

# Game analysis: Messaging

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## Abstract

In this paper we introduce the four main forms of wireless messaging. After analyzing the current market state and its technology accordingly, we list the major messaging applications. Then, we demonstrate the predication report of messaging development from year 2003 to 2008. Finally, the key factors for the successful deployment of mobile messaging services are investigated. As a conclusion, mobile messaging will play a very important role on operators' revenues.

Keywords: messaging, SMS, MMS, mobile IM

## 1 Introduction

Wireless messaging is the transmission of text or data from one device to another, via a wireless network. There are four main forms of wireless messaging [1]:

### Short Messaging Service (SMS)

SMS, short for short messaging service, is currently the dominant form of wireless messaging. SMS is available on most 2G networks and all 3G networks. Subscribers can send short text messages that are immediately delivered to and from wireless handsets. Usually the contents of SMS were limited to no more than 160 characters. Now SMS messaging is particularly popular in Europe and Asia. [1]

### Multimedia Messaging Service (MMS)

Multimedia messaging service is one of the most recent developments in wireless messaging. MMS is an advanced version of SMS that allows users to enhance their messages by incorporating sound, images, and other rich content, transforming it into a personalized audio and visual message. With MMS, it is not only possible to send your multimedia messages from one phone to another, but also from phone to email, and vice versa. This feature dramatically increases the possibilities of mobile communication, both for private and corporate use. Multimedia Messaging Service not only gives mobile operators the opportunity to build on their large and fast-growing SMS revenues, but also gives the end users more functional messaging services. [1]

### Mobile Instant Messaging (mobile IM)

Instant Messaging (IM) offers people the capabilities to send short, simple messages that are delivered immediately to online users [1]. Mobile instant messaging extends desktop instant messaging to wireless devices. The basic benefit of mobile instant messaging is "see before you connect". The problem is that the current generation of mobile IM technology is not very sophisticated, because of interoperability issues. But this should change soon. As Ericsson, Nokia, Motorola and other companies are working hard on the Wireless Village group and its parent, the Open Mobile Alliance, which are trying to establish a set of

specifications for interoperability of mobile Instant Messaging services.

## Wireless email

Wireless email gives us the possibility to send and receive email over wireless devices. As 2.5G and 3G networks provide the feature “always on”, which allow users to access to their email. So we expect wireless email to become more popular quick soon. [1]

## 2 Mobile Messaging in current state

To date, Messaging play an important role on operators revenue. Currently SMS is the Dominant messaging services and it represents around 10% of mobile operator revenues. In April 2002, the number of SMS messages sent globally exceeded the symbolic threshold of 1 million messages per day. [2] Most of the people take MMS as the offspring of short message service, with enhanced capabilities for media-rich content. Comparing to SMS, Mobile Instant Messaging allow for more real-time text messaging and communications. Wireless email will give the end users more capacities for messaging contents. The relation of the messaging can be seen from Figure 1.

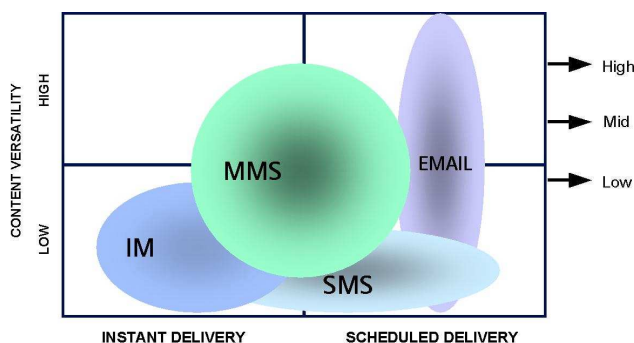


Figure 1. The relationship of Messaging [2]

### 2.1 SMS technology

SMS is a messaging standard specified by ETSI (European Telecommunication Standards Institute), who also specifies the GSM standard. SMS was transmitted through the network’s

signaling channel. The technology of SMS can be referred to Figure 2. [2]

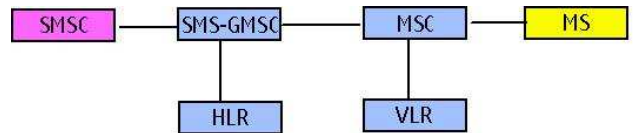


Figure 2. SMS technology

SMS was originally implemented as a simple voicemail notification, but nowadays it has been developed into one of the most successful media for peer-to-peer communications and value added services. The key factors influenced the enormous success of SMS are: [2]

- SMS is a universal standard implemented by all GSM operators.
- A medium available to all mobile phone users, at any time and anywhere.
- An interactive service.
- A simple, immediate and confidential way to communicate.
- A clear pricing model based on per message fee.

