White Paper

Monetization Strategies for Mobile Operators

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I. Monetization & Evolving Network Business Models

In the search for new revenue streams, mobile operators must transition from a business model based on selling a set of well-defined voice and SMS services to the mass market, to being able to offer a diverse, dynamic portfolio of data services to a segmented customer base.

This paper will discuss a range of monetization strategies open to operators, including:

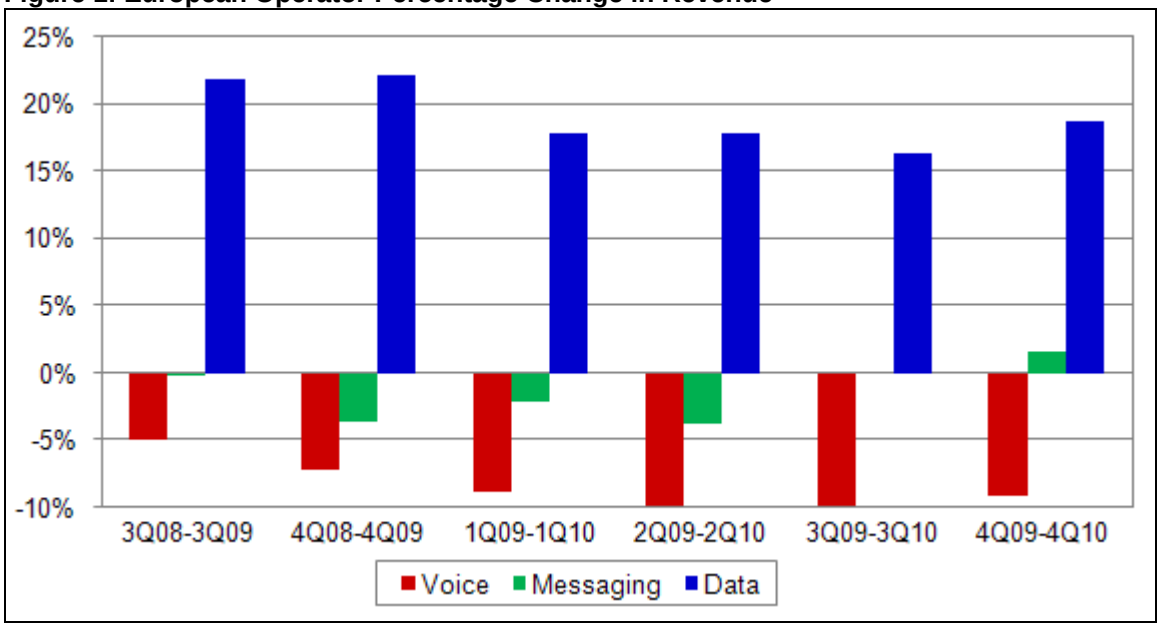
- Enhanced connectivity and interoperable rich-media services
- App stores, value-added services, and hosted applications
- Enabling third-party services through network and service APIs

The emphasis is on applying the mobile network operator's assets to creating and enabling data services beyond simple, commodity, data access. The network offers an opportunity for operators to catalyze a high-value services ecosystem. Through management of the connectivity and session layers, and key elements of the services-layer infrastructure, the operator can become a strategic partner and supplier to third-party providers. The best outcome is achieved when "network intelligence" is combined with the strengths of an operator's retail presence, distribution channels, brand value, and customer relationships.

1.1 The Need to Accelerate Data Revenue Growth

The need to replace voice revenue is behind the drive for innovation in data services. While voice remains the largest revenue component, the long-predicted decline is now starting to kick in with a vengeance. The chart below shows how, at an example European operator, voice revenue is down between 5 percent and 10 percent in each of the past six quarters. This is dangerous territory, with echoes of the precipitous fall in wireline voice revenues at the turn of the century.

