



A R R A Y E N T

White Paper:

**On Selecting an Optimal
Mobile Application Business Model**

The Mobile App Business

The mobile application business has become significant. Between 2008 and 2010 over 300,000 mobile apps were developed. IDC says that in 2010 that there were 10.9 billion app downloads, and they predict that global downloads will reach 76.9 billion in 2014 and will be worth US\$35 billion. Canalsys forecasted in June, 2011 that direct revenue from the sale of apps, in-app purchases and subscriptions across smartphones and tablets would be \$7.3 billion in 2011 rising to \$36.7 billion by 2015.

Nielsen studies the popularity of applications that smartphone users have on their devices. They make note of whether smartphone users have free apps, paid apps or combination. Their findings are summarized in Figure 1 below:

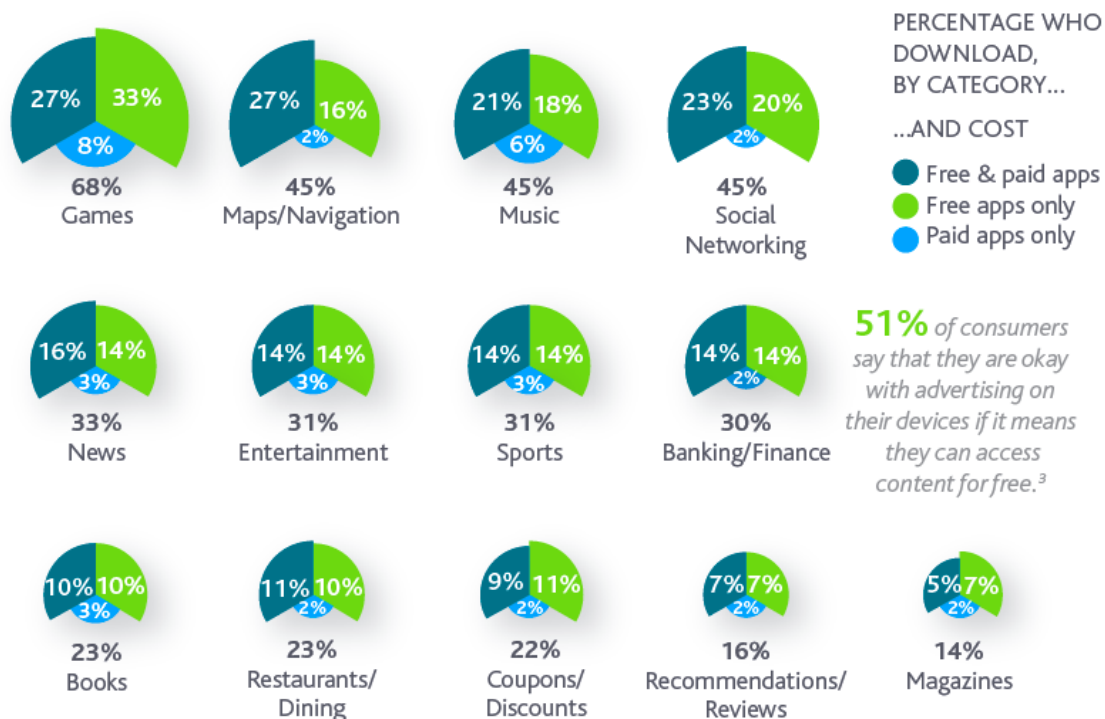


Figure 1: Percent of tablet and smartphone users that downloaded an app in December, 2010.

[Source: Nielson](#)

Seeing the mobile application business as an opportunity, consumer product brand owners are starting to develop mobile applications so that users can interact with their Internet-connected devices using smartphones and tablets. Of course, some manufacturers will choose to make their smartphone apps available for free, electing to recover the cost of the app development in their product's purchase price. However, some smartphone apps may deliver enough incremental value that they can create new incremental revenue streams for the brand owner.

Business Model Options

There are six business models for generating revenue from smartphone apps: advertising, one-time purchase, free trial, freemium, subscription and in-app purchase (of high value software features or related products and services).

Advertising

Some categories of smartphone applications are very “sticky” – in other words, users are repeatedly accessing the app many times a week or even multiple times a day. For this class of applications, the manufacturer may be able to sell banner ads and/or sponsorships from related or adjacent product vendors. [Nielsen reported](#) in December, 2012 that 51% of smartphone users will accept advertising if the content is free. You don’t have to go out and sell ad space yourself. There are many smartphone ad networks such as AdMob (now Google) and InMobi to facilitate the placement of ads and realizing advertising revenue.

