CTI GROUP

White Paper

Telco Ebilling; Myths and Truths – The White Paper

An overview of current thinking on ebilling in the Telco corporate sector – including a calculator for measuring ROI, created from real world examples.

June 2009

About CTI Group

CTI Group (Holdings) Inc (formerly known as Ryder Systems), is an international provider of electronic invoice management. CTI Group's product suites offer a full array of solutions from call recording and call management to ebilling and analytics. CTI Group's ebilling products are used by some of the leading service providers including three of the top five European mobile operators.

With over 20 years of ebilling experience we're experts in allowing business users and consumers to view their bills the way they'd most like to. From being pioneers of CD Rom bill production to the latest incarnation of hosted, java scripted portal based technology, we assist billing and IT departments worldwide by providing Telcos with the tools they need to make ebilling a reality.

CTI Group has produced an overview of current thinking on ebilling in the Telco corporate sector - including a calculator for measuring ROI based on real world examples.

Warren Drummond
Head of Product and Marketing

The case for ebilling and associated analysis tools for telecoms companies has been described as ‘compelling’. Then again, take-up rates have been described as disappointing. Confused?

As ever, the truth lies somewhere in between. There are some remarkable success stories and there have been some failures. There have been some staggering returns on investment. And there have been disappointments. In other words, there are lessons to be learned.

The purpose of this White paper is to cut through the misinformation to give a definitive assessment of what *has* worked, what has *not* worked, and *why*.

Biased? Well, we do supply ebilling and analysis solutions to Telcos, so we must be. It’s up to you to decide. We are happy, however, to take up any challenge to our findings. We have gone to remarkable lengths to avoid hype. In our conclusion, we provide guidance for you to make a conservative assessment of both the direct and the ‘soft’ benefits for your own organisation.

One thing we can promise. This White Paper will include information that you may not have had the time or resources to research for yourself. It also includes real-life experiences of European Telco companies. Our aim has been to highlight how significantly the Telco ebilling landscape has changed over the last few years and provide you with a useful example of ROI.

I do hope you find it useful.

Warren Drummond
Head of Product & Marketing
CTI Group.

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The case for ebilling

The costs of providing online and telephone customer support are increasing, while numbers of staff working are decreasing. Anything that helps end users to 'help themselves' can deliver direct savings

The costs of providing online and telephone customer support are increasing, while the cost pressures on Telcos mean that the numbers of staff working in this area are decreasing. Anything that helps end users to 'help themselves' can deliver direct savings to the Telco.

The case for ebilling has, however, suffered from over exposure, being promoted as something of a 'cure all'.

For all the hype, however, ebilling does have undeniable strengths, particularly within one of the most competitive market sectors - telecoms.

With the promise of a fast ROI, the decision should be an easy one. Particularly, if as an example, you consider the experience of one large multi-national service provider who exceeded 40% ebilling adoptions in less than 36 months – more than 20% paper turned off and 70% of consumers paying electronically.

These are the arguments commonly put forward in support of ebilling (we do examine them more closely later in our 'Truth' section):

- Decimating the costs of traditional postage
- Creating a profit from billing
- Reducing customer support costs with fewer calls to the call centre
- Improving customer retention with improved customer satisfaction - significantly reducing churn
- Growing the portfolio - creating new business opportunities through differentiation
- Contributing to the Green Agenda and Corporate Responsibility – more differentiation and added value
- Improving customer experience
- Opening new marketing message channels with non-invasive, relevant information
- Enriching customer experience to build brand loyalty
- Creating a moderate reduction in repayment cycle
- Generating a fast, measurable ROI

We will scrutinise these claims later. First, though, let us look at the counter arguments….

The case against

The most disturbing message is one of poor take-up. If it's so good, why wait?

A sweep of the internet around the subject of ebilling and Telcos comes up with a real mixed bag, ranging from thinly disguised promotional material to reports of poor take-up.

The most disturbing message is that of poor take-up. If it's so good, why wait?

We started by asking our customers what they believed were the concerns – valid or otherwise – that were inhibiting some Telcos from adopting an ebilling strategy. Ranked in order of importance, they were:

A Survey of CTI customers in 2009 reported that the provision of eBilling and analysis, rather than threatening revenues, opens up the opportunity to win more business and satisfy (retain) existing customers

1. **Increased transparency of charges will lose the Telco revenue**. By delivering an ebilling and analytics solution, the Telco makes it easier for its customers to understand their spend, which may highlight areas where cost savings can by identified. These savings translate into a loss of revenue for the Telco. This has been a big issue for Telcos and often cited as a reason not to deploy an ebilling and analytics service. In fact, it does not stand up to scrutiny. Most large organisations *already* invest time analysing their spend, whether paper or electronic bills. By offering a solution that makes it easier and cheaper for customers to perform analysis, the Telco in fact gains credibility and loyalty.