Figure 1: European Operator Percentage Change in Revenue



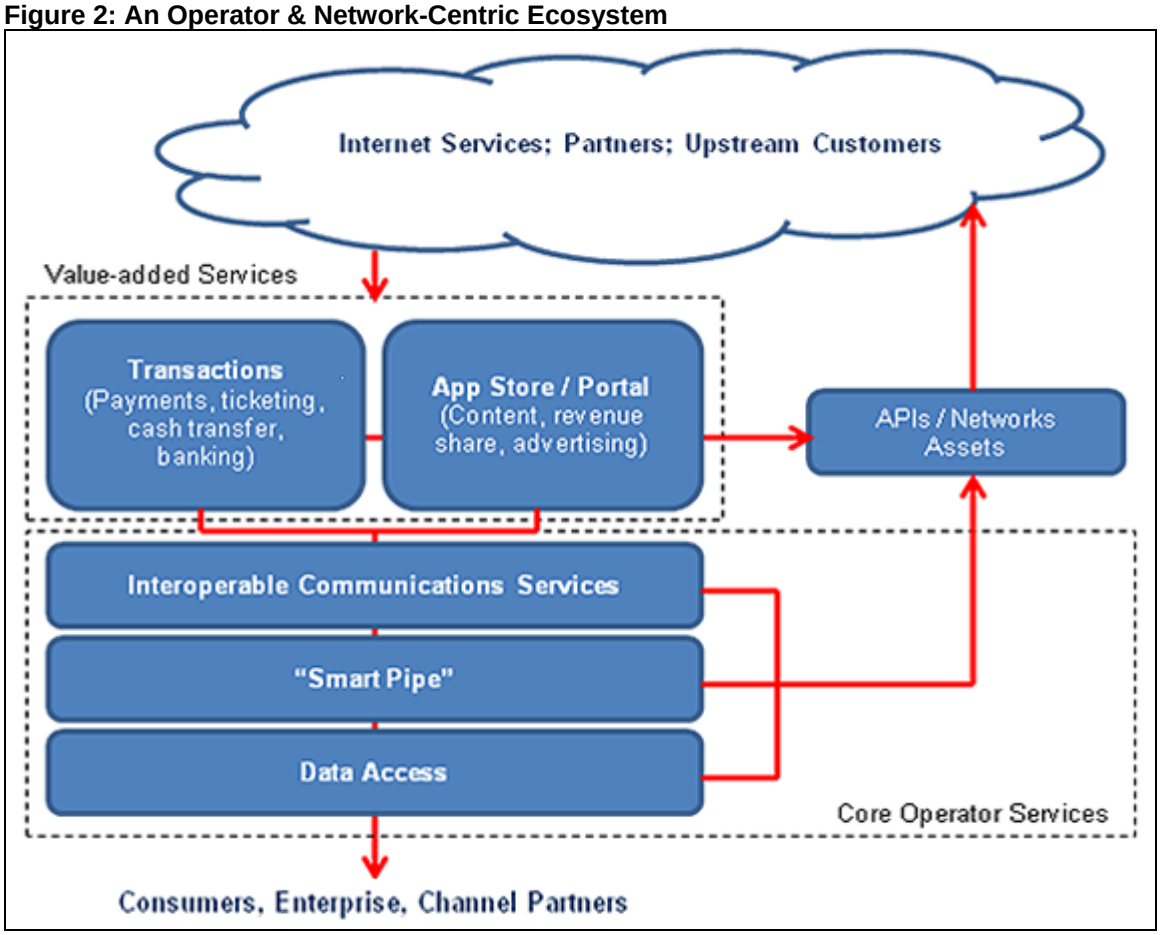
For this operator, the good news is that data revenue is growing between 15 and 20 percent per quarter – suggestive of strong, unlocked demand. The problem is that it is growing off a low base. The actual revenue increase in the most recent quarter was €40 million (19 percent) in data, but this was offset by a decline of almost €300 million (9 percent) in voice and SMS. In this context, the need to accelerate data take-up, without generating spiraling costs, is clear and urgent.

1.2 An Operator-Centric Ecosystem

How to better monetize mobile data networks is a long-term challenge, and will vary according to local market conditions. Tremendous end-user demand means the outlook is potentially very positive, if a way can be found to accelerate data services adoption without resorting only to low pricing. Creating a framework for a value chain that unlocks this demand, and allows it to scale without commoditizing the operator, should be the starting point.

The figure below suggests such an industry structure. It identifies and defines an operator-centric ecosystem that has the potential and scope to allow operators to grow data services in multiple domains. The focus is on the core operator services and an evolution of the familiar subscription revenue model for communication and connectivity services. Esoteric, emerging business models are expected to grow in importance over time, but don't contribute meaningfully in the near term.

