



GAIN BUSINESS
INTELLIGENCE FOR YOUR
MARKET STRATEGY

THE MOBILE WINNERS OF
TOMORROW WILL EMPLOY
BUSINESS INTELLIGENCE TODAY

1. Executive Summary

The constantly evolving technologies of the mobile marketplace, along with widespread deregulation, have combined to place mobile carriers under increasing competitive pressures. Faced with a changing market, in terms of communication services and approach, mobile operators are more and more faced with the need to reconsider their positioning in order to ensure strategic agility in business decision making and to guarantee positive returns on investments (ROI).

Although the global mobile market has experienced a considerable slow down in the subscriber penetration rate, customer concerns remain a top priority for mobile operators when setting their future investment strategy. If they want to close the gap between customer expectations and what new technologies can offer, mobile operators need to turn to IT and application solutions specifically designed for successful customer data management and customer retention.

This white paper focuses on Business Intelligence and the integration of advanced data management and business analysis solutions with mobile operators' existing network platforms. This, in turn, will enable them to compete more effectively through targeted marketing in today's competitive mobile environment.

2. Mobile Market Trends

Today's mobile operators need business intelligence solutions to be able to face, and handle, constantly changing mobile market challenges, such as the recent significant slowdown in customer penetration rates, newly emerging 3G technologies, data services overtaking voice, as well as bandwidth overcapacity.

Within this context, mobile operators find themselves constantly seeking to introduce new products and services to ensure revenues remain healthy and the operators remain competitive. Locked into this, mobile operators worldwide are seeking to innovate, develop and evolve their infrastructure and to differentiate themselves in order to meet consumer demands for greater choice, better value for money and better quality products and services.

The imperative for mobile operators is to make the right business decisions to ensure increased profits while keeping pace with technological change. As a result, today's business decisions need to address:

- **Widening the range of services** provided to customers by delivering enhanced wireless services, which can increase customer usage and help gain market share;
- **Focusing on customer maintenance and satisfaction** to increase return on investments and ensure constant revenues from the most profitable customers. Mobile operators need to identify the customer's needs to deliver the right services to the right customers at the right time; this includes both like-for-like and new services;
- **Reducing operational costs** associated with investments in new mobile technologies and increasing efficiency using business intelligence tools. Effective business analysis tools are crucial for deciding on the right business strategy at all corporate levels.

In order to increase their subscriber base and network usage by addressing Quality of Services (QoS), churn and loyalty management, mobile operators should employ a business intelligence strategy that can sow the seeds for:

- ✓ building a viable data management infrastructure
- ✓ shaping a powerful market trend
- ✓ cementing a loyal customer base
- ✓ bringing forward a wide selection of revenue-generating services.

3. New Mobile Technologies

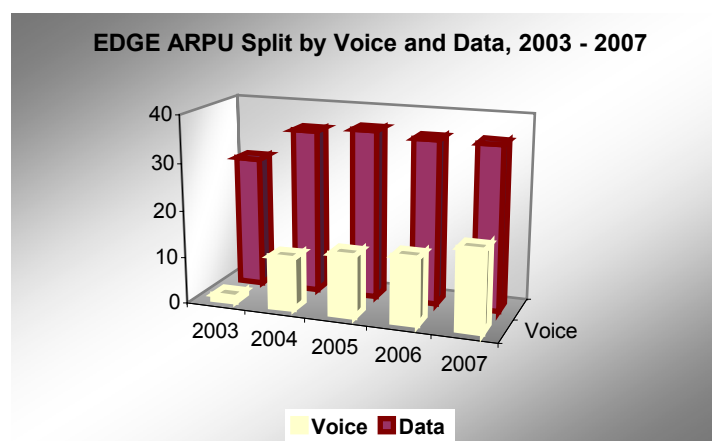
New services are being viewed as the key way for operators to remain competitive and differentiate themselves. The challenges posed by the latest wireless technologies require mobile operators to invest heavily if they are to maximise their returns. GPRS, EDGE and 3G platforms promise high speed and on-demand bandwidths that remove previous technological restrictions and now widen what is available.

