

*Understanding the challenges of deploying
BSS for successful m-commerce*

By addressing the fundamental challenges of deploying m-commerce now,
mobile operator can prepare for a roadmap to success.

February 2005

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Preface

Frost & Sullivan is pleased to share with you the result of research carried-out in December 2004.

This paper aims to provide insight into the challenges faced by operators and their partners in the deployment of m-commerce offers within the European market. By stripping these challenges down to their component parts, operators will be able to formulate a better understanding of what is required to deploy m-commerce services.

Creating and maximising revenue opportunities, utilising network capabilities and generating stronger relationships in the future, are fundamental to m-commerce success. At present a number of challenges restrain mobile players from achieving this. They include issues with:

- Developing an attractive mix of services;
- Partner management;
- Integrating and managing a prepaid and post-paid subscriber base; and
- Real-time billing and payment management.

We believe that by addressing these critical issues successfully, future investment in m-commerce will generate substantial returns.

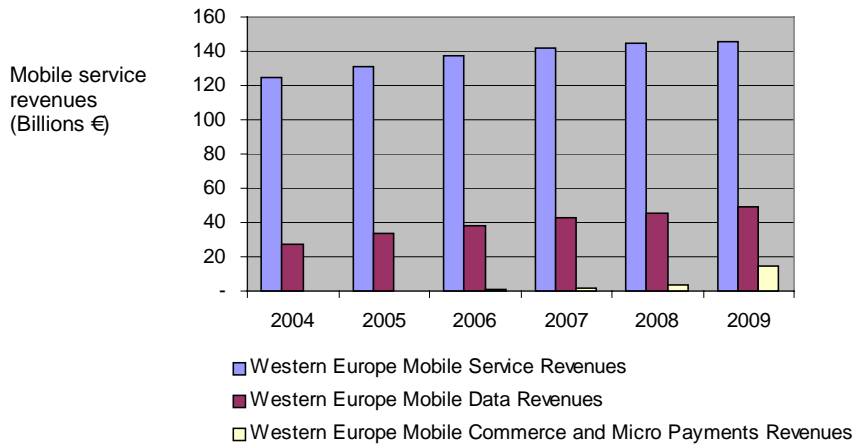
Frost & Sullivan
ICT Practice
Europe

Introduction

If every mobile subscriber in Europe spent €1 per month on mobile commerce transactions, the market would represent business worth over €4 billion. M-commerce is a logical capitalisation on the revenue potential held within the subscriber-base, furthering the relationship operators already hold with current users.

Despite the attractive nature of m-commerce, actual market development has been limited. Frost & Sullivan estimate that m-commerce represented less than 1 percent of mobile data revenues in 2004, which in turn are estimated to be around 20 percent of the total mobile market for the same year. Despite this small percentage, m-commerce holds vast potential, but beyond the challenge of raising awareness and developing service offers, there are far more fundamental challenges to address.

Total mobile service revenues, mobile data revenues and mobile commerce revenues in Western Europe, 2004 – 2009



(Source: Analysis Frost & Sullivan, 2005)

In the context of this paper, Frost & Sullivan defines m-commerce as the use of mobile devices and platforms to enable the purchase goods and services, primarily through web-enabled mobile/ wireless handsets. M-commerce provides the mobile consumer and business with the ability to purchase and receive goods and services securely, via wireless technology.

Development in the m-commerce market

Early developments in m-commerce have logically focused on the primary benefits of m-payment over mobile devices, most notably flexibility in payment methods and convenience.

Throughout a number of European countries, m-commerce services have only gained real traction within lower value applications, such as ringtones, logos, games and content services. These are now forecast to account for around 1 percent of mobile data revenues in 2005. Despite utilising these on a regular basis, the nature of current m-commerce deployments has restricted the usage of the services to younger groups and lower value transactions. Furthermore, operators have chosen to focus on digital services that do not require physical delivery. This creates a much more compelling and easier to use service. Premium SMS has been a core method of payment and the market is forecast by Frost & Sullivan to be valued at around €1 billion world-wide (2004).

Several opportunities exist beyond the typical m-commerce applications such as m-ticketing. Those trialled include m-parking services, travel insurance purchases, mail order services and vending machine commerce. In many cases these have been successful. In Austria, for example, 7 percent of car parking tickets are now purchased via mobile handsets.

