



# Understanding how operators will utilize the app store phenomenon



By *mobile*<sup>SQUARED</sup> (formerly Direct2 Mobile)

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# 1 The rise of the App Store

## 1.1 The nine months that kick-started the mobile content & services industry

In less than 12 months, the App Store has become firmly entrenched within the wireless industry's lexicon and in another 12 months it likely will have evolved beyond a noun into an adjective as Apple has ably demonstrated that providing an inextricably simple and enjoyable user experience will create usage, consumption and revenue from a mobile content services market that has been suffering from lethargy in recent years. Apple has added the fizz to the mobile content and service industry's cider.

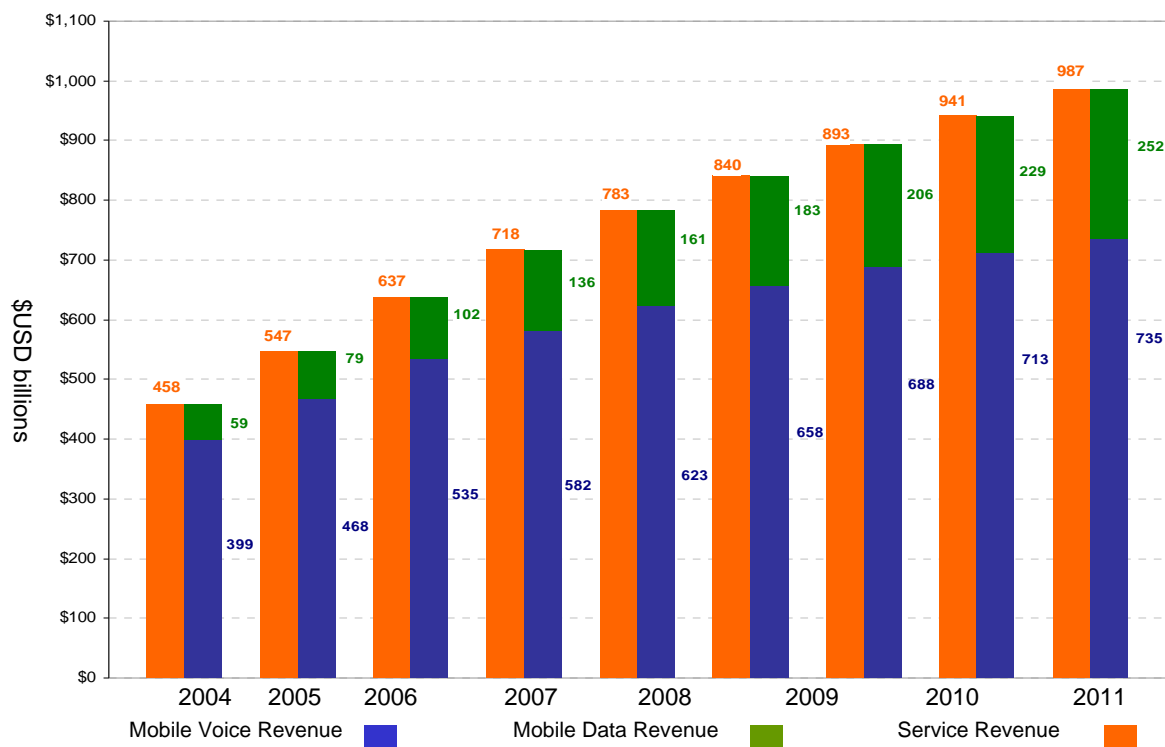
And there is good reason why there is much anticipation and excitement around the emergence of the app store phenomenon. As of 19 January 2009, Apple announced that over 500 million apps have been downloaded from the App Store - up by 200 million apps compared to the start of December. In less than 50 days an average of 4.5 million apps were downloaded per day. Based on 11.42 million iPhone users at the end of 2008 downloading 500 million apps equates to 43.78 downloads (on average) per person. What's more, based on consumption behavior between early December and mid-January, a further 270 million downloads are likely to have occurred up to early March by which point the average daily app download figure had topped 5 million. And if that trend continues, *mobile*<sup>SQUARED</sup> anticipates Apple announcing its one billionth app download by the end of April 2009.

Research by *mobile*<sup>SQUARED</sup> has revealed that around 75% of apps downloaded are free. Of those paid-for apps costing between US\$0.99-999, the average cost per download is US\$2.20. According to our calculations, 192.5 million apps have been purchased generating a total of US\$423.5 million since launch. Based on Apple's 30-70 revenue share model, the App Store has created its founder US\$127.05 million and US\$296.5 million for the developers and publishers.

The mobile data market was worth US\$161 billion in 2008 (see fig. 1), with revenues from the App Store alone contributing 0.26%. Placing that figure into context, the average data spend per App Store user is US\$24.91 per annum, but that figure does not include data costs. Assuming 98% of the iPhone market is postpaid (16.67 million users) and the average monthly data cost is US\$10, the iPhone is generating a fraction over US\$2 billion per annum for mobile operators. When combined with the App Store revenues, the US\$2.42 billion accounts for 1.5% of total global data revenues.



