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Value-added services

How to Set Oneself Apart From One's Competitors

Mobile network operators are always looking for new ways to get a jump on their competitors. Usually, they constantly copy each other and adapt their products to new trends. This keeps them busy but does not generate additional advantages. Rather than striving for market share, mobile network operators should instead concentrate on market creation. Attractive and innovative value-added services allow mobile network operators to reduce churn rates and promote increased use of standard services. Finally, value-added services are also designed to attract new market segments.

Mobile communications is one of the world's fastest growing markets. Analysts predict that the number of users in the GSM global market will break through the 200 million threshold very soon and GSM will definitely be the number one standard within the wireless communication business. Consequently, the GSM market is a highly competitive arena where diversification is a key word. How can mobile network operators be original, especially within a standardized world where all standard and supplementary services are defined by a global standard?

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Initial obstacles

Before new mobile network operators reach the stage where value-added services are crucial factors, they must first address some other important issues. New network operators first try to roll out their networks as quickly as possible to provide the best coverage. They then turn their attention towards providing a very high standard of service based on their network and then carry out the fine tuning. The next step is to work out tariff schemes. How can they offer lower prices than their competitors? Can they be just that little bit cheaper, to back up their promotional claims, or do they need to subsidize handsets? Every marketing novice seems to realize that this is a no-win strategy. In the end, network operators do not have much room to respond to new market conditions, because market leaders will be dictating the situation.

Standardization does not always help. In the long term, the winning strategy is diversification through products, services, quality and variety. Mobile network operators must continually add more and more value to their standard services in order to achieve and maintain true diversification. Standardization does have some very important advantages, but it does not give the marketing department the support it needs. The GSM standard defines more than 50 supplementary services, most of which have already been launched by network operators. The main task of the marketing department is therefore to create standard and value-added services which meet the needs of their customers. Finally, market analysts need to realize that services are not diversified unless the customer is aware of the diversification, which is

unlikely if they concentrate solely on the pre-defined supplementary services mentioned.

Success Through Market Creation

Marketing specialists should therefore focus on market creation and not on market share! The challenge to create truly new ideas leads to successful diversification. One possibility is value-added services, to continually add more and more value to the standard services in order to achieve or maintain true diversification. What are the main reasons for implementing value-added services? The main objectives of value-added services are to reduce churn rates and to promote increased use of standard services. Consequently, the average revenues per subscriber will increase. Attractive and innovative value-added services also attract new segments of the market. Finally, the ongoing improvement of standard services through value-added services enables a mobile network operator to stand out among its competitors.

Prepaid Services for a Fast Growing Customer Base

To gain a better idea of the situation, it is helpful to examine a typical value-added

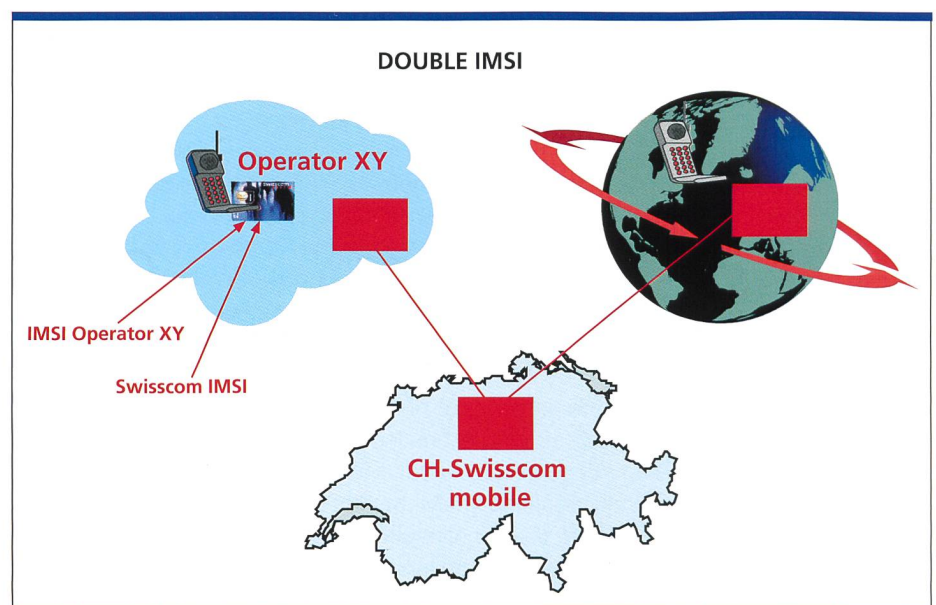


Fig. 1. Double IMSI solution.

