The future for phone-paid digital goods and services

November 2014

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Foreword

PhonepayPlus commissioned a study from Deloitte looking at the short and medium-term outlook for premium rate services in a changing market. This document is a summary of the findings.

The reason PhonepayPlus commissioned this study is that we wanted to understand better the trajectory of the market and, with UK consumers forecast to spend c. £14 billion on digital content in 2019, in particular to identify whether this provided the potential for growth, the scenarios for how that growth might evolve and what the enablers of and barriers to that growth might be.

Deloitte has identified that the purchase of digital content and services via carrier billing offers the main opportunity for market growth in PRS and they have set out their scenarios for base case, high case and low case growth in this area. Carrier billing has the potential to access a total accessible market of over £500 million. The scenarios for growth are primarily driven by commercial factors - such as commission rates, investment decisions and the ability of carrier billing to extend its reach in major distribution platforms. The prospects for carrier billing will also be shaped by how the broader mobile payments market develops over the coming years. The recent launch of Apple Pay is just one example of the market's scope and the speed of its development. Deloitte also identified that carrier billing offers potential opportunities in low-value physical and quasi-physical goods, such as ticketing, parking and transport charges.

It is clear that regulation will have a role to play in shaping the market. However, whilst regulation can help to support growth in the market by building consumer trust and confidence, regulation will need to be flexible and outcomes based to ensure that it doesn't stifle innovation. There is also an important message about the need for greater co-ordination of regulation in an increasingly global and converging market – co-ordination both internationally and between different sectoral regulators.

PhonepayPlus is keen to ensure that our regulation supports growth and innovation in the market, whilst continuing to protect consumers and build their confidence. We want to engage the industry on the scenarios and conclusions arising from the study and discuss ways in which we can work together to achieve high growth and also high satisfaction for consumers.

Jo Prowse
CEO (Acting), Phonepayplus

About the research

This document summarises a study commissioned by PhonepayPlus to provide a perspective on the short-medium term prognosis for phone-paid premium rate services in the marketplace for digital goods and services, and undertaken by Deloitte MCS Ltd ("Deloitte") in July-September 2014.

Due to the sheer range of all digital content in the UK, it was impractical to estimate the current and forecast value of digital content in its entirety. Instead, this study has focussed on content that is widely familiar and accessible to consumers and which may be relevant for future phone-paid carrier billing.

Any forecasts in this report are based on industry trends and analysis, interviews with experts and various other factors. All estimations and conclusions are from analysis by Deloitte and no guarantee is presented or implied as to the accuracy of specific forecasts or projections. The actual outcome will depend on a number of factors not all of which can be controlled by the telecommunications industry. You should not make any investment decisions based on the content of this document without taking further professional advice. if you chose to rely on this document you do so at your own risk. Neither PhonepayPlus nor Deloitte accept any liability to any party who relies or makes investments based upon this document. All statements were correct at the time of writing.

The PRS market is facing a challenge from emerging alternatives

What are premium rate services?

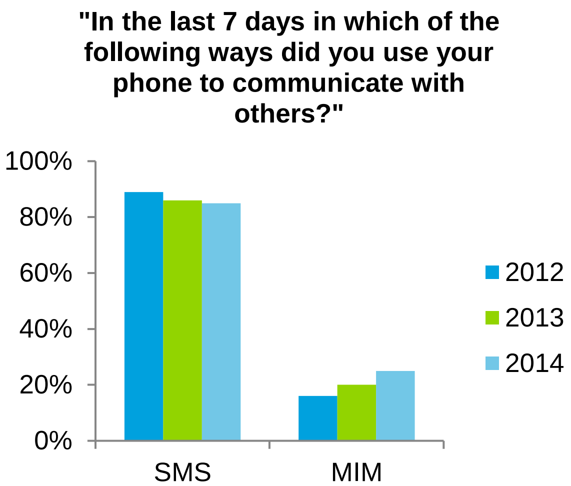
Premium rate services are typically virtual products or services charged to a user's phone bill. This includes fixed landline, monthly and pre-pay mobile accounts, as well as some products or services charged via other platform operators, such as Pay-TV. These are non-core services that are not typically included as part of any voice call, SMS and data package. Examples of PRS platforms include services which are dialled into via higher-rate phone numbers (e.g. 090, 0871, 118, plus voice shortcodes for mobiles), and services paid for via premium text shortcodes or payments charged directly to a mobile phone bill. A plethora of virtual goods and services can be paid for via premium rate, including reality TV voting, quizzes and competitions, dating services, information services and a wide variety of digital and phone-based entertainment, ranging from games to chat services.