Figure 2: An Operator & Network-Centric Ecosystem



1.3 Core Operator Services

A focus on increasing the yield from an operator's core data access services will deliver the biggest, fastest return. Rather than continue with the "unlimited" flat-rate data plans used to seed the market for mobile data, operators must relearn and adapt some of the techniques that served so well in optimizing yield from voice and SMS. In the first instance, this means a focus on customer segmentation, tiered services, overage charges, and premium-rate "out of bundle" services.

This entails the operator moving squarely into the realm of the "smart pipe." Tiered price plans, with variable data caps, download speeds, and overage charges, require enhanced policy management, network enforcement, and billing integration. Over time, as network attributes such as

QoS become more important, they could potentially be used to support advanced operator-hosted services such as streaming video, or be exposed to third-party providers via APIs.

Interoperable operator-managed communications services remain an important part of the core business. In essence, this is about evolving the voice model into rich media. While initiatives such as video calling and IMS-based rich media apps (e.g., as defined via Rich Communications Suite) have been much maligned by commentators and outmaneuvered by over-the-top services, it's too early to count this service category out. As demands for reliability, performance, and cross-platform interoperability grow, and as network capacity/coverage and device technology platforms catch up, rich media communications services could become significant revenue generators.

1.4 Value-Added Services

Operators now have a decade of experience retailing "value-added" mobile data services. Content services such as ringtones, mobile TV, music, and gaming are relatively well developed, and are expected to generate close to 20 percent of operators' mobile data revenues in 2010.

The app store phenomenon (taking over from operator portals and walled gardens) is now driving this market. Revenues from mobile application downloads are set to surge from $8.4 billion in 2009 to $23.6 billion in 2014, with operators capturing 37 percent of that value in 2014, according to Pyramid Research (*Heavy Reading*'s sister research firm). Operator-backed initiatives such as the Wholesale Applications Community are intended to target this market segment.

App store models also offer tremendous potential for revenue-sharing relationships with third parties. Operators' capabilities in billing, marketing, and distribution (i.e., via the handset) make them potentially good retailers and attractive partners.

This is also an area in which operators can road-test network features they would one day like to sell wholesale to upstream partners. For example, an operator-sold or – hosted premium mobile video service could leverage QoS attributes of the network to ensure quality. It's hard to envisage being able to wholesale this capability without first using it internally.

1.5 Network APIs, Two-Sided Business Models, & Third-Party Services

Emerging business models that, for example, generate non-user-paid or upstream revenue are certainly alluring and have good long-term potential. The opportunity to create new markets where well-defined value chains do not yet exist is appealing. The risk is that operators will be distracted by promises of "jam tomorrow," when the requirement for monetizing data is urgent.

Such monetization strategies should be pursued, but with an understanding that the revenue contribution is unlikely to be substantial for several years. Simpler schemes, such as working with third-party vendors to bundle connectivity with high-value end-user products (e.g., e-readers, cameras, laptops, cars), are perhaps the best place to start.

Networks and service APIs are critical enablers for evolving business models and are vital to the ecosystem outlined in **Figure 2**. However, APIs are not a source of revenue themselves. Network operators have tried – unsuccessfully – to extract revenue from providing access to the API (e.g., charging for location lookups), rather than through the service that uses the API. Instead, the API model is best viewed as a revenue-share model. Ironically, operators have known this all along and have had great success with wholesale SMS delivery.

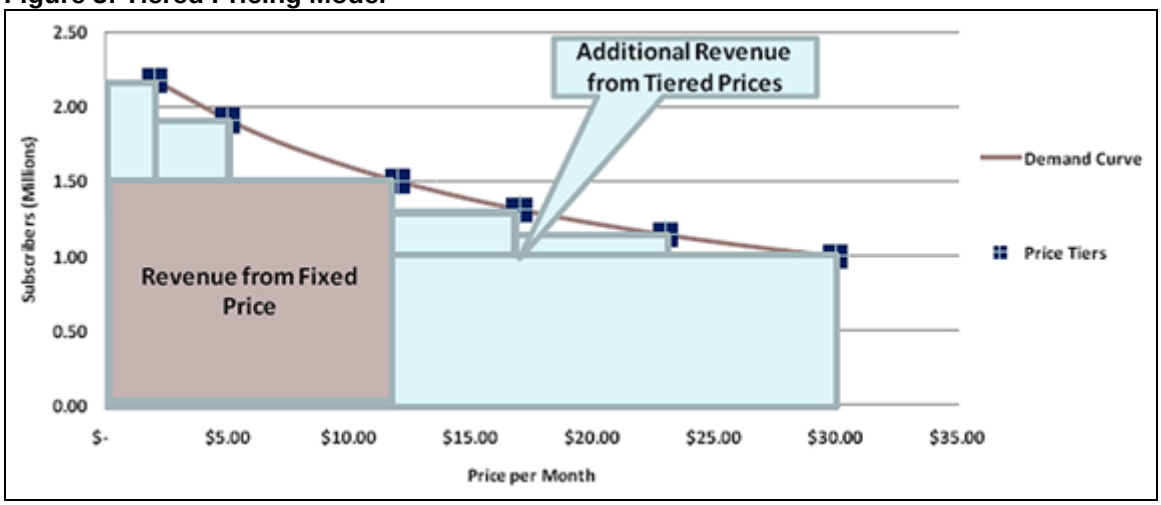
II. Examples of Business Model Evolution