service which enabled network operators to develop their customer base very rapidly. Mobile network operators who developed and launched prepaid services early have gained two to three times more new subscribers than their competitors. The main purpose for introducing prepaid services is undoubtedly to reach the mass market, which consists mainly of lower-spending customers. Today, more than 20% of all existing GSM customers are prepaid customers and the number is growing rapidly. Mobile network operators have added value to their existing portfolio to meet the needs of potential customers and therefore are creating a market. Prepaid customers can obtain a mobile phone and the appropriate service easily, without a credit check or an agreement. Moreover, prepaid customers have full control over how much they spend. In the meantime, almost every mobile network operator has introduced some kind of prepaid service, so the potential for novelty is diminishing.

Swisscom launched SICAP (SIM Card Application Platform) at Telecom 95. It is the world's first universal platform for offering a wide range of GSM-based operating and service applications as well as prepaid services. SICAP received the 1997 InfoVision Award from the International Engineering Consortium (IEC). Today, more than 10 mobile network operators worldwide use SICAP as the basis for their prepaid services. It is ideal as a building block for value-added services such as prepaid billing and electronic purses and has some distinct advantages, which enable mobile network operators to get a jump on their competitors.

International Roaming

Another good example of diversification within the wireless market is the number of roaming agreements. The more roaming agreements a mobile network operator has signed, the more value can be added to standard services. In this case especially, the number of roaming agreements plays a very important role. Comfone Ltd., a joint venture between Vodafone Group Ltd. and Swisscom Ltd., offers all GSM network operators the potential use of more than 170 roaming agreements in some 90 countries based on its Global Cellular Service (GCS). Comfone's GCS provides GSM mobile network operators with a fast and

Glossary

HLR	Home Location Register
IMSI	International Mobile Subscriber Identity
ISDN	Integrated Service Digital Network
MSISDN	Mobile Subscriber ISDN
PIN	Personal Identification Number
PUK	Personal Unblocking Key
SIM	Subscriber Identity Module
SMSC	Short Message Service Center

economical means of setting up roaming agreements based on Comfone's International Roaming Platform (IRP). GCS is ideal for connecting two independent GSM networks quickly and economically. This business opportunity demonstrates the importance of having the highest number of roaming agreements available for one's customers. Even though most customers will probably never use all the roaming agreements available, it is the very availability that makes customers feel they have a good value-added service.

Strategic Advantage Through Uniqueness

A recent co-operative effort between Swisscom and VIAG Interkom marks the introduction of a revolutionary concept in the field of mobile telecommunication.

It allows VIAG Interkom, the fourth network operator in the German mobile telephone market, to offer its subscribers immediate access to the world's biggest GSM network.

Germany, like many countries, has no national roaming agreement because of the highly competitive market. This means that each network operator must set up a nationwide infrastructure. However, for newcomers like VIAG Interkom, the investment required to set up such a network is prohibitively expensive. The operator has therefore opted to concentrate on supplying the eight urban center – Berlin, Hamburg/Lubeck, Hanover, Leipzig/Halle, Rhine/Ruhr, Munich, Nuremberg and Rhine-Main-Neckar – with antennas and base stations, and in this way reaches 45% of the potential German market. However, VIAG Interkom did not want to enter the market with such a fragmented offer, especially as it was facing established competitors, and was therefore very interested in the solution proposed by Swisscom.

To boost its coverage, VIAG Interkom signed a special agreement with Swisscom that gives it – via Swisscom's international roaming agreements – access to a network of over 170 roaming partners in more than 90 countries. Since VIAG's German competitors are part of Swisscom's extensive roaming network, the newcomer can now offer nationwide coverage under fair conditions without exceeding its budget.