The future of PRS

Whilst this market has been very successful for carriers in the past, the PRS market has been declining by 10% year-on year since 2010.[1] This is part of a wider structural shift: the services delivered via traditional PRS platforms are now increasingly available online either cheaper, or for free, as well as being consumed through different channels – such as directly from websites.

Deloitte's 2014 TMT Predictions suggests that there will be c.5bn fewer SMS sent in the UK this year, with a 4% yearly decline since 2012. MMS volumes have been estimated to be falling by 6% each year in the same period too.

In contrast, there are expected to be 300bn instant messages sent on mobile devices this year. This trend is driven by a growing penetration rates of internet enabled phones and 'free' digital mobile instant messaging (MIM) services, such as WhatsApp or Viber.



SMS vs MIM usage

Data from Deloitte's 2014 Mobile Consumer Survey

MINOR CHANGES MADE TO THIS BOX The X Factor has made a switch in this year's series by introducing free voting and live interaction with their own mobile app. This is in addition to paid voting.

Having viewers constantly engaged is an important objective for producers as larger audiences drive higher advertising revenues.

Paid voting is more relevant for the viewer towards the end of the show or series and it would not be a surprise if more programmes introduced free participation in the future to increase engagement and

Even if the fall in overall SMS volumes was adjusted for, the number of *premium* texts and multimedia messages (PSMS and PMMS) would still be in decline as they are falling at a greater rate of 8% each year.[2] Ringtones, once a lynchpin of PRS, only accounted for £1.5m sales in 2013[3] – a sharp fall from 2005 when they generated £177m.[4] Broadcasters have also reintroduced premium text voting after incidents in 2007,[5] but are now starting to see how other programmes have successfully engaged viewers by offering voting that is free or instead made through a television show's own app.[6]

Consumers are also using free and alternative options instead of premium rate voice calls. For example, whilst directory enquiry services still offer consumers a speedy way of accessing, or being connected through to, other numbers, their revenues have declined quite sharply as many consumers now choose to access phone numbers on the internet for free, or alternatively to use email, Twitter or live chat, rather than phone helplines, to contact companies.

Nonetheless, there may be a replacement revenue stream on the horizon. Payforit, a UK initiative for direct carrier billing currently backed by the four largest UK mobile network operators, focuses exclusively on mobile payments for digital goods and services. In the last four years, UK carrier billing services (primarily Payforit) have shown revenue growth of 25% year-on-year[7] and is a clear indication that carrier billing can seek opportunities outside the core PRS market. This is the focus of this report.

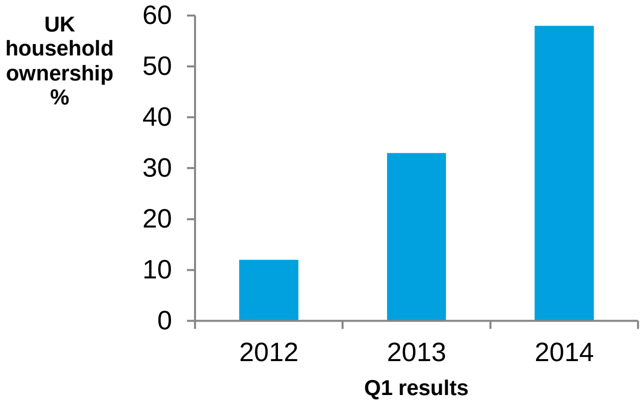
UK consumers are forecast to spend c. £14bn on digital content in 2019…is this a gold rush for carriers?