2. **No immediate cost savings.** Ebilling is perceived as an additional overhead, with no immediate return. In fact, most Telcos *do* make significant cost cuts, with some even selling the service as added value (see appendix case study). Others who have undertaken successful implementations have reported remarkable *indirect* returns. The secret is to make a full evaluation of peripheral and incremental savings – see our example guide to assessing ROI at the end of this report.

In practice, eBilling can become the quickest mechanism Telcos can use for driving integration - giving customers a single view across multiple invoicing systems

3. **The cost and hassle of integration**. Many Telcos, particularly following convergence, are suffering from a plethora of legacy systems that frustrate the production of a consolidated bill. Integration can be a huge hurdle. It can also become an excuse for doing nothing – *the "Let's wait until we have a common system before addressing ebilling"* syndrome. In practice, companies have found that ebilling can become the quickest mechanism for integration, giving customers a single view across multiple invoicing systems.

4. **The poor performance of DIY solutions**. In-house developed ebilling systems have a mixed history. This is not a reflection on the concept of ebilling – more a comment on the practical issues involved with in-house development. Most internal IT departments are suffering overload from maintaining legacy systems. Having to cover the whole spectrum of IT development and maintenance, they often do not have the opportunity of meeting the whole range of issues and potential solutions associated with ebilling. Longer term, they suffer from people having been moved on to delivering the next project, resulting in skills becoming dispersed or even lost. Ongoing development and maintenance of the ebilling applications inevitably suffer.

5. **The 'too busy' syndrome**. With new services to provide and, possibly, legacy systems to replace, IT departments can be excused for sidelining projects they believe do not create extra chargeable revenue. Projects end up at the bottom of the pile. What they often don't recognise is the strong business case that can deliver quick bottom line savings and fast incremental revenue from ebilling. And it can be achieved without any impact to the corporate IT strategy. For many companies, the solution is outsourcing – whether employing a fully hosted solution or an outsourced managed solution on-site.

Our research has found that Telcos adopting an eBilling strategy ranked 'customer adoption rates' as the important issue they needed to address

6. **Poor adoption rates**. This is the most frustrating rationale for doing nothing. A self-fulfilling prophesy based on long outdated information and a lack of knowledge on adoption rates. Our research has found that Telcos adopting an ebilling strategy ranked 'customer adoption rates' as the important issue they needed to address.

The truth – somewhere in between

The business sector represents the more straightforward case – faster to convert and easier to articulate customer benefits

The internet has much to answer for.

Over time, the net has become awash with *dotsam* and *netsam* — outdated objects on the Web (like flotsam and jetsam). Much of the misinformation regarding ebilling comes under this category.

The truth is that ebilling and associated analysis is delivering significant benefits for Telcos of all sizes, across both their consumer and business sectors.

The two environments, however, are very different. The consumer marketplace faces particular challenges, not least of which is the reluctance of some customers to adopt an online lifestyle. It has been the reluctance of the consumer sector that has clouded the industry's perception of ebilling.

The business sector represents the more straightforward case – where it is faster to convert and easier to articulate customer benefits.

For most Telcos, the corporate space represents a significant part of their revenue, or it is an area of potential growth in a highly competitive market. For these reasons, this paper focuses on the business user sector.

Benefits for the Telco

The key benefits derived from ebilling services for the *service provider* are variously described as:

- A tool to reduce customer churn
- Reduced customer support costs
- A means of attracting new corporate business
- A visible display of Corporate Responsibility – addressing the green agenda
- Dramatic 'physical' cost reductions
- Revenue potential from affiliate marketing

Let us examine these arguments in turn.

The truth about customer churn

"Customer satisfaction with telecom billing systems, especially for mobile services, is a key to controlling customer loss rates"

TM Forum UK Telecoms Benchmarking study (2008)

As the Telco marketplace becomes increasingly competitive, customers are more willing to exercise their purchasing power. Around 75% of the 17 to 20 million subscribers signing up each year with wireless carriers have transferred from competitive carriers – customer churn - source: Dunn and Bradstreet

In 2006, the Customer Respect group conducted a survey of UK telecoms companies and reported 'customer churn' as one of the most pressing issues for the industry.

Unfortunately, there is little consistency in the measurement of churn and, because of the potential impact on share price, rates are sometimes 'massaged' to make them appear more positive - source: Yankee Group

According to Dunn and Bradstreet, *annual* churn rates for telecommunications companies sit in a range of between 10% and 67%. The generally accepted industry average is around 35%.

Average performers logged 16.21% of inquiries as billing-related while leading companies reported billing inquiries at 1% of all inquiries

There are two big hits associated with churn – lost future revenue and the cost of customer acquisition. Claude Borna, senior consultant in the communications industry, Deloitte Consulting, used to cite customer acquisition costs for carriers ranging between $300 and $600 in sales support, marketing and commissions – and that was almost a decade ago.

In 2001, Yankee group estimated the cost of acquiring a new client at seven times more than the annual cost of retaining an existing subscriber. Bain & Co suggests a 9:1 ratio. Take your pick.

A recent benchmark survey (2008) of UK Telcos, conducted by TM Forum, cites frustration with billing systems, especially for mobile services, as a major contributor to customer loss rates.