**Fig 1. Mobile service revenues**



Source: Airwide Solutions

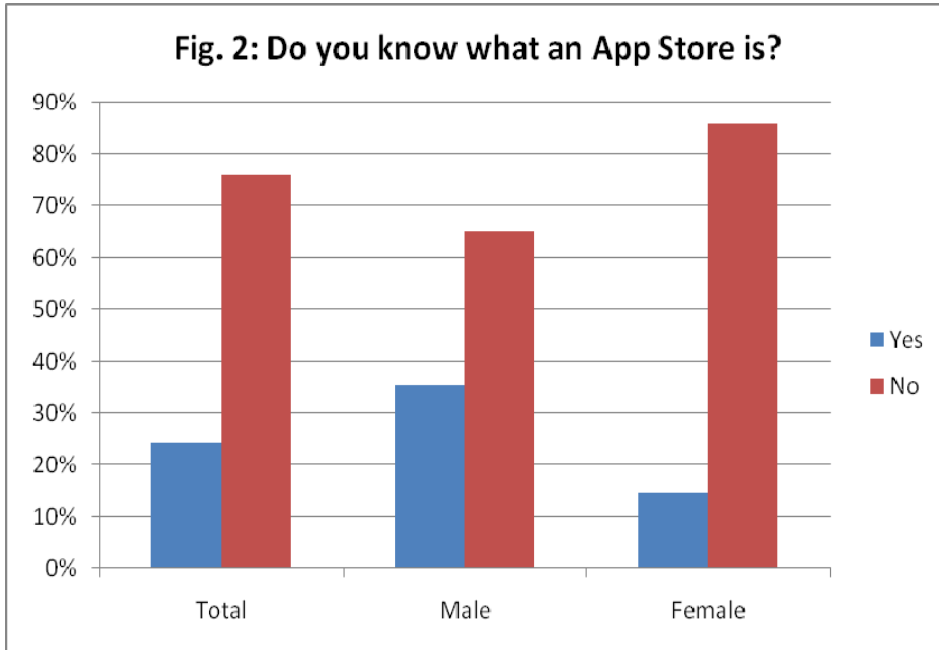
At its existing growth rate, the App Store is unlikely to generate US\$1 billion in 2009. The drawback facing Apple is reach. There are 17 million iPhones (and millions of Wi-Fi-enabled iPod Touch devices) globally, equating to 0.4% penetration in a mobile market with 4 billion users, according to numbers released by the GSM Association.

The App Store is setting the precedent for the industry, but the challenge facing the mobile industry is providing that experience to the mass market. The open source software applicable to smartphones is ideal for app store development. According to Informa Telecoms & Media, smartphones will account for just under 20% of the global mobile market by the end of 2009. That would leave 80% – or 3.2 billion mobile users – without access to an app store-like experience. Never before has there been a greater need for the mobile industry to ensure one experience can be accessed by all.

## 1.2 Consumer demand extends beyond smartphones revealing mass-market appeal of app stores

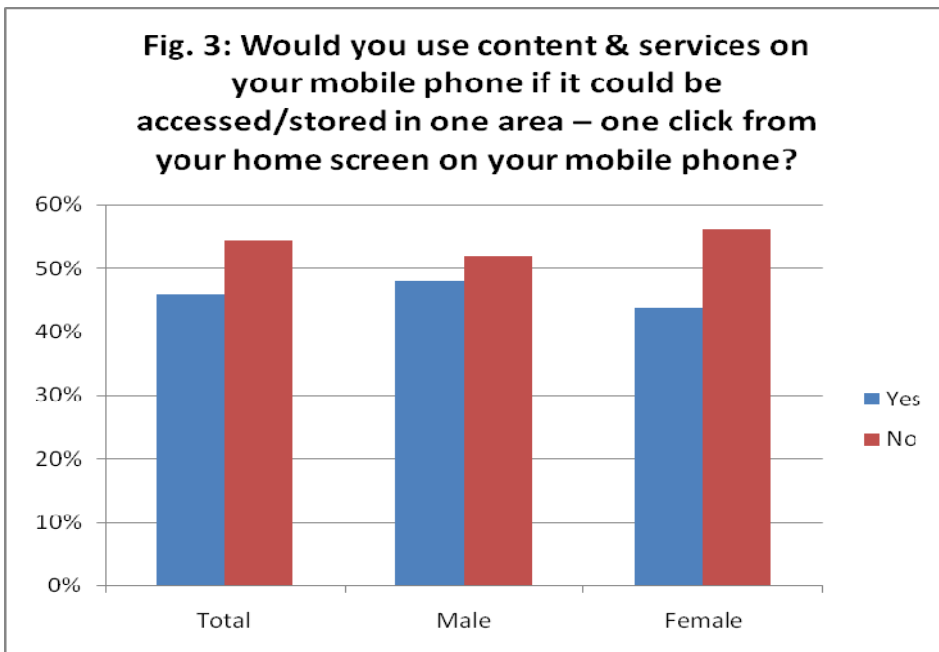
In the same way the mobile industry is looking to replicate the App Store. *mobile*<sup>SQUARED</sup>'s consumer research has uncovered considerable demand from consumers to easily access content and services using their mobile phone. Of the 1,000 consumers in the UK (a representative sample of mobile users) 24.2% of respondents knew what an App Store was – a figure that correlates with smartphone penetration in the UK (see fig. 2). What's more, 35.1% of males compared to 14.5% of females demonstrated an awareness of the App Store.





