# MARKETING STRATEGIES IN MOBILE APP DEVELOPMENT

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**Purpose:** The article attempts to show that the effective marketing is a key condition for achieving large profits in mobile app development.
**Design/methodology/approach:** Promising IT projects can, very often, end in a disaster if people do not choose the right strategy of sales. There are many promotional activities available as well. This study investigates different types of business models that are currently used in the marketing of mobile applications.
**Findings:** Different types of business models will be compared with their effectiveness and popularity. In addition, the advantages and disadvantages of different strategies will be reviewed. Moreover, aspects, which influence the final revenue from the application, will also be shown.
**Originality/value:** The entire discussion and the selection of the best strategy will be summarized.

**Keywords:** marketing, strategy, business, mobile.

**Category of the paper:** Research paper.

## 1. Introduction

In 2017, the Nobel Prize in the field of economics was awarded for research, which allowed to combine psychological studies with the analysis of the economic decision-making process. Limitations of our rationality, social preferences and problems with self-control – such phenomena, among others, affect the behavior of individuals in the economy (Mooij, 2019). Therefore, the choice of marketing and finding a gap in the application market is so important.

This choice can have a significant impact on the psyche of the application users. These two things are behind the success of the largest brands in the world.

In the beginning, it is important to correctly identify the type of business model that matches the sold application. It is worth defining the answers to questions about the scope and purpose to be achieved through the application.

The first of them is: what problem is app trying to solve and how? The answer to this question should be determined before the development of the application begins. The project must be able to solve a specific problem, preferably in a way better than the competition could solve it. If the application is worse in terms of attractiveness of appearance or speed, it would be written the same way as if it was unnecessary for users, because it would not solve their urgent problems.

The second question is: what is unique about the app and would people pay for this? An application that proposes a solution that is already implemented by other companies has a much lower chance of achieving success. The issue here is, that the previously-released applications already have loyal fans. Also, it would be quite difficult to make the brand recognizable, while the existing solutions are already well-known. Therefore, it is necessary to create an application that offers a unique solution, at least on a regional scale. Then, it may turn out that users will be able to reach into their pockets to have access to it.

The third question is: what else do you think app users would be willing to pay for? Usually, this question concerns the mental sphere of people. If the application will be able to bring the user profits beyond the target functionality, then they will be willing to pay more for it. Such profits certainly include: increasing popularity, gaining respect and living in accordance with the trends. That is why, nowadays, the most successful are social applications, where users are happy to inform about their life and appearance.

The last question is: what business models do competing apps use and how well did they work? Here, the answer is the proper research of the market. The selection of an appropriate financing strategy is usually dependent on the strategy chosen by the competition. Each of them has its own specificity and brings various profits, depending on the purpose of the application.

Only the answers to all these questions will help to determine whether a given business will reach profitability. A thorough analysis is necessary to achieve success. Without it, the production of a mobile application and any other business could fail, even in the development phase of the product.

## 2. Business models in mobile app development

The specification of mobile applications allows for the use of many different marketing plans that can bring benefits to their creators. Each of these strategies is characterized by a different approach to payments related to the use of the application. Some of them are based on gradual attachment of clients to their solutions, others require a specific amount of money at the beginning. Each method will have specific advantages and disadvantages presented in this chapter (Vaynerchuk, 2019).

The first model is In-App-Advertising. In this business model, companies remove the main obstacle, which is the cost of purchasing an app. Characteristic for this model is the ability to download the application for free. The main purpose of these applications is to get the largest database of users. Thanks to the information gathered about them, the application can earn money by showing them ads based on their interests. The advantage of choosing this plan is the ability to quickly acquire users, because they prefer free applications. Additionally, developers can collect a lot of information about them and, in these times, the data is very valuable. This model can be very effective when ads are accurate and unobtrusive. In addition, advertisements in mobile applications can take many forms, from ads covering the entire screen, to discreet banners that secretly affect the user's psyche. The main disadvantage of this solution is that a user who does not like ads in the app is likely to discard it after the first use. In addition to that, this strategy is recommended for large-scale applications. Local applications with a small number of users, unfortunately, will not generate any advertising revenue. It should be remembered, that the surface of smartphones is limited in relation to other advertising media, that is why not everything can be placed on them (Alomari, 2016).

The second marketing model is Freemium. This model is somewhat similar to the first, because users can download and use the application for free. Only additional features and unlocking subsequent levels require money. The main advantage of this model is the ability to accustom the user to use the application and then demand money from them. This approach is more flexible, because people who prefer trying something before they buy it are more likely to become engaged and loyal users. A blessing and a curse of this solution may be the flexibility regarding features, because company can freely decide which ones can be in the free plan. If an app offers too few features for free, it will not be attractive for users. On the other hand, if company offers too many features, it will be difficult to convince the user that it is worth paying more for additional features.

