

## MOBILE APPLICATION MONETIZATION

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### **Abstract**

*Today mobile applications are everywhere, but at later or even early stage in order to maintain and promote it you need to do more investments. One of the solutions nowadays represent the mobile application monetization. The idea of monetization of a mobile application is not an easy task, even if you have a brilliant idea regarding the application itself. There are many examples and case studies regarding different size companies or individuals that show their results during the way, but most of them present the most suitable business model for their case. This paper will present common used monetization trends or better said business models used within the majority of mobile applications with some more analyzed examples based on research, theoretical and practical model on the field. At the end will be presented an overall conclusion regarding mobile application monetization in 2019.*

**Key words:** *monetization, mobile application, business models.*

**Jel Classification:** *M310, M370, M150*

### **INTRODUCTION**

Today creating a mobile application is an easy task, if you are a developer or entrepreneur that wants to give a try for an idea. The main challenge comes when you want to make money from it. It's no news that mobile applications are everywhere, ideas or application purpose basically repeat themselves with some minor changes related to design or functionality. There are many ways to make money from a mobile application, but at the end they might be divided in two main groups: you either make money by selling the application on relevant store or you make money after the application is installed on user's mobile phone, without taking in consideration from where the user installed the application. This paper will serve as an introduction to the process of creating possible business models regarding the monetization options and some case studies done from practical point of view and research. In the results and discuss chapter will be presented two case studies were developed within "Titanium-Software".

### **MATERIAL AND METHOD**

This article is part of a comprehensive study in mobile development within business activities, which aims to highlight how monetization can enhance the income of an organization. The methodology used in the elaboration of the article is based mainly on the research, experimental, survey and deductive method. The data obtained from the investigation have they were interpreted in a comparative and deductive style over many developed mobile applications.

### **Mobile Application Major Objectives**

According to Appcelerator/IDC Mobile Developer Report [1] developers and business have four major objectives with their mobile applications, each seeing increasing interest by the major platform players. These objectives are (Figure 1):

1. Awareness
2. Engagement
3. Monetization
4. Loyalty.

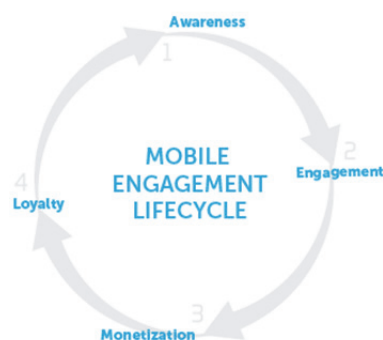


Fig. 1 – Mobile Application Major Objectives [1]

### **Awareness**

The App Store is a tough place to make a living and discovery remains one of the key challenges facing any business. Amazon's recent move into the Android market is interesting because Amazon has the real opportunity to help solve the app discovery problem through a decade's worth of ecommerce leadership [1].

### **Engagement**

As competition in mobile software increases, so also do the customer acquisition costs. As a result, what happens in the app to maintain engagement is critical. Google and Apple are interesting because they break down the heterogeneous social graph into smaller 'circles' of more homogeneous groups. With narrowly-defined utility the name of the game for most mobile apps, this type of approach in 'niche' social aligns well with how applications are used today [1]. Additionally today they promote more and more the cloud solutions and serverless applications that do not require traditional server involvement, especially for an early MVP stage.

### **Monetization**

As usage-driven applications become more popular, transactions move away from the app store distribution channels to the application itself. Comparing the study results presented by private organizations like Statista, we can see that the numbers are increasing dramatically per past quarter [2].

### **Loyalty**

Loyalty similar to engagement, loyalty is critical in mobile as acquisition costs increase. There are two major components to ensuring loyalty in mobile: robust analytics and encouraging repeat usage. Analytics are essential to understand where users are having the most success within applications and where there's room for improvement. Almost all successful applications today use solutions from companies such as Flurry, Omniture, or Appcelerator to understand user behavior patterns. Advanced geo-analytics are also appearing on the scene to offer contextual understanding of application usage over time and location [1].

### **Distribution channel**

Regardless of the chosen business model, first and the most important prerequisite, besides the development part is to deploy and distribute to target audience. Currently there are a lot of mobile application distribution stores [3, 4] and each store has its specific restrictions regarding the apps like running Operating System, devices, services restrictions (for example China) etc. All mentioned points can have big impact over the chosen monetization business model.

## **Business Models**

Currently exist many definitions regarding mobile monetization business models, but they can be grouped in 3 main usage categories:

1. Advertising (Ads)
2. In-App Purchase (IAPs)
3. Hybrid (application that use more than one business model).

### **Advertising**

Due to the fact that every mobile application tries to gain any revenue from the users, mobile ads have improved and support many formats (Figure 2) [5]. They can allow to do complex operations in order to keep user retention of installed apps. Nowadays they can include many factors in consideration like:

1. Target age
2. Target interest
3. Target Region
4. Etc.

The Ads can be also grouped in 3 main subcategories:

1. Target certain campaign
2. House Ads
3. 3<sup>rd</sup> party.

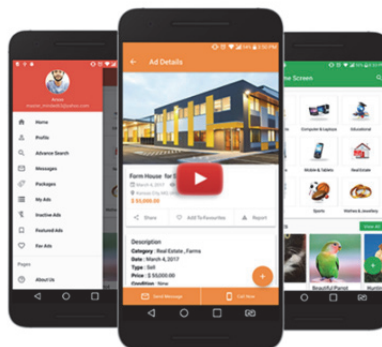


Fig. 2 – Different ads format [5]

### **Client Campaign**

Most of advertising companies (like Google AdSens, Facebook Ads, AdsWizz etc.) provide an advertising SDK that can be integrated and used within the mobile application, followed by an advertising agreement. This can allow the publishers to setup a private advertising campaign for won clients. This service is usually not for free, but can be interesting for some companies that have business relationship out of which the advertising agreement could be created. These ads won't be shown in publisher's mobile application but in other applications as well.