Looking at the bigger picture there will be three core methods of payment within the m-commerce market:

- Billing** Likely to be less than €10, providing mobile "micro" billing through prepaid, post paid or both. (Parking tickets, etc)
- Mobile-enabling** Proving "macro" payments of more than €10, facilitating the payment through debit and credit cards
- Mobile-wallet** Micro and macro payments from an authorised separate account

Drivers for deployment

As subscriber acquisition slows, there is a requirement for innovation. As a result many operators have begun to focus on service development, increasing the margins gained from each user. In particular, operators have paid attention to the difference between the cost of providing a service and the revenue that services generate. This is regarded in the industry as AMPU (average margin per user). M-commerce has extensive revenue potential, but this will always be in the context of cost.

Central to operator revenue development is the service layer, not only in the creation of services, but in the differentiation of operators from the competition. Commerce-based services, in all their forms, are a logical evolution of mobile service delivery, especially when twinned with the delivery of content and applications.

Driving the mobile operators



For operators the advantages of mobile commerce are immense. Not only does the service drive revenue, but it also fosters subscriber retention through building relationships and habitual usage. Many subscribers are driven by the ability to make payments and conduct business easily, quickly and for less cost. All this will be achieved while at the same time adding value and enriching their experience.

Driving the merchants



For merchants, m-commerce provides a new channel, which, for many, unlocks a route to vast and profitable youth markets. Merchants are also in a position to differentiate products and services through this channel, creating new ways of attracting customers (subscriptions, "all you can eat", prepaid, etc.). Merchants are also in a position to build relationships where they did not exist before. All of this can be achieved, while at the same time reducing cost from the transaction.

Driving the financial services providers



For financial service providers, m-commerce is a new channel, branding a new proposition to the mobile user base and extending awareness in untapped markets. The real driver, however, is the fear of entry from other providers, keen to take control of a potentially lucrative market and financial-based user relationships.

The fundamental challenges

M-commerce is not as straightforward as many market players would like us to believe. There are a number of challenging issues facing operators, merchants, financial service providers and their stakeholders in deploying effective m-commerce solutions. At present these tend to outweigh the drivers.

Beyond the need to raise awareness, generate credibility and enforce security assurances, several other factors restrain the market. In many cases merchant partners are reluctant to join m-commerce offers when operators have very few potential customers; while consumers are reluctant to trial services when there are no compelling propositions to interest them. Operators must look to break this circle.

The major requirement of operators is to take a dominant position and drive the market by creating an established base of customers. This is a gradual process, but the time to start it is now. Frost & Sullivan have identified the core concerns and outline these issues within this paper. They include:

1. Partner management;
2. Integrating and managing m-commerce in a prepaid and post-paid subscriber base; and
3. Real-time billing management.

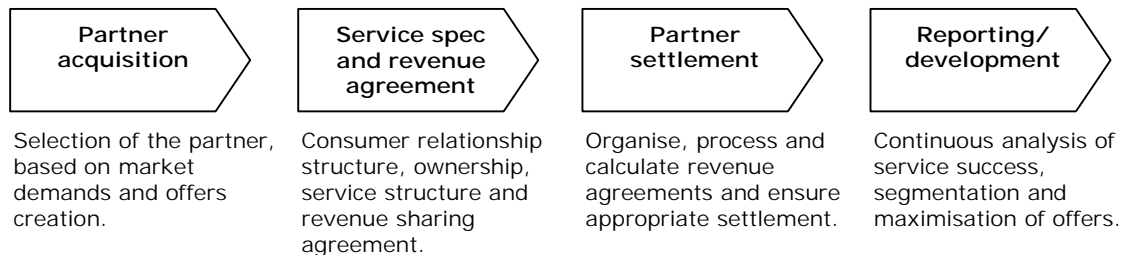
The following sections of this paper look to provide detailed understanding of these challenges, while enabling some indication of the critical areas that must be addressed.

Operator challenge 1: Partner management

As the market for m-commerce develops, the number of partnerships required to deal with demand will grow with it. In the future, billing and customer management systems will not only have to contend with potentially billions of customer transactions, but also the relationships and interaction between the partners involved in providing these services.

Operators cannot develop all commerce offerings in-house. Partnerships will need to evolve across a range of issues, from settlement, pricing and quality assurance, to recording and reporting for offer creation. If operators do not take control of this process and manage partners from a well-informed position, confusion, waste and customer dissatisfaction will rule.

As operators establish partnerships and bring services to market, they will have to progress suppliers through a range of stages:



(Source: Frost & Sullivan, 2005)

Managing partnerships throughout these stages of development is critical to operator strategy in the deployment of m-commerce services.

