Time to Top-Up the Prepaid User Experience

How an effective top-up strategy can improve operator performance metrics and accelerate mobile payments

Northstream White Paper

June 2009

Northstream™

Executive Summary

About this Paper

- This white paper presents the results of a Northstream study about the Western European prepaid market, produced between March and June 2009.
- Based on industry research and mobile operator interviews, the study focused on prepaid top-up and how different top-up approaches impact operator performance metrics.

The Market Opportunity

- Consumer market trends and primary research show growing and unfulfilled end user demand for direct operator top-up; i.e. non-cash top-up through the operator web site, handset functions or an IVR.
- According to Northstream's analysis, direct operator top-up enables operators to reduce channel cost, increase revenues and improve subscriber loyalty. This makes it the most profitable top-up approach compared to the alternatives of retail top-up and bank top-up.
- Examples from operators using best-in-class direct operator top-up services show double digit revenue gains and similarly reduced cost. Northstream estimates that Western European operators could thus improve prepaid profitability by hundreds of millions of Euro annually.

Conclusions

- In order to monetize this opportunity, operators should audit their existing top-up solutions and focus on operator direct top-up channels, such as their web site or the mobile phone. These channels allow for a customized, branded and cost-efficient service delivery.
- This strategy also supports positioning direct operator top-up as part of a common m-payment platform that can deliver a consistent user experience across operator and third party m-payment services.

1. Prepaid in Western Europe: Services & Payments Go Online

Chapter Summary:

Facing flattening growth in prepaid revenue, Western European operators see the need to cut costs, find new revenue sources and increase subscriber loyalty. Certain consumer trends can help operators find the right strategy: The growing usage of internet applications and credit cards makes online services and e-transactions a more obvious focus area in the prepaid business.

Most operators interviewed in this study agree that the development of top-up services should align with these trends. This is expected to both improve user experience and operator performance metrics.

With 23 nations and 274 million prepaid subscribers,[i] Western Europe is one of the largest markets for prepaid mobile services. In our dialogues with operators and through market research we have observed five key trends that impact the top-up business:

#1: Operators reduce cost throughout their organizations

Looking at the European prepaid market, it is apparent that the subscriber growth is not enough to offset the ARPU decline. Research indicates that total prepaid revenues will peak in 2009, and slowly decline from there on.[ii]

Reducing cost is something most operators try to do in response to this trend. This affects the whole organization, including increased efficiency through process automation, as well as areas such as subscriber acquisition, customer service and sales channels. Indeed, also the top-up process and related costs are under scrutiny.

#2: The quest for new revenue sources

As part of their efforts to compensate for falling voice ARPUs, operators promote new tariffs such as hybrid prepaid or SMS flat rates. Data access offerings nowadays include flat rates for handset-based browsing and laptop-based mobile broadband. This is supplemented by value-added services such as instant messaging, social networking or m-payment applications including ticketing or the purchase of small goods.

Subscribers using these services benefit from the ability to also top-up in an online environment. This is further supported by a growing number of operators that offer data-centric mobile phones as part of prepaid packages (fig. 1):

Figure 1: Examples of Prepaid Smartphones at Western European Operators. Source: Operators[iii]

#3: Efforts to grow customer loyalty

In an effort to move away from the costly and inefficient "broad brush" marketing, operators are improving their customer relationship management (CRM) capabilities. The aim is to better reach the previously anonymous prepaid users through user registration, targeted discounts, upselling efforts or campaigns.

These efforts are highly correlated with prepaid top-up: 91% of interviewed operators highlighted the need to strengthen the way top-up fits to their online services, promoting the operator web site or other operator-controlled channels.

#4: Harmonized commerce drives the take-up of debit and credit cards

Card payments are becoming ever more popular in Europe, as illustrated by data from Visa and MasterCard, the region's leading providers of credit and debit cards: Visa's 2008 sales grew by 10% to 993 bn€, while MasterCard achieved a 15% increase to 201 bn€.[iv]

This is enabled by factors such as growing retail acceptance and the regulatory environment: The EU monetary union and its SEPA[v] framework have facilitated the usage of credit and debit cards in e-commerce. These trends have made card transactions more attractive as a prepaid payment method for mobile operators.

#5: The "always connected" consumers

Consumers are becoming more & more connected to the internet through a variety of devices such as PCs, netbooks or mobile phones. In particular, teens and people in their twenties use social networking and entertainment services as part of their daily lives: A survey in Germany revealed that 85% of people between

12 – 24 years spend an average of two hours per day online.[vi] This changing user behaviour impacts operators, because a growing share of internet traffic is carried over mobile networks and prepaid is becoming an increasingly prevalent tariff model for mobile data.

These trends mean that online and e-commerce strategies gain importance for an operators' success in the prepaid market. The following chapters show how this relates to top-up; the money-in channel for prepaid subscribers.

2. The Prepaid Top-Up Landscape

Chapter Summary:

Although online services and card payments are commonplace in Western Europe, the prepaid business is still retail-dominated: In most countries, over 60% of top-ups happen in retail. This creates issues broader than just high commission costs and forces operators to consider other top-up approaches.

According to our analysis, operator-controlled ways of non-cash top-up are likely the best alternative. User demand for these channels is much higher than current take-up - creating potential for operators to serve this unfulfilled demand by growing their level of involvement in the delivery of top-up services.

Prepaid revenues in Western Europe totalled 45 bn€ in 2008,[vii] a large share of which is captured via top-up. As operators look at how to deal with the trends for the prepaid business, it is natural to investigate the role top-up plays in this context.

Top-up refers to the process of prepaid users reloading their accounts with credit for mobile operator services such as voice, messaging or data. In addition, usage of prepaid funds for m-payment services like ticketing or media downloads is increasingly offered by operators.

Selecting and managing top-up approaches is a key part of an operator's prepaid business. In order to allow a comparison of options we have categorized the basic possible approaches:

1. **Retail top-up** is comprised of a variety of cash-based solutions which often involve over-the-counter sales of vouchers or scratch cards. Alternatively, e top-up is a method where credit is transferred to a prepaid account without the need for users to transmit reload codes to the operator.

2. **Bank top-up** relies on ATMs (cash machines) or online banking services. Users logged in to one of these systems can transfer funds from their bank account to the operator prepaid account without using cash.

3. **Direct operator top-up** includes all operator-managed top-up channels that rely on electronic transactions. Using voice or graphical user interfaces, subscribers transmit credit card or bank account information to the operator and then initiate the transfer of prepaid funds to their account.

The last two can be summarized under the term non-cash top-up. In order for consumers to take advantage of these approaches there is a choice between so-called **payment channels** (fig. 2).