Source: mobile<sup>SQUARED</sup>

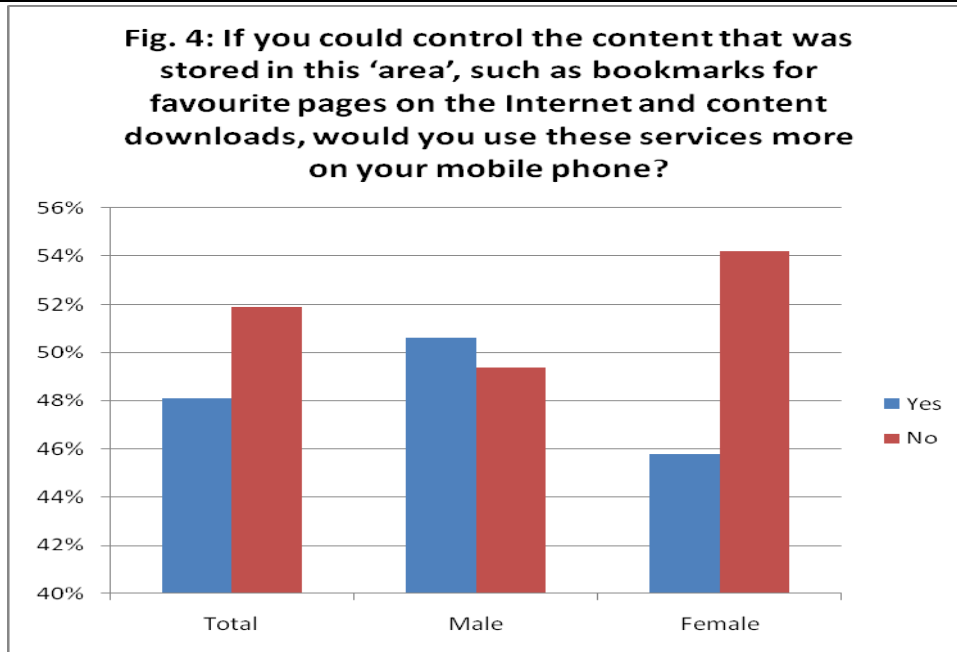
When the phrase 'App Store' was replaced with 'one area', in total 45.8% of respondents would use this 'one area' (ie app store), with males (48%) more willing to use the "area" than females (43.8%), as highlighted in fig. 3.



Source: mobile<sup>SQUARED</sup>

Almost 50% of total respondents were attracted to the concept of widgets to access their chosen sites and content on the Internet using their mobile device (see fig. 4). As before, more males (50.6%) than females (45.8%) were receptive to the widget concept.





Source: mobile<sup>SQUARED</sup>

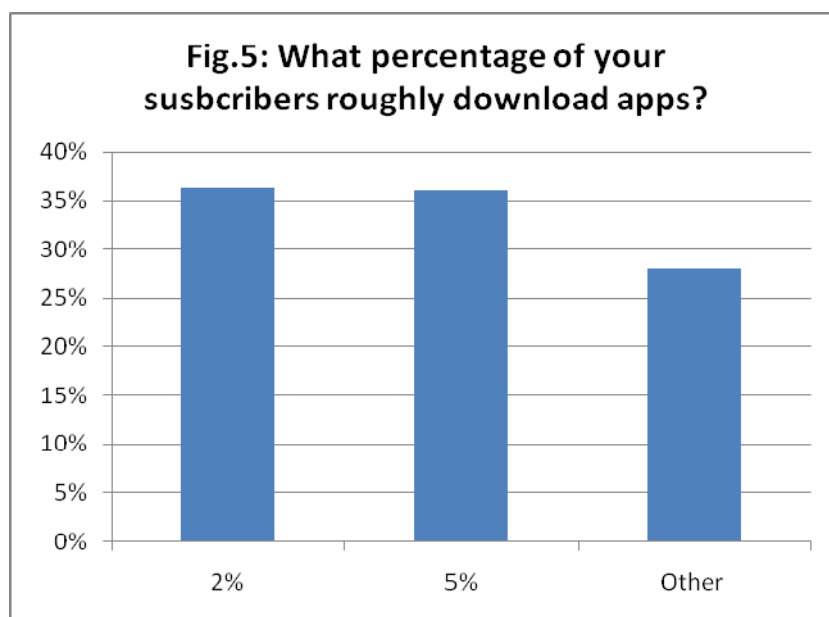
Aside from igniting mobile consumers' interest and consumption of mobile content and services, the App Store has demonstrated demand for alternative applications and solutions away from the stock mobile entertainment triumvirate of games, music and images commonly associated with operator portals. It is the user experience that has driven the consumer to the App Store in the first place, but it is the breadth and appeal of content and services that ensures repeat usage. Perhaps more importantly, this breadth and appeal permeates across all demographics and makes an app store concept an appealing one to all companies operating within the mobile ecosystem, none more so than the mobile operators themselves.



## 2 Operator expectations

A survey by Airwide Solutions conducted by *mobile*<sup>SQUARED</sup> has revealed that operators also expect to enjoy the fruits of the App Store as they look to extend its reach beyond the iPhone into the mass market.

A fraction over 35% of operators said 2% of their subscribers presently downloaded apps – though it is worth noting that the survey did not address the frequency of usage (see fig. 5). A similar percentage of operators said 5% of their subscribers downloaded apps. While just under 30% of operators said they had experienced “other”, ranging from 0.05% of their customer base downloading apps to 15%. Given this range of usage figures on average 5.2% of operator customers download apps.



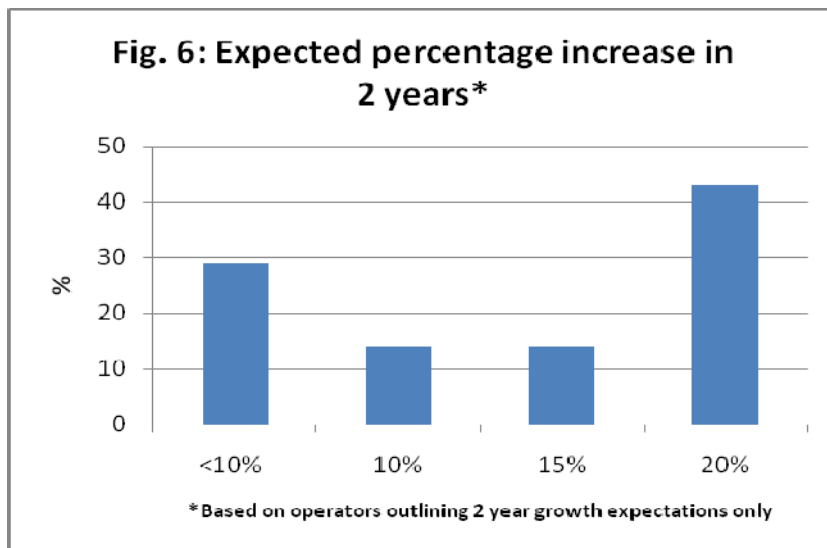
Source: Airwide Solutions

Operators were then asked to share their expectations for growth in the app space and were given a choice of two, five or 10 years.