The worldwide SMS market trends can be seen in Figure 3. The Finnish SMS market of recent years can be found in Figure 4.

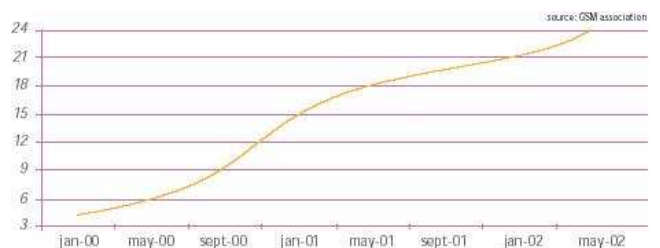


Figure 3. Worldwide SMS market [2]

In million – except (*)	1999	2000	2001	2002 (e)
SMS Volume	705	992	1,202	1,186
SMS market turnover (€)	99	147	186	n/a
Monthly SMS Volume	58.7	82.7	100.1	98.8
Monthly SMS Market Turnover (€)	8.2	12.2	15.5	n/a
Monthly SMS Volume/user (*)	19.1	22.5	24.2	26.3
Monthly SMS ARPU (* €)	2.7	3.3	3.7	n/a

Figure 4. The Finnish SMS market [2]

## 2.2 MMS technology

MMS is next generation's SMS with the future that enhance the messaging with rich-content. MMS could bring the messaging service a bright future, but mobile network operators still face challenges in driving the usage and adoption of MMS to match SMS levels. To make MMS more successful, what have to be done are interconnect agreement, offer compelling, differentiated content and give users offerings and methods that stimulate usage.[7] The MMS technology can be seen from Figure 5.

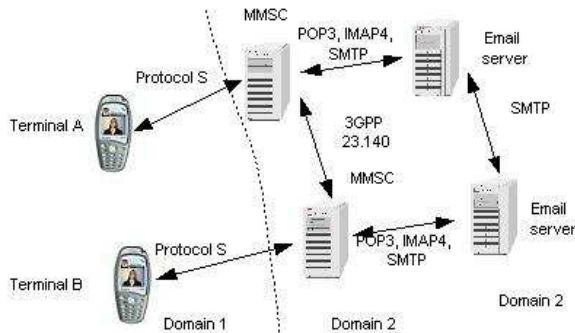


Figure 5. MMS technology

## 2.3 Mobile Instant messaging technology

Mobile Instant Messaging introduces the idea of “see before you connect” in the mobile messaging service. The status and availability of a user can be checked before the communication started. The possibility of the instant messaging is supported by GPRS or 3G networks' always-on feature. [3]

The main reasons for the success of instant messaging was listed below [3]:

- The screens of mobile devices are large enough for the basic mobile IM and presence features.
- User interface improvements, such as predictive text-input in mobile terminals, will be a further boost for mobile instant services.
- Instant messaging and presence services benefit from the evolution of the mobile network.

- Mobile Instant services are available now for the traditional circuit switched GSM network.
- Compared to desktop Internet services, the mobile terminal is always with the user, enabling constant update of present information.
- The mobile terminal is becoming the personal trusted device.
- The amount of data actually transferred is relatively small and does not require much bandwidth

## 2.4 Wireless email technology

Comparing to the three messaging services mentioned above, wireless email could offer more data service to the user. The technology of wireless email can be referred to Figure 6.