The next common business model in the app development is the Paid Apps model. Simply speaking, this strategy is based on charging users for each download of the application before its first use. These prices usually range from USD 0.99 to USD 999.99. Undoubtedly, the great advantage of this solution is immediate profit, without the need to wait for the user to like the application enough to pay for it. In addition to that, users who pay for the app at the beginning

seem to be more loyal towards it than the users who have the app for free, because they have invested their means to use it. For users, using a paid application means getting rid of intrusive ads, because usually applications in this plan do not contain them. Unfortunately, this solution, like any other, has its drawbacks. First of all, app stores are overloaded with competitive software. In most cases, it is free, so if the application being sold does not exceed the functionalities of the competition, it will not be attractive enough. What's more, the paid model requires profit margin to be paid to the app stores. For example, the App Store charges 30% of the application's price from the publisher. However, this is not just a figment of Apple. This price includes e-transaction taxes applicable in different countries, costs of intellectual property protection and other factors (Apple Developers, 2019). The last disadvantage of this solution, worth mentioning, is the fact that there are still poor and non-technical people in the society. Usually, they are averse to the choices related to transactions with money on the Internet or in the smartphone.

The next popular marketing model in mobile apps development is In-App Purchases. This monetization strategy is based on selling physical or virtual goods within an app. This method of purchase works primarily in the field of games, where the user is often able to spend money for additional improvement of the character, which represents them. The action like this has a double meaning. First, the user can distinguish themselves among others with something special, which all users know is expensive. Secondly, thanks to the purchased goods, the character acquires additional powers, which makes it much easier to overcome levels or obstacles. A high ranking position, even using dishonest tricks, is a good motivation to spend money. This type of plan is a very good option for entering into partnership and advertising agreements that allow distributors to sell and promote products with company logos, which can bring additional money. Unfortunately, as with any strategy that can be more profitable, distributor would have to deal with taxes and margin withdrawals through app stores. What is more, developers are often obliged to comply with strict addiction laws for children, who can buy goods in the application.

Another marketing plan, that is currently gaining popularity, is based on subscriptions, which are basically regular fees, paid in specific periods of time, e.g. every month. Currently, this solution is very popular, because the user can test the application initially for free, and when they like the functionality or want to have access to more value, they decide to pay. The great advantages of this plan are constant, relatively low fees and the possibility of resignation at any time. There are significant similarities between this plan and Freemium. The user gets the impression of control over their expenses, they pay only when they want and need it. The biggest disadvantage of this system is the problem with deciding which functionalities should be in the free plan and which should be in the paid plan. It all depends on the quality of the content that is being sold.

The last method to earn money from the sale of mobile applications, which will be described in this article, is sponsorship. It consists in the creation of an application for a company that gives the possibility to provide targeted users. This solves the biggest problem of the distributors, because users are the guarantors of money. The profit from the application is usually distributed between the sponsor and the software manufacturer in proportions depending on internal agreements. The main advantage of this solution is certainly the satisfaction of all parties involved in the production. The sponsor, who usually is an advertiser, receives a free and fairly large space, in which they can advertise their product, or even devote the entire application to this ad. The software distributor gets assured that their application will be used and will have a share in the profits from the application. The satisfaction of the user, who receives the product they expected, and which fulfills their requirements, is also important. The disadvantage of sponsorship is the lack of significant knowledge and examples, because this model is relatively new. Its assumptions seem very good, but in practice people should wait for the results of such cooperation in larger applications. Only after remarkable successes it will be worth investing such a model. However, it is worth remembering, that if people are precursors in their field, they can achieve higher profits and more easily position their brand on the market.