On average, operators expect 18.3% of their customers to be downloading apps within an average timeframe of 2.9 years. As with the previous question, the range of answers was typically diverse from 5% to 50%, with the majority of responses favoring between 10-20% of customers downloading apps over a two-year period. A number of operators also pointed to the penetration of app downloads and usage being directly correlated to the prevailing economic conditions.

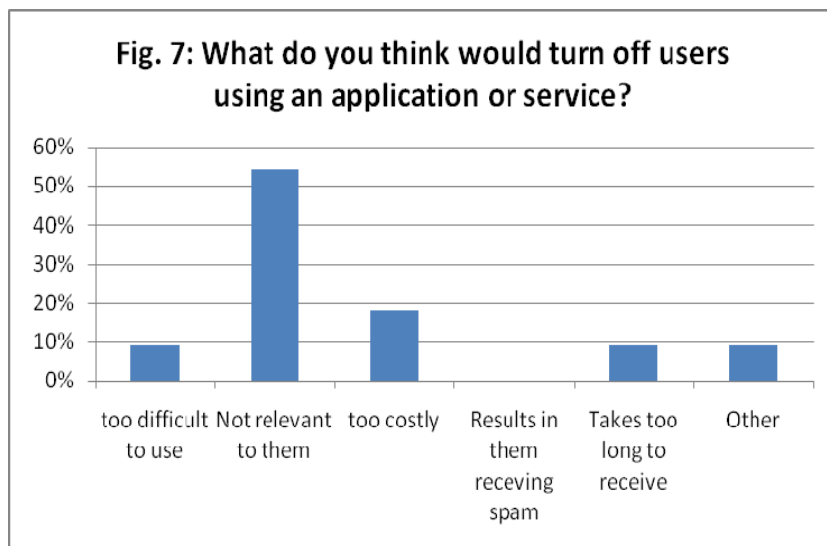
By just focusing on those operators that expected strong apps download growth within two years, the majority of operators expect either less-than 10% or 20% of users downloading apps. Some 43% of operators expect 20% of their customer base to download apps by 2011, while 29% of operators predict less than 10% of their customers (see fig. 6).





Source: Airwide Solutions

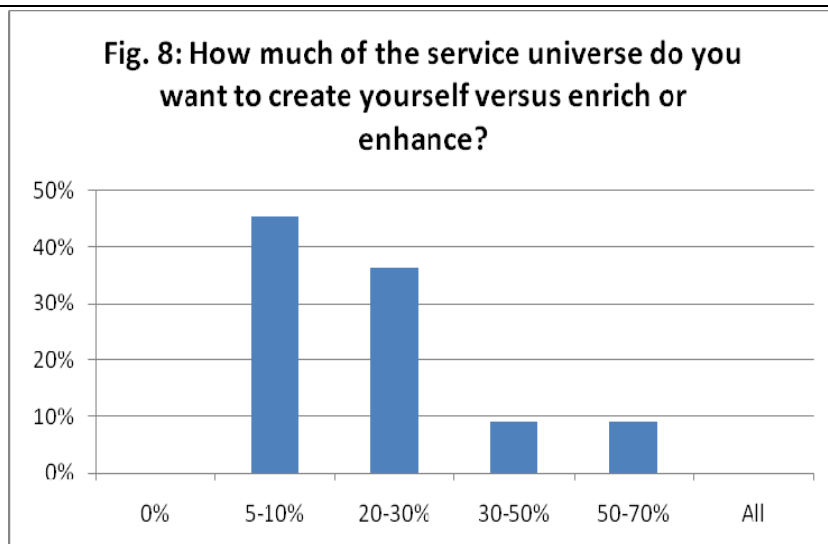
Not surprisingly, 100% of operators expect their customers to prefer applications that are better suited to them and their preferences, such as applications designed specifically for their device, utilizing their existing location and accounting for their affordability. Operators also believe relevance and cost will be the major deterrents with regard to downloading apps, with difficulty and time to download also likely to have a negative impact on the user experience (see fig. 7). Of the operators that listed “other” as one of the major turn offs for customers, a number of operators listed that the apps require very good supportive marketing campaigns, as has proven so successful with Apple, which sidesteps the turn off issue and presents discoverability concerns.



Source: Airwide Solutions

Fifty-five percent of operators believe a lack of relevance will be the overriding feature that could potentially stymie the expansion of mobile customers using apps (see fig. 8). Cost was also cited by 18% of operators.