The advent of these new technologies is forcing mobile operators to embrace new opportunities. Multimedia services, for instance, allow mobile users to enjoy streaming media services, or video-on-demand and multi-party, international videoconferencing are now possible using appropriately enabled handsets. Secure m-commerce or improved Internet navigation are also aspects of the new wireless era in which EDGE technology, for example, has been designed to enhance the services available and to ensure high-speed, colour Internet access, several times faster than previously possible.

All these advantages will enable GSM operators to offer higher speed mobile data access, serve more mobile data customers and free up GSM network capacity to accommodate additional voice traffic.

The enhanced mobile, true IP-based, services ranging from Multimedia Messaging (MMS), Enhanced Message Service (EMS), to Over-the-Air (OTA), GPRS, billing and data transfers, have set a new priority for mobile operators: revenues will be increased by focusing more on data ARPU than on voice ARPU.

Some industry sources suggest that the overall ARPU for EDGE can be expected to double by 2007 compared to revenues during early use of the technology, with a very significant ARPU difference between voice and data services.



(Source: ARC Group)

As mobile operators invest in new infrastructure to support the latest standards, services and the use of feature-rich handsets in use by subscribers, they need to develop their wireless platforms further to manage customer usage information. Such information ranges from standard voice call data records to enhanced picture and audio messages, e-mail on the move and broadband-like data usage to and from mobile devices.

All these create thousands, indeed, millions of records that hit the network and require secure retrieval and validation tools to be successfully handled.

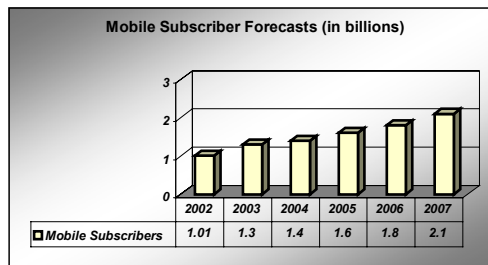
In order to maximise the use of new mobile technology and advanced mobile services, operators need to be equipped with a **secure and competitive mediation application** that supports:

- multiple-service, scalable platforms
- convergence of voice and data records
- integration with, and support for, data derived from diversified telecoms platforms
- scalable platforms, all subscriber capacity requirements and mobile service diversity
- services customised to meet different customer requirements.

4. Profitable Customers

Regardless of the issues facing the wireless industry and the evolution of technology, services and new standards, subscriber acquisition alone is no longer a winning business strategy for operators to pursue. What mobile operators must focus even more attention on is developing strong customer retention campaigns, as it becomes clearer to the industry that the key factors to remaining successful – or even remaining at all - in the market are customer care, customer lifetime values and effective customer relationship management.

Industry sources predict that there will be more than 931 million new mobile subscribers across the globe over the next five years, with the total worldwide wireless population set to exceed two billion subscribers by 2007 – and all this despite ongoing talk about dwindling ‘new’ subscriber numbers:



(Source: In-Stat report, Wireless Week, August 2003)

Sophisticated subscribers looking for a comprehensive range of products and services are the most likely users to migrate to a competitive network in search of enhanced wireless services and better value for money.

But operators are often taken aback by unpredictable customer behaviour, and the changing usage trends in the mobile market

With the decrease in subscriber penetration rates, mobile operators need to concentrate on profitable customers and the need to retain them on their networks. Without services that meet the tastes and needs of such subscribers, they may choose to abandon the network, and it is at this point that accurate customer data on usage trends and behaviour patterns can make a huge difference in being able to prevent churn. Lack of such information results in lost profit and potentially poor investment in services and business strategies that do not meet the real need of the network.

Acquisition of customer data as the basis for obtaining customer knowledge is, therefore, crucial to maximise on marketing opportunities, e.g. up-selling and cross-selling strategies. Customers identified as high-value subscribers can then be offered the most suitable services and products to meet their specific needs and are the most likely to become even more highly profitable customers. Once customers are satisfied with their services, customer care and attractive tariffs, operator revenues are assured.

A mobile operator can actually view its wealth in terms of the value derived from the data at the heart of the network, as long as that huge amount of data can be turned into valuable, usable information to support all future business strategies. It is imperative, however, that this information is extracted, analysed and put into the right format and then delivered on time to the right business decision makers. Figures and charts talking about traffic analysis by mobile services, service attraction, account connections or outbound calling revenues and volume within a pre-paid platform, for example, can give an accurate insight into customer usage trends. Based on this wealth of information mobile operators can set proactive business processes in motion and aim the right services at high-value customer segment targets.