Estimates by Deloitte calculate consumer spend on digital content[8] to have been worth c. £6.5bn in 2014 and will grow to c. £11bn and c. £14bn by 2017 and 2019 respectively.

Why has digital content so much potential for consumer spending?

Mobile devices are one of the key drivers of the growing consumption of digital content. More than 70% of the UK now has access to a smartphone.[9] In a large part this has been driven by the average price of a smartphone declining by a third since 2010,[10] as well as a growing demand for mobile internet to access social media websites.

Tablets are one of the fastest growing devices used to access digital content. Their use as a second screen is offering up new methods of accessing entertainment and revenue streams. For the first time last year, tablets started to outsell PCs.[11] Multiple tablets are being purchased per household as it is becoming more commonplace for each family member to own a tablet for their personal use.



Household penetration of tablets in the UK 2012-14

Source: Deloitte Media Consumer Surveys 2012-14

The most common reported reason for a tablet purchase is for them to be used alongside watching TV or a film.[12] Consumers could soon be using their tablets to identify in real time a product seen on TV and instantly purchase it. Research suggests that, as more screens are used concurrently, users are more likely to buy, browse or otherwise engage via their mobile device.[13]

Other products such as games consoles and smart TVs also facilitate consumption for additional paid-for content through pre-installed apps. Each manufacturer is creating their own ecosystem within the device and competing to be the overall household 'media entertainment hub' through which all content can be watched, listened to and purchased.

Entertainment accounts for over 80% of digital products and services sold in the UK

Last year, digital music revenues accounted for more than half of all UK music industry trade revenues. Even though the outright purchasing of music in digital formats has recently shown a decline, an increase in streaming expenditure is expected to balance it out this year.[14] The UK had more than 1.3m paid music subscribers at the end of 2013,[15] with an increase of 41% of all streaming revenues between 2012 and 2013.[16] There has been similar growth in overall digital video revenues, and the UK population now watches over 300m hours of online video every month.[17]

Consumer spending on e-books is also growing each year, with readers spending more than £300m on them in 2013.[18] Data from Deloitte reveals a third of people purchased e-books in the last 12 months[19].

One of the most interesting areas within entertainment is gaming. In 2013, consumers spent more than £1bn on digital games, including online, mobile and tablet gaming.[20] Within this, console and PC based digital purchases are still generating significantly greater revenues than gaming apps. However, whilst the former's consumer spend only marginally increased from 2012 to 2013, gaming apps revenue increased by 190%.[21] As a lower end estimate, gaming revenue from mobile app stores alone is expected to grow to over £900m by 2017.[22] This growth is evidenced by where game developers are now focussing, particularly for mobile devices.

Zynga, for example, a social games developer that produced FarmVille, said in 2012 that their mobile device player numbers were growing three times faster than those playing on desktop web.[23] More recently, Don Mattrick, Zynga's CEO, has stated that 75% of all Zynga's latest releases are being released on mobile devices first.[24]

The combination of increased device penetration and usage – often mobile based – plus the growing uptake of digital entertainment products and services could therefore, prove fertile ground for carrier billing opportunities.

However, digital is shifting towards business models that may not directly encourage carrier billing

Even though the size of the consumer spend on digital content is estimated to more than double over the next five years, there are two characteristics of the emerging digital market that potentially limit the opportunity for carriers:

- The strength of distribution platforms and their influence over payment options
- The move away from transacted purchases to advertising funded and subscription models

Platforms have the upper hand for digital content consumption

The market for digital content providers, including app developers, video and music content producers, is highly fragmented with thousands of developers and studios competing with each other to win the battle of consumer engagement. Even though this section of the value chain is dynamic, there are only a few major platforms that can directly distribute content to the consumer (for example Amazon Appstore, Apple App Store, Facebook, Google Play and Windows Store) as few others have the size and scale to compete on a global basis. Accordingly, they are well positioned to influence payment options.

The two most popular platforms for mobile devices pursue different strategies; Apple fosters a closed ecosystem where distribution is linked to Apple devices, whereas Google offers an open source code platform strategy. In Q2 2014, Google Play had 60% more downloads than Apple's iOS App Store.[25] Conversely, the iOS App Store remains ahead in worldwide revenue, generating about 80% more revenue than Google Play during the same period.[26]

What does this mean for carrier billing?