## 3. Popularity and effectiveness of revenue models in mobile apps

The best indicator of the popularity and effectiveness of a revenue model is the reality. On the basis of the number of downloads and profits of a given application, people can find two important things: how attractive is the content the application offers and how a relevant marketing plan has been selected. Without a doubt, mobile application marketing is a topic worth attention, because the value of these goods is constantly growing (App Revenues, 2019). According to the statistics in the recent years, the profits from mobile applications are constantly growing and, according to forecasts, in 2020 they are predicted to almost double the profits they generated in 2016 (Figure 1).
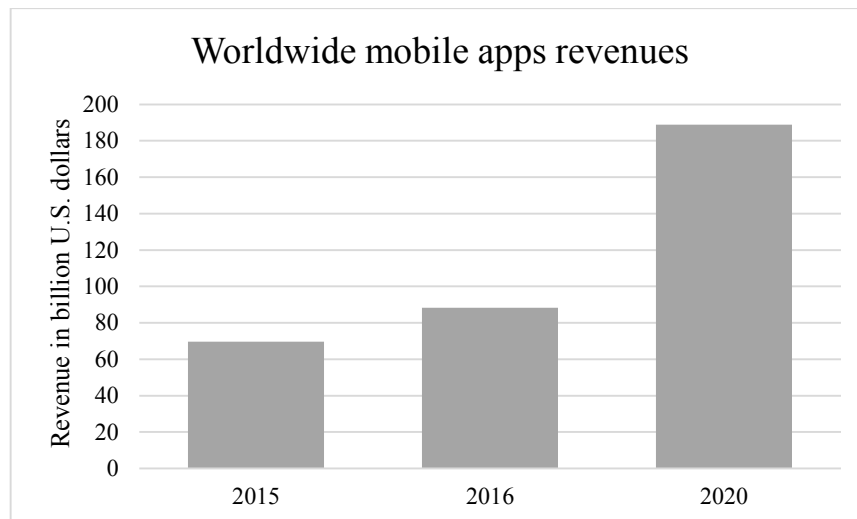
**Figure 1.** Worldwide mobile apps revenues for years 2015-2016 and predictions for 2020. Adapted from: "Statista" by https://www.statista.com/statistics/269025/worldwide-mobile-app-revenue-forecast/.

It is difficult to find reliable data on the popularity of marketing models in the last years. In 2014, the Developer Economics portal conducted a survey among programmers, the results of which show which models are used the most and bring the best profits. What is important, there are often applications that combine two or more business models, depending on the functionality they propose. Comparing the two years, we can see trends that have begun to clarify. It is noteworthy, that there are no sponsorships among the five most popular models, but it is a new and niche model so far, thus it was not well-known and used at that time. In the graph, presented in Figure 2, we can see an increase in the applications that use advertising and in-app purchases. This increase in popularity continues to have its effect, because applications based on these models have been classified among the 10 most popular applications of the first quarter of 2017 (Top Apps in Q1, 2017). In the classification of applications, that are not games, YouTube definitely stands out, which, from its advertising revenue, is able to pay the most influential people to record their programs on it. Other apps, popular in this sector, are Facebook and various types of instant messengers, such as WhatsApp and Messenger. It is not without significance to define the categories, because applications that are games dominate in terms of the in-app purchase model. Pokémon Go, Clash Royale and Candy Crush apps bring the biggest daily profits (Top Grossing Mobile Apps, 2017). However, the largest growth in popularity and profits was achieved by subscription-based applications. Currently, the first places in the rankings are occupied by streaming services, that allow the user to listen to music (Spotify and Pandora) and watching serials (Netflix) (Top Apps in Q1, 2017). As can be seen in Figure 2, the subscription model was not yet popular a few years ago. Currently, it is the surest way to collect money and gain new users. Even applications that could decide for a different business model, based on a one-time higher fee, prefer small, but regular profits.
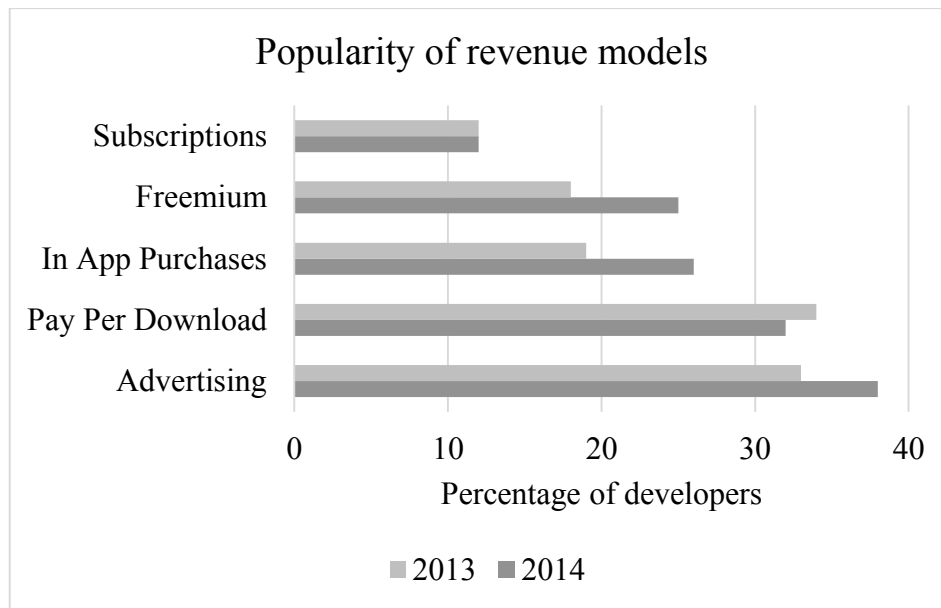
**Figure 2.** Popularity of revenue models based on the number of programmers using them in their applications. Adapted from: "Mobile App Revenue" by G. Vaynerchuk.