Control of the m-commerce offering, requires control of the settlement process throughout the chain

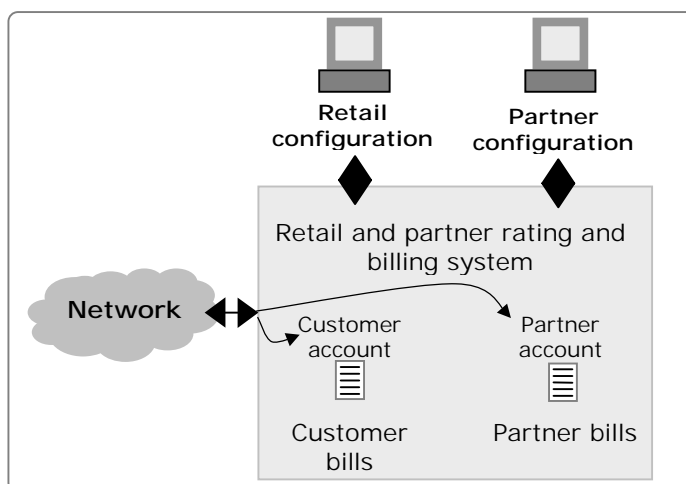
Significant issues arise with unsynchronised billing between operators and merchant settlement, the result of which can undermine the whole channel process. Operators must control when a settlement takes place and have access to all appropriate information. They must also be able to provide reporting information that enables them to work with the partner to develop service offers and enables more accurate marketing. Third parties must be accountable for development and managed on performance.

M-commerce offers must always be developed in the context of the cost of deployment

Fundamental to retaining and creating competitive advantage is time to market. Operators must have the ability to bring third party providers on-board, or procure services, in efficient time and resource. Without an effective system and partner management solution to achieve this, operators will waste time and resource developing offers and recording successes manually.

Overheads must be minimised and any development must be based on achieving lower total cost of ownership. Critical to this is reducing the cost of transaction. Operators must ensure that all merchants and third parties receive appropriate settlement and detailed market feedback.

Converged Retail/ Partner Billing System



(Source: Frost & Sullivan, 2005)

In the future converged systems will enable operators with the economies of scale needed for efficient commerce deployment. Converged partner settlement systems will provide end-to-end management, linking partner transactions with customer accounts across the value chain. As a result, issues such as concession settlement and refunds will be handled far more easily and efficiently. Converged solutions not only provide competitive advantage and revenue generation, but critically cost savings as well.

Operators cannot manage thousands of partnerships without the appropriate systems

Any investment in partner management systems should focus on scalability as much as the ability to control the entire process. This is not only critical with regard to the number of partners that need to be managed, but also with regard to the complexity of the relationships that will need to be established. Beyond simple settlement, there are percentages, flat rates, revenue sharing agreements, customer ownership agreements, discounts and refunding to manage, as well as bonus and incentive schemes. A core objective for operators is to create partners for m-commerce, not suppliers. The prospect of trying to achieve this without an appropriate system is almost impossible.

Effective m-commerce strategies will also be based on the ability to react quickly to market opportunities and trends. The challenge is to be able to offer services in the most efficient and effective way possible.

In short, operators must put resource and work into partner management systems and processes now, rather than when it is needed and potentially too late.

Operator challenge 2: Integrating and managing a prepaid and post-paid subscriber base

Prepaid mobile users represent around 62 percent of the total Western European mobile base and up to 75 percent of users for some Eastern European mobile operators. Despite this, prepaid users only generate 20 to 30 percent of operator revenues. Prepaid holds vast and untapped revenue potential, especially within the younger age groups. In nearly all cases, however, operators are unable to offer the same services available to post-paid subscribers and release this potential.