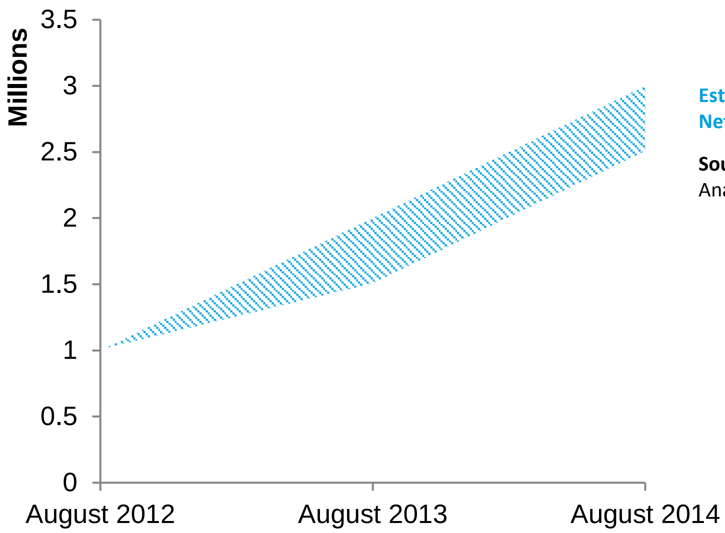
Google Play offers direct carrier billing for app purchases in the UK whereas the iOS App Store doesn't, and this automatically restricts the size of the potential carrier billing market. Recent announcements by Apple introducing Apple Pay alongside the iPhone 6 and Apple Watch suggest that it is seeking a major role in the mobile payments space itself. Carrier billing needs to be an integral part of the platform ecosystem if it is to be a meaningful payment option for digital content.

Facebook & Zynga – The rising power of distributing platforms

- Zynga's initial success was built on a business plan that was dependent on Facebook's platform and users. As part of their agreement, Zynga was to use Facebook Credits as their sole payment method for games, and Facebook was entitled to a percentage of all Zynga's transaction revenues. Zynga was also prohibited from cross-promoting traffic to Zynga games offered on platforms other than Facebook from games on Facebook.[27]
- The partnership formally ended at the end of March 2013 and meant that Zynga was no longer obliged to display Facebook advertising units or utilise Facebook's payment services. In addition, they were no longer required to use Facebook as the exclusive social platform for playing games. Zynga's share price fell by more than 12% after the announcement.[28] In 2012, 86% of Zynga's revenue was coming from Facebook users.[29]

Subscription-based monetisation models for digital content are proliferating

At the same time, many forms of entertainment are switching from single purchase downloads to subscription-based renting for high profile, branded services. This trend started with films and television programmes before music and now, digital games and e-books. This is because users are increasingly mass consuming products and services and are attracted by paying a fixed price for unlimited content. Netflix has been a clear disruptor to broadcasters and the linear television format. The video platform has been steadily growing over the last few years and as of August 2014 is said to have over 2.5m paid UK subscribers watching content through PCs, mobile devices, smart TVs and games consoles.[30]



Estimates of number of UK Netflix subscribers

Source: The Guardian, Enders Analysis

EA has released EA Access, a subscription for EA games on the Xbox One games console. Users pay £3.99 a month and gain free access to download and play EA's most popular console games.

Similar services are offered by PlayStation for games on their consoles, but this is the first example of a developer directly offering their own subscription service through a platform.

Other subscription examples include Amazon's Kindle Unlimited, EA Access for Xbox One, Spotify Premium, Scribd and Oyster all of which are changing the market dynamics in their chosen industries.

What does this mean for carrier billing?

Whilst this may not directly encourage the initial payment of a subscription by direct carrier billing, some carriers have introduced ways for consumers to continue paying for content through this method once a trial period ends. For example, those on selected Vodafone plans can get a free subscription to Spotify Premium of at least six months. After the free period has finished they are automatically enrolled on to a monthly subscription funded by carrier billing.[31]

It is also possible to pay for subscriptions to online content and services using Payforit.

