Business models in m-services

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Abstract

The mobile Internet will dramatically change the technical architecture and the business logic of the communications services. The new services and the new architecture are specified by new standardization bodies. Business modeling is a good planning method for capturing the commercial value of the technical development.

1. Introduction

In the M-services initiative the GSM Association (GSMA) has published feature guidelines for mobile devices to ensure the consistent and accelerated development of mobile Internet services [1]. The Open Mobile Alliance (OMA) has published a set of enabler specifications with the same aim [2]. In this paper the term m-services (with small m and s) is used to refer to mobile Internet services following these GSMA or OMA specifications.

A business model describes the logic of the business system for the value creation. It helps in the planning and communication. This paper explains what a business model is, what it can be used for and what elements a good business model comprises.

Companies may play different roles in different parts of the m-service value chain. From the m-services point of view the key roles in Figure 1 are the network operator, the network supplier, the application service provider, the content provider, the third party application provider and the terminal supplier. The business model decisions are different for each role. This paper gives an example of the network operator business model decisions.
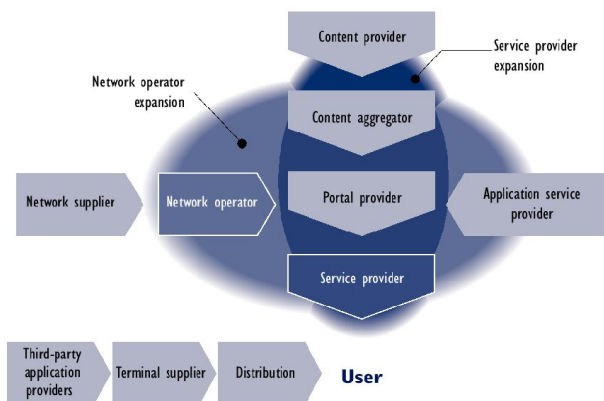

Figure 1: Mobile Internet Business Chain [3]

The network operator - in the expanded role covering service provision, network operation, portal provision and content aggregation - expects the m-services specification conformance from the other parties.

2. M-services

Without common mobile Internet specifications the mobile industry would face a high risk of technology and service fragmentation. The competing specifications would increase the uncertainty in the industry and slow down the development and adoption of new services. The introduction of packed data services and growing processing capability of the mobile devices made the need for common specifications obvious and urgent. In 2001 GSMA made the first serious attempt for common specifications by introducing the M-Services initiative. In summer 2002 key players in the mobile industry decided to put more efforts on the common specification work and to extend the scope of the work by forming the Open Mobile Alliance.

The GSMA M-Services initiative and OMA enabler work has several similarities but also several differences as summarized in the Table 1.

Table 1: M-services specifications [1][2]

Organization	GSMA	OMA
Key members	GSM Operators	Mobile Industry
Mission	Accelerate the implementation of operator requirements	Grow the market for the entire mobile industry
Activity	Guidelines and requirements	Standards, Interoperability
Access Technology	GSM	Bearer Agnostic
Documents	Phased guidelines	Enabler releases

2.1 GSMA M-Services initiative

The aim of GSMA is to

"*Accelerate the implementation of collectively identified, commercially prioritised operator requirements and to take leadership in the definition of technical and other standards for future services.*"[1]

GSMA does not specify standards. It feeds operator requirements into standards bodies such as the 3GPP (3rd generation Partnership Project) and OMA by reference documents. As of 1st of April 2003 GSMA has 15 permanent reference documents. Three of them are directly related to the M-Services initiative:

2.1.1 M-Services Guidelines [Phase1], May 2001[4]

NTT DoCoMo's iMode[5] success in the specification of various factors, ranging from services to handset features, was a strong driving force for the

specification work. The purpose of the document is to define a set of key services and features for the GSM markets. The basic elements for M-Services are:

- WAP
- Graphical User Interface
- Download of media objects
- MMS
- EMS
- SIM Application Toolkit
- SyncML

Each element has number of features which are either mandatory, recommended or optional. The planned implementation schedule had two phases, October 2001 and June 2002.

2.1.2 M-Services PhaseII Evolution Requirements for Q4 '03 to Q1 '04 products, Feb. 2003[6]

The document has new elements and the feature requirements have been restructured. The structure has a mandatory core set of functional requirements and a set of optional functionality packages. The core requirements include:

- Generic (GPRS, USSD, etc.)
- User Interface
- Browsing
- Download
- Security
- PIM
- Codecs

The optional functionality packages have enhancements to each of the core requirements, to the application environment and two special Java MIDP 2.0+ profiles. The document refers to OMA in Download, Browsing and Security with OTA, WCSS and DRM respectively.