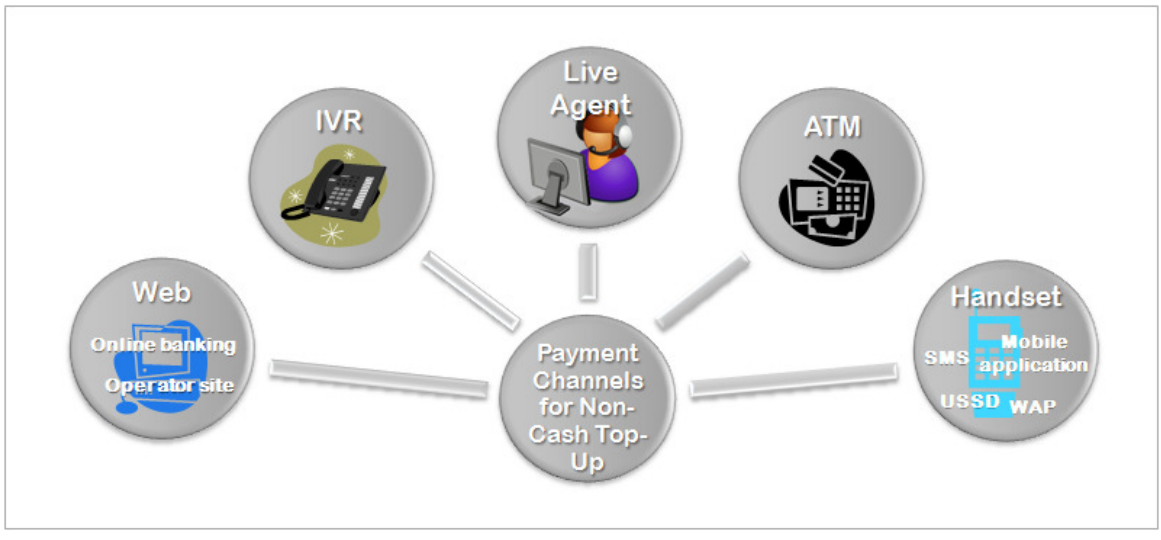


Figure 2: Payment Channels for Non-Cash Top-Up. Source: Northstream

Payment channels are ways or methods for users to transfer funds to their prepaid account:

- Over a web browser, using the operator's website or via partner banks
- Customer care agents
- Over the phone via an IVR
- Via partner banks' ATMs
- Via the mobile phone, using technologies such as SMS, USSD, WAP or applications resident on the handset

The other dimension of non-cash top-up is the **payment device**; referring to the actual means used to pay for the transaction. Payment devices differ per country, but generally include all major credit cards, debit cards and consumer bank accounts.

Market Penetration of Top-Up Approaches

Before investigating non-cash top-up in more detail, it is important to understand the current uptake of the top-up approaches explained above. A recent consumer survey in the UK investigated this and compared the current top-up behaviour to actual end user needs (fig. 3).

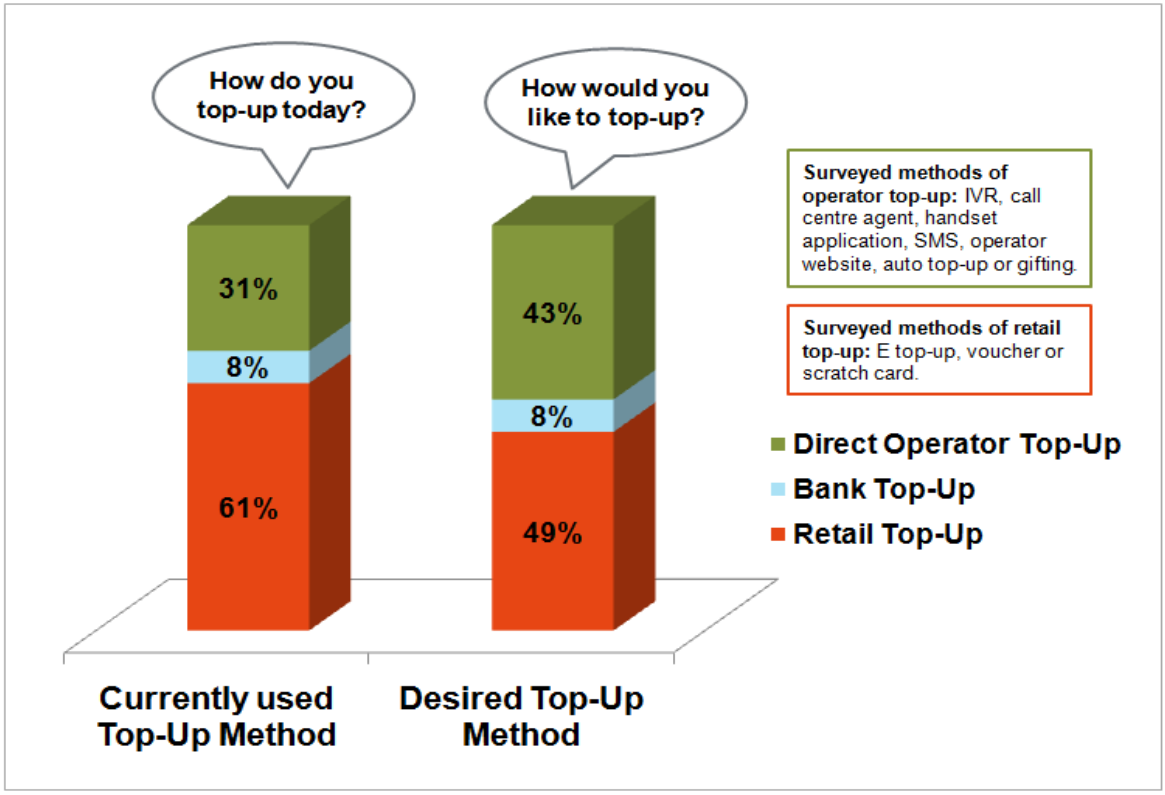


Figure 3: Top-Up Methods in the UK. Source: Prepaid Consumer Top-Up in the UK, BMRB / Vesta Research

The graph allows for two key observations:

a. **Retail top-up dominates:** Over 60% top-up at a retail store using dedicated terminals, vouchers or scratch cards. Operators interviewed by Northstream quoted similar shares of around 60%.

b. **There is unfulfilled demand for direct operator top-up:** While 43% would like to use operator-managed top-up services outside a retail environment, only 31% currently do.

Based on our market analysis and operator interviews, we see two main reasons that explain the second observation:

- Most of the currently available direct operator top-up services lack attractiveness, ease of use and completeness
- The services are not adequately promoted by operators, resulting in insufficient consumer awareness and hence low take-up

These results suggest that the market is ready for an increased adoption of non-cash top-up services, reducing the current dominance of retail top-up. Furthermore, there is potential for operators to increase their level of involvement in the delivery of top-up services.

3. Operator Top-Up Options

Chapter Summary:

Operators can design their top-up strategy using a combination of three different approaches: Retail top-up, bank top-up and direct operator top-up. Comparing these approaches confirms that direct operator top-up is best suited to satisfy operator objectives of cost reduction, revenue growth and customer loyalty management.

Focusing on operator-controlled top-up channels provides advantages in three key areas: Subscriber reach and availability, ease of use and CRM potential. This gives direct operator top-up a clear lead compared to bank top-up.

The consumer survey presented in the previous chapter showed a mismatch between the current top-up behaviour and actual consumer needs.

Given the magnitude of the top-up business and the challenges operators face in the prepaid market, it is reasonable to consider whether adjustments in the top-up strategy can eliminate this mismatch and thereby improve operator performance in the prepaid business.

