

Direct-to-Bill Payments

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Table of Contents

1	Introduction.....	1
2	Mobile Content – Why It’s Not Happening.....	2
3	Billing for Content.....	4
3.1	Premium Rate SMS.....	4
3.2	Credit Card Payments.....	5
3.3	Service Credits.....	6
3.4	Direct-to-Bill Payments.....	6
4	Commercial Impact of Direct-to-Bill Payments.....	8
4.1	Content Owners.....	8
4.2	Mobile Operators.....	9

Table of Exhibits

Exhibit 1	Comparison of the Revenue Potential of Mobile Content.....	2
Exhibit 2	Revenue Distribution Within Premium Rate SMS Services.....	4
Exhibit 3	Revenue Distribution Within Credit Card Services.....	6
Exhibit 4	Revenue Distribution With Direct-to-Bill Payments.....	7
Exhibit 5	Content Owner Revenue Forecast.....	8
Exhibit 6	End-to-End Content Direct-to-Bill Payment.....	9
Exhibit 7	Mobile Operator Revenue Forecast.....	10



DIRECT-TO-BILL PAYMENTS	Page 1 of 9
	Ref B1080

1 Introduction

Mobile devices have changed peoples' ideas about what content is and how they want to consume it. In a recent study, Nokia found that:

- 44% of the people surveyed used their mobile phone as their main camera,
- 36% regularly browsed the internet using their mobile phone,
- 67% intended to replace their MP3 player with a mobile phone.

Similarly, a recent survey with Valista, a leading provider of payments solutions including Direct-to-Bill charging, found that consumers were enthusiastic about video content and believed that video downloads would become their most popular application within the next two years.

These are significant trends that show that the mobile phone is now at the centre of consumers' digital experience along with PCs and televisions. For many consumers, the mobile phone is rapidly becoming their favoured means of accessing digital content. This is an obvious progression for a device that sits in everyone's pocket and which people feel compelled to customise as an expression of their personalities. Looked at in this light, the future for mobile content looks very rosy and you would expect revenues from mobile content to rapidly overtake voice as the primary revenue generating application. However, the reality is that mobile operators have struggled to stimulate the mobile content market. Mobile messaging and data revenues still represent less than 20% of the mobile industry's total revenues and as little as 15% for a large number of operators.

The outlook from the media industry is just as bleak. Most media companies believe that mobile content can never generate large enough revenues to sustain a major production industry and see mobile as a drain rather than an enhancement to their current revenue streams.

In this white paper, we explore why it is that mobile devices, which have such a strong personal relationship with consumers, have failed to live up to the early expectations of the mobile industry and become a significant digital media. We then look at the main barriers to growth and show that the current use of Premium Rate SMS billing will hinder commercial growth over the next ten years. We conclude by demonstrating that Direct-to-Bill payments provide an attractive alternative to Premium SMS for both the mobile operators and off-portal sites run by the content owners.