Benchmarking showed a large gap between the top and average billing inquiry rates among service providers. Average performers logged 16.21% of inquiries as billing-related while leading companies reported billing inquiries at 1% of all inquiries. Significantly, good performers in this area show lower customer loss rates with less effective performers showing high loss rates.

"Implementing a bill management package has been a great 'customer win-back' solution for Vodafone Ireland and has proven to be very popular with our customers”

Post Paid Billing Development Manager Vodafone Ireland

The report noted: ***“Since the largest cause of customer services calls for mobile subscribers is for billing-related issues, investments in streamlined billing plans can generate a good rate of return,”***

The McKinsey Quarterly went further, putting a figure to the value of self-care. They suggest that an average increase in customer retention for service providers of one to two percent can be derived directly from online self-care – source ‘Automated Self-Service Comes to Telcos’, McKinsey Quarterly, 2005

The truth about attracting new business customers

"Our eBilling Analysis solution has proved to be a key differentiator, instrumental in securing high-profile, new business customers."

Verizon Business

The telecommunications marketplace has become even more fiercely competitive, putting differentiation high on the agenda. Within the business user space, it is becoming increasingly difficult to demonstrate competitive advantage through pricing or network availability/reliability. The room for manoeuvre has been significantly eroded.

One powerful way that Telcos can differentiate themselves from competitors is by offering valuable, non price-related services.

Business users value the ability to receive their bills electronically, ready for uploading into their accounting applications. The popularity of workgroup processing, particularly in larger corporations, creates a demand for easy distribution and navigation of billing information for authorisation, analysis and cost reporting.

For such companies, the benefits of being able to consolidate billing across multiple accounts, to review across regions, monitor personal usage and reduce opportunities for fraud or abuse of privileges are compelling. Something that is incredibly labour-intensive in a paper environment, yet demonstrably achievable and highly automated in a well designed ebilling environment.

It has taken some time to reach the tipping point, but increasingly the whole marketplace is reporting that bill management solutions are becoming a ‘must have’ item on tender documents for new or renewal contracts.

The truth about inbound customer support costs

A recent Ascent Group survey puts the average cost per billing enquiry for US Telcos at $10.06

CRM solutions vendors generally make extravagant claims about customer care costs, but within the telecoms industry it is easy to measure the number of customer services enquiries and the percentage that are billing-related.

At the end of 2007, the Ascent Group conducted research into the management of inbound call centres. For the US Telecoms sector, they arrived at an average cost per call of $10.06 - source: Call Centre Strategies 2007, Ascent Group.

Our own assessment, based on anecdotal client experiences, puts the UK cost at approximately £10 per call which seems reasonable given the research quoted above.

Furthermore, according to Seibel/Oracle, a staggering 60-90% of all customer service inquiries relate to invoices, and this is borne out by our own analyses with clients prior to the introduction of ebilling. Think of it as the other face of customer churn. The *cost* of fielding billing inquiries.

As long ago as 2003 Gartner published figures for call centres handling ***disputed*** business bills, as opposed to simple invoice enquiries. They were suggesting *"Approximately 13 percent of business invoices are disputed at a cost of $55 each for manual resolution, vs $27.50 for resolving the dispute online"* – A Litan, Gartner: The Big Payoff of Web Billing and Online Customer Service

The analysis and flexible reporting options available with a modern ebilling solution encourages self-service, with a significant reduction in the number of billing queries and associated time spent in resolution by Telcos.

As an example, we act as first line support to 6,000 corporate accounts on behalf of one of the world's top three telecoms companies. This represents around 1.5million handsets. Supporting this large user group results in an average of only 180 calls per month.

The truth about Corporate Responsibility – addressing the green agenda

It has nothing to do with saving rain forests (most – though not all – paper comes from sustainable forests)

In the CTI survey of UK Telcos (May 2009), the ‘benefits to the environment’ of turning off paper bills were rated second only to cutting costs - and more important than helping to win new clients.

Environmental issues are grabbing the headlines and are exercising the minds of consumers. A whopping 79 percent of UK respondents in Landor’s 2008 ImagePower Green Brands Survey say they will maintain or increase their level of spending on green products or services in the coming year.

No surprise, then, that Telcos are waking up to the Green Agenda, the most recent example being Nokia’s unveiling of the world’s first recyclable phone.

So, how strong an argument is Telco ebilling in the debate? And what business benefits translate to the Telco and their corporate users?

Paper manufacturing is a remarkably filthy, polluting process, even when recycling is added to the equation

It has nothing to do with saving rain forests (most – though not all – paper comes from sustainable forests), but it *is* to do with pollution. Paper manufacturing is a remarkably filthy, polluting process, even when recycling is added to the equation.