2.1 Core Service Example – Tiered Data Services

Low-cost, flat-rate plans have been useful in kick-starting the mobile data market. It has been shown that price elasticity exists (lower prices will grow the overall market) and that mobile data is on the verge of true mass-market usage. Flat-rate is unsustainable, however, and is something of a blunt instrument, in that different types of users are forced onto a common service package.

The move from flat-rate to tiered service plans is now occurring at pace across the industry. AT&T in the U.S. highlighted the issue, but the process is global; in Europe, O2, Vodafone, Orange, and T-Mobile are all pursing similar strategies. The concept is that by offering service tiers, mid- to high-end users trade up to a plan that delivers more than they would need (similar to voice minutes), while at the lower end, attractive pricing (albeit with limits) attracts more people into the market who will trade up over time. The net revenue is greater than one-size-fits-all, and the model links traffic growth to revenue growth. This is shown in **Figure 3.**

Figure 3: Tiered Pricing Model



Source: Cisco

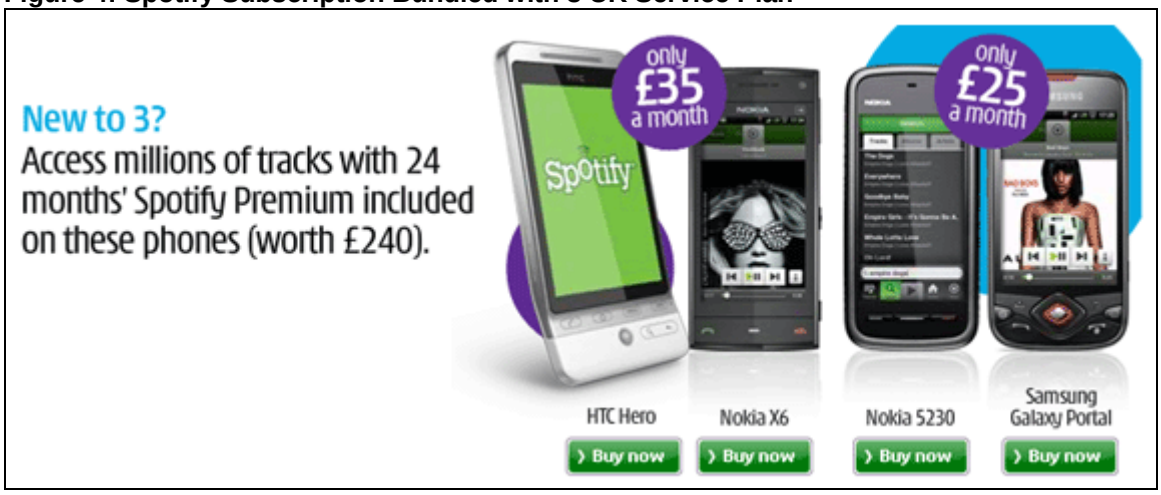
There are a multitude of variations on this theme of tiered and variable pricing. Keeping the price of the package the same but increasing the data limit is a way to increase the perception of value; pay-as-you-go models (e.g., $10 a day for broadband access) can support pricing power and margin; and QoS-based models, where downlink speeds are limited once a certain consumption limit has been passed, are also starting to be offered. The ability to combine tiered pricing with zero-rating of value-add applications is a foundation stone of evolved operator business models.