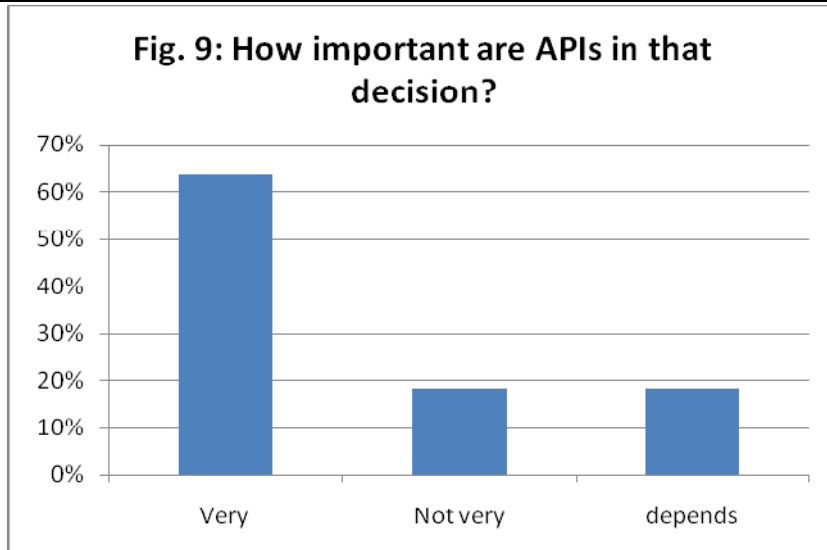
Source: Airwide Solutions

All of the operators are looking for a stake-hold in the creation of the service universe (incorporating apps). Not one of the operators surveyed wanted zero involvement or indeed 100% control of the service universe. Forty-five percent of operators would like to create 5-10% of services, with 36% looking to create 20-30% of services. Just fewer than 20% of the remaining operators would like to create in excess of 30% of services.

While these figures do reveal the extent to which the operators would like to enrich and enhance services, clearly there is a growing demand within the operator community to be involved in the service creation. What these results highlight is that operators are at various stages toward committing to a value-added service (VAS) creation strategy. The most advanced VAS operators are those that are already looking to create over 50% of services as a means to increasing ARPU, compared to other operators (5-10%) that are only now tentatively placing a toe in the service-creation water.

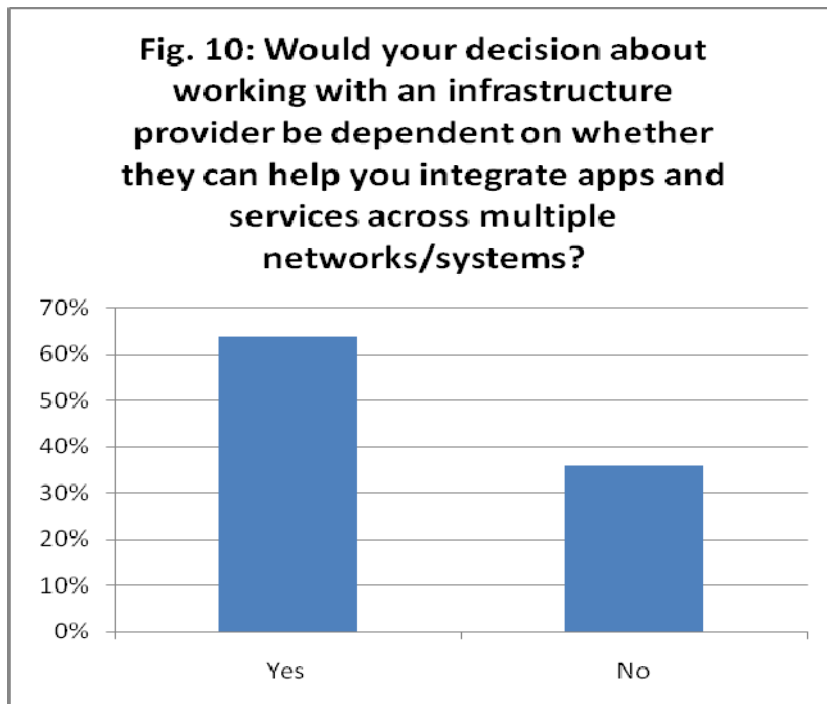
Within this growing requirement from operators for service creation, APIs are now playing an increasingly important role (see fig. 9). Sixty-four percent of operators confirmed that APIs are very important in their decision to create their own service universe. While those operators that said APIs were 'not very' important and 'depends' were evenly split just under 20%, operators said factors such as core enablers for enrichment of third-party enablers and core operator assets would also have to be taken into consideration.





Source: Airwide Solutions

Of the operators that participated in the survey, 73% had undergone or been involved in a merger. And interestingly, this potential network fragmentation would only prove difficult for the integration of applications and services to 50% of the operators that have undergone a merger; or to 36% of total operator respondents. Almost two-thirds of operators surveyed stated that their decision to work with an infrastructure provider would be dependent on their ability to integrate apps and services across multiple networks (see fig. 10).



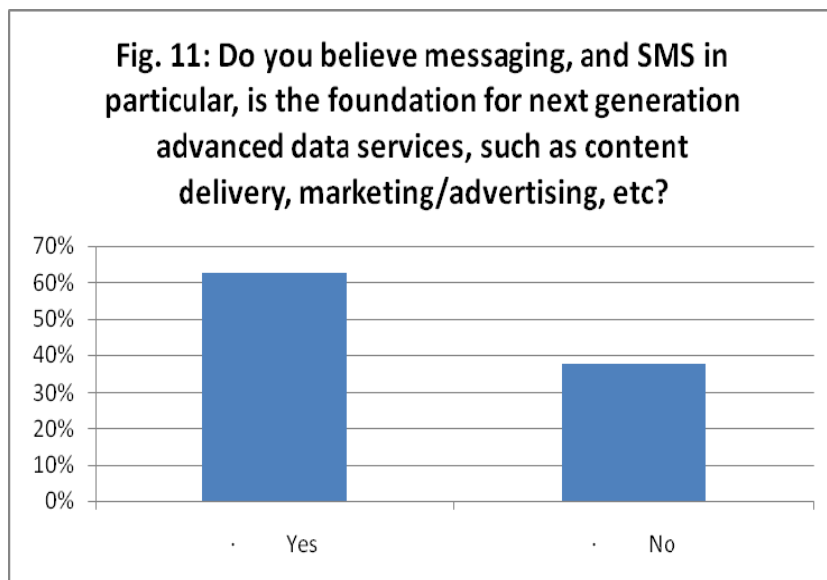
Source: Airwide Solutions



### 3 What operators need

The App Store has created the demand for a breadth and range of content and applications akin to those available on the Internet. Never before has the mobile operator been in a position to earn its title of “service provider”. Faced with falling ARPU for basic services like voice and basic text, operators globally are seeking to deploy advanced messaging-based Value-Added Services (VAS) with minimal impact on their network architecture and maximum return on investment (ROI).