Both the market trends and consumer research presented in this study suggest this to be the case. However, in addition to the consumer-centric view, operators need to understand the impact of the different top-up approaches from an internal viewpoint. Figure 4 compares the pros and cons of these approaches from the operator perspective.

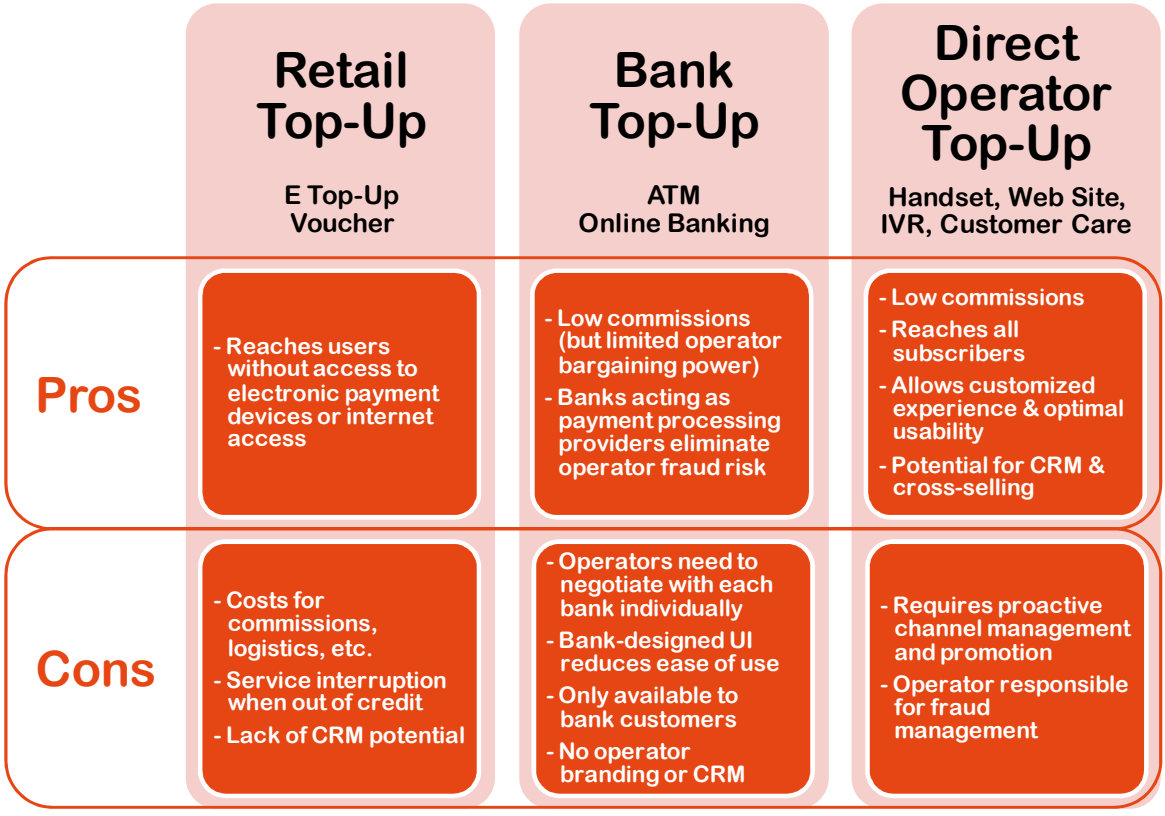


Figure 4: Pros and Cons of Different Top-Up Approaches. Source: Northstream

Retail Top-Up Losing Appeal

The comparison shows that retail top-up lacks potential to address the challenges faced by operators in the prepaid business due to its high cost, insufficient convenience and low customer retention potential. Additionally, a retail-centric top-up approach appears less attractive for consumers given the market trends towards growing usage of electronic payment devices and an online-centric life style.

At the same time, operators should keep in mind that the relatively easy access to retail top-up carries a certain user-friendly aspect for specific customer segments.

Bank Top-Up vs. Direct Operator Top-Up

Putting bank top-up and direct operator top-up side by side reveals differences in three areas:

Area 1: Reach and Availability

This first area refers to the share of subscribers that operators can reach through this approach, and to what extent subscribers are able to use the service in different top-up situations.

Bank top-up requires operator negotiations with each involved bank, which is cumbersome as most Western European markets have a fragmented banking environment. Also, changing service elements or adding features to the top-up service creates the need to continuously deal with each bank even once the service is set up.

Subscribers wishing to use this channel have the option of using ATMs or online banking services. The first option requires the accessibility of an ATM operated by a supporting bank. The second option involves logging in to the user's online banking service, which often requires dedicated PC software or hardware such as certificate management clients or credit card readers.

Area 2: Ease of Use

Both options of bank top-up involve the usage of graphical interfaces designed for banking transactions rather than prepaid top-up. Naturally, banks position their own services at the forefront, so that top-up is often hard to find in the graphical user interface, at least for online banking.

Each supporting bank implements the top-up service in their own way, which usually differs from how operators implement services on their own web site. In addition, users need to learn new interfaces whenever they change banks.

Area 3: CRM Potential

Even without user login, each top-up transaction can provide operators with valuable data about subscribers and their top-up behaviour, such as card owner details, top-up frequency, timing and amounts. Depending on the channel used, data may also include age, device used or location.

Gathering this type of data is easiest when users top-up in an operator-controlled environment. Once analyzed, the information serves as a basis for subscriber segmentation and targeted CRM measures in the area of cross-selling, upselling or special campaigns – capabilities that 91% of interviewed operators intend to strengthen.

For example, top-up through the operator web site provides the potential to present tailored messages already during the top-up process. In addition, the SMS confirmation sent after each top-up leaves space for further end user communication.

Direct Operator Top-Up in the Lead

Comparing the potential of these two top-up methods to the operator challenges presented in the first chapter gives a clear lead to direct operator top-up:

Both approaches of non-cash top-up provide operators with major cost savings compared to retail top-up. However, direct operator top-up possesses unique capabilities that can lead to higher revenues and improved customer loyalty – areas that are critical in order for operators to improve their performance metrics in the prepaid business.

4. Improving Performance Metrics through Direct Operator Top-Up

Chapter Summary:

Case studies show that measures in the area of direct operator top-up can lead to double-digit improvements in performance metrics such as ARPU and churn. These gains are enabled by lower top-up costs, higher prepaid revenues and returning subscribers.

Although many operators offer direct top-up services, most implementations have major shortcomings in areas such as channel support, feature implementation or user friendliness. Addressing these areas will also lead to a shift in usage from bank top-up to operator top-up and generate further performance metrics improvements.

One of the hypotheses behind this study was that migrating subscribers from retail top-up to operator-controlled top-up channels i.e. direct operator top-up, enables operators to significantly increase their prepaid performance metrics. The reasons behind are lower cost, higher revenues and improved CRM possibilities.

Experience from operators with well-designed top-up solutions in place confirms this hypothesis. The case study below gives an example of one operator that Northstream interviewed for this study.

CASE STUDY: How a Leading Prepaid Operator Improved its Prepaid Performance Metrics through Re-launching Direct Operator Top-Up

THE SITUATION: A wireless prepaid provider serving more than four million subscribers had three goals for its non-cash top-up service: Lower operating expenses, increase revenue and reduce churn.