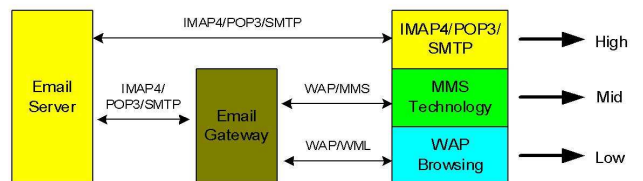


Figure 6. Wireless Email technology

## 3 Messaging applications

Mobile messaging is spreading even wider than the Internet, since the mobile phone penetration is higher than Internet in most countries. The messaging applications could be divided into consumer applications and business applications. The consumer applications include information alerts, customization services, communities and chat services, entertainment and so on. The business applications cover mobile marketing and mobile commerce etc.

### INFOTAINMENT

Different consumers will require different information services. The information could be range from stock alerts to sport alerts. The information service can be requested by subscribing as a regular alert or by sending a

message to a specific mobile number. Examples of infotainment are [2]:

- Travel updates
- News alerts
- Stock alerts
- Sport alerts
- Horoscopes
- Health information
- Event calendars
- Auctions

## **CUSTOMISATION SERVICES**

Nowadays handset personalization is a very hot topic, especially among the young people. The most popular service of customization services in Europe is logos and ringtones downloading. The customization services include [2]:

- Logos & screen savers downloading
- Pictures and photos downloading
- Ringtones & music downloading

## **COMMUNITIES AND CHAT SERVICES**

Chatting is another favorite of young people, Messaging service is a good option for people to chat and communicate with their friends or families anywhere and anytime. The communities and chat services cover personal chat, dating, private consulting and virtual chat [2].

## **ENTERTAINMENT**

Mobile messaging offers a good option for entertainment when people are traveling or staying out-door. These entertainments include [2]:

- Games
- SMS voting
- Betting and competitions
- Jokes and cartoons
- Mobile video

## **MOBILE MARKETING**

Mobile messaging could be used as a marketing medium. Advertising by mobile messaging is one of the most popular mobile marketing. It is reported that 30 percent of mobile user communicate with their customers via mobile messaging [2].

## **MOBILE COMMERCE (M-COMMERCE)**

One bottleneck of the growth of mobile industry is charging for content. This problem was solved by introducing the premium mobile messaging. The mobile commerce really brings endless opportunities to help companies to offer chargeable mobile services to their customers and become profitable. M-commerce allows end users to buy goods and services via sending a message. Some examples of M-commerce are [2]:

- Bus tickets
- Tickets for movies, concerts, sports
- Vending machines
- Prepaid card top up
- Online purchases
- Pay-per-view web-content
- Parking
- Flowers

## **4 Prediction of Messaging developments**

It is estimated that global revenues from mobile data will grow from around \$46 Billion to just over \$114 Billion in 2008. As showed in Figure 7, data will still remain a firm second to revenues generated by voice, contributing only 18% to total cellular service income in 2008. Figure 8 makes clear that; it is the Person-to-Person messaging applications that will continue to generate bulk (51%) of data revenues in 2008 [4].

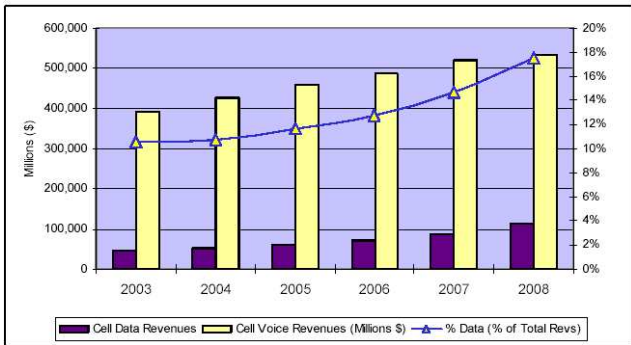


Figure 7. Global Cellular Voice and Data Revenues Forecast (2003-2008) [4]

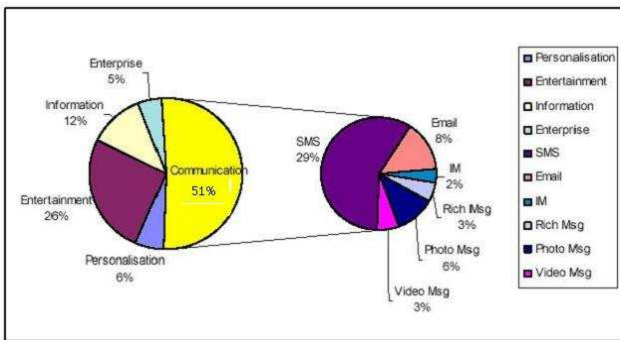


Figure 8. Cellular Data Revenues Breakdown by Application Category (2008) [4]

It is forecasted that text messaging via SMS will remain the dominant global application over the time frame from 2003-2008, generating 29% of all data service revenues in 2008. However, as described in Figure 9, its relative contribution will decline as usage of MMS (photo messaging, video messaging, rich messaging), IM and Email grows [4].