The agreement between VIAG Interkom and Swisscom is based on a double IMSI (International Mobile Subscriber Identity)

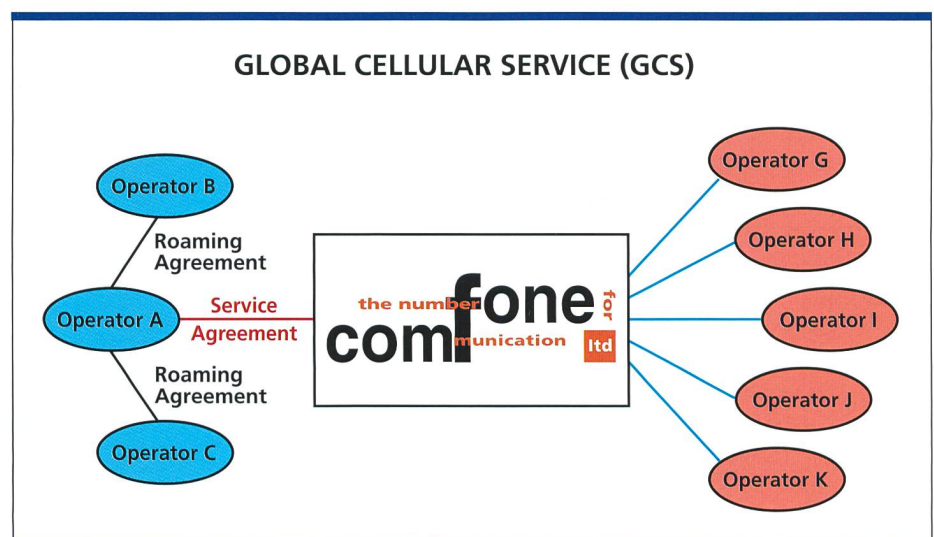


Fig. 2. Global cellular Service (GCS).

solution. The IMSI Number, which identifies a GSM subscriber worldwide, comprises the Mobile Country Code (MCC), the Mobile Network Code (MNC) and the Mobile Station Identification Number (MSIN). Normally, one IMSI Code is stored on the SIM card of each user, but a second code is provided in the case of VIAG to identify the customer as a Swisscom subscriber (service provision).

All that is required is a mono/dual-band mobile phone and two different PIN numbers. The mobile phone is automatically deactivated when leaving the coverage areas of VIAG Interkom or the roaming partners, and the Swisscom PIN is then entered to identify the user as a Swisscom customer.

Information on Demand

Mobile information services are increasingly being tailored for both the business and the mass markets. One typical mobile information function is parking service. Mobile customers send a short message (SMS) e.g. PINFO to a service number to ask which car parks have free parking spaces. The short message is routed to a special database which is connected to the counting systems of the car parks. The database then sends the requested information back to the mobile phone via the billing system of the mobile network operator. This kind of service relieves the car driver of the time-consuming search for a parking space during peak hours.

An Opportunity for Information Providers

Mobile communications offer information and content providers new and interesting opportunities to supply their customers easily and quickly. Swisscom has launched a Value-Added Service Platform (VASP) which allows information and content providers to store their data. Mobile customers can receive customized information on their handsets which is charged according to the information and content provider's price schedules. At the end of the month, the information called up is charged to the customer's bill. Swisscom Mobile customers can check the current status of their postal checking account anywhere and at any time, and each inquiry is charged to the monthly bill. Another interesting information service is aimed at the business market, where financial data is extremely important. For example, by

sending the following short message «SCMN PER 15 BEG 140798:1000 END 210798:1300,» the mobile user receives a short message every 15 minutes between 10 a.m. on July 14 and 1 p.m. on July 21 quoting the current Swisscom share price. Swisscom currently has several similar pilot projects. For instance, a user-friendly train timetable information and a service which gives the corresponding address for any telephone number are being tested. Another very interesting application is the option of sending a short message to an e-mail address. When writing a short message, the e-mail address comes first and then the message after a blank space. The short message is then sent to a special service number which generates the appropriate e-mail and forwards it via the Internet.

Creating new Value-Added Services

The future offers many different opportunities for the development and creation of new value-added services based on client/server techniques such as SIM Toolkit, Wireless Application Protocol (WAP) and Mobile Execution Environment (MExE). The SIM toolkit allows the menu structure of the terminal's user

interface to be customized with new menu options tailored to the service being used. Innovative value-added services can be designed and implemented quickly and offered to the user as simple, user-friendly applications. Furthermore, mobile network operators can activate and download various applications over-the-air. On the other hand, WAP provides a standardized way for a server-based application to interact with the terminal user interface. The script-based language can be downloaded into the mobile unit and used to control the terminal's user interface. In this way, users can access information and service providers. MExE describes the specifications for the terminals and supports Java applets as well as WAP. MExE also extends the capabilities of WAP by increasing security and flexibility.