With the previous service, subscribers were required to register their debit or credit card, limited to one card per account. The registration involved a series of personal identification questions with a customer service agent. Once registered, the service featured tight limitations of the frequency and amount of top-up transactions. Many subscribers felt uncomfortable with these restrictions and ultimately abandoned the operator's top-up service.

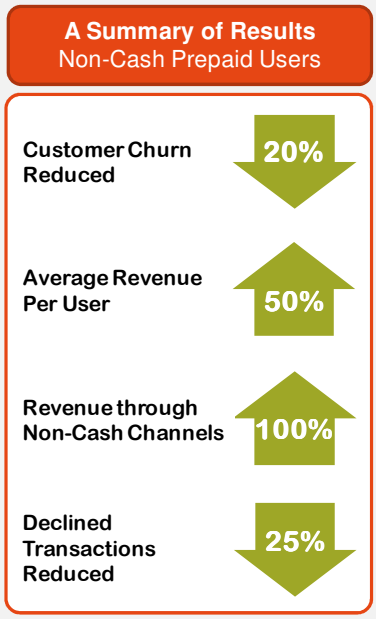
THE SOLUTION: The operator re-launched its direct non-cash top-up service, emphasizing on a simple and secure user experience involving the following changes:

- Removal of time-consuming and intrusive ID verification process
- Usage of credit or debit cards without the need for prior registration
- Enabled innovative self-service payment channels IVR and web-based payment
- Electronic checks added as new payment device

The operator sourced the top-up solution from a third party company providing full indemnification against fraud.

THE RESULTS: Optimizing registration process, payment channels and user experience helped the operator achieve major gains to the profitability of its non-cash top-up service:

- The number of declined top-up transactions was reduced by 25%, enabled by a new authentication and risk evaluation process
- Compared to subscribers using retail top-up, the performance metrics for users of direct operator top-up greatly improved: The operator saw a 20% reduction in customer churn, a 50% increase in ARPU and a 100% increase in overall revenue through non-cash channels.



The re-launched solution for direct operator top-up also reduced the cost associated with virtual top-ups by providing full indemnification against the risk of fraud, guaranteeing funds for every non-cash top-up transaction.

Quantifying the Potential of Direct Operator Top-Up

As previously mentioned, prepaid revenues in Western Europe totalled 45 bn€ in 2008, a large share of which is captured via top-up. It is the ambition of all operators to maximize the top-up share of prepaid revenues, in other words minimize subscriber acquisition cost and inherent churn cost of the prepaid business.

As exemplified by the case study and other operators Northstream spoke to, the way operators implement their top-up strategy can lead to major differences in prepaid performance metrics, both for cost and for revenue-related metrics.

On the **cost side** the most appealing gains can be achieved by shifting top-up from retail to direct operator top-up channels. While commissions for retail-based top-up vary between 7% and 14% of the transaction value, direct operator top-up channels cost as little as 5 – 6%, as Northstream learnt from mobile operators.

In addition, shifting top-up business away from retail can free up staff and budget that was previously used for retail partner management, logistics or payment processing.

On the **revenue side** we found evidence of increased revenue per subscriber using operator direct top-up channels, for those operators monitoring the performance of each top-up channel. Each operator that has this capability has recorded double digit percentage ARPU improvements for subscribers moving over to direct operator top-up – an improvement that is sustainable and can be further enhanced through CRM measures.

Summarizing this potential of revenue growth and cost savings, Northstream estimates that Western European operators could improve prepaid profitability by hundreds of millions of Euro annually, due to lower channel cost, more frequent top-ups and reduced churn.

Reasons for Performance Metrics Gains through Direct Operator Top-Up

In order for operators to identify strategies designed to improve prepaid performance metrics it is important to understand the reasons why direct operator top-up can deliver the demonstrated improvements.

Northstream's analysis has identified three key reasons which relate to cost, revenues and subscriber loyalty (fig. 5).

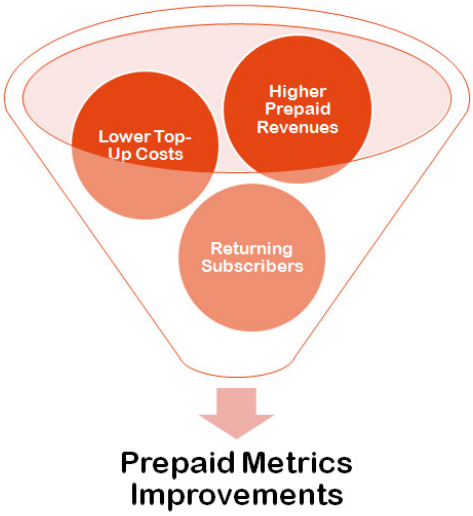


Figure 5: Key Reasons why Direct Operator Top-Up Improves Prepaid Metrics. Source: Northstream

Lower top-up costs are enabled by:

- Using more efficient and automated sales channels that charge lower commissions
- Foregoing the creation and distribution of physical top-up deliverables

Prepaid revenues grow due to:

- Subscribers performing top-ups more frequently
- Prepaid or postpaid users topping-up for other subscribers (gifting)
- Zero-balance periods becoming shorter
- Integration of top-up into the overall operator service experience, supporting the use of services such as mobile internet

Subscribers return to the service because of:

- Higher convenience and better user experience compared to retail top-up
- A choice of operator-managed payment channels that enables easy top-up anytime and anywhere
- Perception of a swift and secure service delivered to personal devices

Operators Identifying Gaps in Existing Service Offerings

Northstream's market analysis revealed that many Western European mobile operators already offer direct operator top-up services, providing at least one of the above-shown payment channels.

On the other hand, operator interviews confirmed our view that most existing services leave major room for improvement in areas such as payment channel support, feature implementation or user friendliness. In addition, strategies to prioritize direct operator top-up over bank top-up are often not in place.

These shortcomings in top-up strategy and implementation lead to an unfavourable balance of payment channel usage which impacts performance metrics: Over 80% of the operators covered in our study see the majority of non-cash top-up transactions occur in bank-controlled environments. All interviewed operators would prefer to revert this share in favour of channels they control.

5. Cornerstones of a Successful Direct Operator Top-Up Service

Chapter Summary:

Many operators are currently reassessing their top-up strategies which will likely result in improvements to the supported payment channels, payment devices and user experience.

Apart from the operator web site, handset-based top-up applications are expected to become key top-up channels in the future. This is due to their capability to not only provide a user-friendly top-up experience, but also allow for CRM measures and expansions in the mobile payment space.

According to Northstream's research and operator interviews, the foundation of performance metrics improvements shown above lies in an operator-designed top-up service that enables instant transactions and provides users with the feeling of convenience and security.

Key solution features from a subscriber viewpoint are the choice of payment channels, payment devices and the overall user experience. From the operator viewpoint, the solution must be able to deliver low channel cost, revenue uplift potential and CRM possibilities in order to achieve the targeted performance metrics improvements.