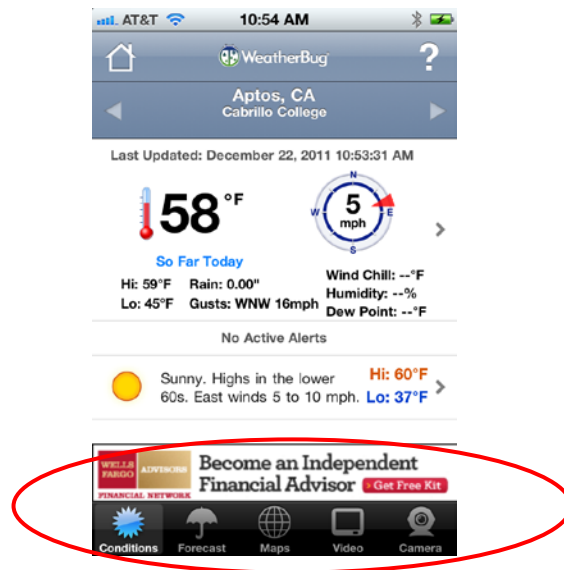


Figure 5: Weatherbug generates revenue from its 38 million customers by displaying advertisements within its iPhone app.

One-Time Purchase

The most common smartphone app business model is a simple one-time purchase, where users must pay an upfront license fee before they can download and use the application. A purchase-based business model is most useful where the app delivers immediate and significant utility to the usage of the connected device. The vast majority of the top grossing apps on the iTunes app store employ this model.

According to research done by Piper Jaffray in June, 2011, 82 percent of the apps on the Apple App Store are free; the other 18% are paid. The average selling price, ASP, for an iPhone app is \$1.44 across all apps, and \$1.61 for the top-50 iPhone paid apps. The ASP for the top-30 paid iPad apps is \$4.66.

Free Trial

The first challenge is to get users to download and start using the app. The free trial is a common technique among cable TV operators. In this model a fully functional version of an app is offered at no charge for some limited period of time, and then charge users for continued use after the free trial period expires. The free trial eliminates the initial purchase price objection. But brand owners risk alienating their customers when the free trial ends. Consumer memories are notoriously short, and even be selective. Many consumers may perceive the expiration of

free as a take away for functionality to which they are entitled. So success means trials less than 90 days (as cable operators do.)

Freemium

The “freemium” business model addresses the challenge of eliminating both the upfront purchase price as a barrier to entry, and consumer backlash when a free trial expires. In this model, manufacturers offer a basic version of their smartphone app for free. In most cases, the basic version has a reduced feature set but enough capabilities to motivate users to download, install, and start using the app. Once the user has become familiar with the app, the manufacturer offers an upgrade to a fully functional or more advanced version.

One example of a freemium business model comes from VueZone, a personal video network solution in which users install video cameras at their home or office so they can remotely monitor their property, family, and pets through live video feeds. The basic VueZone service plan, which is available for free, supports only two cameras and the video feeds can only be viewed on a PC. However if the user signs up for a monthly or annual service plan, users can add up to five cameras and view the video feeds via smartphone apps.

Choose a service plan:

Basic	Premier	Elite
Live remote viewing	Active alerts and recording so you don't miss out. Includes VueZone Mobile	Perfect for small businesses or users with heavy demands
Included Free with every system	\$49.95/yr \$36.95 FOR A LIMITED TIME OR \$4.95 per month	\$99.95/yr \$79.95 FOR A LIMITED TIME
View on your computer	+ ADD TO CART + ADD TO CART	+ BUY NOW
View on your computer	View on your computer	Supports up to 3 gateways (coming soon)
2 Supports up to 2 cameras	View on your smartphone	More storage: 500MB
	5 Connect up to 5 cameras	15 Supports up to 15 cameras
	More storage: 250MB	Plus, everything in Premier.
	Video email alerts	Learn more
	Pan and zoom digitally	Learn more

Figure 2: VueZone offers a basic service plan for free; and Premier and Elite service plans for monthly or yearly subscription fees.

In-App Purchases

An alternative to the “freemium” model is to offer a basic free app and within the app up sell higher value features, or even sell related physical products. This model attempts to achieve the best of all worlds, first, eliminate initial use barrier, and capture value delivered on an ongoing basis after the initial sale. It is this business model that converts “free apps” into becoming listed as top grossing apps reported on the Apple iTunes app store.