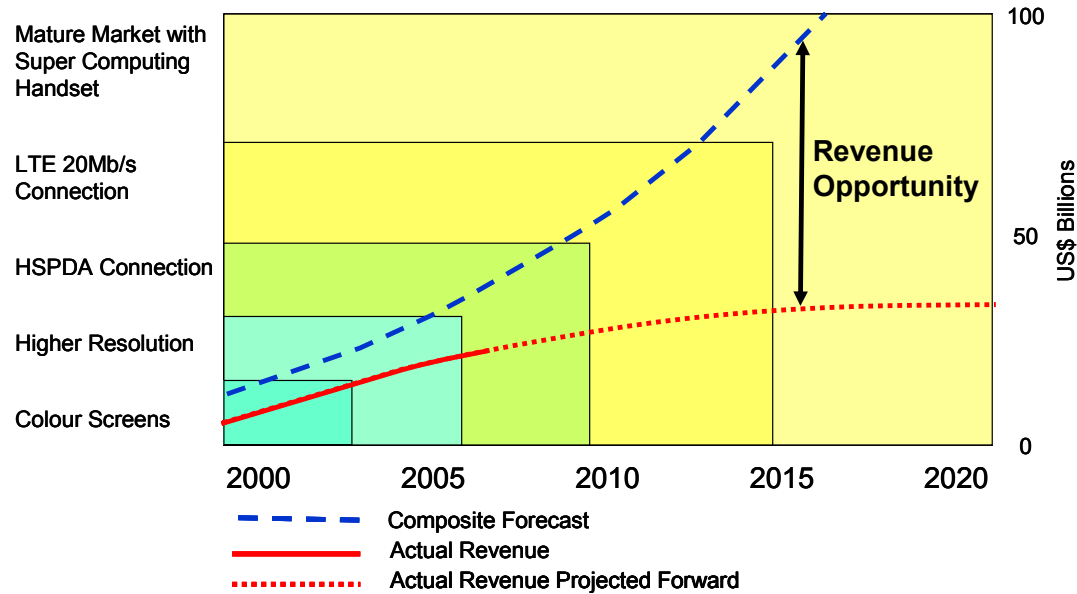


2 Mobile Content – Why It’s Not Happening

The idea of delivering content to mobile phones has been around for nearly ten years and a number of companies, such as Jamster, have developed a significant revenue stream around handset personalisation, using ringtones and screen savers. This has led to speculation that content will become a significant revenue stream and eventually replace voice services as the mobile industry’s cash cow product. Significant investments have been made in building content services over the last six years, both at the network level and in the handset with the introduction of high resolution colour screens. Nevertheless, these investments have failed to stimulate significant market growth, and content revenues continue to lag behind forecast expectations.

To analyse the gap between forecast and actual revenues, we took a basket of mobile content revenue forecasts made over the last six years by leading analysts. We then looked at the actual content revenues reported by the mobile industry and projected this forward. Exhibit 1 shows the result of our composite forecast analysis.

Exhibit 1 Comparison of the Revenue Potential of Mobile Content



As can be seen from Exhibit 1, there is a divergence in the size of actual mobile content revenues from those previously forecast. At one level, this is to be expected in a new immature market and represents a revenue opportunity, but it shows a worrying trend which, if continued, will lead to the premature death of mobile media.

The underlying problem with mobile content is in the business model, and to understand why mobile content has not performed as expected, it is necessary to look at the underlying value chain and business models used to generate and distribute revenues.

The mobile content value chain is comprised of five key elements:

- Taxes which are collected and paid to the government,
- Payments to third party billing providers, who enable content portals to access the operator networks and provide access to the billing mechanisms,
- Portal promotion expenditure undertaken by the content owner, which is needed to raise awareness and interest in the site,



DIRECT-TO-BILL PAYMENTS	Page 3 of 9
	Ref B1080

- Content royalties, which are needed to acquire and / or develop new high quality content for the site,
- Operator charges, which enable operators to recover the cost of the handsets and pay for the provision of their network services.

The value chain can only operate effectively if sufficient revenues are distributed to each of these parties to encourage them to develop their part of the service and increase the overall market size. The present mobile content business, however, has the following characteristics:

- Zero sum game behaviour, in which revenues are restricted and the operators' gain is perceived to be the content owners' loss. As a result, there is little cooperation between these two sides of the industry, with both operators and content owners creating their own mobile portals. Consequently operators building portal services have to pay inflated prices for content, and content owners building off-portal sites have to pay the operators up to 50% of their revenues for the privilege of charging to their subscribers' bill,
- Mobile content services cannot be easily integrated with other digital media, such as TV and the Internet, with the result that the majority of mobile content has to be created and promoted as free standing content, rather than as part of an end-to-end content mix,
- Billing and revenue collection is primarily driven through Premium Rate SMS billing. This is an unsatisfactory process that is both complex and difficult to audit,
- Customers are dissatisfied with this purchase process which is difficult to use and leaves them unable to identify what they purchased,
- Content owners are dissatisfied with both the inflexibility and cost of the process,
- Mobile operators are dissatisfied by the revenue leakage that occurs either fraudulently or simply because users become bored by the purchase process and terminate the transaction.

Most of these problems can be traced back to the administrative processes and how the original mobile content services were created in the late 1990's. At this time, content was relatively simple and delivery was restricted to SMS messaging. Consequently, operators were able to create stove pipe solutions for each application, using Premium Rate SMS. Since then, both, the handset technology and the content have become much more sophisticated, but the original billing and administration systems have remained more or less unchanged. It is the complexity and inflexibility of these content charging mechanisms that now threaten to halt the growth of the mobile content industry.

Thus, as has so often been the case in telecommunication services, the charging and billing mechanisms have become a pivotal point around which the success or failure of the industry hangs.



3 Billing for Content

Content owners have the choice of four main billing options when creating a commercial off-portal content site. They are:

- Premium Rate SMS billing,
- Credit card billing,
- Service credits,
- Direct-to-Bill.