Current trends also show that, gradually, manufacturers are beginning to withdraw from the model, where the user has to pay for the download of the application, due to the user's preference to test the application first, and only later pay for it. This model works much more often in the AppStore than the Google Play Store, mainly because users of Apple devices are much more likely to use premium services. The applications that are niche and very advanced – e.g. various types of visual filters for cameras or the Wolfram Alpha mathematical package – are the most popular in this field (Top Apps in Q1, 2017).

How does the use of a given plan translate into profit? The same research for Developer Economics shows that, despite huge popularity, applications that have a large user base and use advertising in the application, note relatively low profits from this type of business. Such profits are estimated at just over USD 1 per month from one application, once again showing that, in order to use this plan, one should have a scalable, large application, that everyone enjoys. The largest profits were recorded by applications using the purchase method and those based on a subscription. This is the reason why, currently, almost all known applications that offer specific content (such as games, movies and music) are based on one of these models. The average monthly profit from such an application is valued at USD 1.8 for brands selling goods through the application and over USD 2.6 for applications that had subscribers (Vaynerchuk, 2019).

In the end, while discussing the popularity and profits from specific plans, it is worth considering the reasons why the currently popular subscription plan was not as common in 2013-2014, despite generating obvious, high profits. The most likely reason seems to be technological progress, which has gradually entered the world of mobile application marketing. Currently, every manufacturer that uses a subscription suggests (sometimes it even requires) a card to be connected with the account, from which money is regularly withdrawn once the

subscription period has passed. In addition to that, they are obliged to maintain the security of such data for the safety of users. It is likely that these issues could have been decisive when choosing safer plans that were usually provided through app store technology.

## 4. Summary

The profits and costs of an application consist of many factors, that have not been mentioned before, or have not been specified enough. An important aspect regarding the application revenue is the selection of the app store. The differences between the AppStore and Google Play Store start at the very beginning, when the distributor wants to release the app in the store. Keeping the application in the store also depends on the target platform, because Apple charges fixed fees every year, which are not in a competitive store. However, it tempts with an average sum that is higher when it comes to the income of paid applications. In addition to that, each store imposes a fee, depending on the amount of income obtained from a given transaction. Application stores also freeze the money they pay. Typically, this period is about 30 days, so the potential distributor can't expect fast money on their account (Winter, 2017).

Another factor is to advertise one's application, so that it can be noticed and downloaded by the user. Unfortunately, there is a huge difference in the number of users that the publisher expects, and who actually choose their application. Therefore, during the planning, it is very important to remember that only a part of the people who see the application's advertisement will click on it, even a smaller part will read and download it, and even a smaller part will become loyal users.

The aim of this article was to show that, depending on the choice of the method of financing the application and seemingly trivial things, such as the choice of the store or type of advertising, will have a huge impact on whether the application will be a success or a failure. Currently, large applications create trends and influence developers of new applications when it comes to choosing a business model. Not without reason, nowadays, the most popular applications are based on subscription and in-app purchase models. This is convenient for the psyche of the user, who is sure that they spend money on something proven, or something they want to achieve.

# References

1. Alomari, K.M., Soomro, T.R., Shaalan, K. (2016). Mobile Gaming Trends and Revenue Models. *Trends in Applied Knowledge-Based System and Data Science: 29th International Conference on Industrial Engineering and Other Applications of Applied Intelligent Systems,* Morioka, Japan, pp. 671-683.

2. *App Revenues.* Available online http://www.businessofapps.com/data/app-revenues, 05.02.2019.

3. *Apple Developers.* Available online https://developer.apple.com/app-store/business-models, 05.02.2019.

4. Mooij de, M. (2019). *Global Marketing & Advertising. Understanding Cultural Paradoxes.* London: SAGE Publications Ltd.

5. *Top Apps in Q1 2017.* Available online https://sensortower.com/blog/top-apps-q1-2017, 05.02.2019.

6. *Top Grossing Mobile Gaming Apps.* Available online https://www.statista.com/statistics/263988/top-grossing-mobile-ios-gaming-apps-ranked-by-daily-revenue/, 05.02.2019.

7. Vaynerchuk, G. (2019). *Mobile App Revenue.* Available online https://www.chromeinfotech.net /resources/pdf/mobile-app-revenue.pdf , 05.02.2019.

8. Winter, J., Battisi, S., Burstorm, T., Luukkainen, S. (2018). Exploring the Success Factors of Mobile Business Ecosystems. *International Journal of Innovation and Technology Management, 15,* 1850026.

9. *Worldwide Mobile App Revenue.* Available online https://www.statista.com/statistics/269025/worldwide-mobile-app-revenue-forecast, 05.02.2019.