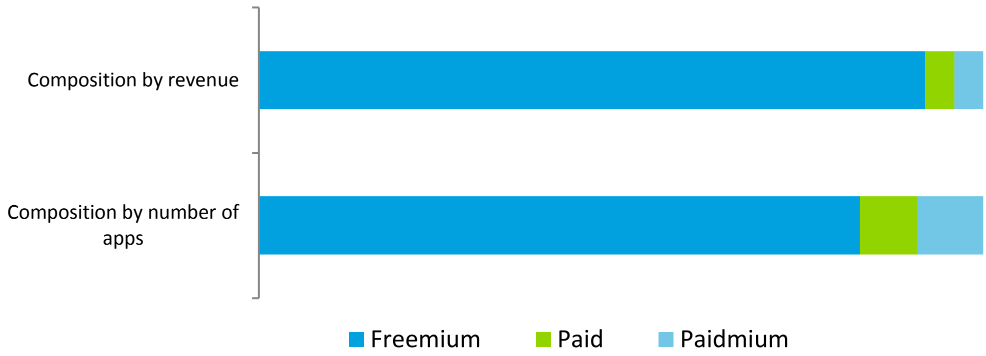
Developers are shifting their app monetisation from paid to freemium models

Freemium – a pricing strategy where the core digital product or service is provided for free, but additional features are charged for. Many gaming apps are monetised by a freemium model where the game is free to download and supported by advertising, but additional lives or features can be paid for in-app

And if not pursuing subscription strategies, content providers and distribution platforms are shifting their monetisation models away from initial payment services to freemium based services. Consumers are more likely to download a product if it is free and so they can test it out before agreeing to make a purchase for the additional content.

The freemium model is supported by advertising and scaled distribution is important. As such, developers are being pushed towards large distributors, who in turn can influence the payment methods that consumers can use.

There appears to be a clear trend for the developers of apps and games to shift their monetisation models away from paid to freemium. As of the end of last year, more than 90% of revenue from apps was from those operating a freemium monetisation model.



App store composition by business model worldwide, Dec 2013

Source: App Annie, based on the top 1000 apps on the iOS App Store and top 1000 on Google Play

What does this mean for carrier billing?

By changing to a freemium model, developers can instead generate the same revenues through advertising whilst increasing their user base. Freemium models do offer in-app payments and, provided the platforms offer the opportunity, carrier billing could take advantage of this.

To succeed in the digital content market, carrier billing needs to play to its strengths

Carrier billing could play a successful role in the digital content payment landscape if it is the easiest option and of the greatest benefit to consumers. There are three obvious strengths to carrier billing:

- The ability to make purchases without leaving the current screen and disrupting content
- The speed of the transactions themselves
- The option to make purchases whilst out of mobile internet range

Given these factors, we believe that mobile gaming apps may offer the most significant opportunity for carrier billing. The potentially frictionless and convenient experience that they could provide the user could mean that carrier billing becomes the preferred payment method for the purchase of in-game virtual goods or services.

For some types of mobile games, the time taken to leave the gaming screen and make a payment can actually distract the user and deter them from paying for additional content within the game altogether.

Just attempting to enter full card details or long passwords online can take minutes and there are plenty of opportunities for submitting incorrect details. Carrier billing payments are secure and are almost instantaneous. There is often an emotional involvement within gaming and the immediate payment option (for content such as additional lives) can increase the transaction completion rate.

Carrier billing can also be used to make purchases offline. This means that content can be purchased even when in areas of poor connectivity (for example in rural areas with poor 3G coverage) or where users might purposefully turn off their data services (e.g. when abroad).

Other digital content entertainment products and services, such as videos, music or e-books do not appear to have as much of a benefit from offering carrier billing as a payment option.

It also has potential to be a success in areas outside of digital content

As mobile payments become commonplace, 'physical' goods are starting to be paid for through digital means. Examples include car parking, ticketing and postage stamps.