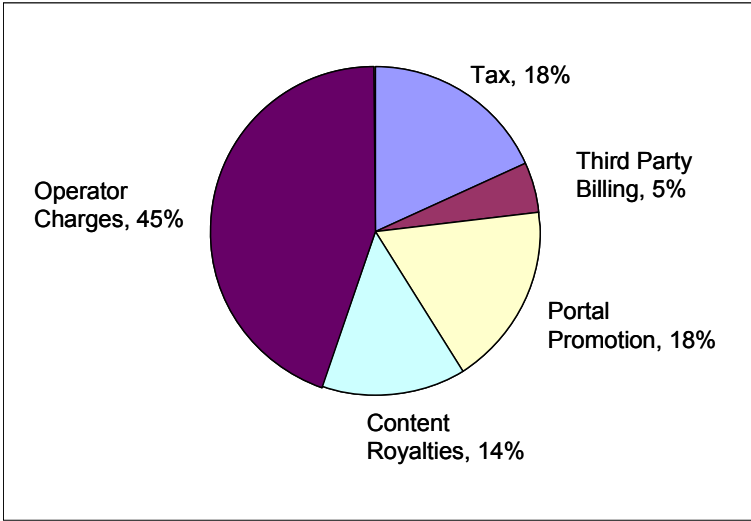
3.1 Premium Rate SMS

There are a number of different forms of Premium Rate SMS billing, but the most commonly used form is reverse-billing in which the user pays for receiving a premium rate message, rather than for sending one. The transactions are mediated by third party billing SMS providers, who interconnect with the mobile operators and are issued with short code numbers. Content companies rent the short code numbers which they then advertise to consumers.

The billing process begins when the consumer sends a message to the short code, this will then generate a series of messages to the user's handset, containing the content and generating a reverse SMS billing event which will be added to the user's bill or deducted from the user's prepaid credit.

Exhibit 2 shows the typical revenue distribution for these services, it illustrates that less than one third of service revenues are distributed to content creation and service promotion, with the vast majority of the remaining revenues being retained by the operators.

Exhibit 2 Revenue Distribution Within Premium Rate SMS Services



This revenue model has two consequences for content owners. They are:

- The majority of content owners, particularly the large studios, are not willing to risk their content and brand identity on services where half the revenues go to the mobile operators,



DIRECT-TO-BILL PAYMENTS	Page 5 of 9
	Ref B1080

- Operators are viewed by the content industry as being greedy and responsible for hindering the development of content services.

Conversely, the operators have to take a significant slice of the revenue share, in order to cover the cost of:

- Handset subsidies and building high capacity networks,
- Large call centres to handle customer complaints,
- Revenue leakage through failure to deliver services or an inability to charge customers the correct amount due to the handset being turned off or incorrect billing settings,
- Sales involved in distributing prepaid top-up through retail channels,

Consequently, there is a sense of mistrust between the mobile operators and the content owners.

3.2 Credit Card Payments

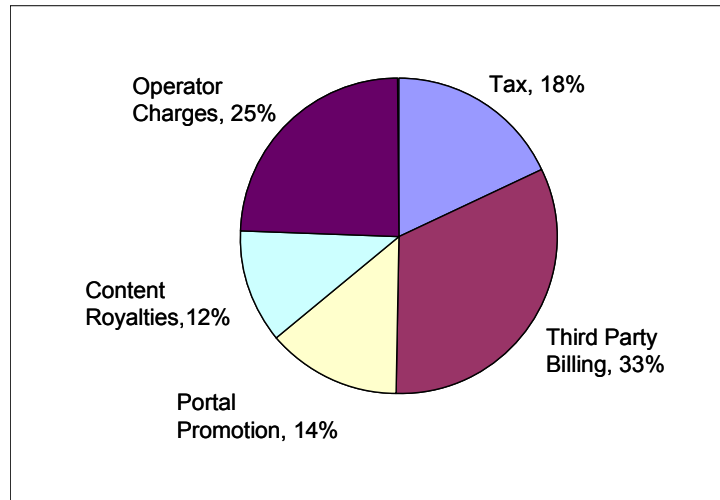
Credit card payment is the most easily understood form of transaction both for consumers and content owners. It simplifies the administration of mobile content services and makes it comparatively easy to bill for content services. However, there are a number of significant drawbacks to this form of billing which include:

- Credit card transactions are relatively expensive and unsuitable for small transactions, because of the minimum charges, which results in up to a third of the transaction value being taken in credit card transaction fees,
- Credit cards lock out anyone who does not have access to a credit card, such as the youth market, or is unwilling to reveal their identity to a potentially unknown provider,
- The credit card transaction does not involve the operator in the value chain and reduces the operator to the level of a simple bit carrier. Consequently, mobile operators are unwilling to provide support for this form of transaction,
- The requirement for subscribers to register card details or enter them each time during a transaction.