2.1.3 Operator Requirements for Features & Services, Jan 2002 [7]

The document is a task force summary report based on operator filled input templates about the most important new services, features and the required enablers. It defines eight categories for the identified services: Communication Services, Customized Infotainment, Location Services, Machine-Machine Services, M-Commerce, Multimedia Services and Messaging, Mobile Office and Public Utility Services. The requirements are specified in very high level, only the names of the required enablers are mentioned.

2.2 OMA Service specifications

The mission of OMA is to [2]

"*grow the market for the entire mobile industry by removing the barriers to global user adoption and by ensuring seamless application interoperability while allowing businesses to compete through innovation and differentiation*"

OMA specification work covers extensively the m-services value chain, services, standardization organizations and enablers.
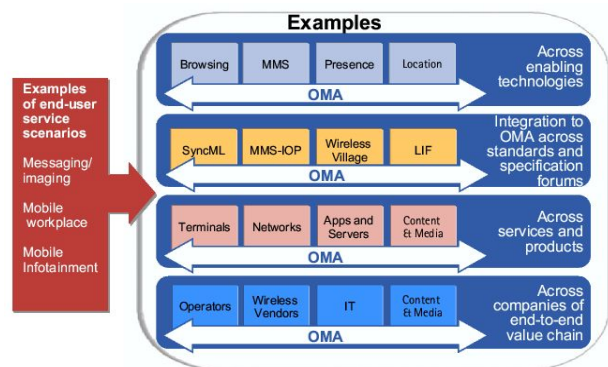

Figure 2: OMA extensive coverage

The following Enabler Release documents are available on the OMA web pages on 15th of April 2003:
OMA Billing Framework
OMA Browsing
OMA Client Provisioning
OMA DNS
OMA Digital Rights Management (DRM)
OMA Download
OMA Email Notification
OMA IMPS
OMA Multimedia Messaging Service
OMA User Agent Profile
Moreover, OMA steers the specification of WAP, Location Interoperability Forum, SyncML Initiative and Wireless Village Initiative.

3. Business Models

From the business perspective the new specifications and technologies do not guarantee economic success. A proper business model implementation is a vital and necessary element for capturing the potential value [8].

The business model concepts can be described from following view angles.

3.1 New Service Business Requirements

The success requirements for new kind of products and services can be divided into three groups: user acceptance, business system and technology. [9]

- User acceptance covers requirements for the rational need and the emotional desire for the solution and the price elasticity.
- Business system covers requirements for the viable business model implementation and the required environment and infrastructure where all the key parties can conduct successful business.
- Technology covers requirements for the required specifications, hardware and software.

3.2 Business Model Definition and Purpose

There exists no commonly used definition what the business model is. In the literature following definitions have been proposed:

"*A business model is the method of doing business by which a company can sustain itself -- that is, generate revenue. The business model spells-out how a company makes money by specifying where it is positioned in the value chain.*" [10].
It defines "*how [the firm] plans to make money using Internet*" [11].
"*describes the logic of the 'business system' for creating value*" and "*missing link between strategy and business processes*" [12]

The purpose of a business model is to help companies plan and communicate different aspects of the business. More exactly it should help to [8]:
• Identify market segment
• Articulate value proposition
• Describe the external position in the value chain among the partners, customers and competitors
• Define the internal structure of the value chain within the firm
• Estimate cost structure and profit potential
• Formulate competitive strategy

3.3 Classification of Business Models
Classification helps in understanding what is common and what is different when comparing a business model to other business models. Mobile Internet services overlap with fixed Internet services for which an extensive business model classifications is proposed by Michael Rappa [10]:
• Brokerage. Brokers are market makers that bring buyers and sellers together.
• Advertising. The Internet advertising model is an extension to the traditional media advertising model.
• Infomediary. User and user action data are collected and sold by information intermediaries.
• Merchant. Goods and services are sold by merchants.
• Manufacturer (Direct). Goods and services are sold by companies producing them.
• Affiliate. Goods and services are sold via affiliate partner sites.
• Community. Ancillary products and services related to the community are sold.
• Subscription. Users are charged a periodic fee to access content.
• Utility. Users are charged from the metered usage of the service.
From the network operator point of view the presented classification is not exhaustive. E.g. it excludes the business between the operator and the content providers. It also doesn't distinct the operator core services like mobility and MMS.