- The paper industry is a major source of toxic chemical pollution, especially toxic solvents and chlorine compounds used to bleach and delignify pulp.
- Worldwide, the pulp and paper industry is the fifth largest consumer of energy, accounting for 4 percent of all the world's energy use – a significant contributor to air pollution
- The pulp and paper industry uses more water to produce a ton of product than any other industry.
- There are associated hidden damages due to fuel extraction at source - oil drilling, coal mining, transmission lines etc.
- Discarded paper is a major component of many landfill sites, accounting for about 35% by weight of municipal solid waste (before recycling).
- Most of the above arguments are just as true for re-cycled paper as for new.

Probably more than most ‘green’ initiatives, the reduction of paper usage and the associated logistics of physical delivery are easily associated with protection of the environment (in our next ‘truth’ we look at the volumes of paper associated with telecoms billing).

We believe that such strong arguments, properly articulated by telecoms suppliers, could become a potent marketing factor in three areas:

1) Improving adoption rates for ebilling with both consumers and corporate users (boosting ROI further/faster)
2) Providing a powerful Corporate Responsibility message to investors and customers (boosting Public Relations initiatives)
3) Adding similar value for business users, helping them to meet their Corporate Social Responsibility objectives.

The truth about ‘physical’ cost reductions

The industry quoted figure is for mailing and manual processing operating costs to be reduced anything between 65% and 85%

It is easy to make the case for ebilling in the corporate environment, with the cost reductions achieved by delivering documents online rather than the traditional print and post method.

SMEs frequently receive over 100 pages for itemised telecoms bills and statements, with large businesses often receiving thousands of pages. Once the cost of postage is added, ‘hard’ cost savings can quickly justify the move to ebilling. The industry quoted figures for reduction in ‘operating costs’ of mailing and manual processing are between 65% and 85% - with some ebilling suppliers going so far as to suggest 90%.

So, what is the problem?

We have already touched on this. Potentially, the problem relates to the *rate* of customer uptake. Figures bandied around the industry suggest an average of just 15%. Is this true and how long does it take to achieve this figure?

From our experience, with strong marketing initiatives in place, companies are able to achieve 60% adoption over a two to three year period.

In fact, uptake figures are muddied by the consumer sector. In the business sector, rates vary enormously by company – a reflection of how seriously Telcos have applied themselves to promoting the service to business users.

At one end of the spectrum, some service providers have simply switched customers wholesale. Others take a phased approach.

From our experience, with strong marketing initiatives in place, even with a phased introduction companies are able to achieve 60% adoption over a two to three year period.

The truth about revenue potential from affiliate marketing

The marketing opportunities associated with ebilling have been promoted extensively. It is not difficult to appreciate the potential within the consumer space, but how practical and how relevant is ebilling as a marketing channel within the corporate sector?

Historically, the argument for electronic billing centred on corporate portals. If people have to sign into the portal to retrieve billing information, this should offer an ideal opportunity to invite visitors to explore the portal further, guiding them to corporate products and services, or relevant affiliate offerings.

In practice, not only do *consumers* resist having to log into an account, many corporate managers exhibit the same resistance.

A much better approach than the 'pull' concept of account portals, is a hybrid approach driven by 'push' email invoicing and reporting. The secure corporate ebilling service provided by CTI, for example, still offers all the benefits of multiple users selecting just those areas relevant to them, including approval 'sign off', all with overall control by the finance department. So easy to use that no training is usually required. The real benefit, though, is that a 'push' approach offers significant opportunities for highly focused marketing, advertising and affiliate messages that are also monitored electronically.

How to win corporate business

The secret of marketing the concept of ebilling and Analytics successfully is exactly the same as marketing any other service – *thinking from the other side of the table*. Thinking like a customer and articulating the benefits in the same way the customer thinks and talks.

All backed up with strong proof.

The customer case for analytics

For the Telco, the strongest sales aid available is a demonstrably easy-to-use, single environment that can be completely bespoke to each business customer's operational culture

The case for business users to buy into ebilling from their service provider really revolves around the *analysis* and *navigation* possible with a well designed ebilling system.

So, what exactly are business users seeking?

They want to be to monitor, manage and control spend and usage across the enterprise. That means consolidation across departments, regions and cost centres. Secure, multiple user access for department managers. It means having top-level 'dashboard' presentation to identify trends and traffic patterns, with early warning of out-of-line situations using 'alerts' and watch points. All with the ability to drill down to multiple layers of detail, easily and on-demand.

The increased complexities in telecoms delivery – fixed lines, mobiles, broadband, content, virtual networks, VOIP, remote working, messaging, wireless etc – are all driving a need for greater transparency and simplicity when monitoring and managing usage and costs.

And business users are seeking analytics that are *tailored around their own operating culture*. No rigid 'out of the box' reporting.

For the Telco, the strongest sales aid available is a demonstrably easy-to-use, single environment that can be bespoke to each business customer's operational environment.

The customer case for business/personal usage analysis

"Identifying personal usage is essential for many of our customers.

SplitBill has reduced the need for paper and enabled customers to monitor, review and classify usage quickly, simply and efficiently.

Take up has been positive and customer response enthusiastic."

Vodafone UK

Identifying personal usage of corporate facilities, such as mobile phones, is a key element in the whole bill analysis arena.