The Handset as a Top-Up Payment Channel

Northstream's analysis shows that although many operators already offer direct top-up, the choice of channels, payment devices and ease of use are usually limited. In an effort to better leverage the potential of direct operator top-up, various operators have started evaluating their existing service as well as the underlying top-up strategy.

Among new initiatives currently assessed are handset top-up applications which promise higher performance metrics gains compared to web-based or voice channels. Potential benefits of the top-up application include:

- A greater level of security over other technologies: it allows for a unique pass code, the transaction data is passed over a secure connection and the information is not stored on the device after the transaction
- Installation on the deck of the device allows for easy discovery and intuitive usage, enabling even novice users to easily top-up without pre-education
- By having the majority of the application data stored on the device, the transaction is less subject to network latency and data transfer issues than WAP-based services

Figure 6 gives a simplified view of a solution for direct operator top-up, including handset applications as key future payment channels.

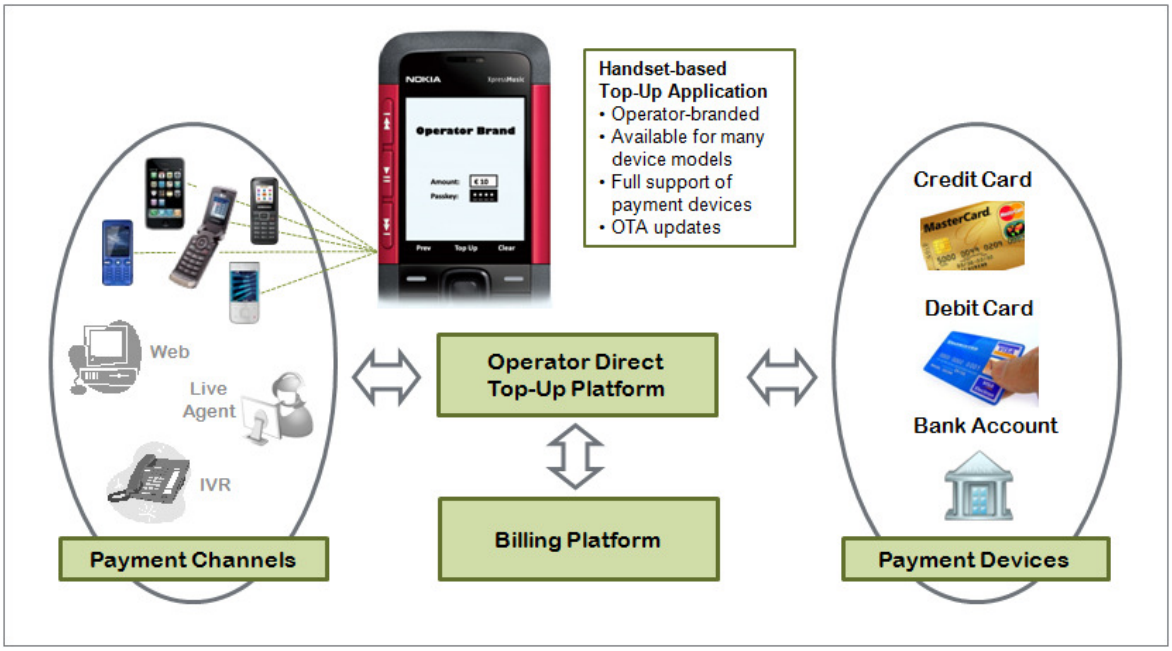


Figure 6: Direct Operator Top-Up Solution Featuring Handset-Based Top-Up. Source: Northstream

The Potential of Top-Up Applications

The potential of handset top-up applications aligns well with the operator strategies highlighted earlier in this document. Nonetheless, not more than 20% of direct operator top-up services we analyzed include handset applications.

Northstream sees three main reasons for this low penetration: Lack of awareness of the channel's potential, concerns about handset support, and the absence of management priorities to invest into improvements of the top-up service.

Northstream believes that top-up applications are often not appreciated in their full potential. Figure 7 explains this by looking at usage cycle and features experienced by subscribers:

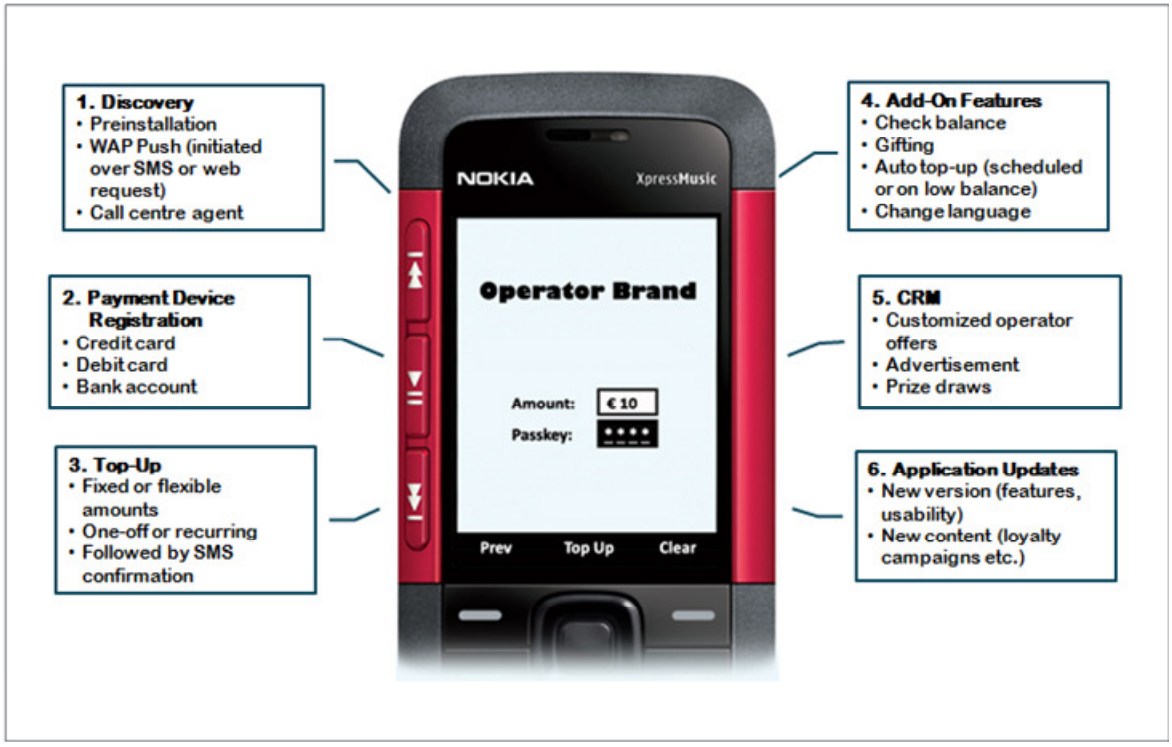


Figure 7: Usage Cycle and Operator Potential of Handset-Based Top-Up. Source: Northstream

Key Prerequisites for Success

Given the advantages, Northstream expects handset applications to become more important as part of direct operator top-up services in the future. We see three key factors contributing to their successful uptake:

1. High subscriber reach, enabled by a large number of supported handsets
2. Ease of use across the whole usage life cycle portrayed in figure 7
3. Promotion of this new payment channel, e.g. when subscribers use other channels such as IVR or the operator web site

Handset Applications and Mobile Payments

Another intriguing benefit of handset-based top-up applications is that they can be expanded to become a broader "mobile wallet" application to be used for additional mobile payment services. Since the application is already linked to stored payment details and user information, new services can be added to provide added value for operators and consumers. This concept will be explored further in the final chapter of this paper.