Each of these drawbacks is a barrier to customers completing purchases on off-portal sites. Exhibit 3 shows the revenue distribution on credit card transactions.



Exhibit 3 Revenue Distribution Within Credit Card Services



Nevertheless, credit card transactions are comparatively simple and free off-portal sites from their dependency on the Premium Rate SMS.

3.3 Service Credits

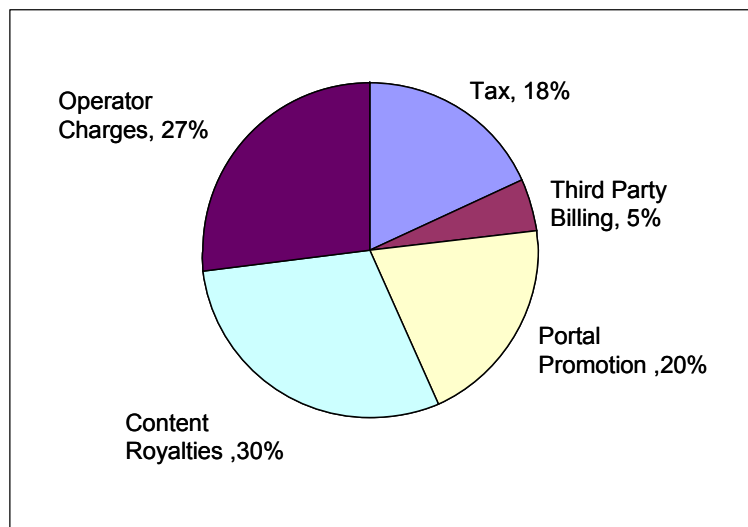
Service Credits are a form of prepaid service that is paid for by the consumer, using their credit card. The customer is then able to spend credits on small purchases without incurring the large service charges encountered on credit cards. Naturally, the user still has to have some form of access to a credit card, but it is less frequent and more manageable. Credits have been used effectively by a number of leading mobile content portals, but they are only really effective if there is one clear market leader that most people are prepared to use. Otherwise, the payment systems become fractionated and unworkable.

3.4 Direct-to-Bill Payments

Direct-to-Bill payments use the operator's billing system in much the same way as Premium Rate SMS. Unlike Premium Rate SMS, however, it does not involve a series of complex network messages that can lead to revenue leakage. Purchases can be uniquely itemised on the user's bill, thereby reducing complaints and reducing operator costs. This in turn allows more resources to be directed to content creation and promotion. Exhibit 4 shows the overall revenue model.



Exhibit 4 Revenue Distribution With Direct-to-Bill Payments



Direct-to-Bill payments:

- Significantly reduce the complexity of the charging mechanism by removing unnecessary SMS messages,
- Increase the flexibility of the system to incorporate marginal charging, discounts and offers,
- Make it easier to audit the payment system and ensure that the content mediation is correctly undertaken,
- Enable itemised bills to show exactly what content has been purchased by the user, thereby reducing billing disputes,
- Position the mobile operator as a customer service manager, rather than a simple carriage provider,
- Enable content companies to integrate mobile services into a seamless cross media portfolio.

Direct-to-Bill payment has many technical and commercial advantages, nevertheless, it will only replace Premium Rate SMS if it can be demonstrated to be commercially attractive for both the content owners, aggregators and the mobile operators.



4 Commercial Impact of Direct-to-Bill Payments

As discussed earlier, Premium Rate SMS payments suffer from revenue leakage and lead to a zero sum game in which revenue is wasted on service administration, rather than content creation. As a result, both the operators and the content owner act to maximise their revenue share, rather than to increasing the overall revenue take. To be successful, Direct-to-Bill payment needs to break both sides of the industry out of this zero sum behaviour and enable it to take advantage of the revenue opportunity identified on Exhibit 1.

To understand how this can be achieved we need to look at the commercial impact of Direct-to-Bill payments on both the content owners and the mobile operators.

