing countries. The single case research design is employed. The choice of BuzzCity as a single case study was based on the consideration that BuzzCity as multiple international award winners has main customer base in developing

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

countries. This study focuses on how BuzzCity's business model works in Thailand and examines the explanatory factors determining its success together with barriers to become successful.

In Thailand and also in global market, BuzzCity started with content provision business. Later it found that margin on billing network business is thin. The content provision business is dominated by mobile operators. On the contrary, mobile internet is expanding. Hence Buzzcity has shifted to mobile advertising business. Currently BuzzCity is acting as middleman to link advertisers with publishers and its own social networking portal, myGamma, and targets at consumers in middle and lower middle income groups.

Since BuzzCity has entered into Thai market in 2005, myGamma members in Thailand has continuously increased and in 2009 Thailand was ranked as the sixth largest myGamma members. The ads banner served in Thailand was ranked the eighteenth among the top 20 countries. But there are not many Thai advertisers and publishers joining BuzzCity ad networks.

The key factors explaining success of BuzzCity's business model are advanced in-house technology, technological advancement of mobile devices. Due to the positive network externalities, BuzzCity can attract more members to join myGamma. Effective service targeting benefits most to the small advertisers who may lack in advertising knowledge. Shifting to advertising business, in which mobile operators lack of specialization, can safeguard BuzzCity's business. Moreover

However there are some barriers to become successful in Thai market. Firstly, the advertising industry has been shrinking due to economic slowdown. Proportion of advertising budget on mobile and online media in the marketing mix is still negligible comparing to television and radio. Hence mobile advertising is not yet an alternative media for large advertising agencies in Thailand.

Secondly, targeting at consumers in lower middle income group who are ready but slow to adopt new technology and innovation require a longer period of time to accept new non-voice mobile service. Moreover this group of consumers prefers to consume content in Thai language and/or in Thai style. Advertisement in other language cannot attract them much. BuzzCity cannot exploit the large ad networks in Thai market.

7 References

Afuah, A., and Tucci, C., 2003. *Internet Business Models and Strategies*, McGraw-Hill, Boston.

Alt,R., and Zimmermann, H.D., 2001. 'Preface: Introduction to special section- business models', *Electronic Markets*, 11(1):3-9.

Bouwman, H., Vos, H.D. and Haaker, T., 2008. *Mobile Service Innovation and Business Models*, Springer-Verlag Berlin Heidelberg.

BuzzCity, 2008. *Who Uses the Mobile Internet? And What do they do?*, December 30.

BuzzCity, 2009. *BuzzCity Global Mobile Advertising Index: Q1 2009*, 2 April 2009.

Camponovo, G., and Pigneur, Y., 2003. 'Business model analysis applied to mobile business', Fifth International Conference on Enterprise Information System, Angers, France, 23-26 April.

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

De Silva, H. and Zainudeen, A., 2008. 'Teleuse at the Bottom of the Pyramid: Beyond universal access', *Telektronikk*, 2:25-38.

Eisenhardt, K.M., 1989. 'Building theories from case study research', *Academy of Management Review*, 14:532-550.

Enders, A., Hungenberg, H., Denker, H.P., and Mauch, S., 2008. 'The long tail of social networking: Revenue models of social networking sites', *European Management Journal*, 26:199-211.

Evans, D.S., 2008. 'The Economics of the Online Advertising Industry', *Review of Network Economics*, Vol.7(3):359-391.

Feijoo, C., Maghiros, I., Abadie, F. and Gomez-Barroso, J.L., 2009. 'Exploring a heterogeneous and fragmented digital ecosystem: Mobile content', *Telematics and Informatics*, Vol. 26:282-292.

Haghirian, P., Madlberger, M., and Inoue, A., 2008. Mobile advertising in different stages of development: A cross-country comparison of consumer attitudes, Proceedings of the 41st Hawaii International Conference on System Sciences.

Lee, S.F., Tsai, Y.C., and Jih, W.J., 2006. 'An empirical examination of customer perceptions of mobile advertising', *Information Resources Management Journal*, 19(4):39-55.

Leppaniemi, M. and Karjaluoto, H., 2005. 'Factors influencing consumers' willingness to accept mobile advertising: A conceptual model', *International Journal of Mobile Communications,* 3(3):1.

Li, Y.M. and Jhang-Li, J.H., 2009. 'Pricing display ads and contextual ads: Competition, acquisition, and investment', *Electronic Commerce Research and Applications*, 8:16-27.

National Electronics and Computer Technology Center (NECTEC), 2007. *Internet User Profile of Thailand 2007*.

National Electronics and Computer Technology Center (NECTEC), 2008. *Internet User Profile of Thailand 2008*.

National Statistical Office of Thailand, 2008. *Information and Communication Technology Survey on Household 2008*.

Nielsen, 2008. Teleuse at the Bottom of the Pyramid: A Multi-Country Study (Teleuse@BOP3), Presented to LIRNEasia, November 28.

Osterwalder, A. and Pigneur, Y., 2002. *An e-business model ontology for modeling e-business*, Paper presented at 15th Bled Electronic Commerce Conference, Bled, Slovenia.

Phuangthong, D. and Malisuwan, S., 2008. 'User acceptance of multimedia mobile internet in Thailand', *International Journal of the Computer, the Internet and Management*, 16(3):22-33.

Rappa, M. 2007, Business models on the web. Managing the digital enterprise course. Retrieved 17 April 2009. from http://digitalenterprise.org/models/models.html

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)

Reuver, M.d. and Haaker, T., 2009. 'Designing viable business models for context-aware mobile services', *Telematics and Informatics*, Vol. 26:240-248.

Shafer, S.M., Smith, H.J. and Linder, J.C., 2005. 'The power of business models', *Business Horizon*, 48:199-207.

Sharma, R.S. and Wildman, S., 2009. 'The economics of delivering digital content over mobile networks', *Journal of Media Business Studies*, Vol.6(2).

Software Industry Promotion Agency, 2009. *Thailand ICT Market 2008 and Outlook 2009*.

Stuart, I., McCutcheon, R., Handfield, R., McLachlin, R. and Samson, D., 2002. 'Effective case research in operations management: a process perspective', *Journal of Operations Management*, 20(5):419-433.

Taylor, C.A., Anicello, O., Somohano, S., Samuels, N. and Whitaker, L., 2008. A framework for understanding mobile internet motivations and behaviors, CHI 2008 Proceedings, Florence, April 5-10.

Tsalgatidou, A. and Pitoura, E., 2001. 'Business models and transactions in mobile electronic commerce: requirements and properties', *Computer Networks*, 37:221-236.

Ying, R.K., 1989. *Case Study Research: Design and Methods*, Second Edition, Sage, Newbury Park, CA.

Yunos, H., Gao, J. and Shim, S., 2003. 'Wireless advertising's challenges and opportunities', *Computer*, 36(3):30-37.

Create PDF files without this message by purchasing novaPDF printer (http://www.novapdf.com)