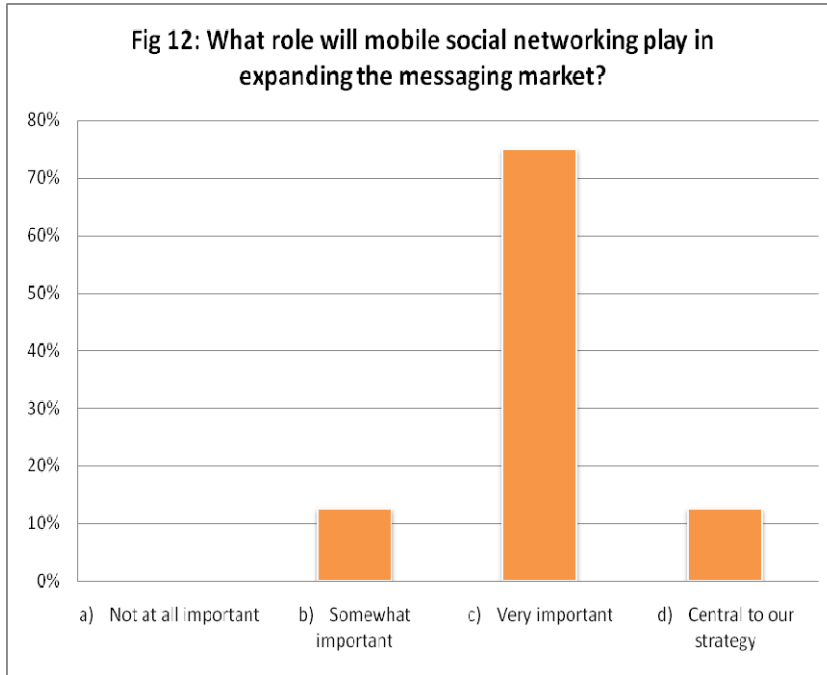
Results from Airwide’s survey on the future trends of messaging believe, reveal that almost two-thirds of mobile operators believe SMS is the foundation for next-generation advanced data services (see fig. 11).



Source: Airwide Solutions

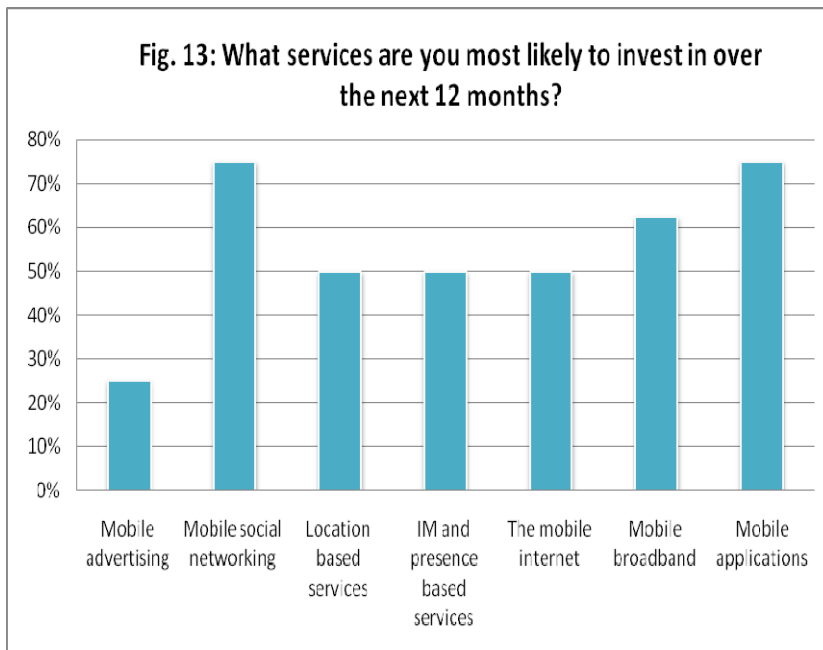
The survey highlighted mobile social networking as the standout service driving messaging growth, with three-quarters of operators stating that mobile social networking will play a “very important” role in expanding the messaging market (see fig. 12).





Source: Airwide Solutions

In fact, 100% of operators surveyed said they will invest in advanced data services over the next 12 months (see fig. 13). Mobile social networking along with mobile applications will be the two areas operators most expect to invest in over the next 12 months; 75% of operators claim they will invest in these two areas.



Source: Airwide Solutions

Mobile operators are also keen to integrate messaging into popular mobile Internet websites and applications that are now driving consumer adoption of new handsets and services. But many are faced with a plethora of technology choices from vendors but, fundamentally, operators must choose between two strategies. Firstly, they can build their VAS architecture and systems in a piecemeal fashion, adding components and complexity to their network to



enable new services to be rolled out to their subscriber base as they deem them to be market-ready. Secondly, operators can opt for an all-you-can eat consumer strategy through the implementation of an end-to-end platform.

Operators are looking to offer their customers a range of services (see fig. 14) that will build extra value, reduce churn to rival carriers and – crucially – stimulate additional revenue opportunities. Many of these new services revolve around potential integration between messaging and consumer demand for social networking, personalization and infotainment.