The business case for splitting corporate/personal usage is convincing, and offers a powerful sales tool for Telcos in the commercial user space.

'Time theft', or personal abuse of communication facilities, is now widespread in most businesses. Most customers splitting company/personal billing realise a payback period of four to six months, after which the cost reductions and improved productivity increase the company's operating margin.

The Vodafone experience

In November 2006, Vodafone announced the adoption of CTI's own Split Billing offering within its own organisation. The business case was based on extensive surveys they had commissioned. Vodafone reported:

> *In an organisation with 500 handsets, typically, 15% of calls made on a company-provided handset are personal calls* **- Vodafone Research**
>
> *1000 hours a month, in a business with 500 handsets, are typically spent by employees trying to manage, identify and recover personal call charges* **- sample base 7,500 companies with more than 250 employees.**
>
> *This represents an administrative burden costing at least £64,200* per year* **- Vodafone research undertaken by QED, using the minimum wage as benchmark.**
>
> *Applying the minimum wage

To quote from Vodafone's press release at the time:

Split Billing is an online service that lets employees see their monthly call record and mark each call as either business related or personal. This gives businesses an easy and fast way to manage the process and cut admin costs by as much as 90%, freeing up valuable time.

Elaine Roberts, Head of Enterprise Marketing at Vodafone UK, explains: "In our experience many businesses are frustrated by the time it takes to manage hundreds of paper bills and the time it steals from employees who must sift through the bills and highlight personal and business calls.

'We estimate that on average 15% of the calls made each month could be personal. Many employers have agreements in place with employees where they agree how personal calls made on a work mobile are paid for, but it can sometimes be a difficult process to manage. Split Bill eliminates all of the hassle and makes the administrative process easier to manage for everyone."

BT Mobile acknowledges the business end-user needs: *"We wanted to provide our customers with a solution that allows them to implement their mobile policy automatically, offering them the tools to track and recover personal spend in a quick and efficient manner…. SplitBill has been very successful in delivering this."*

The customer case for avoiding fraud or misuse (true-life horror stories)

Cleaners in one company were being paid to call premium numbers at the start of their cleaning round and then hang up when they went home

Analysis offers much more than just ease in allocating cost and usage. It can also be a powerful tool for identifying fraud or abuse.

It is often during the implementation of an ebilling and analytics solution that instances of fraud or misuse is discovered – offering an early payback.

These true-life horror stories from the CTI archives underline the business case for better control mechanisms:

- A staff member of a CTI customer tagged £1,800 worth of calls as personal in one month, once split billing was introduced.
- Another company that installed a CTI e-billing and Analysis solution found that of their 851 handsets, 146 were unused. The rental charge for these phones alone came to £1052.89
- With a CTI e-billing & Analysis Solution installed, one company identified a single handset that had sent 14,528 text messages in just one month
- Another company discovered Internet usage of £231 for a two night business trip.
- A business user needed evidence that one of their mobiles had made a call or calls to a specific landline number on a particular day, between certain times. The solution allowed them to gather this evidence which was later used as vital evidence in securing a conviction for a criminal offence.

Clearly, it is not possible to anticipate benefits associated with fraud or misuse when building a business case. Nevertheless, the high incidence of both fraud and misuse does add weight to the argument, particularly for companies with large numbers of employees and/or contractors.

The customer case for the green agenda

Today, annual Reports devote as much, or more, space to corporate responsibility as they do to the financials.

In exactly the same way that Telcos are able to gain strong marketing differentiation by meeting the green agenda, their business customers can benefit by making public their adoption of paperless telecom bills and statements.

The customer case – bottom line

"An easy and fast way to manage the process and cut admin costs by as much as 90%, freeing up valuable time".

Vodafone's own view of split billing

Bottom line, what really counts in any businesses is…. the bottom line.

We have seen that it is quite easy to make a strong financial case for Telcos to adopt ebilling. But, what about their business customers? What financial benefits might they gain?

Putting aside the 'soft' benefits of meeting corporate responsibility objectives, or the 'hard', but difficult to anticipate benefits of reducing fraud or misuse, easily identifiable hard savings arise from two key areas already discussed: Split Billing and Consolidated Billing. Actual user experience offers a useful guide to their bottom line contribution.

Value of Split Billing

Based on its own in-house experience as a *user*, Vodafone has put a value on Split Billing. They have described it as "*An easy and fast way to manage the process and cut admin costs by as much as 90%, freeing up valuable time".* Applying their own costs and savings to a 'typical 500 handset customer', they put the end-to-end costs of managing paper bills for a 500 handset company at £64,200, yielding a saving (at 90%) of £57,780 **– Source, Vodafone extrapolated from their own trials using CTI's Split Billing offering.**

Value of Consolidated billing

Companies can readily assess the savings potential within their organisation arising from the elimination of ‘paper handling’ – including photocopying, routing costs and processing across regions, departments and cost centres. These can, however, only be addressed on a case-by-case basis.