Integration of IN and CAMEL

Several studies on consumer behavior and needs indicate that operators must demonstrate greater flexibility and create new value-added services which are part of standardized protocols and service switching functions. In addition, customers want to be able to use all their services wherever they are, including abroad. Customized Applications for Mobile Network Enhanced Logic (CAMEL) will improve service portability while roaming but will not offer mobile network operators and service providers any greater flexibility to create new services and add more value to their existing portfolio. However, in combination with Intelligent Networks (IN), CAMEL can be used to develop further value-added services. Market managers can thus launch mobile Virtual Private Networks (VPN).

Time-to-Market as a Factor for Success

Value-added services should be unique and highly innovative. To this end, mobile network operators should be proactive rather than reactive, i.e. they should not copy their competitors but should concentrate on securing the greatest competitive advantage. However, standard services should not include too many features, as customers would otherwise not recognize the benefits of the value-added services available. Consequently, mobile network operators will often be more successful by using simple techniques than by developing or combining highly complex technical

Zusammenfassung

Mehrwertdienste: Wie man den Mitbewerbern etwas Voraus sein kann

Betreiber von Mobilfunknetzen sind immer auf der Suche nach neuen Wegen, um ihren Mitbewerbern etwas Voraus zu sein. In der Regel übernimmt der eine etwas von dem anderen oder passt sich dem anderen an. Dies sorgt zwar für Beschäftigung, bringt aber keine zusätzlichen Vorteile. Betreiber von Mobilfunknetzen sollten sich von der Marktanteil-Mentalität lösen und sich auf die Schaffung von Märkten konzentrieren. Mit attraktiven und innovativen Mehrwertdiensten können Betreiber von Mobilfunknetzen ihre «churn rates» (Kundenverluste) verringern und eine zunehmende Nutzung von Standarddiensten fördern. Ausserdem sind Mehrwertdienste auch dazu geeignet, neue Marktsegmente zu erschliessen.

solutions such as IN and CAMEL to provide value-added services. The success of value-added services depends on consumer response. Market analysts must understand how consumers

think and feel, or operators will waste time and money creating and marketing value-added services for market segments where no demand exists. Finally, once market analysts have recognized

the needs of their markets and set up the technical infrastructure required to provide attractive and innovative value-added services, the last obstacle they face is time-to-market. 9.3

Toni Stadelmann graduated in electrical engineering from the Lucerne Institute of Technology (Höhere Technische Lehranstalt) in 1975. He was in charge of a maintenance and repair unit at Swiss Telecom PTT until 1979. From 1979 to 1987, he held a managerial post in telephone systems operations at Swiss Telecom PTT headquarters. After two years as a project manager for a military telecommunications system, he returned to Swiss Telecom PTT headquarters to head the planning section within the Mobile business unit, later moving to the Mobile Communications Technology division, from which he progressed to his current post as Head of International Business, Mobile. Toni Stadelmann is also currently the Deputy Director of the Mobile business unit. From the outset of the GSM standard in mobile communications, Toni Stadelmann has been an active member in various organization associated with the international standardization and worldwide promotion of this technology. He played an important part in the foundation of the GSM MoU Association and was elected to the Executive Committee of this international organization in 1996.



Ernest Cavin, following a formal education in micro-mechanics, joined the School of Engineering in Biel, Switzerland, where he majored in microelectronics. He graduated in 1989 as a microelectronics engineer. In 1995, he took up a position in the marketing department of the Mobile Business Unit at Swisscom Ltd. (formerly Swiss Telecom PTT), where, as a product manager, he was responsible for paging services, in particular service implementation based on the ERMES (Enhanced Radio Messaging System) standard. After starting a Masters of Business Administration at the City University, Washington, Mr. Cavin moved to the International Business department of Mobile. In summer 1998, he was promoted to Personal Assistant to the Director of International Business at Mobile, where he also heads the International Service Providing unit.



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