Over the past 12 months social networking in particular has been at the heart of many operators' strategies for mobile Internet growth. Some operators, for example, have announced phenomenal growth in social networkers on their portals. Mobile websites such as Facebook, MySpace and Bebo are now among the most popular non-portal destinations of operators globally. While the popularity of social networking is driving the adoption of the mobile Internet, it also represents a huge opportunity for operators to integrate network-based messaging into these services to generate incremental revenue streams.

<b>PERSONALISED SERVICES</b> VPN, CLI suppression, forward, copy, archive, recall, autoreply, signature, dual-SIM, group messaging, reminder, nickname
<b>SECURITY SERVICES</b> Inbox/outbox guardian, theft protection, antispam, antifake, antispoof, amber alerts, emergency response
<b>CHARGING AND PAYMENT SERVICES</b> Pay-and-Go, ad insertion, broadcast advertising, mPayments, topups, mWallet, mVouchers
<b>MOBILE MARKETING/CRM</b> Offering alerts, sales campaigns, prodPuct updates, mTicketing, Location/roaming aware
<b>CONTENT SERVICES</b> News, weather, stocks, adult, Browsing/Web based services, On-deck or off-deck
<b>SOCIAL NETWORKING</b> Micro-blogging, Video blogging, Buddy Alerts & Updates
<b>INTERACTIVE MEDIA</b> Voting, citizen journalism, video/picture contests, mobile quizzes, YouTube MMS

Source: Airwide Solutions

Many carriers now want to extend that capability to include additional services that enable their users to not only access popular off-deck destinations but also premium messaging services such as micro-blogging, video blogging, buddy alerts and status updates in an aggregated single point-of-access. With web 2.0 services becoming increasingly popular in the fixed-lined world, carriers globally are also mindful that users are seeking to access familiar services such as citizen journalism, YouTube and video uploads while mobile. Using state-of-the-art network infrastructure, these services can now potentially be enhanced with the consumer's location to deliver additional value in real-time (see fig. 15).

But it is not only the adoption of advanced services which is driving operator adoption of new messaging environments. The extension of basic SMS and MMS messaging to integrate IM, email and voice services is also key to many operators' messaging strategies.



Personalization such as storage and out-of-office provides a richer service and drives greater consumer value when the marginal revenue from core SMS services is being driven to zero.

Operators seeking additional ways to monetize their mobile Internet real estate are also seeking to deploy mobile marketing solutions that enable brands to target customers via the mobile channel. Messaging is undoubtedly key to the success of these services. Sophisticated mobile marketing platforms can help advertisers drive high click-through rates (CTRs) and demonstrable ROI's on messaging campaigns. As such operators are deploying solutions that enable advanced campaign management, while integrating presence-enabled alerts, mobile couponing, and smart CRM tools.

**Fig. 15: Adding value to mobile services and applications**



Source: Airwide Solutions

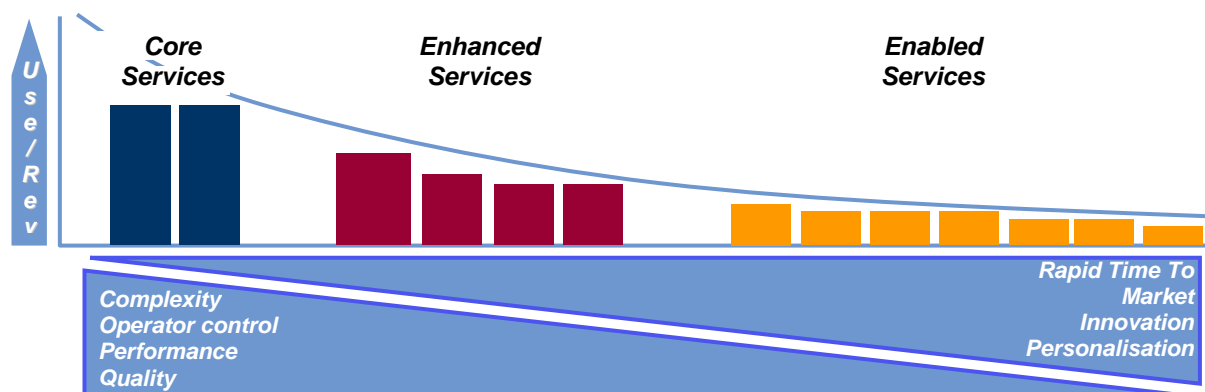
Operators are also enabling security services to provide consumer reassurance and parental control and integrated billing solutions to reduce barriers to consumer adoption of premium content.

### 3.1 Network enhancement

It is the network, however, that remains key to the development of new services. Network-enhanced and-enabled services will allow operators to integrate core functionality into new VAS. Network-based solutions empower carriers to integrate both popular and long tail third-party applications into the handset's location API, messaging interface and address book, for example (see fig. 16). This approach offers consumers more integrated services and will monetize the capabilities of both carriers' advanced VAS networks and increasingly popular smartphone handsets.

Fig. 16: The services landscape





Source: Airwide Solutions

The emergence of the App Store and other similar services from third-party content aggregators, handset OEMs and operators, is driving an unprecedented usage of connected applications. When integrated with network-enabled messaging and location solutions, operators can drive additional consumer value from these popular applications and services.

This approach is helping to reduce fragmentation and complexity while also providing the additional value that carriers can only realize through seamless integration of services with their messaging architecture.

As already highlighted, the success of the App Store has been phenomenal in terms of driving ARPU from applications. However, it remains a closed ecosystem. Moreover, only those applications that make it past the scrutiny of the App Store's content guardians are placed in the shop-front. The emerging trend across the global mobile industry, however, is towards openness rather than Apple's walled garden. Open source ecosystems such as Google Android and Symbian Foundation are enabling a vast array of new connected applications and services for the mass market. While the App Store's impact on the market is highly significant, the vast majority of operators are seeking to leverage the power of network-enhanced services using open ecosystems. It is this approach that has the potential to drive hockey-stick growth in revenues streams from VAS.