2.2 Value-add Service Example – Spotify & Kindle Models

The phrase "value-added services" might sound unexciting, but in fact, this is often about the fun stuff – gaming, video, and music. Operators are competing with over-the-top content and application companies in this realm. In an evolved business model, however, operators' retail and distribution prowess can be used to make it a valued of partner of the content specialist.

One example of this we have termed the "Spotify Model" – which is similar to the well-known "Kindle Model," but different in some important aspects. Spotify is an online music subscription service with well-designed premium mobile features that are considered desirable. In the U.K. market, through a partnership with the operator 3 UK, customers are able to bundle a discounted subscription into their mobile services plan. The customer proposition is shown in **Figure 4**.

Figure 4: Spotify Subscription Bundled with 3 UK Service Plan



The principle of this kind of arrangement is that the operator becomes the equivalent of a supermarket retailing branded goods to the end user. This model can be applied to many different types of value-added services – for example, you could pay for the movie but not have that count toward your data cap.

Where the retail channel is a handset vendor's app store, the operator still has a good opportunity to participate in the value chain through operator billing. Apple, famously, has an in-built payment mechanism through iTunes, but for Nokia's Ovi Store and Google's Android Market, operator billing (and revenue sharing) could help move the stores from a focus on free to paid apps.

2.3 Network APIs

Open operator APIs is an umbrella term that refers to the operator exposing internal assets to third parties across well-defined open interfaces. This could include everything from network QoS for video delivery through subscriber data management assets for profiling and advertising. The intent is to enable developers to offer a better service than they could in an over-the-top environment. **Figure 5** outlines some selected developer programs that make use of, and encourage development to, open APIs.

Figure 5: Examples of Operator API/Developer Programs

COMPANY	PROGRAM	COMMENTARY
Orange	Partner	Well-established developer program, with over 30 APIs published; includes Orange Application Shop
Swisscom	Open APIs	Small-scale program for voice call management apps, such as click to call
Telecom Italia	Next Open Innovation	Includes Telecom API and Device SDK programs; primarily a test lab with limited base of users
Telefónica	WIMS	An open API program focused on IMS using REST principles
Vodafone	Betavine; Vodafone 360	Betavine is a small-scale development program that includes a few open APIs; Vodafone 360 offers APIs based on JIL, linked to OneAPI

Typically the business model is expected to be around some form of revenue sharing, though this is still very much in flux. While there are not many API-oriented services generating substantial revenues today, there is strategic, long-term value in these initiatives. By enabling "monetizable" services, operators bind third parties closer to their networks and are in a better position to steer the ecosystem toward a value chain in which they can participate fully and fairly.

III. Background to This Paper

3.1 Original Research

This *Heavy Reading* White Paper was commissioned by Cisco, but is based on independent research. The research and opinions expressed in the report are those of *Heavy Reading.*

3.2 About the Author

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Brown's coverage at *Heavy Reading* focuses on wireless data networking technologies, including WLAN, 3G/HSPA, WiMax, and LTE, with reference to how these technologies impact the wider mobile data services market. Brown has covered the wireless data industry since 1998. Before moving to *Heavy Reading*, Brown was Chief Analyst of the monthly *Insider Research Services*, published by *Heavy Reading*'s parent company *Light Reading*.

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3.3 About *Heavy Reading*

Heavy Reading (www.heavyreading.com) is an independent market research organization offering quantitative and qualitative analysis of telecom technology to service providers, technology suppliers, and investors. Its mandate is to provide comprehensive competitive analysis needed for the deployment of profitable networks based on next-generation hardware and software. *Heavy Reading* produces nearly 100 research reports per year, including industry-leading technology assessments, market tracker reports for emerging technologies, and concise research reports focusing on the telecom industry's most dynamic vertical market sectors.

Heavy Reading offers a wide range of custom/consulting services aimed at identifying market and revenue opportunities for telecom industry clients. These services include in-depth product and marketing strategy assessments, independent surveys to assess and validate demand and spending trends for new products and services, and consultations on specific product and go-to-market strategies.

Heavy Reading's network of research resources also includes Pyramid Research (www.pyr.com), a leading provider of research, data, and custom/consulting services covering emerging market and service opportunities. Pyramid offers in-depth forecast and market performance analysis for more than 100 countries and is uniquely positioned across emerging markets, emerging technologies, and emerging business models. Together, the *Heavy Reading* and Pyramid Research team includes more than 50 industry-leading analysts tracking global telecom market, technology, and service trends.

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