Maximizing the Potential of Direct Operator Top-Up

The handset therefore presents an attractive emerging opportunity to enrich the payment channel offering of a direct operator top-up service. Adding handset-based top-up means extending the potential of direct operator top-up to a new channel: this widens the subscriber reach of the operator-controlled top-up services and maximizes their potential of improving prepaid performance metrics.

6. The Right Solution for Direct Operator Top-Up

Chapter Summary:

Our analysis has identified eight key solution capabilities that operators should possess in order to exploit the full potential of direct operator top-up. These capabilities deliver convenience and security as customer values and revenue assurance as operational values.

Northstream recommends operators to audit their existing top-up solution and identify to what extent it supports the requirements of each capability. As a result, action can be taken to focus on direct operator top-up channels and bring the top-up solution closer to a best-in-class service.

The benefits of a direct operator top-up for prepaid subscribers and for operators are evident. But what type of solution is needed in order to achieve these benefits, and which are the required capabilities?

Northstream has studied solutions offered by different third party providers and operators. Based on our analysis of end user requirements and operator requirements we have defined eight key capabilities of a best-in-class solution for direct operator top-up (fig. 8).

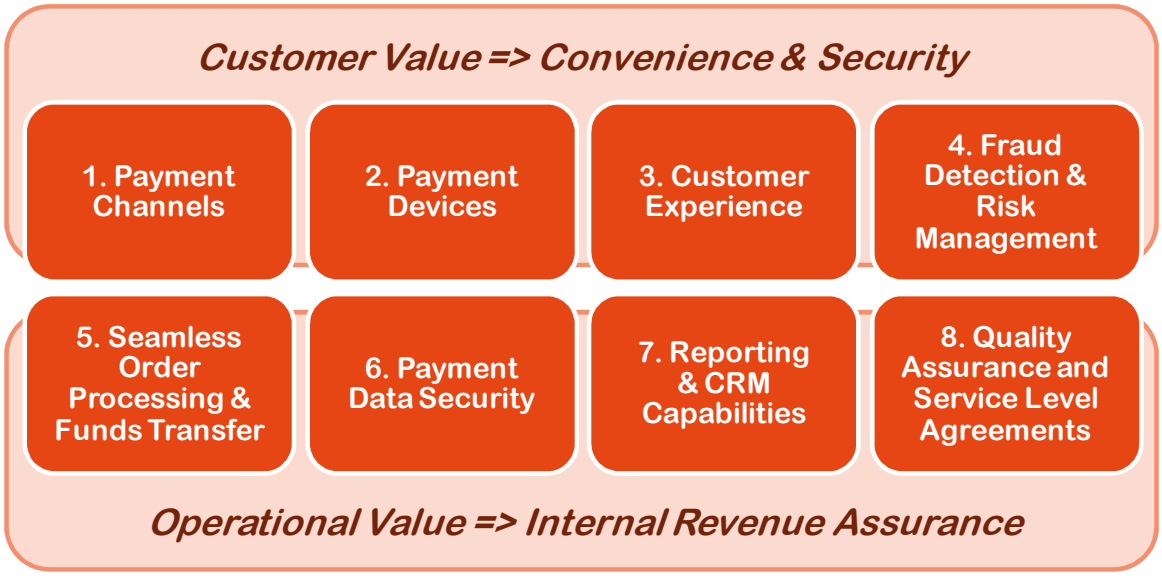
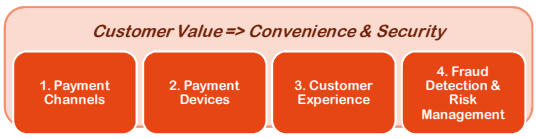


Figure 8: Capabilities of a Best-In-Class Direct Operator Top-Up Solution. Source: Northstream

Customer Value Capabilities Providing Convenience and Security

Customer value capabilities provide visible value to the end user, for example through graphical interfaces, service features and swift transactions. These capabilities combined give users the feeling of convenience and security - a foundation of the business potential of direct operator top-up.



Capability 1: Payment channels

Data from operators interviewed shows that the usage of non-cash top-up grows with the number of offered payment channels. This is because different customer segments have different preferences, and will gravitate toward the channel they are most comfortable with. For instance, the introduction of SMS top-up may pull customers from an existing channel, but will also add new customers that are comfortable with using SMS and are attracted to the SMS-based service.

However, the customer experience of having multiple channels needs to be considered. The channels should have a unified customer experience (i.e. stored payment details and pass codes work across all channels)

The capability of an operator top-up service to reduce zero credit periods is a key factor for the improvements in revenue-related performance

metrics. This makes it critical for operators to offer the following service features:

- Auto top-up means that accounts are reloaded on a periodical basis, or when the credit goes beyond a certain limit
- Gifting enables other prepaid or postpaid users to transfer funds to a prepaid account
- Flexible top-up amounts allow subscribers to align top-up values with their actual communication needs

Capability 2: Payment devices

Maximum acceptance of payment devices will drive the adoption of direct operator top-up services. The payment devices that should be considered are:

- Credit cards and debit cards (national and international)
- Direct debit
- Stored value accounts
- Alternative payment mechanisms such as PayPal or Ukash

Capability 3: Customer experience

The design of the customer experience for an operator top-up service can have a dramatic impact on the usage of the channels. The openness of the customer experience can often be a balancing act with fraud and risk controls, but the following items are important components:

- Allow customers to top-up the first time they visit a channel (no registration or waiting period required)
- No overly-restrictive controls on top-up frequency or amounts
- Unified customer experience across all channels; no fragmentation
- Ease of use features such as stored payment details, quick top-up, auto top-up, etc.

Capability 4: Fraud detection and risk management

Whenever subscribers want to perform a non-cash top-up transaction, the solution needs to verify the user identity and determine the risk of the requested transaction being fraudulent. A key requirement is that the solution can be effective and efficient, yet user-friendly which requires the right compromise between ease of use and risk management.

Aspects that should be considered when evaluating fraud capabilities are:

- Ability to evaluate a customer and a transaction in real time
- Ability to allow customers to complete a transaction the first time they are seen in the direct operator top-up channels
- Mechanism for evaluating questionable transactions to maximize acceptance
- Ability to handle charge backs and payment related questions
- Indemnification against fraud, which may be offered by 3rd party service providers

Operational Value Capabilities Providing Internal Revenue Assurance

Operational value capabilities enable revenue assurance in a cost-efficient manner. Also requirements for CRM and operational quality are covered in this area.

Capability 5: Seamless order processing & funds transfer

An efficient operator top-up solution requires seamless integration with payment processors and billing systems in order to ensure that the operator quickly receives approval on the transaction, and subscribers swiftly receive the credits in their account.