As a useful example though, one customer of a Telco using an ebilling Solution were able to create reports in minutes. Previously they had received paper bills from their Telco and split them out to send to each of 800 users. What used to take them 7 days a month, now takes only 45 minutes – source CTI customer base

A worked example with the CTI Calculator to assessing potential ROI

The underlying message is that the business case is strong. Even the most conservative estimates quickly stack up to a very attractive return on investment

Not surprisingly, in the CTI survey of Telco companies, respondents rated ‘lower operational costs’ as the most important driver for making the move from paper to electronic billing.

Some players in the electronic billing arena have made extravagant claims for the benefits and, while we have quoted widely from sources, we have attempted to temper such claims.

In this section of our report, we have set out an example of the potential ROI on electronic billing and analytics. The example covers the main considerations needed when reviewing an investment. The calculator simplifies the adoption rates and this example will use an OPEX model. A CAPEX version can also be modelled, and we are happy to provide you with the calculator.

Key assumptions

- Number of Corporate Customers is 25000
  (For the model the total number of customers does not increase)
- Number of Handsets per customer is 20
- Total number of Handsets is 500,000
- The period covered is 3 Years
- The average month-on-month adoption rate is 2.5%, which will result in a 60% take-up over a 3 year period
- Personnel for supporting the services are in place

Direct displacement savings

Far and away, the most tangible savings centre around the displacement of printing and distribution of paper invoices and statements.

The simplest way of obtaining a figure for direct cost displacement is to make a comparison with outsourcing the process. A number of companies provide a bulk invoicing and fulfilment service. Invoicing details are transmitted from the Telco’s back office systems and then printed, inserted and posted by the service provider.

Calculating the cost of a paper bill:

• Avg # Handsets per customers	20
• Avg # impressions per handset	5
• Avg # of impressions per customer	100
• cost per paper sheet (2 impressions per sheet)	0.5p
• Cost per C5 envelope	2p
• cost per impression (fulfilment)	1.75p
• Cost per bill	£4.00
• Postage per bill	£0.20
• Cost to print and send a Bill	£4.20

Monthly Cost (print & send) to 25000 customers £105,000

1. PRINT COSTS over 3 year period are £3,780,000

For simplification we have assumed no changes for very large bills in terms of postage weight and envelope sizes. Multi-part invoices (the norm for business customers) have a direct impact on printing and postage costs.

This example also assumes no marketing material is inserted. Electronic billing provides the opportunity for marketing collateral (with customer-specific messages), effectively free of charge – again, eliminating both printing, handling and postage costs.

When using this 'cost of outsourcing' guide, Telcos with lower volumes should remember that unit costs (in-house or outsourcing) *increase* with lower volumes. For them, the argument becomes even more compelling.

Calculating the cost of implementing ebilling

The implementation costs for an ebilling service vary dramatically, but we have used our experience in implementing a complicated system with higher than average maintenance costs.

Hardware (inc OS)	£200,000
Software Licenses and installation (inc Oracle)	£400,000
Maintenance & upgrades averaged per month	£7500

2. Ebilling system costs over 3 year period are £870,000

As a benchmark, we act as support to 6,000 corporate accounts on behalf of one of the world's top three telecoms companies.

This represents around 1.5million handsets.

Supporting this large user group results in an average of only 180 calls per month

Cutting customer service costs

Our research revealed that a key factor when supplying ebilling and analysis to corporate customers is the reduction in billing enquiries to the customer care lines.

The three key figures required to arrive at an estimated ROI from self-service invoice query resolution, associated with ebilling, are:

- **The number of inbound invoice-related queries**
  The calculator assumes this as 20% of inbound inquiries for print, and reduced to 10% for ebilling customers

  (Seibel puts this at anything between 60-90% of inbound calls)

- **The cost of resolving queries**
  The model assumes £10 average to resolve an inquiry

  (Ascent's 2007 survey of Telcos suggests $10 per call)

- **The potential reduction in telephone queries as a result of self-service**
  In our model, we expect to halve the number of inbound enquiries for billing

- **Adoption rates**
  In the assumptions we are have set a month-on-month adoption rate of just 2.5% with the fixed 25000 customer base.

  This means by the end of the 3 year period 14500 (58%) customers will have moved to ebilling.

Customer Service costs without ebilling
Over 3 years, without ebilling, we are assuming that from 25000 customers, 15% of customer (3750) making inquiries each month, of which 20% are billing related, ie 750 calls a month, 9000 calls per year = £90000.

3. Customer care cost over 3 year period for print only is £270,000

Customer Service costs with Ebilling.
It should be acknowledged that by year 3, at least £25000 a year is being saved. We have chosen very low call numbers to be conservative.

Breakdown of call costs as customers migrate

	Year 1	Year 2	Year 3
Print cost.	18438	13677	10094
Ebilling cost.	6398	11040	14534
Cost of Cust Care	83130	72910	65362

We are confident that, even being very conservative in with cost estimates, an Internal Rate of Return over a 3 year period of more than 50% is achievable

4. Customer care cost over 3 year period with Ebilling is £221,402

Absolute Savings and Net Present Value considerations

When considering any investment, it is necessary not only to ensure that the investment is fully recouped but that there are identifiable savings. We have identified absolute savings – the amount of money saved over the 3 year period and Net Present Value – the value of the saved money when charged against the cost of capital as two indicators that show the value an ebilling system can return.