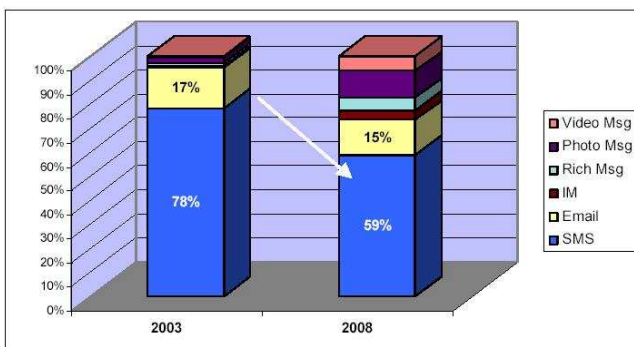


Figure 9 Revenue contributions within Communications Applications Segment [4]

Global revenues across the messaging will reach \$58 Billion in 2008. Figure 10 illustrates the relative distribution of revenues for each category [4].

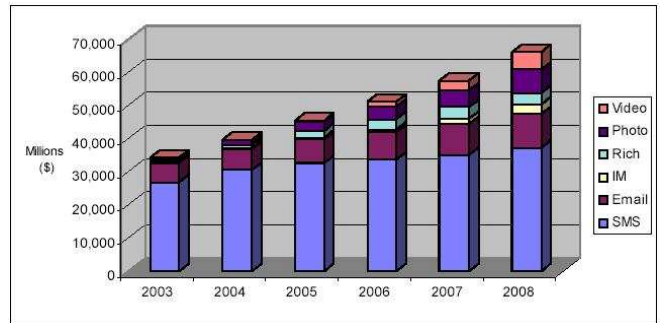


Figure 10 Rich, Photo and Video Messaging Revenues (2003 - 2008) [4]

## 5 Future challenges

No one will suspect the bring future of mobile messaging. But the successful deployment of mobile messaging services rely on several key factors [2]:

- A common short number available on all mobile operators is essential to launch services accessible by all mobile phone users.
- A range of premium tariffs available on all mobile operators are required to enable services to be priced appropriately.
- A revenue-sharing model that is attractive for publishers, service providers and all parts of the messaging value chain. The revenue share depends on message volumes and it varies across different mobile operators. On average mobile operators offer a revenue share between 50% and 75% for premium rate services.
- A high quality of service is necessary to deliver a successful solution. Messages need to be delivered instantly and accurately. Services such as Television

Voting require thousands of messages to be sent and received within a short timeframe, which needs robust and scalable messaging infrastructure and direct connections to local mobile operators.

- Permission Based Marketing that strictly forbids spamming and protects all personal data. There is nothing more intrusive than an unsolicited and unqualified mobile message. Local telecom services regulators are responsible for policing messaging services. [2]

## 6 Summary

Mobile messaging was introduced in this paper. Mobile messaging was divided into four forms: Short Message Service (SMS), Multimedia Message Service (MMS), Mobile Instant Messaging (Mobile IM) and wireless email.

SMS was said to the dominant messaging service in current mobile network. It plays an important role on the operator's revenue, which could be more than 10 percent now. MMS was regarded as the offspring of SMS, which will bring the messaging service to a new stage in the coming future. MMS enhance the messaging service with rich-content, such as video, images, and cartoons and so on. Mobile Instant Messaging offer the user "see before connect", which make sure that the messaging will reach the targeted people as soon as it was delivered. Mobile email moves the email service to the mobile phone so that it can reach the user even when he/she is out of office.

The future of mobile messaging was believed to be bright according to the forecast. It was reported that the global revenues across the messaging would reach \$58 Billion in 2008. To make the mobile messaging more successful, high quality of service and a revenue-sharing model are key factors to be solved.

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