Once credit is added to the subscriber account, it is critical for the operator to have an automated and reliable mechanism for receiving funds from the various payment organizations. Fund processing that is regular and works without delay helps optimize operator cash flow. Solving reconciliation issues prior to the settlement is another key requirement.

Capability 6: Payment data security

With instances of security breaches and theft of card holder data routinely in the headlines, it is imperative that operators take a close look at how they protect customer data. Many investors, shareholders and board members are also challenging companies to have a proactive strategy for protecting this sensitive information.

To respond to this, and to be able to accept many forms of payments in a secure manner, operators must ensure that they or their outsourcing partner are compliant with industry standards and certifications.

For example, the Payment Card Industry Security Standards Council has a set of guidelines and a certification process to verify correct handling of cardholder data. Other standards like ISO 27000 provide good baselines for operators to measure their overall security programmes, identify risks and evaluate the controls they have in place.

Capability 7: Reporting & CRM

Reporting about usage and performance of top-up channels must be comprehensive, prompt and reliable in order for operators to efficiently manage prepaid performance metrics. Reports should also cover top-up related customer care calls in order to monitor the migration of users to non-cash channels and track down issues leading to manual case handling.

Reporting also serves as a basis for CRM activities. The top-up solution gathers information about subscribers and their top-up behaviour. Coupled with user registration data, operators can utilize this information for segment marketing or customer care.

Capability 8: Quality assurance and SLA

Quality assurance capabilities guarantee that operations can be monitored against performance metrics such as system availability, transaction duration or call quality for customer service agents. This includes the definition of service incident categories, response parameters and resolution goals.

No matter if the solution is operated in-house or by a third party, clear responsibilities must be in place for defining and monitoring operational as well as prepaid performance metrics. Each unit must understand their own contribution to cost reduction, ARPU growth or other metrics.

The alternative to outsourcing is to work with a variety of internal units and external partners (payment technology company, fraud engine provider, integrator, etc.). The resulting multiple platforms, APIs and vendors will likely make quality assurance and performance metrics management more challenging to manage.

Next Steps on the Route to a Best-In-Class Operator Top-Up Solution

This paper can naturally not provide all the answers as these are too dependent on the specific markets and operators. Even so, Northstream recommends operators to perform a review of their current top-up solution in order to identify to what extent it supports the above-described business requirements and identify potential for performance metrics improvements.

Such a review would typically start with a customized definition of solution requirements based on a market analysis (step 1), followed by the documentation of the current solutions' capabilities and costs across the operator organization (step 2).

A gap analysis identifies the delta between currently supported capabilities and skill level and actual solution requirements (step 3), resulting in a strategy and list of prioritized actions (step 4).

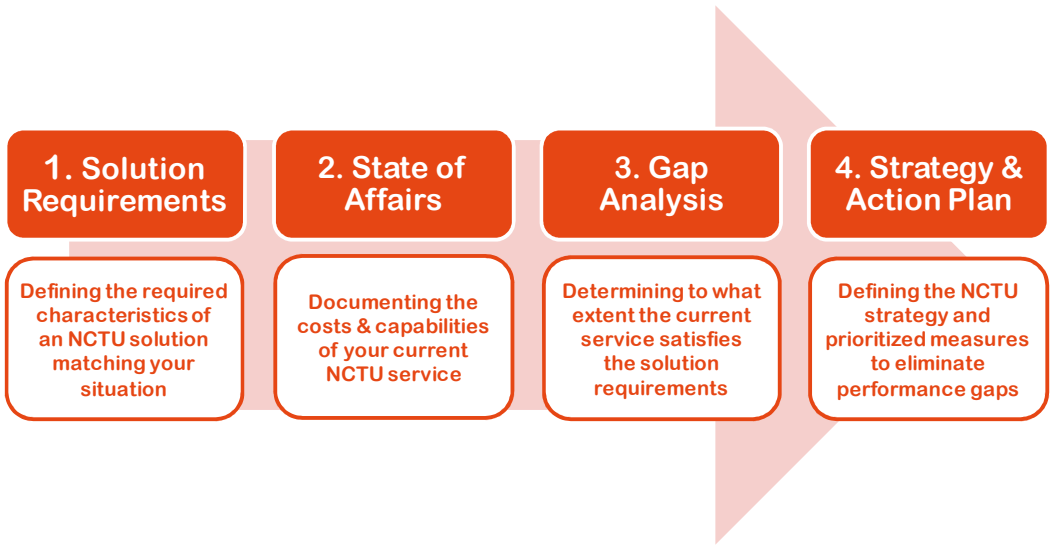


Figure 9: Operator Measures for a Top-Up Service Review. Source: Northstream

Based on a comprehensive strategy for non-cash top-up, the implementation of resulting measures will enable operators to address the numerous areas for optimization in prepaid top-up.

The opportunity is great: Northstream's research and resulting estimation of performance metrics gains suggest that the profitability uplift potential of improvements in the Western European prepaid business amounts to hundreds of millions of Euro – boosting performance in an area that is nowadays core to every operator's business.

7. Direct Operator Top-Up as a Foundation for Mobile Payments

Chapter Summary:

Despite projections of steady market growth, most operators are currently taking a "wait-and-see" approach towards m-payments.

According to Northstream's analysis, this means neglecting key business risks and opportunities: Short-term revenue potential can be enabled through top-up applications resident on the handset, adding m-payment features such as remittance, ticketing or purchase of small goods.

In parallel, direct operator top-up can be part of an overall m-payment solution offered to third parties such as internet-based media resellers or application developers. Failure to act in this area creates the risk of emerging service providers threatening the operators' role as the key billing administrator.

As operators are looking to expand their service portfolios, they are examining the potential for viable mobile payments, and the right strategy for offering them. This is part of the overall ambition to increase the operators' share of overall user spending, the so-called "share of wallet".

Mobile Payments Defined and Forecast

Mobile payments, or m-payments, are commonly defined as financial transactions using mobile technologies as payment enablers and handsets as payment channels. Payment devices can be bank accounts, credit cards or network-based value accounts, such as mobile prepaid accounts.

Mobile subscribers can use m-payments to pay for merchandise, tickets, bills and also their prepaid phone. Remittance, i.e. mobile money transfer, is another upcoming application.

Several analyst houses have made projections about the expected development of the m-payments industry. Gartner expects the market to experience steady growth as the number of worldwide users will rise from 73m in 2009 to 190m in 2012. By then, service penetration in Western Europe is projected to reach 2.5%.[viii]

Unrealized Potential for Mobile Operators

Despite the large expected growth, Northstream has learnt that many operators are taking a "wait and see" approach to m-payments and do not pay full attention towards important trends in this space.

Already today, direct operator top-up conducted through the handset is one of the largest and most viable m-payment services that can be offered in the short term. Operators can build upon this by adding further m-payment features to the top-up application resident on the handset, such as mobile remittance, ordering tickets or purchasing merchandise.

For example, following the recommendations for direct operator top-up gives operators access to customer information, payment device details and handset-based mechanisms for customers to conduct top-up transactions. By layering on additional m-payment services, customers can use that same stored payment information and same application to transfer money to other users and countries, purchase physical or digital goods, pay for a train ticket or pay a bill.