In our model, over the 3 year period, after initial outlay the ebilling platform reaches its tipping point within the first year, where running both print and ebilling side by side becomes cheaper than print alone.

By month 23, the full ROI is realised, with significant savings in year three. If the model is extended into years 4 and 5, absolute savings increase by £425,874 each year.

5. Absolute Savings over 3 year period is £505,893

A Summary of the calculator's findings to calculate ROI

Month	1	12	24	36
Customers on print	24375	18438	13677	10094
Month on Month growth	2.5%	2.5%	2.5%	2.5%
New customers joining ebilling	625	461	342	252
Total customer on ebilling	625	6398	11040	14534
% of customer on ebilling	2.50%	25.59%	44.16%	58.14%
Cost of print only	£ 105,000.00	£ 105,000.00	£ 105,000.00	£ 105,000.00
Cust Care cost of print only	£10,000.00	£10,000.00	£10,000.00	£10,000.00
Cumulative print only	*£115,000.00*	*£ 1,380,000.00*	£ 2,760,000.00	£ 4,140,000.00
Cost of print - ebill	£ 102,375.00	£ 77,438.88	£ 57,442.84	£ 42,392.72
Cumulative costs	£ 102,375.00	£ 1,072,258.69	£ 1,865,750.42	£ 2,452,705.07
Costs of ebilling setup	£ 218,611.11	£ 18,611.11	£ 18,611.11	£ 18,611.11
Cumulative costs of ebilling	£ 218,611.11	£ 423,333.33	£ 646,666.67	£ 870,000.00
cost of print & ebill	£ 320,986.11	£ 96,049.99	£ 76,053.95	£ 61,003.83
Cust Care cost of print	£9,750	£7,375	£5,471	£4,037
Cust Care cost of ebill	£125	£1,280	£2,208	£2,907
Cust Care cost of joint	£9,875	£8,655	£7,679	£6,944
Cumulative cost of joint	*£ 330,861.11*	*£ 1,606,431.59*	£ 2,720,470.36	£ 3,617,907.32
Savings per month	-£215,861.11	£10,295.25	£31,267.29	£47,052.00
Absolute Saving	-£215,861.11	-£226,431.59	£39,529.64	£522,092.68

Net Present Value is a standard method for using the time value of money to appraise long-term projects. Used for capital budgeting, and widely throughout economics, it measures the excess or shortfall of cash flows, in present value terms, once financing charges are met.

If an NPV is positive, it is usually considered worth going ahead. To calculate NPV we use the Cost of Capital measure, in our model set high at 20%.

With a high return expected from the capital investment involved introducing the ebilling system, we still achieve a NPV value of £246,668

6. The Net Present Value over 3 year period is £246,668

The whole picture

The remaining benefits, such as cutting customer churn, improving customer acquisition rates and being seen to contribute to the green agenda, though significant, are more difficult to quantify.

Nevertheless, we believe that, provided robust plans are in place to maximise the rate of adoption, the two key measurable aspects of direct cost displacement and customer service savings alone should provide a strong first-cut business case.

If you would be interested in receiving this calculator for your own scenario planning please contact Lee Hughes at CTI Group – lhughes@ctigroup.com

Appendix – Case Study

Manx Telecom has chosen to deliver bills via email to SME and residential customers using CTI Group's Dynamic Reports solution - ensuring green and flexible billing for their customers.

From start to going live, the project took just three months

CTI Group Gives Manx Telecom the Competitive Edge Over the Island's Comms Providers

When one of its high-end corporate customers asked for clearer electronic bills, Manx Telecom turned to CTI Group. The result was a new, value-added ebilling service now available to all its major clients – giving Manx Telecom a strong competitive advantage over its rivals.

Manx Telecom implemented ***Analysis***, a bill analysis tool that lets them provide customers with electronic bills showing a clear view of all telecoms use - including mobile and Internet use - throughout the customer organisation.

In addition to this, Manx Telecom has chosen to deliver bills via email to SME and residential customers using CTI Group's Dynamic Reports solution, ensuring green and flexible billing for their customers.

From start to going live, the project took just three months

The Company

Based on the Isle of Man, Manx Telecom was founded in 1987, a wholly owned subsidiary of O2, offering a portfolio of fixed and mobile telephony services, predominantly for customers on the island.

In addition, as an ISP, Manx Telecom delivers a portfolio of products and services to both corporate and residential customers.

The Requirements

In September 2007, Manx Telecom was approached by a corporate client seeking a clearer overview of account activity.

With increased reliance on the mobile handset, for calls, Internet and email access, tracking mobile activity was a top priority.

Andrew Quayle, Manx Telecom's Computer Systems Development Manager comments; "Previously, the client in question was receiving an electronic bill over email in PDF format, but they really required finer detail on usage, delivered in a format they could delve into."