In the In-App Purchase model, the brand owner, partitions applications features into those that are free from the start and into those that have value worthy of a nominal fee. In app purchases model teases the consumer to upgrade while they are using the app. For example, a free feature can be to monitor a product; the control or alerting feature could be sold within the app.

In addition, in app purchasing can mean recommending and selling physical products from within the application itself. ComScore has found that [40% of smartphone owners made a purchase](#) using their “phone” as of September, 2011. Purchased items include songs/music, eBooks, ringtones, images, movies, TV shows, clothing or accessories directly from retailer, concerts and movie tickets, daily deals and gift certificates. To exploit this trend, apps are emerging that facilitate product purchase within the app itself. For example, Cor.kz is an iPhone app that offers information about wines including ratings, comparisons, pricing, and purchase options. The free app only displays wine quality by vintage/region/grape. For \$2.99 you can access crowd sourced wine reviews for specific wine (vintner and vintage.) If you like a wine review, the app makes it easy for you to order that wine from directly within the app, for which Cor.kz earns a sales commission from its wine merchant partner. These sales referrals create an ongoing revenue stream that keeps the price of a very rich application for a small fee.



Figure 3: Users can order bottles of wine from directly within the Cor.kz iPhone app which helps the publisher subsidize the cost of app development.

Subscription

A subscription fee, either on a monthly or annual basis is common when the utility of the app is sustained over time. High quality content providers like the Wall Street Journal and New York Times offer their content on a subscription basis.

Another example of the subscription model an iPhone/iPad app called Remember the Milk, which is essentially a mobile to-do list that helps people remember all the things they need to do. The free version includes the basic to-do list functionality including prioritization and due dates. A more advanced version is available via in-app purchase on a subscription basis (\$2.99/month or \$24.99/year) and includes automatic synchronization across devices and with a hosted service, as well as push notifications and reminders.

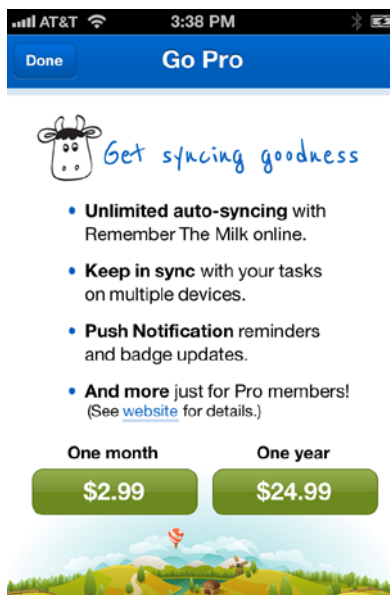


Figure 4: The basic functionality of Remember the Milk is free, but users can get value added features by signing up for a subscription.

To learn more about the different considerations in picking a business model see the article titled Choosing The Right Business Model For Your App (Xconomy, 4/15/11, <http://www.xconomy.com/san-francisco/2011/04/15/choosing-the-right-business-model-for-your-app/>).

The Importance of Flexibility and Agility

Internet connected devices are just now emerging and the notion of having an associated smartphone app that delivers incremental and ongoing value is still relatively new. Similarly mobile app business models themselves are not well established. The optimal business model for any given product or product line will likely vary depending on the specifics of the combined device/app solution.

During this early market development stage it is important for brand owners to be flexible and agile. Apple is well known for correcting pricing problems (e.g. iPhone I and e-book

commissions) within 60 days of product announcement. Similarly, manufacturers will need to experiment with multiple smartphone app business models, and steal a page out of Apple's play book to "fail fast and fail cheap" – in other words, to try different approaches at a minimal investment to quickly learn what will ultimately be the best business model for their unique offering. In the end, the best result may be a combination of multiple business models.

About Arrayent

Arrayent (pronounced uh-RAY-ent) sells an Internet-Connect Service that is used by consumer product companies to connect their products to smartphone and web applications in a low cost and reliable way. Arrayent has optimized its Internet-Connect service on two axes: first, very low cost residential gateway and hardware adder to the product, and second, deliver a just-works-install process to ensure low product return rate and customer support load. Arrayent's communication system architecture is LAN technology agnostic (today supporting Ethernet, Wi-Fi and customer proprietary RF LANs.) Being LAN agnostic enables Arrayent customers to preserve their growing investment in web and smartphone applications and at the same time, support multiple home area network technologies. Arrayent's cloud computing communication infrastructure is hosted at redundant co-locations to ensure high system reliability. Customers have called Arrayent the "Cisco of small things." For more information please see www.arrayent.com, and e-mail us at info@arrayent.com.