Responding to the Value Shift from Operator Billing Systems to Third Parties

The market trends explained earlier in this paper create a second component that connects top-up to the overarching concept of m-payments. This refers to consumers being exposed to a growing number of third party services providing internet-based communication and entertainment. While many of these services are initially free of charge, most providers are looking for ways to introduce payment methods, as the recent example of Facebook illustrates.[ix]

Providers of application stores, communication services or media download services have similar objectives of enabling purchases through payment channels that are low-cost, ubiquitous and easy to use. Operator-managed m-payment services are an obvious candidate to provide such capabilities to third parties that wish to offer services and content to their customers.

Continuing the current "wait and see" approach creates the threat of operators losing their position as the key administrators of user funds and identities for digital services: Already today,

consumers top-up prepaid funds at different places such as music stores, IP telephony providers or remittance systems.

Operators can use their m-payment capabilities as an asset to monetize the growing usage of these third party digital services: Alone in Western Europe, hundreds of millions of prepaid users possess a network-based mobile account which they regularly use and recharge.

Many Applications – One Payment Provider

Figure 10 illustrates how an m-payment solution enables a common and operator-branded payment experience across various applications.

While many of these applications will be operator-owned, others may be delivered by third parties taking advantage of the ease of use and the ubiquity offered by the m-payment service. Top-up applications resident on the handset can be a key enabler of these advantages.

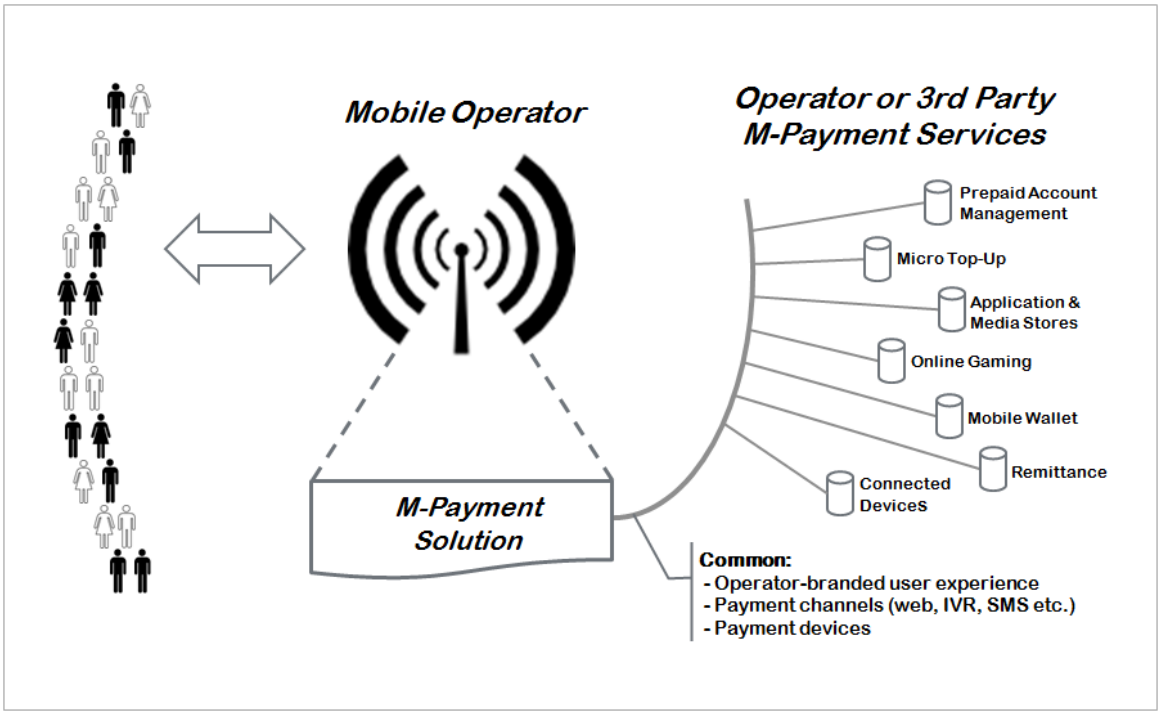


Figure 10: Many Services - One M-Payment Solution. Source: Northstream

This huge potential of m-payments further emphasizes the motivation for operators to promote those top-up approaches that they control - the above-discussed direct operator top-up channels. A customized user experience that is well-aligned across the payment channels offers one process to load any value on the network – a proposition that is appealing not only to end users, but also many third parties.

A Unified M-Payment Ecosystem

Mobile operators want to avoid a fragmented m-payment landscape where subscribers use multiple accounts and wallets from different vendors and platforms. Instead, the vision should be to provide a common payment platform unifying payment details and various payment services.

This creates the foundation for a comprehensive m-payment infrastructure with the operator positioned at the front end of the ecosystem.

A strategic partner can help operators orientate themselves in the m-payment landscape, centralize applications and provide an attractive proposition to end users and third party service providers.

Northstream – Strategy and Sourcing

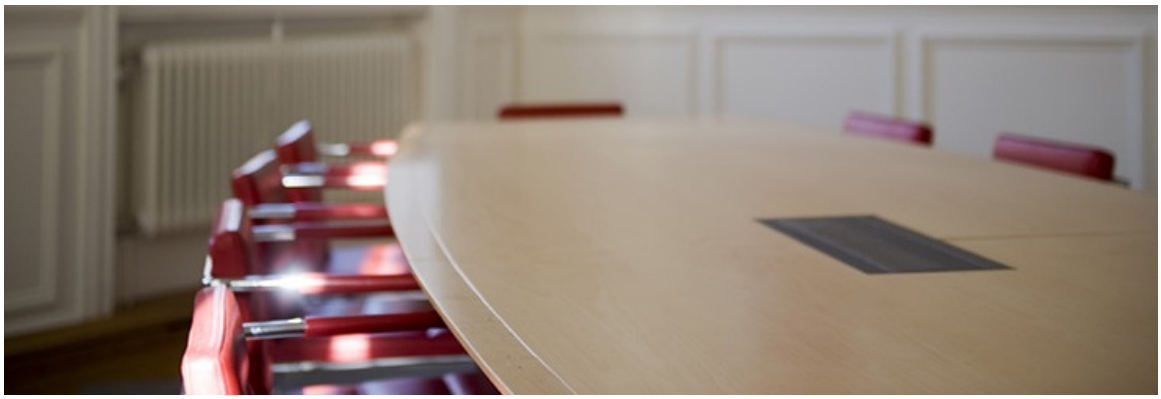
This paper was researched and authored by Northstream, an independent telecoms consulting firm. The work was commissioned by Vesta Corporation, a global provider of electronic payment solutions.

Founded in 1998, Northstream provides business and technology advice to the telecom and media industries. We help our clients through independent and objective analyses, problem-solving and support that are tailor-made to the client's situation. Our work is based on a well-balanced combination of innovation, industry best practices and proven methodologies.

Northstream typically works with:

- Business strategy development and planning
- Strategic sourcing of systems and services
- Technology & product strategy evaluation
- Operational review, optimization and support
- Investment analysis and due diligences

Contact us to learn more about how we can work together in order to improve your prepaid performance metrics through innovative payment solutions.



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