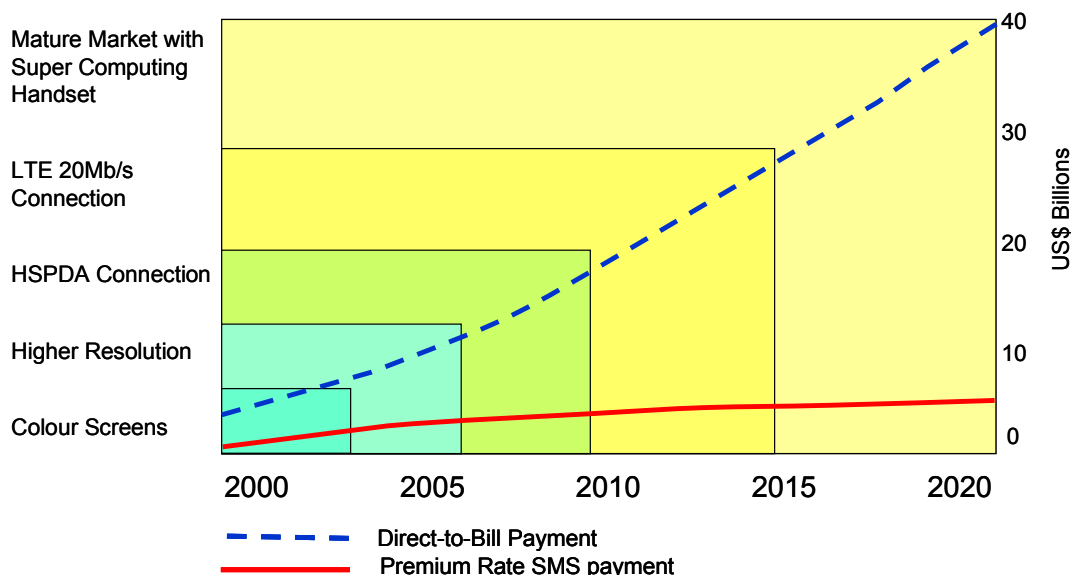
4.1 Content Owners

Direct-to-Bill payment significantly reduces revenue leakage by preventing fraud and providing customers with clearer itemised bills, thereby reducing the volume of customer complaints that have to be handled by the mobile operator. This results in a significant reduction in the cost of handling customer complaints and lower revenue leakage.

The additional cash can be used to rebalance the revenue distribution between the mobile operators and the content owners, thereby creating a virtuous circle in which content owners see an advantage in investing in content creation and promotion of content. This in turn generates more consumer demand, leading to increased revenue.

We have incorporated this increase in cash flow into mobile content forecasts shown at the beginning of this white paper. The effect of this change, from Premium Rate SMS billing to Direct-to-Bill payment, on the content owners revenues is shown in Exhibit 5.

Exhibit 5 Content Owner Revenue Forecast



As would be expected, Direct-to-Bill payments dramatically increase the revenues generated by content owners during the major growth phase coinciding with the introduction of HSDPA and later

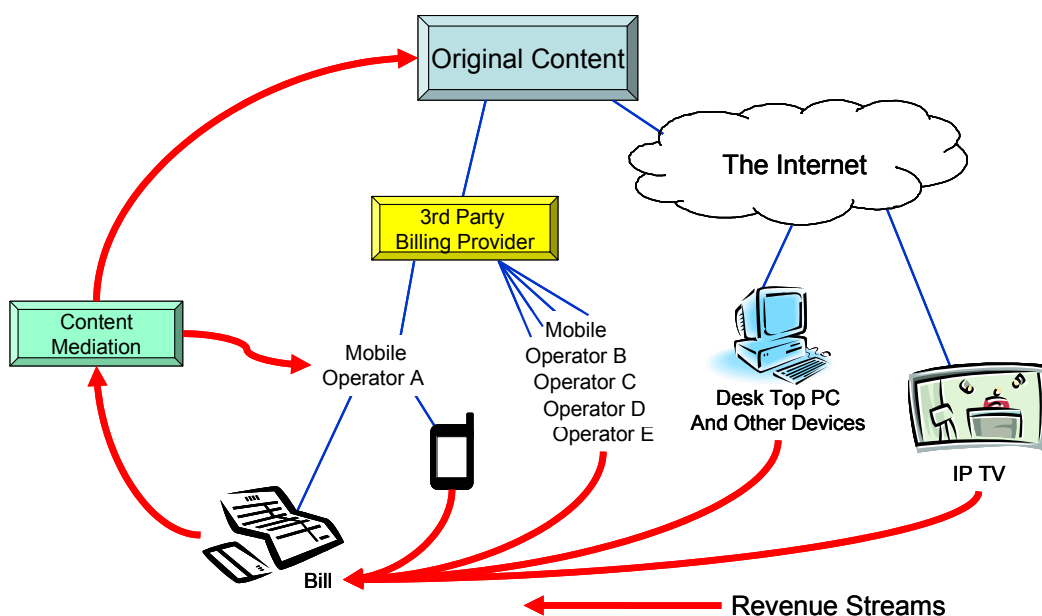


the Long Term Evolution described by 3GPP. By 2020, Direct-to-Bill payments will have expanded content owners' revenues from US\$5 Billion to nearly US\$40 Billion.