### **House Ads**

House Ads represent a special feature in which the publisher can display their own ads in order to promote the same business or any other owned business, application or product. These ads are usually for free and could be configured based on publishers' interest. Displaying own application ads could be tricky and the publishers carefully decide when and in which ratio to show them instead of ads that could generate direct money (by impression, click or install).

### **3<sup>rd</sup> Party**

3<sup>rd</sup> party ads represent standard ads integration from the ads company provider. All publisher decisions depend from the provider and the mobile application, just use them.

### **In-App Purchase**

IAPs represent a powerful business model of monetization that comes with loyalty from the existing store users and ready for use platform in order to track different business operations. The most popular existing stores that promote IAPs are Google Play Store and Apple App Store. The most common used business models based on IAPs services inside most of the mobile applications are the following [8]:

- Freemium
- Paid Apps
- App Merchandise
- Consumable
- Non-Consumable
- Subscriptions
- Donation
- Marketing Referral.

### **Freemium**

A freemium business model offers a basic service for free; additional premium functions or services are only available for a fee. The freemium business model is known as the “business model of the Internet”. The term freemium combines the words ‘Free’ and ‘Premium’. The basic product is available for free. The company generates revenue by offering connected premium product, i.e. additional functions or services which usually attract a small number of users. By giving away the basic product for free it is easier to lure users and create a customer base. This business model pattern is one of the most widely used for Internet start-ups [9].

### **Paid Apps**

Paid apps represent a standard way or better said traditional type of monetization. In order to see the content of the application user must buy the application in the first place [6, 7] from the relevant store and get access to the application. All the access management system, that determines if the application can be downloaded or not, is done on the store itself.

### **App Merchandise**

App Merchandise [6, 7] represent a business model that allow users to buy content within the mobile application. These goods can be:

- Consumable Goods – goods that be bought many times with no limit, consumed and renewed (like game tokens, prizes, limit extension etc.);
- Non-Consumable Goods – goods can be bought once and are available each time the user enters the application or reinstalls it from same account (like ad-free, extensions, expansion, special features etc.).

All the operations and business model are done on the store itself.

### **Subscriptions**

Subscriptions [6, 7] represent a business model that follows a simple rule “use as you pay”. From the moment the user cancels the subscription on the application, he cannot access further its specific content or the entire app.

### **Donation**

Donation [6, 7] was added as part of the IAPs in order to allow consumers to help and promote the application owner to develop and maintain the product. This type of business model is commonly used for small applications, open source applications tools or other type of non-profit applications.

### **Marketing Referral**

Marketing Referral [10] is a trend to gain more attraction to the application, in order to increase the daily active users and downloads on the stores. The common use case is an application user engages other one to use the mobile application. Initially it was designed specifically for the game industry with different rewards for both parties, but lately it is promoted also in other type of mobile application industries.

### **Mobile Application Store Fee**

Due to the fact that all big mobile application stores are owned by big companies like Google, Apple etc. their policy allow users to make monetization with their apps inside the store, but for a price. This price [6, 7] can vary from 15-30% or even more. Some big companies as Waze [11] make special agreement in order to publish their app in specific environments (like Android Auto or Car Play) in order to extend the monetization.

### **Hybrid**

Hybrid represents a business model within mobile application monetization that uses different strategies of monetization in order to achieve an income. They usually are decided by the business owners and don't have any strict rules of usage. The only issue that they can face are the store restrictions, where they can be rejected, disabled or removed completely if it doesn't respect their policies.

## **RESULTS AND DISCUSSIONS**

The results, surveys and surveys from different private organizations like AppAnie, Appaccelerator, DCI and other ones show that the mobile monetization succeeds in case if the owner chooses the right business model that fits to his product, promotes it and permanent involves in user engagement in order to keep retention. They were made two case studies within “Titanium-Software” during the mobile development that required monetization integration.

One was related with audio ad insertion inside a streaming mobile application that was installed inside the board computer cars (cars that have board computer running on Android OS) from different retailers. After 2 years, since was finished the development and we switched to support were got the following statistics:

- Production Daily Active Users ~4500
- Debug Daily Active Users ~500
- User retention ~72%
- User Retention Loss cause of ads 8%.

During this period of time we observed that audio ads insertion was working more or less until we started to apply different strategies of streaming it to the consumers. At the beginning it was simply inserting audio ads in any podcasts, music stations or radio stations, but in later stage it ended with a complex strategy based on user attraction. As result the consumers started to use the application more and more, even they know that they might have a chance to listen to any ads.

Another application was designed for users to drop smoking. The mobile application lifecycle is pretty straight forward; user uses the application until he drops smoking then uninstalls the application. Within the application were integrated different type monetization like ads banner, donation and consumable goods purchase. After about one year since we stopped the development phase were got the following statistics:

- Over 1 million total downloads
- Daily Active Users ~1000-5000
- User Retention ~41%
- User Retention Loss cause of ads 23%.

After a period of time we understood that monetization depends on mobile application usage lifecycle. As was mentioned previously in this specific case, after the user dropped smoking he had no need to use the application anymore. In order to increase income inside the application were added wisely more monetization types and more investments in more marketing companies to promote the app's popularity. In the end the business model was changed to a hybrid one and the mobile's application business side was targeting to increase the number of downloads and active daily users, rather than keeping the user's retention.

## CONCLUSIONS

Monetization from a mobile application can bring to any organization a big income and reputation within its business activity domain. There is no predefined business model recipe for monetization that would work for a specific mobile application. The owners of those app must practice always new strategies and do research based on consumers feedback in order to achieve success.

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