With these quasi-physical goods, the strengths of carrier billing are realised when it can provide an ad hoc service where card payments are not practical. In these cases, it is unlikely that a user would already be prepared to pay via another method (i.e. prior registration) and so carrier billing can be a suitable and convenient payment option.

Car parking

Currently both NCP and ECP parking operators and many councils offer car parking by SMS, however the user needs to have already pre-registered to an account. Whilst transacted via a mobile device, the final payment is actually card-based. It is also possible to pay for some spaces using the PayPal mobile app.

However, direct carrier billing is already an option for car parking for many regions in Europe such as Berlin, Germany and Mulhouse, France. [32] In Berlin, the carrier billing parking service accounts for more than 15% of parking tickets since it started in 2011, with registration-based systems c. 1%.[33]

Mobile ticketing

Mobile ticketing for events and transport is already in existence in Europe. Almost two thirds of bus tickets in Sweden are purchased by mobile in a similar approach to UK car parking, however direct carrier billing has recently been included as a payment option.[34] Since 2012, fans can also purchase football e-tickets in Turkey with operator billing due to an agreement between operator Turkcell and mobile payments service Onebip.[35] By 2018, there are estimates that there could be 16bn event and transport digital tickets sold globally.[36]

In October 2014, it was announced that EE, O2, Vodafone had partnered with Boku, a carrier billings payments specialist, to explore mobile based payments for range of real world goods and services[37].

Deutsche Post has offered PSMS as a payment option for postage stamps in Germany since 2008. To do so, the user just needs to send a text message to a shortcode to which they receive a 12 digit number code that just needs to be handwritten onto the envelope.

Since then, postal services offering PSMS payment have also launched in Denmark, Sweden and Switzerland.

What does the industry need to do to exploit this opportunity?

The success of carrier billing as a payment option for digital content within the next five years is dependent on four key factors.

Commission rates

Carrier billing is more expensive for app stores and app developers than direct credit card-powered transactions. Carriers will typically take in the region of 15% of carrier billing transactions (and typically more than this on traditional PRS transactions), so there is a disincentive for app stores and developers to use direct carrier billing since they have to share fees with an additional party in the value chain. As a comparison, total card commission fees (including interchange fees) are typically c. 3%. However, carrier billing is said to have a conversion rate five times higher than credit card purchases and any increase in sales could perhaps offset any margin loss.

Encourage more platforms to offer carrier billing

Google Play provides users the option to pay with carrier billing in over 20 countries, including the US, UK, France, and Germany. In some of these markets, including Australia, Bango has partnered with Google as its carrier billing platform provider. "*Google sees carrier billing as advantageous and even gives preference to carrier billing over other payment methods in some markets because it drives such high conversion rates*", says Richard Leyland, Vice President of Marketing Communications at Bango.[38]

In the meantime, operators are working together globally on carrier billing initiatives.[39] Joint or shared initiatives are important for the development of carrier billing and will encourage further adoption.

Invest in the user experience

The process of setting up and using carrier billing is not always streamlined. For example, to set up carrier billing on O2 with Google Wallet, users have to go through two set-up steps: first, register operator billing with their carrier, then link carrier billing to their Google Wallet.[40] However, this constitutes an additional threshold for consumers in well-banked markets such as the UK, where the vast majority already own bank cards.

Similarly, the payment experience itself can involve several devices. For example, if consumers want to use their carrier account to pay for digital content on a tablet, they will also need their phone to verify their identity.

Other challenges to a seamless user experience (comparable to card transactions) are carrier imposed payment limits and the frequency with which consumers are changing mobile phone operators. Currently, there is no infrastructure in place to allow consumers to "carry-over" their carrier billing service to another operator. Instead, consumers have to re-register with their new carrier as well as the distribution platform or online store when they change operators.