"Feedback from our team shows that the solution is easy to demo and it sells itself, as the benefits are exactly in tune with the corporate businesses we are hitting"
Andrew Quayle, Manx Telecom's Computer Systems Development Manager

The Solution

CTI Group proposed ebilling solutions, including its 'Analysis' tool. Analysis provides 'transparent' bills via an online dashboard, highlighting invoice and user trends – plus the ability to drill down to more detailed individual, departmental or company spend data.

An aggressive timescale of just three months

Our objective was to have the system up and running for the start of the New Year to meet the special needs of Manx Telecom's end customer. This presented an aggressive timescale of just three months, including the Christmas break.

The solution was installed and working smoothly – on time, on budget.

Speed of adoption

Manx Telecom has seen an exponential increase in the take-up on solutions provided to select market segments and in the first quarter of 2009, the corporate sector has seen a 300% increase in use of the online tool Analysis.

The Benefits

The experience has been a positive one for Manx Telecom. Its end users have reported positive feedback, with the solution delivering real business benefit in time saved once the bill has been received.

Traditionally, customers had been taking three days to analyse and break down their company telephone bill to gain a clear overview of spend and usage. Now at the simple click of a mouse, staff have access to a secure, streamlined bill that can be 'sliced and diced' any way they need.

Manx Telecom sales people also report a very positive experience:

"Feedback from our team shows that the solution is easy to demo and it sells itself, as the benefits are exactly in tune with the corporate businesses we are hitting," explains Quayle. "We've been thoroughly impressed with the way CTI Group has approached and executed the project, offering us very experienced people throughout."

"Queries have been resolved very quickly indeed," explains Quayle, "and CTI Group ensured that handover to our technical support was completed effectively and efficiently."

As well as implementing the Analysis solution for its corporate and corporate customers, Manx Telecom has opted for CTI Group's emailed 'Dynamic Reports' to deliver bills for its SME and residential customers.

Appendix – CTI and its offerings

"CTI Group was the only company that offered all the requirements of a web-based solution that both Vodafone and our customers needed.

We wanted an online system that would be up and running quickly and liked the snapshot information that CTI Group's solution provides.

It was a great combination that fulfilled our customer's needs and our own internal requirements at the same time."

Project Manager Vodafone Ireland

CTI Group - the company

CTI Group, who acquired Ryder Systems in 2007, is an international provider of ebilling analytics, call recording and call management solutions to converged, fixed, and mobile service providers, hosted VoIP providers and corporate customers. We have been at the forefront of our industry for over 20 years, providing in-depth telecom billing analysis and communications management applications for legacy, VoIP and mobile telephony.

With more than 13,000 installations in 45 countries worldwide, our dedication to providing the most user-friendly, feature-rich applications is evident by our enviable customer base that includes many of the world's largest service providers and respected corporates.

Our headquarters are in the United States, with operations spanning the US, Europe, the Middle East and Africa.

Our business-related solutions for Telcos

Comprehensive online analytics, with integrated SplitBill, call tagging and push Dynamic Reports ebill

Analysis Business

- A rich analytics solution, comprising of a unique dashboard experience, wide range call usage summary and drill down reports, rich trend analysis and a PDF bill view
- Pre-processing to achieve instant and beneficial user experience
- Fixed line functionality – invoice and extension line analysis
- Multi-play support allowing integrated analysis across multiple products, including mobile, fixed, Wi-Fi, VoIP, etc.
- Integrated personal/business call tagging and approval

Dynamic Reports Business

Integrated Dynamic Reports which are emailed directly to cost centre managers/corporate end-users, helping to provide a greater level of service and quicker turnaround.

Paper Bill Production

To complement Analysis or alternatively as a standalone service, CTI Group's bill production service gives service providers:

- Complete bill design, render and storage, directly from a billing feed
- Output as PDF bill for insertion in Dynamic Reports
- Outsourced paper bill printing, fulfilment and delivery

Why not call us on +44 (0) 800 0925 835, or email lhughes@ctigroup.com (subject: The Truth) to discuss your own ebilling and analytics objectives? We promise to give you an objective appraisal, with the sales pitch.

Other CTI Group Products

Our Call Management and Recording Solutions for Business Users

Proteus ®

Proteus is a range of premise based call management solutions designed to answer the needs of different business sectors.

The software collects and reports on the call information that is available from traditional telephone systems (PBX), VoIP telephony solutions and dealing platforms. Proteus then automatically interprets vendor specific call information, allowing businesses to easily produce professional management reports.

SmartRecord

SmartRecord, a range of call recording solutions, provide the answer to the increasing need for businesses to record calls in order to comply with industry legislation, liability, dispute resolution, training and quality monitoring.

CTI have developed SmartRecord, a suite of voice recording solutions. CTI's range of SmartRecord products are designed and tested to give all levels of businesses high quality voice recordings, with streamlined functionality and regulatory standard security features. From small owner managers to large corporations, either hosted or premise based, we have a call recording product to suit your requirements.