Thus, content owners creating off-portal sites need to work with third party billing providers that have trusted connections to the mobile operators billing systems and are able to offer Direct-to-Bill payment.

In addition, media companies need to create a brand image across multiple digital media. To do this, they need to create seamless media and billing ecosystems that run across PCs, TVs and mobile phones, in which content is purchased in one environment and consumed in another, using a common billing function. Direct-to-Bill payments enable this to happen and create a seamless environment in which content can be delivered to multiple platforms. Exhibit 6 shows a simplified model of how Direct-to-Bill payments fit within this end-to-end media platform.

Exhibit 6 End-to-End Content Direct-to-Bill Payment



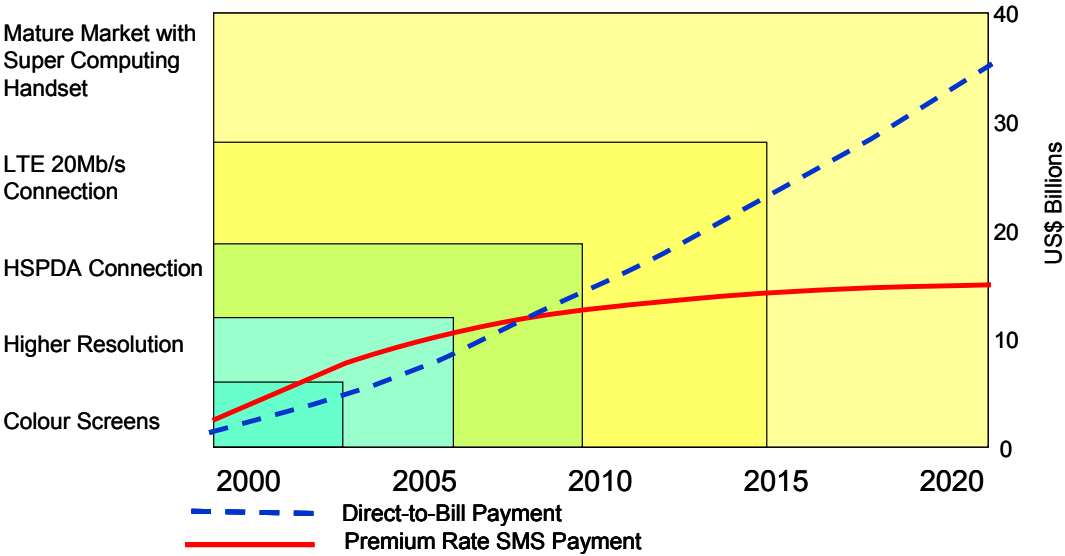
4.2 Mobile Operators

So far, Premium Rate SMS billing has been promoted by the mobile operators as a core element in their strategy for the off-portal sites run by content owners. Applying our revenue analysis model to operator revenues shows that Premium Rate SMS billing has been effective in protecting operator revenues during the growth phase of the industry. However, continued reliance on Premium Rate SMS will now lead to market stagnation, as a lack of investment inhibits further growth.

In contrast, Direct-to-Bill payments will encourage market development and stimulate revenue growth both for the mobile operators and the content owners. Thus, by 2020 the operator revenues generated from Direct-to-Bill will be more than double the amount they can expect from Premium Rate SMS. The best interests of the mobile operators are therefore served by encouraging Direct-to-Bill payment schemes. Exhibit 7 shows the details of our operator forecast.



Exhibit 7 Mobile Operator Revenue Forecast



In addition, Direct-to-Bill payment extends the reach of mobile operators to administrative systems outside of the traditional mobile market and enables them to integrate converged fixed mobile content services on their billing platform. This is a new source of revenue that will be of strategic importance as operators attempt to create converged fixed mobile services, and will allow mobile operators to provide consumers with a consolidated billing for broadband content delivered to PCs, Internet TVs, as well as mobile phones.