3.4 Business Model Ontology[12]

The decomposition helps in understanding what are the elements that the business models are comprised of, how they are related and how they contribute to the business.
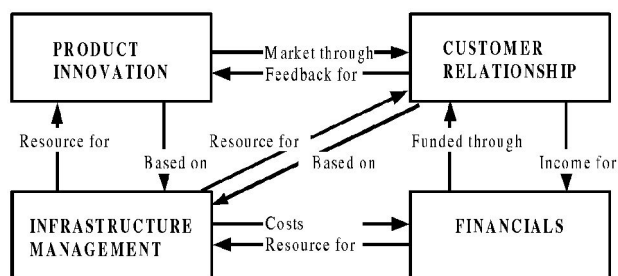

Figure 3: Business Model Ontology[12]

The business model ontology can help a company to identify key business issues:
• Product Innovation. What business the company is in and what is the value proposition?
• Customer Relationship. How the customers are served and how the relationships are built and developed?
• Infrastructure management. How the company efficiently produces the products?
• Financials. What is the revenue and cost model?

These elements are related as depicted in Figure 3.

4. Network operator business model decisions
To give a better view of the business modeling an example of network operator business issues is provided. For simplicity the example focuses on the business decisions in the content provider interface while most of the subscriber issues are excluded. The handling is not meant to be exhaustive or detailed
The structure follows the business model ontology model of Osterwald and Pigneur [12].

4.1 Product Innovation

4.1.1 Definition of the target customer segment
Possible dimension in the customer segmentation may be:
• Geographic coverage. Are the content providers international, national or local?
• Type of content. Is the content classified as commerce, information, entertainment or adult?
• Content providers. What is the business the content providers are in? E.g. mobile device personalization, retailers, banks, public authorities.

4.1.2 Value proposition
The value proposition *provides value* for the target customer segment. The target customer segment *has needs* for the value proposition. The items to consider may be:

- Enabler range. What are the characteristics of the services in the following areas: bit pipe, billing, location information, authentication, authorization, marketing, content hosting?
- Differentiation. How to position in the competition?
- Support. What kind of technical support and business support services will be provided?

4.1.3 Capabilities

The capabilities *enable* the value proposition. The value proposition *is based on* capabilities.
The operator has to decide what are the interfaces, specifications and technologies.

4.2 Customer Relationship

4.2.1 Information strategy

Important information strategy questions may be:
- How to collect information for the business steering?
- How useful a content provider community meeting practice would be and how to make the most out of it?
- How to collect usage statistics?

4.2.2 Feel&Serve (Channels)

The feel&serve *feeds* the information strategy. The information strategy *refines* the relationship through the feel&serve. The items to consider may be:
- What is the live meeting practice.
- What is the target response process and quality at the help desk.
- What are the requirements for the tariffing, service descriptions and contracts documents.

4.2.3 Trust&Loyalty

The trust&loyalty *contributes* to the feel&serve. The feel&serve *improves* the trust&loyalty.
Trust and loyalty are related to bundling of services, tailoring of services, relationship management, virtual communities, clear confidentiality policies, performance history services and authentication circles of trust.

4.3 Financials

4.3.1 Revenue model

In the revenue model the operator has to understand the price elasticity and decide :
- What services are priced?
- What is the pricing structure?
- What is the pricing level?

As an example the Finnish operator Sonera has following elements in the price list for the content provider interface dated 1st of April 2003 [13]:
- Opening of the content gateway with the required licenses and IP and MS-ISDN addresses.
- Additional MS-ISDN addresses and service keys.
- Opening of the billing service.
- Changes to the address, service and billing configurations.

- Monthly service fee.
- Traffic fee.
- Location service fee.
- Billing service fee.

4.3.2 Profit

The revenue *increases* the profit.
For the profits and financial figures in general e.g. following questions are important:
- What are the revenue, profit and other financial short and long term targets?
- What is the ratio of risk to expected yields?
- What is the risk and revenue sharing policy with content providers?

4.3.3 Cost model

The costs *decrease* the profit. The operator has to consider various capital expenditure versus operating expenditure items.

4.4 Infrastructure Management

4.4.1 Resources

Important operator questions for own resources are at least:
- How much and what kind of tangible, intangible and human resources are needed?
- How to get and retain the resources?

4.4.2 Activity configuration

The activity configuration *is based* on the own resources and the partner network. In the activity configuration items to consider are e.g.:
- What are the horizontal layers in the business?
- What to make and what to buy?

4.4.3 Partner network

There are many important questions related to partnering like:
- What should be subcontracted and what partnered?
- Where is the exclusive partnering feasible?
- How the partnering and competition can be handled at the same time?

5. Conclusions

The importance of common m-services specifications has been well identified by the mobile Internet industry and the specification work has been extensively organized.

The network operator business model example supports the assumption[12] that structured business modeling helps to identify and plan important business issues.

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