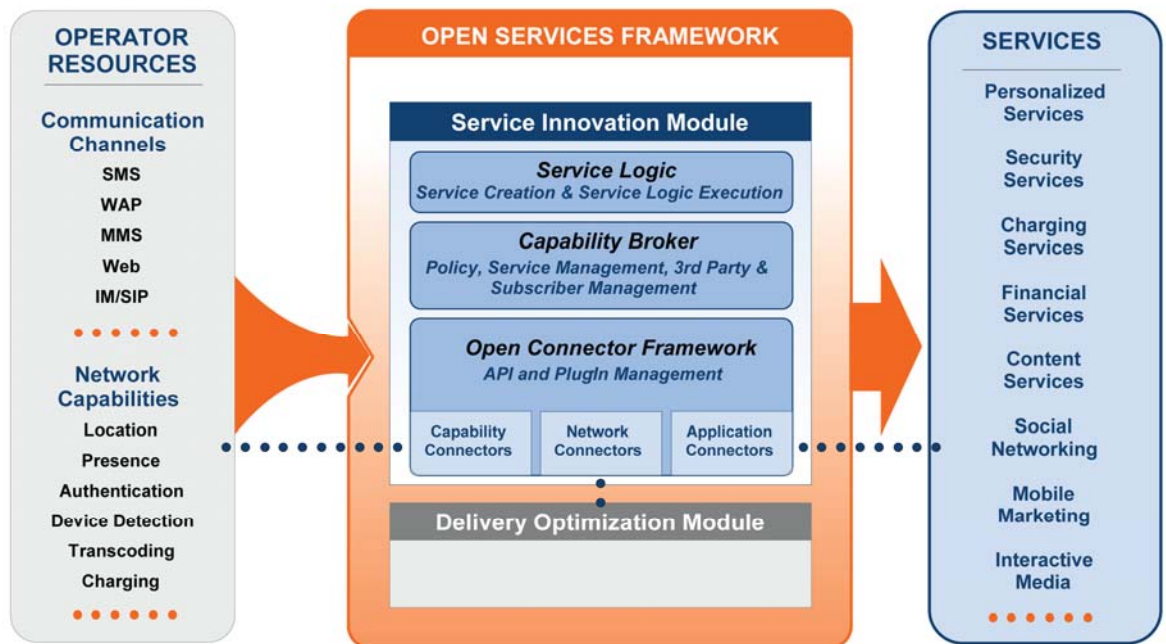
### 3.2 Modular

In order to drive this additional value, operators are looking towards modular infrastructure solutions. Operators' aversion to the risk associated with network upgrades is a key barrier that all infrastructure vendors must overcome. This is understandable given that messaging services now represent a sizeable chunk of most operators' revenue streams. Furthermore, operators are also mindful of the mistakes of the past when deploying monolithic, technology-based infrastructure instead of service-based infrastructure.

Consequently, most operators are now seeking flexible solutions to future network upgrades (see fig. 17). This approach will enable carriers to seamlessly roll out innovative VAS, without impacting negatively on their current network architecture or services. It is this modular approach that will enable operators to pick and choose the services they need to roll out - and when - while ensuring that they future-proof their architecture.



Fig. 17: The modular approach



Source: Airwide Solutions

Central to the success of building a long-term ecosystem for advanced messaging services are open APIs that enable third-party application developers to integrate their services with an operator's VAS architecture. Truly open APIs for developer communities are on the vendor roadmap for the next 12 months and are likely to drive substantial application-based messaging volumes.

The ability for developers to easily connect with new architectures is particularly important given the complexity of the legacy operator environment. Existing systems are composed of numerous components, often with a variety of proprietary and standards-based protocols, or duplicated hardware. Integrating new technology or applications with this complex environment is a huge challenge. Therefore future network upgrades must take account of this fact. Indeed, it is a modular approach to developing legacy systems that will both reduce this complexity, and also enable operators to squeeze the most value out of earlier investments.



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## 4 Conclusion

The iPhone has demonstrated not only the phenomenal consumer demand for mobile applications, but that by reducing industry fragmentation all players in the value chain can make a sustainable business model from this type of mobile content. With the App Store, Apple has created a substantial and valuable market in a very short space of time – in a sector of the mobile industry where the pace of change can be frustratingly slow.

Traditionally, consumer acceptance of wireless evolution has resulted in a considerable time lag. Take 3G, the mobile Internet, even early forms of mobile content and services. But with the App Store, the concept is simplistic and the consumers understand it, though only a fraction of the mobile audience can access the App Store.

The success of the App Store has reignited what was a fading opportunity. Content and services have been reinvigorated by the iPhone and the industry is abuzz with similar app store announcements. The downside is that the existing hurdle of device and OS fragmentation stands to increase as OEMs release their own proprietary response to Apple.

What's more in a time of uncertain economic conditions, the replacement cycle of consumer mobile devices is lengthening which means the migration to high-end and smartphone devices will also be extended, and therefore potentially prolonging the limited access to app stores and their contents.

As already highlighted earlier, there is a clear consumer demand for this centralized content and services solution. This means for mobile operators intent on driving ARPU, deploying an app store-like offering is the ideal solution of delivering content and services targeting the broad mobile demographic. It is a strategy that guarantees the operator flexibility and the timeliness to respond to changing market and consumer requirements and demands. A network-based solution using common APIs overcomes the pitfall of device and OS fragmentation and ensures that mobile operators will play a pivotal role in delivering app stores to the mass market to consumers without high-end devices and smartphones.

More importantly, operators will not be disintermediated from the content and services value chain.