Ensure consumer protection

Existing carrier billing regulation is primarily in place to help increase consumer confidence and encourage payments via this method. Many of the issues that have traditionally been a cause of concern with PRS could equally exist in a world of carrier billed payment for digital content and services. For example:

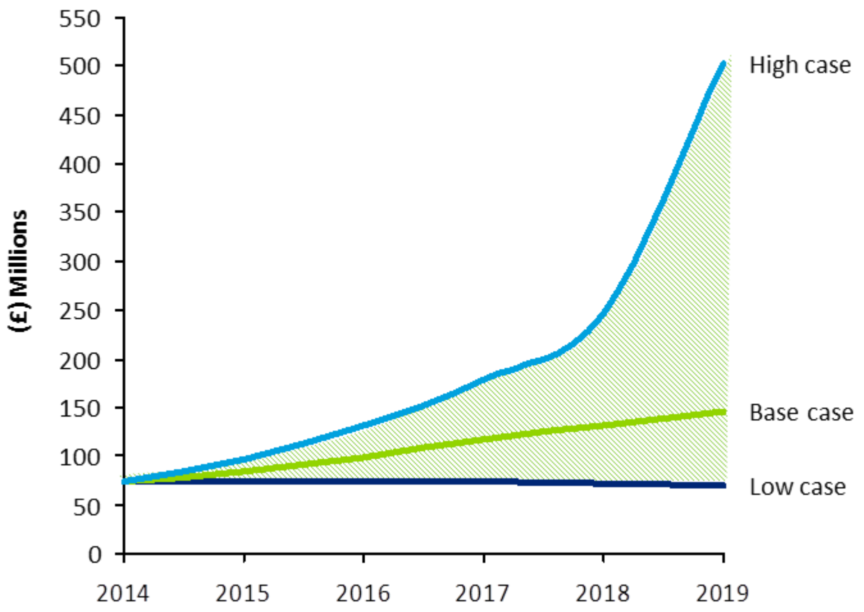
- The simplicity of paying by carrier billing could cause overspending as it can sometimes not be entirely clear about how much has been spent over time. Because of this, carrier billing platforms should consider measures to prevent bill-shock and provide reassurance to the consumer that they will not have any worries over their phone bill, something that people have faced with other aspects of their activity such as when travelling abroad.
- Restrictions on age-related content mean that parents can be confident that children will not be able purchase any content that might be deemed inappropriate. This is something quite important considering carrier billing could appeal directly to youths who might not have a debit or credit card to make purchases online.

The UK mobile payments industry is now highly fragmented with multiple players offering multiple innovative payment methods across multiple devices. Although increasing competition and additional payment options foster innovation and bring value to merchants and consumers, these also introduce challenges in terms of varying consumer experiences across different payment methods. As of now, there is no overall regulation that attempts to control the quality of digital products or services regardless of payment channel. Ideally there needs to be a consistent payments environment across the digital marketplace, and the industry should actively work with regulatory bodies to keep the market sustainable. As such, the evolution of the various Payments Services regulations will be important in shaping the future of carrier billing and consumer confidence in it.

A concerted investment in the platform and user experience could unlock an attractive revenue stream for operators

Three scenarios have been considered to assess the future potential for carrier billing as a means to purchase digital content.

If current levels of operation and investment continue, it is estimated that c. £150m[41] will be spent on digital goods and services using carrier billing by 2019. This **base case scenario** assumes that carriers will continue to take payments on Google Play but will not break into other major distribution platforms and that operators will not make any significant new investments into carrier billing infrastructure over the next two years. The majority of the growth from the c. £70m today will come from carrier billing maintaining its low share of a rapidly growing market.



Potential value of digital goods and services purchased through carrier billing

Source: Analysis by Deloitte

Carrier billing has the potential to access a total addressable market of over £500m

However, with concerted effort and investment, carrier billing has the potential to account for a higher share of the overall market for digital content and services – up to 4%. This **high case scenario** would require carriers to develop solutions that have more attractive commission rates, an improved user experience and increased relevance for subscription payments and other forms of entertainment besides gaming apps.

Conversely in the **low case scenario**, if operators do not maintain the current level of support and investment for carrier billing, the highly competitive mobile payments market driven by banks, technology companies and distribution platforms all attempting to 'own' payments could see carrier billing revenues in this space fall nearly 40% over the same time period.

The rapid growth in consumption of digital content, largely via mobile based devices, could provide operators with an attractive and growing new revenue stream but will require a coordinated effort and industry-wide support to deliver on the promise.

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