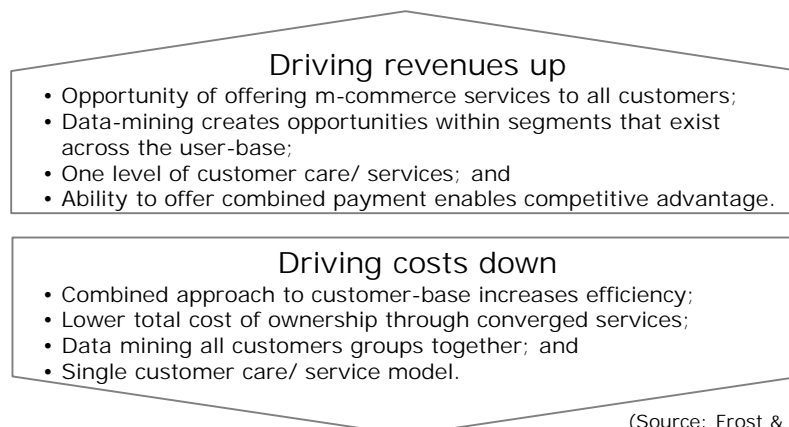
Treating two the billing relationships as separate customer groups undermines efficiency and the opportunity to generate revenue

Without the consistency of offering the same service to both prepaid and post paid subscribers, operators incur significant inefficiencies and wasted opportunity. Furthermore, reporting and data-mining prepaid usage continues to be second rate to the post-paid user-base. Operators are, therefore, unable to capture the complete picture of purchase behaviour.

Not all m-commerce users will just want either prepaid or post-paid functionality. Some will require a combination of the two

The challenges for mobile operators is to provide a range of complementary payment options, in many cases both prepaid and post-paid billing solutions. Technically and in many ways operationally, however, this is not a straightforward proposition. To provide a combined option requires an integrated billing platform, removing the restrictions of separate systems and allowing seamless payment in real-time.

Integrating the prepaid and post-paid subscriber base drives revenues as well as cost reduction and efficiency:



(Source: Frost & Sullivan, 2005)

Success in m-commerce is reliant on the collection of information and it's analysis

Information spread across two databases is not an efficient way of determining successes in the m-commerce environment. The challenge for operators is to obtain converged information providing the bigger picture. Systems must be deployed to understand the behaviour of all m-commerce users and enable the development and marketing of successful services across operator groups.

Prepaid and post-paid billing must be managed as a layer in front of the payment tools

By implementing a converged charging platform, operators can make operational cost savings with a lower total cost of ownership. What converged post and prepaid billing must also provide is the real-time analysis and control of all users within the network. Operators must build on the advantages of the prepaid billing relationship (control, accountability, etc.), while at the same time building on the advantages of post-paid billing (flexibility, unlimited purchase size, etc). Customer care, knowledge capture and control must be seamless, while retaining all payment options for all customers.

Operator challenge 3: Real-time billing

Authentication, account clearing and partner settlement form a foundation from which all-mobile commerce propositions will succeed. Without these core elements, m-commerce will falter in the early stages of development.

For many operators there has been limited preparation in the area of real-time billing and many have failed to think through the requirements needed for the successful deployment of commerce services. With a number of m-commerce transactions likely to originate from the prepaid user-base, a significant challenge occurs in the need to control these accounts in real-time.

No operator wants to make mistakes when charging the prepaid user-base

The most effective way of avoiding this is to implementation of real-time credit control across the transaction process. Furthermore, with cost-management such a major concern for mobile commerce users (50 to 60 percent of users) transparency is key to a long-term m-commerce relationship. Operators must provide pre-advise of charge. From day one, operators must also allow users the reservation of funds, so they are able to reserve credit for transactions and return to this in the future.

The challenge, with subscribers using an array of payment methods, will be keeping accounts up to date. Real time billing platforms, therefore, become an essential part of any serious m-commerce offering.

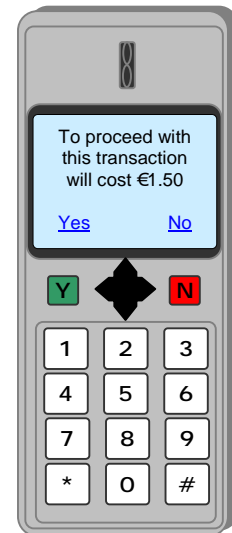
Short development lifecycles place pressure on billing systems

As the m-commerce market develops, the value chain becomes increasingly complex, with an array of stakeholders requiring settlement and interaction. Managing relationships without real-time billing would be complex and costly. For a number of services, such as parking, tolls and travel, real-time billing is essential. Unlike some premium SMS services, there must be no delays in the completion of the transaction throughout the value chain. Operators must also reduce risks of credit and cash flow issues by ensuring that what is reported is what exists in real-time.