With the above in mind, mobile operators require a high-level reporting and batch processing application that will integrate with a variety of existing and future platforms, such as billing platforms and data gateways. In order to ensure that operators are armed with the right information to enable customer retention, loyalty and new-subscriber campaigns to be mounted effectively, the CRM solutions deployed need to be able to:

- ✓ identify profitable customers and understand customer churn behaviour patterns
- ✓ identify connection, usage and channel distribution fraud
- ✓ enable creation of ‘what-if’ future scenarios, based on own historical data and/or a wide range of variable parameters
- ✓ target their investments on the most profitable market segment as per customer usage trends identified
- ✓ enable the formulation of targeted customer reward/loyalty campaigns to ensure customer retention and ongoing loyalty.

5. Efficiency and Operational Costs

Unlike many other private industry segments, mobile operator profits are not transparent in the short term, with revenues invested in new technologies and re-engineering so that it takes a rather long time before the operator gets a return on investment. In the mobile sector, it is as if efficiency can be measured in terms of strategic business decisions that reduce operational costs, through the use of effective business analysis and business information management.

Sophisticated customers requiring ever more diversified services and the new technologies emerging in the mobile market are forcing operators to find a mediation solution between these new challenges and the existing resources. IP-based technologies have to respond to an operator's need to integrate their platforms with these new market requirements.

Typically, different platforms are developed and implemented to support different parts of the mobile business: one platform for voice, another for data, a different platform for OTA or GPRS. To ensure successful business management, all of these different systems, which are often barely compatible, require a great deal of engineering effort and investment to integrate them. The challenge becomes even more daunting when integrating with legacy systems without causing any downtime in the business process.

The re-engineering process, when addressing the latest wireless technologies, requires critical business data to be 'translated' into a format compatible with the operator's different profit-making business processes and systems. These vast amounts of data will potentially be lost or useless unless the operators possess a highly efficient and secure data retrieval solution that handles all data from voice call data records to SMS/MMS records, through to billing adjustments, recharging records, network traffic patterns or even fraud attempts. All such information is essential if mobile operators want to avoid making wrong strategic decisions, which might, in turn, lead to serious downtime in the business process.

In response to these business issues, operators need to base their business strategy today on a secure business solution, ideally a business intelligence tool capable of providing them with answers to current mobile market challenges. Such a solution must combine the performance of a secure and efficient data warehouse with advanced query/reporting/analysis software, capable of delivering analytical information throughout the enterprise from a single system. This implies:

- A highly scalable and customisable business intelligence solution that can integrate rapidly and efficiently with legacy systems without causing real-time platform downtime
- A specialised, highly scalable data repository designed to complement an operator's existing MIS and data warehousing strategy, delivering a risk-free and operationally sound means of data warehouse construction
- A business intelligence solution providing analytical support for:
 - reducing costs associated with MIS deployment

- concentrating efforts and investments on the most profitable user segments, based on identified customer usage trends.

6. The Power to Face Competition

Operators need to find the most profitable and efficient ways to manage their business strategy in order to avoid downtime and significant overheads during any decision-making business process. The more information they have available in a readily assimilatable format, the easier and more effective their efforts will become. Generally, organisations use less than 10% of the data they collect. This is one reason why operators need access to, and analysis of quantitative information sources.

Case Study

Setting the scene

An important provider of pre-paid services in Thailand introduced the Personal Communication Telephone (PCT) in 2001 as a value-added service to TA's (TelecomAsia Corporation Co. Ltd) fixed network, where mobile phones have the same phone number as the user's fixed home telephone. This service combined PHS (Personal Handy phone System) technology with Intelligent Network (IN) technology.

Upgrading the pre-paid network to an IN-based solution, the expansion was expected to increase the pre-paid subscriber data capacity to around 400,000 in terms of hardware performance and up to 800,000 subscribers in terms of software performance. Currently, the mobile operator's network has a total of 600,000 subscribers of which 180,000 are pre-paid users. One year from the launch the operator was confronted by a decline in its subscriber base due to intense competition, which led to the development of a strategy focused on high-value / high ARPU as well as medium-value users with new value-added services.