The challenge for operators is to provide real-time billing solutions to everyone in the value chain

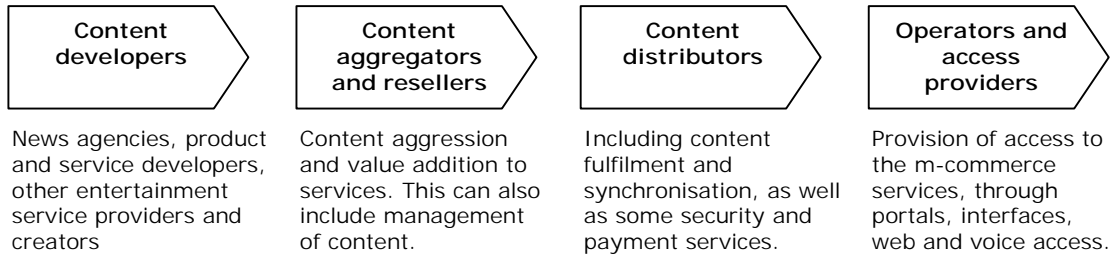
Reducing latency in response improves efficiencies and increases the quality of the m-commerce proposition. Further to this, billing systems must provide the operator with the scalability required to deal with surges in demand. In the context of an IP-based mobile network, all users will be on-line and the requirement for networks and billing systems to handle this is essential.

Like many mobile services, unavailability will be devastating to the early market. What is critical is ensuring the maximisation of every billing opportunity and the management of this in real-time. Without this, revenue opportunities are wasted.



In conclusion

Success for mobile operators in the deployment of m-commerce is dependent on obtaining an optimal position within the value chain. The early market for m-commerce will be based almost solely on "micro" payments, placing operators in a controlling situation and an intensely competitive one. Control and optimisation can only be truly realised if mobile operators can see and manage the transaction process end-to-end.



(Source: Frost & Sullivan, 2005)

Operators must control the single customer view, where process and behaviour can be managed and developed over time and involving all parties. This is critical when dealing with a vast number of partners and a vast number of variables with regard to billing and service provision. The more the service layer becomes integrated with IP-base sub-systems in the future, the more complex these mobile commerce transactions become and the greater the need to stay in control.

The requirement to understand the entire process is a significant challenge and will require operators to implement systems that reduced complexity, at the same time reducing the total cost of ownership. Full control of transactions and partnerships will promote faster time to market, as well as reduced cost per transaction and the integration of prepaid and post-paid service offers.

Operators will also be in control of the security issues that surround m-commerce. This will be essential, especially when research carried-out by operators suggests that over half of mobile users still voice concerns regarding fraud in the context of m-commerce usage. Real-time billing can enable operators and organisations within the value chain address fraud and the implications it has in the m-commerce market.

Operators need to look at the bigger picture when implementing m-commerce solutions. They must create and provide a clear and logical migration path on which they can take the user-base, all the time increasing the use of m-commerce services and adding value, commitment and loyalty.

Critical success factors

For success to emerge within the Europe m-commerce market place, operators and stakeholders must look to overcome the challenges defined within this paper. Fundamental to this is understanding and acting on a number of critical success factors identified by Frost & Sullivan within this paper. They include:

- Create a service which works from day one *and* generates revenue from day one;
- Streamline and control the entire m-commerce process;
- Establish growth in the partner base only if this makes economic sense;
- Allowing users a number of complementary payments methods;
- Support infrastructure that can adapt to the market in a cost effective way;
- Treat partners as partners, not as suppliers;
- Support partners through knowledge and control of the commerce offering; and
- Minimise fraud opportunity with real time credit control.

Further critical success factors not covered within this paper, but identified by Frost & Sullivan include:

- Maximisation of every billing opportunity;
- Complete convergence of m-commerce within all aspects of service layer investment;
- Offering a wider set of services targeted at specific segments;
- Balance on-portal and off-portal activity;
- Better offer delivery, store-fronts and merchandising;
- Reduce barriers: fewer clicks, faster navigation and intuitive portal services;

The critical issue for operators is to generate as much revenue as possible from each billing opportunity. They must do this with scalable solutions, which are able to evolve over time in the most efficient and effective way. Operators must take control of the market and dictate the future of m-commerce.

About Frost & Sullivan

Frost & Sullivan has been supporting clients' growth for over four decades. Our market expertise covers a broad spectrum of industries, while our portfolio of advisory competencies include strategic consultancy, market intelligence and management training. Our mission is to work with clients' management teams to deliver market insights, create value and drive growth through innovative approaches.

Frost & Sullivan's network of more than 600 consultants, industry experts, corporate trainers and support staff, spans the globe with 19 offices world-wide.

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