Objectives

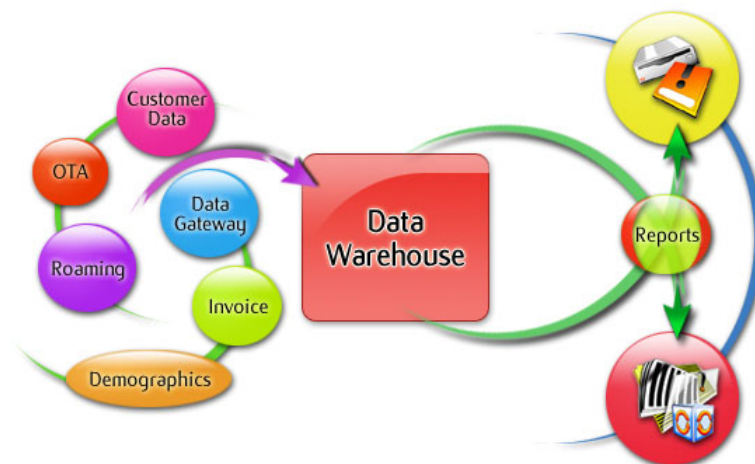
As part of this strategy, the implementation of a business intelligence solution was aimed at supporting business development and the expected increasing customer base. The solution was designed to enable the operator's business management and marketing team to have an accurate insight into the dynamics of pre-paid services together with PCT handset analysis at all times, offering them an almost near real-time view of the latest events occurring across the mobile network.

The product had to be highly flexible and scalable to accommodate future business requirements, and network growth.

Methodology

The key formula delivered was designed to meet the challenge of complex, large-scale information extraction and analysis. The methodology used ensures:

- Mobile network-originated data is captured, loaded and validated from real-time pre-paid mobile application platforms from voice to data services;
- The data loaded and validated is stored into a centralized and optimized data repository;
- The data is validated and stored in the repository, aggregated and analysed in near-real time and turned into useable information.



Business Intelligence Solution

A complete set of pre-paid, pre-configured reports were delivered ensuring an accurate analysis of pre-paid voice services was conducted. Summaries and snapshots of subscriber account adjustments, revenues per calling types, connected or inactive subscribers or failed activation attempts, were highlighted.

On request from the operator, another set of reports was customised to provide in-depth analysis of voucher recharging, voucher usage and PIN generation. It was also provided with the professional services for implementation, configuration and training in order to have the system live on the required date. Post-implementation customer support and development was also part of the package.

Results

The primary objective, ‘the easy and rapid integration with the mobile operator’s pre-paid platform’, was successfully achieved and the system was put on track immediately after the implementation. At the same time, the requirements of the pre-paid services provider in question, with regard to the customisation of data loading and reporting tools, were also met successfully.

Success: delivering rapid ROI

The implementation of the business intelligence solution involved the successful integration with the customer's pre-paid platform. The product performed effectively enabling the management of process data in a common, data-processing environment, enabling near real-time reporting.

This experience enabled the vendor to enlarge its sphere of activity in the global mobile market with a high degree of confidence, and to provide proof to customers of the high scalability and integration facilities guaranteed by its solution.

7. Conclusion

For mobile operators who are constantly facing new challenges and imperatives in today's highly dynamic mobile market, the key to achieving successful revenues and making the right marketing decisions is to be equipped with a business intelligence solution powerful enough to adapt the network to new technologies, new requirements and new service standards. The proper use of business information helps construct a future business-strategy roadmap, and ensures increased profits by guiding the operator to investing in the most profitable segment of the targeted subscriber base.

In order for operators to maintain a loyal and secure customer base in the long term, and to enable them to respond to powerful market trends now, effective, leading-edge infrastructure, in the form of a comprehensive business intelligence solution, is paramount. Such a solution will help maximise the opportunities for developing profitable marketing strategies across the network and, together with the right data management tools, operators can also start generating real profits from their mobile services in the near term.

In order to learn more about the benefits of adopting a comprehensive business intelligence solution, the **InTeleStage™ Reporter Overview**, provides more information about a specific product - the InTeleStage™ Reporter. This is an advanced business intelligence tool that provides maximum results when implementing data warehousing and competitive business analysis strategies.

For further information and a copy of the overview document, please contact Business Logic Systems, at:

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